

INFORMATION SHEET

ORDER NO.

TIMBER MANAGEMENT SERVICES INC.

TWIN BRIDGES CLASS II LANDFILL AND CLASS II SURFACE IMPOUNDMENT
SHASTA COUNTY

In 1989, Simpson Paper Company constructed the Twin Bridges Class II landfill and Class II surface impoundment to dispose of wastes generated during the papermaking process at the Shasta Pulp and Paper Mill in Anderson. The landfill is situated on a 160-acre parcel, with approximately 25 to 30 acres used for disposal activities and leachate collection/storage. A total of five disposal cells approximately four to five acres in size were proposed for the site, but only one cell (WMU No. 1 Phase 1) received wastes. Simpson constructed a second Unit (WMU No. 1.Phase 2) directly south of WMU No. 1 Phase 1, but no wastes have been disposed in this cell. A lined sedimentation basin was constructed directly south of the Class II leachate pond (WMU No. 2). Storm water is routed to the sedimentation basin, to allow suspended matter to settle out of storm water, then is discharged over a weir to Dry Creek, a tributary to Bear Creek, which flows to the Sacramento River.

The WMU No. 1 Phase 1 waste is mostly comprised of primary clarifier solids, which consist of approximately 70 percent water by weight, 18 percent fiber and wood residue, 9.3 percent ash, and 2.7 acid solubles. Wastes were dewatered with a screw press in order to attain a moisture content of less than 50 percent prior to discharge at the landfill. Although the waste was classified as "nonhazardous solid waste", the landfill is constructed to Class II standards. Chemical analysis of the waste sludge identified concentrations of 2,3,7,8-Tetrachloro-dibenzo-p-dioxin (dioxin) ranging from 23 to 278 parts per trillion (ppt) and 2,3,7,8-Tetrachloro-dibenzo-furan (TCDF) ranging from 264 to 6,740 ppt. While dioxins were not detected in leachate from the paper waste sludge at a detection limit of 2.5 parts per quadrillion, furans were identified in leachate at concentrations ranging from 22 to 160 parts per quadrillion. Dioxins and furans are formed during the bleaching process of the wood pulp. In the early 1990's, Simpson Paper Company began using chlorine dioxide during the bleaching process in an effort to reduce the concentration of dioxins in the waste stream.

WMU No. 1 Phase 1 is constructed with a double composite liner consisting of (top to bottom) 6 inches of soil, a geotextile filter fabric, a pea gravel blanket type leachate collection and recovery system (LCRS) 12 inches thick, a 60-mil HDPE geomembrane, 12 inches of compacted soil/bentonite with a maximum permeability of 1×10^{-6} cm/sec, and native soil. The Class II surface impoundment is constructed with a double composite liner consisting of (top to bottom) a 100-mil HDPE geomembrane, a geonet drainage layer, a secondary 100-mil HDPE geomembrane, 24 inches of soil/bentonite with a maximum permeability of 1×10^{-6} cm/sec, and native soil.

Leachate flows by gravity from the LCRS to the Class II surface impoundment. Originally leachate was pumped into tanker trucks from the surface impoundment and transported back to the Simpson Paper Mill for treatment and discharge to the wastewater treatment lagoons. In May 2004, the Shasta Pulp and Paper Mill was sold at public auction due to bankruptcy proceedings involving Shasta Paper Company. Since the Twin Bridges Landfill is now

disassociated with the Shasta Pulp and Paper Mill, discharge of leachate to the wastewater treatment lagoons is no longer an option.

Timber Management Services Inc. has constructed an interim cover over WMU No. 1 Phase 1 to reduce the amount of leachate generated by precipitation that percolates through the waste. The cap consists of a clean fill foundation layer 18 inches thick, a 60-mil HDPE geomembrane, and 18 inches of vegetative cover. The interim cap was completed in Summer 2005, and was designed with an overall slope of 3 percent on the top, and 4:1 along the southern slope. Landfill gas generated from WMU No. 1 Phase 1 is released through a single passive gas vent located in the center of the unit. Two permanent benchmarks were established on WMU No. 1.

Shasta County has issued a permit for the Discharger's parcel describing land use requirements. Finding 39 of Shasta County Use Permit No. 98-20, states, "The discharge of waste, other than primary and secondary sludge from the mill wastewater treatment facility and dregs and grits from the recovery boiler and slaker is prohibited unless specifically authorized by Shasta County Department of Resource Management – Environmental Health Division and the Executive Officer of the Regional Water Quality Control Board." The Simpson/Shasta paper mill is closed and mill waste is no longer generated. Regional Water Board staff has not received documentation from the Discharger that a viable waste stream exists and is intended to be disposed at the Facility.

The average annual precipitation is approximately 38 inches, most of which occurs between October and April. The average annual evaporation is 60 inches.

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