California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2010-0055
(Replaces Monitoring and Reporting Program No. R1-2007-0046)

FOR

INTERNATIONAL PAPER COMPANY
FORMER MASONITE WOOD TREATMENT FACILITY
CLOVERDALE

Sonoma County

This Monitoring and Reporting Program is issued pursuant to California Water Code Section 13267(b) and requires periodic monitoring of groundwater and submission of technical reports. Reports are required on a semiannual basis. The objective of monitoring conducted under this monitoring program is to provide International Paper Company (hereinafter referred to as the Discharger) and the Regional Water Board with information concerning groundwater quality and contaminant trends at the former Masonite Wood Treatment Facility located in Cloverdale. Monitoring and Reporting Program No. R1-2010-0055 supersedes Monitoring and Reporting Program No. R1-2007-0046, issued by the Executive Officer on May 29, 2007.

Under the authority of the California Water Code Section 13267(b), the Discharger is required to comply with the following:

Monitoring

1. Monitored Natural Attenuation (MNA) has been identified as a remedy for the Site for shallow and bedrock groundwater. Different MNA processes are occurring in different areas of the Site [Operable Units (OUs)] identified on Table 1, attached to this Order. It is the intent of the site groundwater monitoring program to sample the wells for MNA parameters for one hydrologic cycle (2010 semi-annual spring and fall sampling events) to identify what MNA processes are occurring at each OU of the Site during different times of the year.

2. Groundwater sampling events should occur during different redox conditions for MNA parameters in all groundwater monitoring wells for one hydrogeologic cycle (2010 semi-annual spring and fall sampling events). Sampling parameters and frequencies will be evaluated after receipt and evaluation of monitoring data. Potential changes to the monitoring schedule will be discussed with the Discharger following data evaluation after the first hydrologic cycle (2010 semi-annual spring and fall sampling events).

3. Arsenic is present in groundwater ranging in concentrations below the test method reporting limits of 0.5 ug/l (micrograms per liter [ug/l]) to 21 ug/l, respectively. Arsenic is present in groundwater both from naturally occurring sources and from past wood treatment activities conducted at the Site. Arsenic is a known human carcinogen and has a drinking water maximum contaminant level (MCL) of 10 ug/l. Arsenic is present in groundwater below the drinking water MCL in OUs at the Site

and in groundwater above the MCL in Monitoring Well MW-12. To protect receptors, any future groundwater use will need to consider Arsenic treatment to prevent potential exposure.

4. The depth to groundwater in each monitoring well shall be determined to at least 0.01-foot increments semiannually. Groundwater elevation(s) shall be computed by subtracting the measured depth from the well top elevation reference point, both of which should be reported. The data generated from the elevation readings must be referenced to mean sea level. The data will be used to generate potentiometric surface maps which show groundwater flow direction(s) and vertical hydrologic gradient(s).

5. Groundwater monitoring wells shall be sampled for the analytical constituents in accordance with Table 1. Each well shall be measured in the field (or by a certified laboratory) for parameters including dissolved oxygen, pH, groundwater temperature, oxidation-reduction potential, and specific conductance during purging activities, and sampling shall occur once parameter variance is within 5-10% difference.

Reporting

6. Groundwater elevation contour map(s) shall be submitted for each set of measurements and include the facility groundwater flow pattern including the groundwater flow direction(s) and hydraulic gradient magnitude(s). The scaled maps shall show the location of the wells measured and relevant cultural features.

7. Groundwater monitoring well sampling data shall be submitted semiannually and include map(s) of the facility indicating the groundwater flow direction(s) and the location of all monitoring wells. The analytical data sheets shall be summarized in tabular form illustrating the date, the analytical constituents, the monitoring well elevation, and the concentrations of the constituents.

8. Instrument calibration records, field logs, and QA/QC of data shall be included in each groundwater monitoring report.

9. Groundwater monitoring data and reports shall be submitted electronically to the State Water Resources Control Board's Geographic Environmental Information Management System database (GeoTracker) as required by Title 23, Division 3, Chapter 30, Article 2, Sections 3890-3895 of the California Code of Regulations).

Ordered by: _____
Catherine Kuhlman
Executive Officer

May 13, 2010

Table 1

Operable Units Well ID Nos. Water-Bearing Zone Type & Screening Interval (SI)	PCP & Breakdown Products (1) U.S. EPA* Method 8151A	MNA Parameters (2)
Railroad Area OU		
MW-6 – shallow (3 -9.5 ft) (3)	Semiannual	Semiannual
MW-12 – shallow (6-22 ft)	Semiannual	Semiannual
MW-13 – shallow (6-19.5 ft)	Semiannual	Semiannual
MW-14 – shallow (6-13.5 ft) (4)	Semiannual	Semiannual
Wood Treatment Operations Area OU		
MW-23 – shallow (3-10 ft)	Semiannual	Semiannual
OW-13 Observation Well (3-10 ft) (3)	Semiannual	Semiannual
MW-33 – bedrock (50-60 ft) (3)	Semiannual	Semiannual
Pond/LP Well Area OU		
MW-25 – bedrock (118-128 ft)	Semiannual	Semiannual
MW-27 – bedrock (80-90 ft)	Semiannual	Semiannual
MW-28 – bedrock (85-95 ft)	Semiannual	Semiannual
MW-31 – bedrock (47-57 ft)	Semiannual	Semiannual
MW-32 – bedrock (65-75 ft)	Semiannual	Semiannual
MW-37 – bedrock (77-87 ft)	Semiannual	Semiannual

***** U.S. EPA means the United States Environmental Protection Agency

(1) PCP anaerobic degradation products (including 2,3,5,6-TeCP; 2,4,5-TCP; 2,4,6-TCP; 3,4,5-TCP; 3,4-DCP; 3,5-DCP)

(2) MNA Parameters and Method Analysis include:

DO and ORP – field measurements
Nitrate, EPA Method 9056
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Sulfate, EPA Method 9056
Sulfide, Standard Methods (SM) 4500S-F
Dissolved Iron (laboratory and field analyses), EPA Method 6010/6020B
Manganese, EPA Method 6010B
Fe2+ and MN2+ by EPA Method 7199
Carbon Dioxide, AM20GAX
Total Alkalinity, SM 2320B
Total Organic Carbon (i.e., dissolved organic carbon), EPA Method 9060
Methane, AM20GAX

(3) Indicates 'background well'
- MW-6 for the Railroad Area
- OW-13 for the Wood Treatment Operations Area
- MW-33 serves dual purpose as Wood Treatment well and background for the Louisiana-Pacific Well/Pond Area due to upgradient location, construction, and non-detect PCP results

(4) MW-14 to be sampled in 2010 only and may be dry in the fall event. Sampling to be prioritized for PCP and degradation products first, then for geochemical parameters as sample volume allows.