



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

April 17, 2015

Mr. Charles L. Hairston
International Paper
34040 Union Camp Drive
Franklin, Virginia 23851

**RE: RCRA Groundwater Monitoring Evaluation and Split Sample Results
Long Term Stewardship Inspection
International Paper - Franklin
EPA ID No. VAD003112265**

VIA ELECTRONIC MAIL

Dear Mr. Hairston,

The Department of Environmental Quality (DEQ or Department) conducted a groundwater monitoring evaluation with split sampling for five corrective action wells in the groundwater monitoring well network at the International Paper Franklin Mill (IP Franklin) facility located in Franklin, Virginia on October 14, 2014. In addition, the Department performed a Long Term Stewardship inspection to evaluate the effectiveness of the facility's institutional controls (ICs) and engineering controls (ECs) that were established throughout the facility's environmental cleanup history.

Split Sampling and Groundwater Monitoring Evaluation

The groundwater inspection and split sampling occurred during the second semi-annual groundwater monitoring period of 2014. The purpose of this event was to evaluate 1) the effectiveness of the monitoring network and representativeness of the data collected by the facility, 2) adherence to requirements and procedures included in the facility's Hazardous Waste Management and Facility-Wide Corrective Action Permit (Permit) and Sampling and Analysis Plan (SAP) Attachment D of Appendix D of the Permit, and 3) condition of monitoring wells at the facility.

During the inspection and split sampling event the facility's consultant and Corrective Action Project Manager from DEQ Central Office were present. The following activities were completed during the inspection:

- Inspected the condition of each monitoring well including concrete pad and protective outer casing (note some wells were not visited due to limited site access and time limitations).
- Observed groundwater purging and sampling methods used by field personnel including management and handling of purge water.
- Collected groundwater split samples from monitoring wells GW-11, LMP-2, GW-22, GW-39 and GW-04.
- Validated laboratory analytical results for split samples and compared results to the facility's groundwater results.

During the inspection, the Department found the monitoring wells including concrete pads and protective casings to be in good condition. The sampling equipment used at each monitoring well functioned properly and provided representative groundwater samples. Monitoring wells were sampled in the following order; GW-11, LMP-2, GW-04, GW-22, and GW-39. The static water level was measured at each monitoring well location and then each monitoring well was purged and sampled using a peristaltic pump using low-flow sampling methods during a three well volume purge. A groundwater sample was collected from each well location and quality control (QC) samples were collected in the field by the facility. In addition, the field scientist collected a groundwater split sample from each well on behalf of the Department using containers provided by the Department and its contracted laboratory. Finally, groundwater generated during well purging and sampling activities was transferred to the Facility's onsite treatment system for treatment prior to final discharge.

The facility submitted their groundwater samples to ALS Laboratories in Rochester, New York for analysis of benzene (GW-4) by SW846 Method 8260B and Permit required subsets of metals using EPA Method 6010C and/or 6020A. Historically, matrix interferences have impacted some of the Method 6020 results for GW-11, so the Facility elected to run Method 6010A in addition to 6020C for GW-11. The Facility reported that some metal results analyzed by the Rochester laboratory appeared anomalously low relative to historical results. Because of the potential matrix interferences, the metals were re-analyzed by ALS Environmental in Jacksonville, Florida by EPA Method 6020A and EPA Method 6010C for GW-11 and Method 6020 for the remaining samples.

Following review of the analytical data from both laboratories for all samples and by both methods, the Facility reported inorganic data from ALS Jacksonville and organic data from ALS Rochester. The Department submitted its split samples to Air, Water, & Soil Laboratories, Inc. in Richmond, VA for analysis of a subset of metals by Method 6010 and benzene for one monitoring well by Method 8260B. All three laboratories are currently certified under the Virginia Environmental Laboratory Accreditation Program (VELAP) for these methods.

The Department compared its analytical results to the facility's analytical results to complete the inspection/evaluation. Based on the observations made onsite during the inspection and results of the data comparison, the Department provides the following.

1. The condition of the monitoring wells is adequate. Minor corrosion and rusting of the outer casing was observed, which appears to be normal weathering. Wells are secured with caps

and no evidence of degradation to the well casing was observed. Concrete well pads are intact and no erosion, subsidence, or standing water was observed.

2. Static water levels were measured at each monitoring well location listed above prior to sampling and during sampling. These activities were completed in a manner consistent with procedures listed in the facility's Sampling and Analysis Plan included as an Attachment to the Facility's Operation and Maintenance Manual.
3. The facility's purging and sampling methods are adequate and are accurately represented in the facility's SAP. The Facility's Consultant and the Department discussed the potential for a permit modification to update the sampling procedure to incorporate low flow sampling techniques. Proper health and safety methods were used and generated wastes (purge water) were managed appropriately and in accordance with the facility's Permit and Hazardous Waste Management Regulations.
4. Increasing metal concentrations have been recently observed in GW-11 (the Mill area). The Facility evaluated the well condition in April 2014 and determined that the well construction may be contributing to the elevated metals. On July 8, 2014, the Department approved IP's request to replace well GW-11 and recommended that the well be installed so that the screen is below the water table to avoid seasonal wetting and drying. The well was replaced on July 29, 2014. Metal concentrations decreased during the October 2014 event. The Facility will continue to closely monitor inorganic concentrations in this well.
5. Analytical data generated by the facility's original laboratory was not consistent with historical results for several samples. Some of the inorganic data was anonymously low. Therefore, the Facility had the samples reanalyzed by an alternate VELAP-certified laboratory. The results reported were consistent with historical results. A review of the facility's quality control sample results including matrix spikes, recoveries, and control samples indicate that the data is acceptable and meets data quality objectives. It was noted that the serial dilution analysis for beryllium using Method 6020 was outside of QC acceptance criteria; therefore the detected results for beryllium analyzed by Method 6020A were qualified as estimated (J) in GW04 and GW47. Chromium analyzed by Method 6020 was detected in the equipment blank associated with all samples in the data set. Beryllium and vanadium analyzed by Method 6020A were detected in the ICB/CCBs associated with the samples. Sample concentrations of chromium, beryllium, and vanadium were greater than five times the level detected in the blanks; therefore were not qualified as attributable to blank contamination with the exception of L1-2 which had an estimated concentration of chromium below the reporting limit and was thus considered attributable to blank contamination.

Reporting limits were raised for samples collected from monitoring wells GW-11, L1-2, and GW-37 because of sample dilutions performed due to the abundance of dissolved solids in the samples. However, the reported detection limits met the target detection limits.

6. A comparison of the facility's analytical data to the Department's (attached table) indicates that the majority of the data are comparable based on relative percent differences (RPD) and comparable MDLs with the exception of arsenic in GW-22. The Department's use of 6010 compared to the Facility's use of 6020 resulted in different reporting limits. The Department's laboratory reporting limit was higher than the Facility's, resulting in a non-detect for arsenic. Two of the sixteen data points were non-comparable because the

calculated RPDs were slightly above the acceptable range of 0-30%. These data points include lead in GW-22 (31%) and arsenic in GW-39 (33%). Although lead was not detected above the MCL for four consecutive sampling events for GW-22 based on the Facility's data set (making it eligible for consideration for removal for this unit), it was detected at the MCL in the Department's data set. Since a decreasing trend is apparent, the past 4 events of lead data have been below the MCL in the Facility's data set for GW-22, and the Facility's result is more consistent with historical data, the Department is in agreement that lead remains eligible for removal.

Long Term Stewardship Inspection

The long term stewardship inspection occurred on October 14, 2014 concurrent with the split sampling event. The facility is required to maintain IC's and EC's as part of their final remedy in accordance with the Corrective Action program and includes:

- Cap inspection of the former hazardous waste management landfill (Former Highground Disposal Area, SWMU 5)
- Institutional controls
- Groundwater monitoring program based on historical results.

The Department met with the facility to determine if the ICs and ECs are being implemented effectively and to review how they are being enforced onsite (e.g. policies, procedures, covenant, etc.). In addition, a site walk through was completed by the Department to evaluate whether the ECs are functioning as intended. Based on the observations and discussions, the Department provides the following.

1. The cap inspection is performed on an annual basis during annual groundwater sampling. The facility corrects any issues identified during the inspection and the results of the inspection and maintenance are provided to the Department with the Annual Report of Corrective Measures Evaluation. The Facility routinely mows the cap area to prevent vegetation overgrowth.
2. The facility continues to maintain a "Declaration of Restrictive Covenants", which is attached to the facility's land deed at the Clerk's Office of the Circuit Court of Franklin City. This covenant details certain land use restrictions for the protection of current and future users.
3. The facility indicated that the Pond D area had been sold the Department of Conservation and Recreation in late 2012. The facility should revise the site boundary to exclude the area in the O&M Plan included in the Permit. This can be done during the next Class 2 Permit Modification.
4. The facility continues to monitor groundwater in accordance with the approved SAP and O&M Plan and will continue to monitor groundwater until remedial goals for groundwater are attained.
5. The facility's annual evaluation of the groundwater monitoring network suggests that concentrations of metals have been increasing in GW-11 in recent years. The facility is currently investigating this issue and installed a replacement well for GW-11 in 2014. Metal concentrations decreased between the April 2014 and October 2014 sampling event. The Facility requested through the 2014 Annual Data Summary to reduce monitoring to every other year for all units with the exception of the Mill Pond Area, which is monitored by GW-

11 and will continue to be monitored annually since the concentrations and trends of metals in this well do not demonstrate that reduced monitoring is appropriate.

In conclusion, the Department acknowledges that the facility's groundwater monitoring program is being implemented adequately. Sampling procedures and management of purge water generated during sampling activities are accurately represented in the facility's SAP. Analytical data generated by the program is representative and meets data quality objectives. In addition, ICs and ECs required for the protection of human health as part of the facility's final remedy are being implemented adequately.

The Facility is considering the submission of a Class 2 Permit Modification to update the SAP to reflect low flow sampling procedures, remove lead from monitoring requirements for SWMU 2a, remove GW-47 from the monitoring program, and reduce the sampling frequency to biannually with the exception of the Mill area. The Facility should also make revisions to the site boundary for the institutional controls to reflect the sale of the Pond D area.

Additional comments regarding the Facility's proposed changes to the Permit and review of 2014 data are included in the Department's Comments to the 2014 Annual Progress Report which is being sent as separate correspondence.

Please feel free to contact me if you have any questions or concerns at (804) 698-4218 or tara.mason@deq.virginia.gov.

Sincerely,



Tara D. Mason
RCRA CA Project Manager
Office of Remediation Programs

Enclosure: Groundwater Results Comparison Table

Cc: Russell McAvoy, Brett Fisher – DEQ CO
Janet Weyland – DEQ TRO
Michelle Friedman, Doug Simmons - AECOM
Jacqueline Taylor, Raye Moore, Brent Sasser – IP Franklin Mill
Andrea Barbieri, EPA Region 3 (3LC50)

Groundwater Results Comparison Table
 Virginia Department of Environmental Quality
 2014 Groundwater Split Sampling
 International Paper - Franklin Mill VAD003112265

Constituent	Units	GW-04				GW-11				GW-22				GW-39				LMP-2							
		DEQ	Q	Facility	Q	RPD	DEQ	Q	Facility	Q	RPD	DEQ	Q	Facility	Q	RPD ⁵	DEQ	Q	Facility	Q	RPD				
Arsenic	mg/L					36.1		38	J	5%	<9.0		4.9	NA		10.8		15		33% NC	44.6		46		3%
Beryllium	mg/L	<1.0		4.3	J	NA																			
Chromium	mg/L					263		301		13%	45.6		47		3%	142		134		6%	200		222		10%
Lead	mg/L										15.1		11	31% NC		6.4	J	6.2		3%					
Vanadium	mg/L					575		577		0%	137		126		8%	331		314		5%	780		761		2%
Benzene	ug/L	11		11		0%																			

Notes:

1. Inorganic Analysis - Method 6010 was used for all DEQ samples and for the Facility Sample for GW-11. The Facility used 6020 for the remaining samples.
2. Units in ug/l
3. Shaded cells = Comparable data points, no %RPD calculated
4. Blank cells = Constituent Not Analyzed
5. NC = Non-comparable data points
6. Bold text = Detection above method detection limit
7. <(1) = Below method detection limit
8. RPD > 30% = Non-comparable