

2402Permit2002 - Batch No. _____

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North Carolina
Department of Environment and Natural Resources

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Director



December 30, 2002

Mr. Edward J. Kreul
Environmental Services Superintendent
International Paper- Riegelwood Mill
John L. Riegel Road
Riegelwood, NC 28456

RE: International Paper, Riegelwood Mill, Riegelwood, NC, Permit No: 24-02, Permit to Construct

Dear Mr.Kreul;

Enclosed please find the original permit-to-construct for the industrial solid waste landfill facility at the International Paper, Riegelwood Mill, in Riegelwood, NC. Please review the permit carefully. According to 15A NCAC 13B .0203(d), by beginning construction and receiving waste in the cells, the applicant shall be considered to have accepted the conditions of the permit. If there are any questions regarding the permit or the conditions contained therein, please contact us.

Your attention is directed to Part I, Condition 1 of the Permit-to-Construct. The permit is effective when it is recorded in accordance with 15A NCAC 13B .0204, and a certified copy is returned to the Solid Waste Section (Section). A certified copy of a "true" original is enclosed for this purpose. Please note that there are other conditions in the permit that requires notification of the Section or have pre-operative conditions that must be met prior to Cells or Phases being operated at this facility.

Specific requirements for this facility are set forth in the Conditions of the Permit-to- Construct and the Permit-to-Operate. The permit contains the permit conditions for the industrial solid waste facility activities. This permit supercedes previously issued permits. In general, the new facility permit does not reiterate permit conditions which are included in the Solid Waste Management Rules, 15A NCAC 13B, nor are specific conditions restated which are included within the approved plans, such as site specific operations or groundwater monitoring plans. Should you have any questions regarding the terms of this approval, please contact us at (919) 733-0692.

Sincerely,
Division of Waste Management


James C. Coffey, Chief
Solid Waste Section

cc. Ed Mussler, P.E. DWM
Mark Fry, DWM
Jim Barber, DWM
John Crowder, DWM
Greg Richardson, P.E., GNRA

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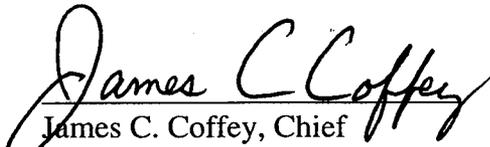
FACILITY PERMIT NO: 24-02
PART 1- PERMIT TO CONSTRUCT
(CELL 1)
DATE ISSUED: December 30, 2002
Page 1

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT
1646 Mail Service Center, Raleigh, NC 27699

INDUSTRIAL SOLID WASTE LANDFILL PERMIT

INTERNATIONAL PAPER, RIEGELWOOD PULP AND PAPER MILL,
COLUMBUS COUNTY, NORTH CAROLINA
is hereby issued a PERMIT to CONSTRUCT an
INDUSTRIAL SOLID WASTE LANDFILL FACILITY, CELL1

located off John L. Riegel Road, Columbus County, North Carolina, in accordance with Article 9, Chapter 130A, of the General Statutes of North Carolina, and all rules promulgated thereunder and subject to the conditions set forth in this permit.


James C. Coffey, Chief
Solid Waste Section

ATTACHMENT 1

Approved Documents

1. *Industrial Landfill Lateral Expansion Permit Application, International Paper, Riegelwood, North Carolina.* (Permit Number 24-02). Prepared for: International Paper, Riegelwood, NC. Prepared by: G.N. Richardson & Associates, Inc. Raleigh, NC. February 2002.
2. Drawings entitled *International Paper. Columbus County, North Carolina. Industrial Landfill Permit Application.* February 2002. 27 Sheets.

ATTACHMENT 2

PART I: INDUSTRIAL WASTE LANDFILL FACILITY GENERAL FACILITY CONDITIONS

1. This permit shall be effective upon compliance with 15A NCAC 13B .0204 and when the certified copy with the page, book number, date of recording, and Register's seal is returned to the Solid Waste Section (Section).
2. This permit is subject to review every five years as per 15 A NCAC 13B .0201(e), according to the issuance date of the Permit to Operate. Modifications to the facility may be required in accordance with rules in effect at the time of the review.
3. This permit approves the development of Cell 1 and the facility plan which, in accordance with 15 NCAC 13B .0504, outlines development of the facility including the total industrial solid waste landfill capacity, the industrial solid waste stream, all onsite solid waste management facilities and related facility infrastructure.

The approved plans are described in Attachment 1, "Approved Documents". Where discrepancies may exist, the most recent approved submittal and Conditions of Permit shall govern.

Areas identified in Document 2 as "Future Cells" on Sheets 3 and 4, are for informational purposes only and are not approved by this permit.

4. Facility 24-02 has an unlined industrial solid waste unit, of unknown volume, identified in facility permit 24-02. A lined industrial disposal unit, identified as Cell 1, is piggy-backed to the unlined unit, and has a permitted gross total industrial solid waste disposal capacity of 749,000 cubic yards consistent with the approved final contours as described in Attachment 1, "Approved Documents", Documents 1 and 2.
5. The landfill is permitted to receive solid waste generated solely by the International Paper Riegelwood Pulp and Paper Mill as described in Attachment I, Document 1, and as defined in 15A NCAC 13B .0101(49), except where prohibited by North Carolina General Statutes Article 9 of Chapter 130A, and rules adopted by the Commission for Health Services.
6. This facility is subject to the requirements of all applicable sections of the most recent version of the North Carolina Solid Waste Management Rules, 15A NCAC 13B and the specific conditions contained herein.
7. This permit is not transferable.

8. This facility permit is issued under the criteria set forth in 15A NCAC 13B.0504. Any facility changes that effect these criteria may require a new permit.

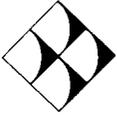
FACILITY CONSTRUCTION CONDITIONS

9. The International Paper shall conduct a preconstruction meeting prior to initiating construction of any unit/cell at the site and shall notify the Solid Waste Section 10 days prior to said meeting. If construction does not begin within 18 months from the issuance date of this permit, then International Paper must obtain written approval from the Solid Waste Section prior to construction and comply with any conditions of said approval.
10. Construction of all solid waste management units within this facility shall be in accordance with the pertinent approved plans and only for those phases of development approved for construction as described in Attachment 1, Documents 1 and 2, "Approved Documents".
11. Additional conditions and revisions of the approved documents or changes during construction of any landfill unit/cell require approval by the North Carolina Solid Waste Section.
12. Any modifications in sedimentation and erosion control activities require approval by the Land Quality Section. The Section shall be notified of any sedimentation and erosion control modifications.
13. The owner's geologist shall examine the cell excavation and note any pertinent geologic features exposed during the construction process and shall notify the Solid Waste Section Hydrogeologist of these findings prior to the placement of any liner materials. The owner's geologist shall submit a report to the Section that states whether the subgrade was found to be consistent with the geological and hydrogeological conditions which were expected, according to the application for the permit to construct.
14. Abandonment of observation wells shall be in accordance with 15A NCAC 2C. Well abandonment records shall be submitted to the Section for review and approval prior to beginning landfill construction.
15. Ground water monitoring wells MW-9 and MW-10 shall be installed prior to receiving a Permit to Operate. The owner's geologist shall be in the field to supervise all well installations. Any modifications to the approved water quality monitoring plan require approval by the Section Hydrogeologist. Documentation of all changes to the approved plan shall be submitted with the well construction records.
16. For each monitoring well constructed, a well construction record, well schematic, boring log and a description of well development activities shall be submitted to the Section within 30 days upon well completion.

17. All ground water monitoring wells and surface water sampling locations shall be sampled for the following analytes prior to issuing the Permit to Operate: Sulfate, Chloride, Fluoride, Nitrate as NO₃-N, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Selenium, Silver, Vanadium, Zinc, BOD, COD, TOX, TOC, TDS, temperature, pH and specific conductance

FACILITY PRE-OPERATIVE CONDITIONS

18. Prior to receiving waste at any cell or subcell of this facility, a Permit to Operate, must be obtained from the Solid Waste Section in accordance with 15A NCAC 13B .0201(b).
19. The following requirements shall be met prior to waste disposal for any cell or subcell of this facility:
 - a. Site preparation shall be in accordance with the approved plans, and the conditions specified herein.
 - b. Site inspection shall be made by a representative of the Solid Waste Section.
 - c. Prior to waste disposal for any cell, a pre-operative meeting shall be held on-site with key landfill personnel and representatives of the Solid Waste Section.
 - e. Construction Quality Assurance (CQA) documentation as well as a certification by the project engineer that the landfill was built in accordance with approved plans and the conditions of the permit, shall be submitted to the Section for review.



G.N. RICHARDSON & ASSOCIATES

Engineering and Geological Services

July 1, 2002

Ms. Ellen Lorscheider
NCDENR - Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



RE: Effects of Proposed Landfill Construction on Site Hydrogeology
International Paper Plant
Riegelwood, North Carolina

Dear Ms. Lorscheider:

You recently requested a hydrogeologic analysis of the International Paper (IP) Landfill site to evaluate the effects of the proposed landfill on ground water flow gradients and patterns at the adjacent Holtrachem site. You suggested we perform a review of the North Carolina Department of Environment and Natural Resources (DENR) files to gather information on the potentiometric surface as measured at the Holtrachem site. G. N. Richardson and Associates, Inc. (GNRA) performed this review and this letter summarizes our analysis and findings.

GNRA performed a review of files from both the Superfund Section and the Hazardous Waste Branch of DENR. Since responsibility for this project recently changed hands from the Hazardous Waste Branch to the Superfund Section, we believed we could gather the most data by reviewing both sets of files. The files contained very little information regarding the potentiometric surface at the Holtachem site. In fact, only found two potentiometric surface maps were located in the files, one of which was undated but appeared to be from the late 1980's, and a second from 1999. The data from 1999 was used to evaluate the potential effects of the landfill on the potentiometric surface on the Holtrachem site. It should be noted that there are two stormwater retention ponds on the Holtrachem site that are unlined and influence ground water flow depending on the amount of water in them.

To properly analyze the potential effect of the proposed landfill on the potentiometric surface map, two potentiometric surface maps (pre- and post-landfill development) and two cross-sections were evaluated. The potentiometric surface maps are included as **Figures 1 and 2** and the cross-sections are shown on **Figure 3**.

As shown on the figures, there is a drainage located in the northern portion of the IP site. This drainage appears to be the ground water discharge point for a portion of the Holtrachem site. Based upon the pre-landfill construction potentiometric surface map (**Figure 1**), it appears this has been the case in the past and is likely currently still the case.

Ms. Lorscheider
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7/1/02

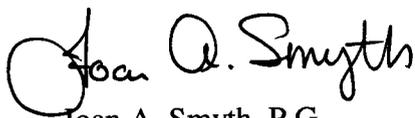
To evaluate the post-landfill construction potentiometric surface, we again used the 1999 ground water elevation data from the Holtrachem site, and included the top elevation of the underdrain system for Cell 1. We further estimated that the elevation of ground water in the proposed Cell 2 area after dewatering would be approximately 14 feet. These data were used to construct the post-landfill construction potentiometric surface map (**Figure 2**). The post-landfill construction potentiometric surface map indicates that the drainage feature in the northern portion of the IP site will still likely be the ground water discharge point for a portion of the Holtrachem site.

Further evaluation of the potentiometric surface was completed by examining cross-sections of the drainage feature both pre- and post-landfill construction. The two cross-sections constructed are included as **Figure 3**. These indicate that although the water level in the IP ponds will lower, the drainage will still act as a ground water discharge point and drainage divide for both properties.

Due to the limited amount of data available for the Holtrachem site, this evaluation is not as comprehensive as would normally be performed. However, the drainage feature does appear to be an effective ground water divide in this area. During the construction of Cell 1 and the dewatering of the proposed Cell 2 area we plan to monitor water levels in this area to further evaluate the effects of this construction on the potentiometric surface.

If you have any questions, or require additional information, please contact me at your earliest convenience.

Sincerely,
G. N. Richardson and Associates, Inc.



Joan A. Smyth, P.G.
Project Hydrogeologist

cc: Paul Syslo - IP