



*Carmen Johnson*  
Fac/Perm/Co ID: 24-02  
Date: 2/7/12  
Doc ID#: DIN

December 15, 2000

North Carolina Department of Environment and Natural Resources  
Division of Waste Management  
Solid Waste Section  
P.O. Box 27687  
Raleigh, North Carolina 27611-7687

Attention: Mr. James C. Coffey

Reference: **Closure Plan Addendum – Proposed Asbestos Area  
International Paper – Riegelwood Mill Facility**  
Riegelwood, North Carolina  
S&ME Project Number 1356-99-573

Dear Mr. Coffey:

Please find enclosed Sheet 1 of 1 as an addendum to the Closure Plan for International Paper's Riegelwood Facility dated June, 2000. This addendum proposes a new location for an asbestos disposal area within the limits of the existing Industrial Landfill. The proposed Closure Plan will bridge over the existing asbestos area during operations in preparation of final closure. International Paper proposes to dispose the facility generated asbestos in a new area identified on the attached figure.

Please contact us if you have any questions or need additional information.

Sincerely,

*Daniel P. Moss*

Daniel P. Moss, E.I.T.  
Staff Professional

*Christopher J.L. Stahl*  
Christopher J.L. Stahl, P.E.  
Senior Project Manager



cc: Don Huovinen, International Paper

S&ME, Inc.  
9751 Southern Pine Blvd.  
Charlotte, North Carolina 28273

Mailing address:  
P.O. Box 7668  
Charlotte, North Carolina 28241-7668

(704) 523-4726  
(704) 525-3953 fax  
[www.smeinc.com](http://www.smeinc.com)



24-02

*Carmen Johnson*

Fac/Perm/Co ID #	Date	Doc ID#
24-02	2/7/12	DIN

June 20, 2000

North Carolina Department of Environment  
 and Natural Resources  
 Division of Waste Management  
 1646 Mail Service Center  
 Raleigh, North Carolina 27699-1646



Attention: Mr. Edward F. Mussler III, P.E.

Reference: Site Suitability  
 Industrial Landfill  
 International Paper - Riegelwood  
 Columbus County, NC

Telephone  
 919.854.6200

Facsimile  
 919.854.6259

Dear Mr. Mussler:

Earth Tech, of behalf of its client International Paper, is pleased to provide the following responses to the comments contained in your letter of March 30, 2000 to Mr. Edward Kreul of International Paper.

1. The following description will be added to the third paragraph of Section 5 of the Application. "It is anticipated that 200 to 250 acres of the 450 acre site could be used for landfill development with development occurring in phases of approximately 10 acres each. The projected life of a 200-acre landfill would be approximately 60 years based upon each 10-acre phase providing 3 years operating capacity. With each 10-acre phase containing approximately 1,000,000 cubic yards of waste, the total available volume for a 200-acre landfill is 20,000,000 cubic yards. The anticipated height of the waste is 80 feet above existing grade.
2. Leachate will be pumped out of the cells through the riser pipes, and the leachate pumps will be present at the base of the pipes at all times except for maintenance. Leachate collection pipes will be installed in the landfill cells. The leachate collection piping was not shown on the conceptual plans submitted with the Application, but their design will be included with the design plans as part of the Construction Plan Application.
3. A letter from the Columbus County Manager describing the zoning classification of the proposed landfill site is enclosed (Attachment 1).



4. As part of the original pond project for the site, International Paper prepared the enclosed plan (Attachment 2) for data recovery at archaeological sites on the property; and submitted the plan to the North Carolina Department of Cultural Resources for their review. Also enclosed is a letter from Department of Cultural Resources approving the Plan for data recovery, and their concurrence with Coastal Carolina Research that several of the sites are not eligible for listing in the National Register.
5. The sludges are currently dewatered and pass the "Paint Filter Test" prior to placement in International Paper's existing landfill. The dewatering operation will be made part of the operational plan for the proposed landfill.

In April 1996, International Paper analyzed its solid wastes for toxicity Characteristic Leaching Procedure Test (TCLP) for semi-volatiles (EPA Method 8270), volatiles (EPA Method 8240), extracted metals, reactivity, and ignitability. The wastes analyzed included dregs, grits, sludge, old lime mud pond, new lime mud pond, and power boiler ash. The results of the analysis, which are still representative for current wastes, are enclosed (Attachment 3).

6. Wetlands had been delineated on the 450-acre site as part of the pond project. A wetland map prepared in October 1993 by David Goldston (enclosed Attachment 4). The maps will be used as a basis for identifying wetlands that may be impacted by the new landfill. For areas to be impacted by the first two phases of development, International Paper will identify wetlands, survey only the impacted areas, and contact Corps of Engineers for concurrence, as appropriate. It is not intended to re-survey the full 450-acre site. Wetland identification and surveying will be incorporated in the Construction Plan Application.
7. The access road and leachate lines would be relocated if required for future phase development.
8. The conceptual design drawing in the site application show an approximate 150 foot buffer from the waste to the upgradient, south, property line and the inferred side-gradient, east, property line. The buffer distances shown, particularly on the south side of the landfill, should be adequate for establishing a monitoring well system. International Paper understands that the Solid Waste Section would prefer a 200-foot buffer. We believe that the buffer issue should not effect the Solid Waste Section's determination on the suitability of the site. During final design, International Paper will meet with the Solid Waste Section to reach agreement concerning the required buffer distance.
9. A buffer distance of 50 feet was shown on the drawings since that is the minimum distance defined in the regulations and International Paper wished the Site Application to encompass as much of the 450 acre site a practical. Prior to development of site borrow areas, International Paper will install piezometers, if required, to establish baseline conditions since those areas may be used for future landfill development.

The following comments are offered in response to the bulleted items in your letter:

- International Paper will perform groundwater modeling to demonstrate compliance of any proposed alternative liner system with the groundwater quality standards.
- The closure cap will be designed utilizing the HELP model to determine the optimal cap design for the wastes to be landfilled. International Paper will meet with the Solid Waste Section to discuss cap requirements during final design.
- It is expected that the waste material will not generate appreciable quantities of methane gas, but provisions for dealing with methane gas will be further evaluated and incorporated as necessary during final design.
- Stability and settlement issues effecting the first two phases of development will be investigated during final design.
- As depicted on the Earth Tech drawings, the leachate lines were detailed on the side slopes to ensure capture of leachate from the waste, particularly the dewatered sludge. International Paper will meet with the Solid Waste Section during final design to discuss the design of the leachate collections system.
- International Paper will use epoxy-coated concrete of HDPE manholes for handling leachate.

International Paper and Earth Tech appreciate the timely review of the Site Application. If you have any additional questions, please contact Mr. Edward Kreul, International Paper, at (910) 655-6229 or myself at (919) 854-6239.

Very truly yours,

Earth Tech of North Carolina, Inc.

  
John G. Funk, P.E.

Enclosures

cc: Mr. Edward Kreul, International Paper  
Mr. David Stewart, International Paper  
Mr. Richard Lowe, International Paper



ATTACHMENT 1  
ZONING CLASSIFICATION LETTER

# Columbus County Commissioners

ADMINISTRATIVE BUILDING  
111 WASHINGTON STREET - WHITEVILLE, NORTH CAROLINA 28472 - PHONE 910-640-6600 - FAX 910-642-2386

June 13, 2000

COMMISSIONERS

Allen E. McKenzie  
Zone 1

C.E. Wilson  
Zone 2

Sandra Jacobs  
Zone 3

Almal Gray, III  
Zone 4

Lynwood Norris  
Zone 5

Spencer R. Britt  
Zone 6

David L. Dutton, Jr.  
Zone 7

James E. Hill, Jr.  
County Attorney

Dempsey B. Herring  
County Administrator

Ida L. Smith  
Clerk to Board/  
Assistant Administrator

Mr. Edward Kreul  
EHS Manager  
International Paper  
865 John L. Riegel Road  
Riegelwood, North Carolina 28456

IN RE: Zoning Information

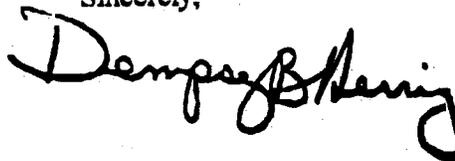
Dear Mr. Kreul:

The four hundred eighty (480) acre parcel of land located immediately east of the International Paper Riegelwood Mill in Ransom Township is not zoned.

Permitted uses include a solid waste disposal facility. This land will be used for International Paper only and in no way will it open as a public facility or compete with any landfill plan with Columbus County.

If I may be of further assistance, please do not hesitate to call on me.

Sincerely,



DEMPSEY B. HERRING  
COUNTY ADMINISTRATOR

DBH/jbh



ATTACHMENT 2

NORTH CAROLINA DEPARTMENT OF CULTURAL RESOURCES LETTER  
AND  
DATA RECOVERY PLAN



Re: Phone call with  
Richard Kimmel  
concerning our  
comments

North Carolina Department of Cultural Resources

James B. Hunt Jr., Governor  
Betty Ray McCain, Secretary

Division of Archives and History  
Jeffrey J. Crow, Director

January 9, 1997

J. L. Zuncich, Sr., R.E.P.  
Environmental Resources Group Leader  
International Paper  
Riegelwood Mill  
John L. Riegel Road  
Riegelwood, NC 28456

Re: Treated Wastewater Holding Pond for Discharge  
into the Cape Fear River, Columbus County, ER  
95-7107, ER 97-7568, ER 97-7986

Dear Mr. Zuncich:

Thank you for your letter of September 16, 1996 transmitting the archaeological testing report by Coastal Carolina Research, Inc. (CCR) for the above project and your letter of December 3, 1996 transmitting the data recovery plan prepared by CCR for the same project.

The report details the results of intensive testing of twenty archaeological sites in the area proposed for the construction of the treated wastewater holding ponds. For the purposes of compliance with Section 106 of the National Historic Preservation Act we concur that the following properties are eligible for the National Register of Historic Places:

31CB84: this site is eligible under Criterion D due to the presence of intact cultural features relating to the Middle and Late Woodland periods.

31CB94&94\*\*: this site is eligible under Criteria A and D due to the presence of intact cultural features dating to the initial historic period settlement of the Cape Fear region.

31CB110\*\*: this early eighteenth century site is eligible under Criteria A and D due to the presence of substantial intact cultural features.

31CB114: this site is eligible under Criterion D due to the presence of stratified Middle and Late Woodland deposits.

31CB122&122\*\*: this prehistoric and historic period site is eligible under Criteria A and D due to the presence of intact cultural features dating to the second half of the eighteenth century as well as a possible intact prehistoric feature.



As noted in our letter of November 29, 1995, archaeological sites 31CB86 and 31CB105, as well as the Neils Eddy Archaeological District (31CB86\*\*, 31CB88\*\*, 31CB91, 31CB98, 31CB89, 31CB90, 31CB92\*\*, and 31CB93) were already determined eligible for the National Register. Additional testing within the Neils Eddy Archaeological District indicates that the majority of the data recovery efforts should concentrate on sites 31CB92\*\*, 31CB86\*\*, and 31CB88\*\*.

The following properties were determined not eligible for listing in the National Register under Criterion D due to previous disturbance and the absence of intact deposits or features:

31CB80, 31CB83, 31CB99, 31CB111\*\*, 31CB117, 31CB121, and 31CB127

Our office concurs with the above recommendations.

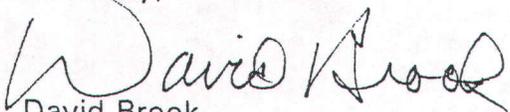
We also concur with the data recovery plan developed by CCR to avoid the adverse effects of construction-related activities on the nine eligible sites. Based on the plan, we would concur in a finding by the Army Corps of Engineers that the proposed undertaking will not adversely affect the eligible sites if the CCR data recovery plan is implemented and we are provided with a schedule for its implementation prior to the beginning of construction.

As in their previous investigations at the Neils Eddy Tract, we feel CCR did a thorough job in the archaeological testing phase of this project and provided a complete report of activities. We look forward to continuing to work on the project with International Paper and their consultant.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,



David Brook  
Deputy State Historic Preservation Officer

DB:slw

cc: Richard Kimmel, Army Corps of Engineers  
✓ Loretta Lautzenheiser, CCR

**DATA RECOVERY PLAN  
NEILS EDDY TRACT  
PROPOSED TREATED WASTEWATER HOLDING PONDS  
INTERNATIONAL PAPER  
RIELGELWOOD, NORTH CAROLINA**

**INTRODUCTION**

In order to mitigate anticipated adverse impacts to nine archaeological sites in the Neils Eddy Tract, International Paper proposes to complete the following archaeological data recovery programs in the area of the proposed treated wastewater holding ponds at the Riegelwood Operations in Columbus County, North Carolina. The study will be conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, and the Advisory Council of Historic Preservation's regulations for compliance with Section 106, codified as 36 CFR Part 800. The scope of the investigations will be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, and with the North Carolina Office of State Archaeology's report guidelines.

Previous investigations of 21 sites in the tract determined that nine of the sites appear eligible for listing in the National Register of Historic Places. The investigations were conducted by Coastal Carolina Research, Inc., during a testing program conducted in March and April, 1996 (Lautzenheiser et al. 1996). The investigations revealed the presence of intact cultural remains at nine of the sites, 31CB84, 31CB86, 31CB88, 31CB92, 31CB94, 31CB105, 31CB110, 31CB114, and 31CB122. The sites are all eligible under Criterion D for the ability to yield information important in prehistory or history. In addition, sites 31CB94, 31CB105, and 31CB110 are also eligible under Criterion A as sites that are associated with events that have made significant contributions to the broad patterns of our history. These sites represent the earliest settlement of the Cape Fear River. The State Historic Preservation Office (SHPO) has concurred that the nine sites are eligible for inclusion in the National Register of Historic Places, and the data recovery program is being requested by the SHPO to mitigate adverse effects to the sites resulting from the proposed construction.

**STUDY AREA**

The study area is located on the bluffs above a bend of the Cape Fear River. This upland setting was advantageous for both prehistoric and historic period occupations. The historic sites on the property are among the earliest in the lower Cape Fear with several appearing to have been established contemporaneously with Brunswick Town. Prior to channelization by the Corps of Engineers, the Cape Fear River swept under the bluffs below the site with an eddy below site 31CB86. The excavations at the historic period sites will allow comparisons with the more urban setting of Brunswick Town and the rural plantation economy of the outlying farms. The location was used for rice production in the early historic period, and it is assumed that the plantation associated with the Neils Eddy District was engaged in rice cultivation.

## DESCRIPTION OF WORK

It is proposed that certain sites be grouped for excavation and report preparation. While an ideal grouping would have the prehistoric sites, the early historic sites, and the district sites grouped, it is necessary to conduct the investigations in conjunction with the construction schedule of International Paper. Based on the current plans, the excavations at sites 31CB114 and 31CB110 will be conducted first. The level of effort and the methodology proposed for each site is defined below. It is anticipated that the groupings and report volumes will be as follows, however, construction plans may dictate changes in groupings:

*Volume I:* The report detailing the results of the first investigations will include the results of the excavation of the sites 31CB114 and 31CB110, the results of the geomorphologic study, the natural setting, a prehistoric background, previous research, and historic research on the early settlement of site 31CB110 and the Cape Fear River. The volume will include comparisons with contemporaneous sites at Brunswick Town.

*Volume II:* The second report will include a more intensive history of the settlement of the Cape Fear River, and will build on the deed research which was previously conducted by CCR. This report will include the results of the excavation of the individual historic sites, 31CB105, 31CB94, and 31CB122. This volume will also include comparisons with contemporaneous sites at Brunswick Town, and with excavated sites from South Carolina and Barbados. The artifact assemblage will be contrasted with the early eighteenth century component at Edenhous, 31BR52, in Bertie County (in progress by CCR). If excavated singly or in different groupings, the research components above will be considered for each site.

*Volume III:* This volume will include the results of the investigations at the Neils Eddy District. This volume will include comparisons with site 31CV183, a contemporaneous town site in New Bern, as well as other excavated sites in southern North Carolina and in South Carolina.

*Volume IV:* This will consist of the excavation of prehistoric site 31CB84. This small site yielded Middle and Late Woodland materials during the testing phase, and a test unit contained a number of features. This site yielded Hanover and Hamp's Landing ceramic sherds, as well as a large number of untyped medium- and coarse-sand-tempered sherds and can yield information on the Woodland period in the south inner Coastal Plain.

*Volume V:* This volume should be a summary of the work conducted at all of the sites, and should be prepared at the completion of all of the data recovery excavations. This volume should then be transformed into a non-technical volume for the lay reader. It should provide a narrative on the peopling of the lower Cape Fear region in North Carolina.

## The Prehistoric Sites

During the intensive testing of sites in the International Paper Tract, it was determined that prehistoric sites 31CB84 and 31CB114 are eligible for the National Register of Historic Places. It will be necessary to incorporate geomorphologic investigations into the excavation of the sites to determine the formational processes of the land form and guide analysis of the cultural deposits.

The focus of the data recovery at these prehistoric sites will be on identifying the ceramic sequence for the south inner Coastal Plain. To date, sites 31CB84 and 31CB114 are the only Woodland sites in the study area yielding features with definable limits and stratigraphically-isolated artifact contexts. In addition to Middle and Late Woodland ceramics, such as White Oak, Hanover, and Hamp's Landing, fine or fine/medium-sand-tempered ceramics were recovered. These ceramics do not fall into a type previously identified for the south Coastal Plain of North Carolina. Thus, the prehistoric sites in the project area with Late Woodland types and with apparent intact deposits also have the potential to yield significant information on the Late Woodland period.

**31CB84:** This small site covers an area only about 10 x 10 meters. As one 2 x 2 meter excavation unit has already been excavated in the site, it is proposed that an additional two 2x 2 meter units be excavated in the site. The units will be placed after the removal of the upper soil zone.

**31CB114:** This large site covers an area approximately 90 x 210 meters. The core of the site, however, covers an area approximately 60 x 150 meters (9000 square meters). It is proposed to strip three areas in the vicinity of the concentrations of positive tests. It is proposed to excavate approximately 1800 square meters, or 20 percent of the total. Units would be excavated in 10 x10 meter grids, and flat-shoveled to expose features. It is anticipated that 30 features will be excavated. These units would not be excavated to the clay subsoil.

Three additional 2 x 2 meter units will be excavated in consultation with the geomorphologist. These units will be excavated to the clay subsoil.

## Individual Historic Sites

Sites 31CB94, 31CB105, 31CB110, and 31CB122 all are eligible for the National Register of Historic Places under Criterion A, as sites representing the earliest settlement of the Cape Fear River. Sites 31CB94 and 31CB105 date to the first half of the eighteenth century and represent the earliest historic sites on International Paper property. Site 31CB110 was a domestic site occupied during the mid-eighteenth century and may have served as a slave quarter. These sites can yield information which can be compared with the contemporary remains of Brunswick Town allowing examination of town and frontier settlements. Site 31CB122 appears to be the remains of a domestic structure dating to the last quarter of the eighteenth century.

**Site 31CB94:** This site covers an area approximately 60 x 80 feet (4800 square feet). It is proposed to strip this entire area and to excavate ten 10 x 10 foot units (1000 square feet or 21 percent of the total). It is assumed that 40 to 50 features will be encountered.

**Site 31CB105:** This site covers an area approximately 50 x 150 feet (7500 square feet) with a small locus to the south of 10 x 20 feet. It is proposed to strip this area and excavate 15 to 20 10 x 10 foot units (1500 to 2000 square feet or 20 to 26 percent). It is anticipated that 75 to 100 features will be encountered.

**Site 31CB110:** This site covers an area approximately 60 x 100 feet (6000 square feet). It is proposed to strip this area and excavate 10 to 15 10 x 10 foot units (1000 to 1500 square feet or 16 to 25 percent). It is anticipated that 30 features will be excavated.

**Site 31CB122:** This small site covers an area approximately 20 x 80 feet (1600 square feet). It is proposed to excavated five 10 x 10 foot units (500 square feet or 31 percent). It is anticipated that 20-30 features will be excavated.

#### **Neils Eddy Archaeological District**

The Neils Eddy Archaeological District had already been determined eligible for the National Register of Historic Places, and the testing phase was to refine the data recovery plan. The testing indicated that sites 31CB86, 31CB88, and 31CB92 would require data recovery if the district is impacted by the proposed undertaking. Site 31CB86 is the centerpiece of the district and represents the remains of an eighteenth-century plantation house, 31CB88 represents an associated overseer's house, and 31CB92 represents the remains of a associated slave quarter. The site areas will be stripped and the excavation units will be flat shoveled and all features will be mapped and a sample will be excavated.

**Site 31CB92:** This is the location of a probable slave quarter. It is proposed to place five 10 x 10 foot excavation units in this area. It is anticipated that 10 to 15 features will be excavated.

**Site 31CB88:** This site appears to be an overseer's house. It is proposed to place ten to fifteen 10 x 10 foot excavation units in this site. It is anticipated that 40 to 50 features will be excavated.

**Site 31CB86:** This is the location of the plantation house and yard. It is about 210 by 180 feet. It is proposed to strip all of this area and to select 25 to 30 10 x 10 excavation units. It is assumed that approximately 200 cultural features will require excavation.

## METHODS

The previous investigations revealed that the upper zone of soil, while not containing any recent materials, is more disturbed than previously thought. The initial procedure at each site should be to remove the vegetation with a bushhog. The upper soil horizon should be removed by mechanical means, preferably with a box blade attached to a tractor.

### *Excavation Procedures and Standards*

The excavation plan will conform with the Secretary of the Interior's Guidelines for Archaeological Data Recovery and will follow these specific standards:

1. All excavation units will be laid out according to a grid established in reference to the previously surveyed permanent datums in each site.
2. Measurements will be recorded using the English and metric systems.
3. A system of designation of individual excavation units and levels will be devised and keyed to the excavation drawings, written records, and photographs.
4. All hand excavated soils will be sifted through .25 inch mesh screen, except that a finer mesh screen can be substituted for sifting of feature soils or other special samples. Excavated levels will conform to natural soil strata as much as possible. Soils will be described using standardized measures such as Munsell Soil Color Charts.
5. All discrete features will be properly recorded and mapped, and a sample of the soil features will be excavated by hand. Architectural features such as foundations, fireplaces, piers, wall trenches, privies, and cisterns will be completely exposed and excavated if feasible. Wells or features exceeding 4 feet deep will not be excavated beyond that depth unless special provisions are provided for safety shoring. Decisions on whether to pursue such special provisions for excavation of deep features will be made in consultations between the SHPO and International Paper.
6. Flotation and/or fine screened samples of feature fill will be processed for floral and faunal analysis if appropriate materials are present.
7. Carbon 14 samples will be taken from sites 31CB84 and 31CB114 if appropriate.
8. A photographic record of the excavations will be maintained, including black and white or color photographs of all features and at least one soil profile of each excavation unit.

## MANAGEMENT SUMMARY

Ten working days after the completion of field work on each component or group of sites, a management summary for that component will be submitted to International Paper. This report will include a brief summary of the findings during the excavations by the contractor as well as an explanation of any deviations from the field techniques listed above. The report will give recommendations for analysis and present a preliminary report of the excavation results. The management summary will not include finished maps, photographs, or artifact inventories.

## ANALYSIS

### *Data Analysis*

1. A site plan map will be prepared for each site. This map will illustrate the site grid and specify the locations of all archaeological excavation units, surface features, and other important site data.
2. Individual plan maps will be provided. These maps will be keyed into the overall site plan map and will illustrate features or other important cultural or site data from individual excavation units.
3. Individual features will be described and illustrated with plan and profile drawings and before and after photographs where appropriate. The results of the analysis of excavated feature fill and collected samples will be described and discussed.

### *Laboratory Processing*

Recovered artifacts will be bagged by provenience units in the field. All recovered artifacts will be washed and processed, excepting brick fragments and marine shell which be quantified and discarded in the field. Artifact bags and individual artifacts that are large enough for labeling will be individually marked with OSA accession numbers, with added suffix reference number.

Small artifacts will be bagged by provenience and the bag will be labeled.

### *Artifact Analysis*

- Ceramic Analysis. Both historic and prehistoric ceramics, excepting brick fragments will be analyzed, typed, quantified, and described in comparison to established ceramic typologies. The analysis will focus on chronological data as well as functional analysis. Prehistoric potsherds greater than one inch square will be analyzed using established typologies.

- Lithic Analysis. Lithic artifacts (prehistoric) are expected to be a very small part of the overall collection. However, all lithic artifacts will be described, quantified, and analyzed to the extent possible.
- Separate inventories of lithics, prehistoric ceramics, historic ceramics, and other categories as appropriate will be provided. Examination of historic artifacts will exclude brick, mortar, and concrete materials except for simple quantification of these materials for comparative purposes.
- Feature Content Analysis. If features such as refuse pits are encountered, the fill material will be subjected to fine screening (wet or dry) and samples of the matrix will be taken for flotation processing to recover floral and faunal samples for analysis.

Both prehistoric and historic ceramic artifacts (excepting brick fragments) will be typed and described. Comparisons of recovered materials with published or known ceramic types will be undertaken, with special emphasis given to determining the chronological affiliations of the ceramics. Functional analysis of historic artifacts will be used in conjunction with the analysis of other historic artifacts in supporting interpretations of artifact groups for historic pattern comparisons.

All historic artifacts will be analyzed according to type of material (iron, glass, ceramic, etc.).

## **REPORT OF INVESTIGATIONS**

A series of reports of findings will be prepared and will contain all of the requirements of the Secretary of the Interior's Guidelines for archaeological data recovery reports. The report will detail the data recovery investigations, including the historic documentary research, excavation, and analysis findings. The reports will be as defined above.

An initial draft copy of each volume or report will be submitted for International Paper's internal review. After receipt of comments from the sponsor, five copies of the draft report will be submitted to International Paper for submittal to review agencies.

The final report of each volume will be prepared after comments are received from the SHPO and the USACE and appropriate revisions are made. Six copies of each final report will be submitted. One copy of each final report will be an unbound, camera-ready copy suitable for reproduction. This copy will contain original photographs. In addition, if requested, a copy of each final report will be submitted in digital format on 3.5 inch diskette using a word processing software approved by International Paper.

## PERSONNEL

Personnel will meet the Secretary of the Interior's Standards. Upon selection of a contractor, the contractor will insure that vita for the senior staff are on file with the North Carolina State Historic Preservation Office.

## SCHEDULE

The schedule will be negotiated with International Paper.

In general, the contractor will begin setup activities within 10 working days after notice to proceed. In the case of site 31CB114, field work will begin within 20 working days and will involve the excavation of the hand units for examination by the geomorphologist. Field work on the main excavation block will begin within 30 days after notice to proceed.

Complete fieldwork within 4-6 months from notice to proceed for each component, except the Neils Eddy District. It is anticipated that fieldwork on the district would be completed within 7 months from notice to proceed.

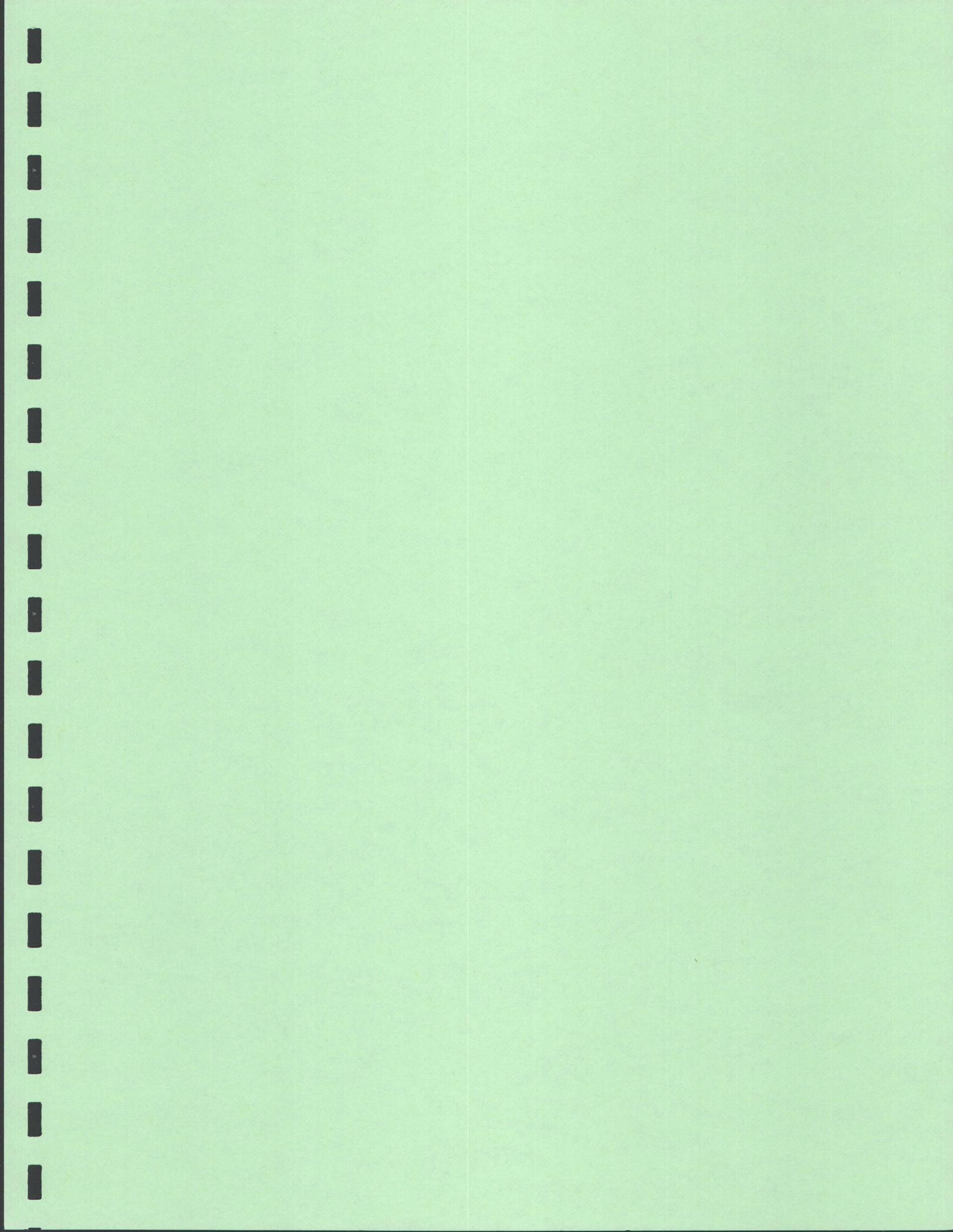
Complete analysis and preparation of reports within one calendar year of completion of field work for each group or component .

Submit Volume V within five months after completion of all final reports.

## References Cited

Lautzenheiser, L. E., T. H. Hargrove, J. M. Eastman, P. Samford, J. Carter, and M. A. Holm

1996 *Archaeological Testing, Neils Eddy Tract, International Paper, Riegelwood Operations, Riegelwood, Columbus County, North Carolina.*  
Ms. on file, Coastal Carolina Research, Inc., Tarboro, North Carolina.



ATTACHMENT 3

SOLID WASTE LABORATORY RESULTS

IEA, Inc.  
3000 Weston Parkway  
Cary, NC 27513

Phone 919-677-0090  
Fax 919-677-0427



# IEA

An Aquarion Company

May 8, 1996

Pat Wynne  
Federal Paperboard Company  
John L. Riegel Road  
Riegelwood, NC 28456

IEA Project No.: 979028/96043259, 9604260  
IEA Reference No.: W9603638  
Client Project I.D.: Waste Stream Characteristics

Dear Mr. Wynne,

Transmitted herewith are the results of analyses on six samples submitted to our laboratory.

The samples were received intact.

Analyses were performed according to approved methodologies and meet the requirements of the IEA Quality Assurance Program except where noted. Please see the enclosed reports for your results and a copy of the Chain of Custody documentation.

Thank you for selecting IEA for your sample analysis. Please do not hesitate to call me at 1-919-677-0090 or 1-800-444-9919 should you have any questions regarding this report. We look forward to serving you in the future.

Very truly yours,

IEA, Inc.

*S. Alex for*  
Rodney Raimonde  
Project Manager



**IEA**  
An Aquarion Company

IEA, Inc.  
3000 Weston Parkway  
Cary, NC 27513

Phone 919-677-0090  
Fax 919-677-0427

### IEA-NORTH CAROLINA CERTIFICATIONS

Certifying State	Program Type	Lab ID #
Alabama	DW	40210
California	DW, WW, HW Radiolog.	I-1035,1768, I-1047 I-1018 (Rad)
Connecticut	DW, WW	PH-0135
Florida	DW WW (CompQAP)	87350 E87439 QAP#930007G
Kansas	DW, HW, WW	E-158 (DW, WW) E-1189 (HW)
Kentucky	DW	90049
Massachusetts	DW, WW	M-NC039
New Jersey	DW, WW Radiolog.	67719 67681
New York	Radiolog.	11422
North Carolina	DW WW Radiolog.	DW 37720 WW 84 Rad 37720
Ohio	Voluntary Action Program	CL00021
South Carolina	DW WW HW	99021
Tennessee	DW UST App List	02914
Utah	Radiolog. RCRA	E-206 E-226
Virginia	DW	00179
West Virginia	DW	9908C
Wisconsin	WW	998051010

DW=Drinking Water WW=Wastewater HW=Hazardous Waste Radiolog.=Radiological

Rev. 5.01/96

Monroe,  
Connecticut  
203-261-4458

Schaumburg,  
Illinois  
708-705-0740

N. Billerica,  
Massachusetts  
508-667-1400

Whippany,  
New Jersey  
201-428-8181

# CHAIN OF CUSTODY RECORD

NO. **66931**

3000 WESTON PKWY.  
CARY, N.C. 27513  
PH # 919-677-0090  
FAX # 919-677-0427

**IEA**  
An Aquation Company

REGULATORY CLASSIFICATION - PLEASE SPECIFY

NPDES  DRINKING WATER  RCRA  OTHER

Page 1 of 1

INTERNATIONAL PAPER

PROJECT NAME

WASTE STREAM CHARACTERIZATION

SAMPLERS: (SIGNATURE)

*F. P. W. IV*

STATION LOCATION

- ① DREGS
- ② BRITS
- ③ SLUDGE
- ④ OLD LIME MUD POND
- ⑤ NEW LIME MUD POND
- ⑥ POWER BOILER ASH

REQUESTED PARAMETERS

CONTAINERS #	MATRIX		DATE	TIME	RECEIVED BY	DATE	TIME	RECEIVED FOR LAB BY	DATE	TIME	IEA QUOTE NO.	IEA RUSH NO.
	SOIL	WATER										
	X											
	X											
	X	X										
	X											
	X											
	X											
	X											

Full Test

REINQUISHED BY (SIGNATURE) *F.P.W. IV* DATE 4/9/90 TIME  
 RECEIVED FOR LAB BY *S. P. ...* DATE 4/16/90 TIME 0930

REMARKS ON SAMPLE RECEIPT  
 BOTTLE INTACT  CUSTODY SEALS  
 PRESERVED  SEALS INTACT

IEA REMARKS  
 401  
 979-001

PROJECT MANAGER (PLEASE PRINT)

P.O. NO.

FIELD REMARKS

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number: 979-028  
 IEA Sample Number: 9604259-01  
 Client Name: Federal Paperboard Co.  
 Client Project I.D.: Waste Stream Characteristics  
 Sample Identification: 1 *brels FPW*  
 Matrix: Leachate  
 TCLP Extraction Date: 04/17/96

Date Received: 04/10/96  
 Date Sampled: 04/08/96  
 Date Extracted: 04/19/96  
 Date Analyzed: 04/22/96  
 Analysis By: Van Lare  
 Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604259-01  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 1  
Matrix: WATER  
TCLP Extraction Date: 04/19/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Analyzed: 04/26/96  
Analysis By: CREWES  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 TCLP METALS REGULATED

IEA Project #: 979\_028

IEA Sample #: 960425901

Client Name: Federal Paperboard Co.

Matrix: LEACHATE

Date Received: 04/10/96

Client Proj. I.D.: Waste Stream Characteristics

Date Sampled: 04/08/96

Sample I.D.: 1

TCLP Extraction: 04/17/96

Parameter	Method	N.C.		Result	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
		Regulatory Level	Quant Limit						
ARSENIC	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
BARIUM	SW846 6010	10000	1000	1620	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	100	10.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
LEAD	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
MERCURY	SW846 7470	20	2.00	BQL	04/19/96	04/20/96	MLH	R4982	04199602H
SELENIUM	SW846 7740	100	10.0	BQL	04/19/96	04/24/96	RRM	R5103	04199603F
SILVER	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 979-028  
 TWA Sample #: 9604259-01 Matrix: Soil  
 Client Name: Federal Paperboard Co. Date Received: 04/10/96  
 Client Proj. I.D.: Waste Stream Characteristics Date Sampled: 04/08/96  
 Sample I.D.: 1

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
Ignitability	46 FR 25193	N/A	Non-Flammable	N/A	04/16/96	NB
pH	SW-846 9045	0.1	12.4	N/A	04/16/96	NB
Cyanide	SW-846 CHAP 8.3	0.25 mg/kg	BQL	04/26/96	04/26/96	SJ
K-PH	SW-846 CHAP 8.3	0.1	12.4	N/A	04/16/96	NB
R-Sulfide	SW-846 CHAP 8.3	25 mg/kg	BQL	04/26/96	04/26/96	PW

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED PESTICIDES / PCBs  
 SW-846 METHOD 8080

IEA Project Number: 979-028	Date Received: 04/10/96
IEA Sample Number: 9604259-01	Date Sampled: 04/08/96
Client Name: Federal Paperboard Co.	Date Extracted: 04/23/96
Client Project ID: Waste Stream Characteristics	Date Analyzed: 04/27/96
Sample Identification: 1	Analysis By: Eurillo
Matrix: Leachate	Dilution Factor: 1.0
TCLP Extraction Date: 04/17/96	

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.  
 BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604259-01  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 1  
Matrix: Leachate  
TCLP Extraction Date: 04/17/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP REGULATED  
BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number: 979-028  
IEA Sample Number: 9604259-02  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 2 BRITS FPW  
Matrix: Leachate  
TCLP Extraction Date: 04/17/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Extracted: 04/19/96  
Date Analyzed: 04/22/96  
Analysis By: Van Lare  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604259-02  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 2  
Matrix: WATER  
TCLP Extraction Date: 04/19/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Analyzed: 04/26/96  
Analysis By: CREWES  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 TCLP METALS REGULATED

IEA Project #: 979\_028

IEA Sample #: 960425902

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample I.D.: 2

Matrix: LEACHATE

Date Received: 04/10/96

Date Sampled: 04/08/96

TCLP Extraction: 04/17/96

Parameter	Method	N.C.		Result ( ug/l)	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
		Regulatory Level	Quant Limit						
ARSENIC	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
BARIUM	SW846 6010	10000	1000	1550	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	100	10.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
LEAD	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
MERCURY	SW846 7470	20	2.00	BQL	04/19/96	04/20/96	MLH	R4982	04199602H
SELENIUM	SW846 7740	100	10.0	BQL	04/19/96	04/24/96	RRM	R5103	04199603F
SILVER	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 979-028  
 Sample #: 9604259-02 Matrix: Soil  
 Client Name: Federal Paperboard Co. Date Received: 04/10/96  
 Client Proj. I.D.: Waste Stream Characteristics Date Sampled: 04/08/96  
 Sample I.D.: 2

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
Ignitability	46 FR 25193	N/A	Non-Flammable	N/A	04/16/96	NB
	SW-846 9045	0.1	10.8	N/A	04/16/96	NB
Cyanide	SW-846 CHAP 8.3	0.25 mg/kg	BQL	04/26/96	04/26/96	SJ
pH	SW-846 CHAP 8.3	0.1	10.8	N/A	04/16/96	NB
Sulfide	SW-846 CHAP 8.3	25 mg/kg	BQL	04/26/96	04/26/96	PW

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP REGULATED PESTICIDES / PCBs  
SW-846 METHOD 8080

IEA Project Number: 979-028 Date Received: 04/10/96  
IEA Sample Number: 9604259-02 Date Sampled: 04/08/96  
Client Name: Federal Paperboard Co. Date Extracted: 04/23/96  
Client Project ID: Waste Stream Characteristics Date Analyzed: 04/27/96  
Sample Identification: 2 Analysis By: Eurillo  
Matrix: Leachate Dilution Factor: 1.0  
TCLP Extraction Date: 04/17/96

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604259-02  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 2  
Matrix: Leachate  
TCLP Extraction Date: 04/17/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number: 979-028  
 IEA Sample Number: 9604259-03  
 Client Name: Federal Paperboard Co.  
 Client Project I.D.: Waste Stream Characteristics  
 Sample Identification: 3 SLUDGE TO CLARIFIED FAN  
 Matrix: Leachate  
 TCLP Extraction Date: 04/17/96  
 Date Received: 04/10/96  
 Date Sampled: 04/08/96  
 Date Extracted: 04/22/96  
 Date Analyzed: 04/23/96  
 Analysis By: Van Lare  
 Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP/ZHE REGULATED GC/MS PURGEABLES  
 SW-846 METHOD 8240

IEA Project Number:	979-028	Date Received:	04/10/96
IEA Sample Number:	9604259-03	Date Sampled:	04/08/96
Client Name:	Federal Paperboard Co.	Date Analyzed:	04/26/96
Client Project I.D.:	Waste Stream Characteristics	Analysis By:	CREWES
Sample Identification:	3	Dilution Factor:	2.5
Matrix:	WATER		
TCLP Extraction Date:	04/19/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Quantitation limit elevated due to sample dilution prior to analysis.

Sample diluted to prevent excessive foam while purging.

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 TCLP METALS REGULATED

IEA Project #: 979 028  
 IEA Sample #: 960425903  
 Client Name: Federal Paperboard Co.  
 Client Proj. I.D.: Waste Stream Characteristics  
 Sample I.D.: 3

Matrix: LEACHATE  
 Date Received: 04/10/96  
 Date Sampled: 04/08/96  
 TCLP Extraction: 04/19/96

Parameter	Method	N.C.		Result ( ug/l)	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
		Regulatory Level	Quant Limit						
LEAD	SW846 6010	500	50.0	391.	04/24/96	04/29/96	RRM	R5099	04249608P
BARIUM	SW846 6010	10000	1000	7720	04/24/96	04/29/96	RRM	R5099	04249608P
CADMIUM	SW846 6010	100	10.0	80.2	04/24/96	04/29/96	RRM	R5099	04249608P
CHROMIUM	SW846 6010	500	50.0	401.	04/24/96	04/29/96	RRM	R5099	04249608P
COPPER	SW846 6010	500	50.0	355.	04/24/96	04/29/96	RRM	R5099	04249608P
MERCURY	SW846 7470	20	2.00	BQL	04/22/96	04/20/96	LXG	R4984	04229601H
SELENIUM	SW846 7740	100	10.0	BQL	04/24/96	04/26/96	RRM	R5082	04249609F
ZINC	SW846 6010	500	50.0	357.	04/24/96	04/29/96	RRM	R5099	04249608P

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 979-028  
 Lab Sample #: 9604259-03 Matrix: Water  
 Client Name: Federal Paperboard Co. Date Received: 04/10/96  
 Client Proj. I.D.: Waste Stream Characteristics Date Sampled: 04/08/96  
 Sample I.D.: 3

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
Ignitability	SW-846 1010	70 Deg F	>200 Deg F	N/A	04/17/96	NB
H	EPA 150.1	0.1	10.1	N/A	04/16/96	NB
Cyanide	SW-846 CHAP 8.3	0.25 mg/kg	BQL	04/26/96	04/26/96	SJ
R-pH	SW-846 CHAP 8.3	0.1	10.1	N/A	04/16/96	NB
R-Sulfide	SW-846 CHAP 8.3	25 mg/kg	BQL	04/26/96	04/26/96	PW

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED PESTICIDES / PCBs  
 SW-846 METHOD 8080

IEA Project Number:	979-028	Date Received:	04/10/96
IEA Sample Number:	9604259-03	Date Sampled:	04/08/96
Client Name:	Federal Paperboard Co.	Date Extracted:	04/23/96
Client Project ID:	Waste Stream Characteristics	Date Analyzed:	04/27/96
Sample Identification:	3	Analysis By:	Eurillo
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	04/19/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604259-03  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 3  
Matrix: Leachate  
TCLP Extraction Date: 04/19/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number:	979-028	Date Received:	04/10/96
IEA Sample Number:	9604259-04	Date Sampled:	04/08/96
Client Name:	Federal Paperboard Co.	Date Extracted:	04/19/96
Client Project I.D.:	Waste Stream Characteristics	Date Analyzed:	04/22/96
Sample Identification:	4 OLD LIME MUD P&WB FPW	Analysis By:	Van Lare
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	04/17/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.  
 BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604259-04  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 4  
Matrix: WATER  
TCLP Extraction Date: 04/19/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Analyzed: 04/26/96  
Analysis By: CREWES  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 TCLP METALS REGULATED

IEA Project #: 979\_028

IEA Sample #: 960425904

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Date Received: 04/10/96

Client Proj. I.D.: Waste Stream Characteristics

Date Sampled: 04/08/96

Sample I.D.: 4

TCLP Extraction: 04/17/96

Parameter	Method	N.C.		Result ( ug/l)	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
		Regulatory Level	Quant Limit						
ARSENIC	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
BARIUM	SW846 6010	10000	1000	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	100	10.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
LEAD	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
MERCURY	SW846 7470	20	2.00	BQL	04/19/96	04/20/96	MLH	R4982	04199602H
SELENIUM	SW846 7740	100	10.0	BQL	04/19/96	04/24/96	RRM	R5103	04199603F
SILVER	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 979-028  
 Sample #: 9604259-04 Matrix: Soil  
 Client Name: Federal Paperboard Co. Date Received: 04/10/96  
 Client Proj. I.D.: Waste Stream Characteristics Date Sampled: 04/08/96  
 Sample I.D.: 4

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
Ignitability	46 FR 25193	N/A	Non-Flammable	N/A	04/16/96	NB
pH	SW-846 9045	0.1	11.9	N/A	04/16/96	NB
Cyanide	SW-846 CHAP 8.3	0.25 mg/kg	BQL	04/26/96	04/26/96	SJ
pH	SW-846 CHAP 8.3	0.1	11.9	N/A	04/16/96	NB
R-Sulfide	SW-846 CHAP 8.3	25 mg/kg	BQL	04/26/96	04/26/96	PW

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED PESTICIDES / PCBs  
 SW-846 METHOD 8080

IEA Project Number: 979-028		Date Received: 04/10/96	
IEA Sample Number: 9604259-04		Date Sampled: 04/08/96	
Client Name: Federal Paperboard Co.		Date Extracted: 04/23/96	
Client Project ID: Waste Stream Characteristics		Date Analyzed: 04/27/96	
Sample Identification: 4		Analysis By: Eurillo	
Matrix: Leachate		Dilution Factor: 1.0	
TCLP Extraction Date: 04/17/96			

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604259-04  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 4  
Matrix: Leachate  
TCLP Extraction Date: 04/17/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.  
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP REGULATED  
BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number: 979-028  
IEA Sample Number: 9604259-05  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 5 NEW LIME MUD Pond FPW  
Matrix: Leachate  
TCLP Extraction Date: 04/17/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Extracted: 04/19/96  
Date Analyzed: 04/22/96  
Analysis By: Van Lare  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604259-05  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 5  
Matrix: WATER  
TCLP Extraction Date: 04/19/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Analyzed: 04/26/96  
Analysis By: CREWES  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 TCLP METALS REGULATED

IEA Project #: 979\_028

IEA Sample #: 960425905

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Date Received: 04/10/96

Client Proj. I.D.: Waste Stream Characteristics

Date Sampled: 04/08/96

Sample I.D.: 5

TCLP Extraction: 04/17/96

Parameter	Method	N.C.		Result	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
		Regulatory Level	Quant Limit						
ARSENIC	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
BARIUM	SW846 6010	10000	1000	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	100	10.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
LEAD	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
MERCURY	SW846 7470	20	2.00	BQL	04/19/96	04/20/96	MLH	R4982	04199602H
SELENIUM	SW846 7740	100	10.0	BQL	04/19/96	04/22/96	RRM	R5028	04199603F
SILVER	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 979-028  
 IEA Sample #: 9604259-05 Matrix: Soil  
 Client Name: Federal Paperboard Co. Date Received: 04/10/96  
 Client Proj. I.D.: Waste Stream Characteristics Date Sampled: 04/08/96  
 Sample I.D.: 5

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
Ignitability	46 FR 25193	N/A	Non-Flammable	N/A	04/16/96	NB
pH	SW-846 9045	0.1	9.5	N/A	04/16/96	NB
Cyanide	SW-846 CHAP 8.3	0.25 mg/kg	BQL	04/26/96	04/26/96	SJ
pH	SW-846 CHAP 8.3	0.1	9.5	N/A	04/16/96	NB
R-Sulfide	SW-846 CHAP 8.3	25 mg/kg	BQL	04/26/96	04/26/96	PW

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP REGULATED PESTICIDES / PCBs  
SW-846 METHOD 8080

IEA Project Number: 979-028 Date Received: 04/10/96  
IEA Sample Number: 9604259-05 Date Sampled: 04/08/96  
Client Name: Federal Paperboard Co. Date Extracted: 04/23/96  
Client Project ID: Waste Stream Characteristics Date Analyzed: 04/27/96  
Sample Identification: 5 Analysis By: Eurillo  
Matrix: Leachate Dilution Factor: 1.0  
TCLP Extraction Date: 04/17/96

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP HERBICIDES REGULATED  
 METHOD 8150

IEA Project Number: 979-028  
 IEA Sample Number: 9604259-05  
 Client Name: Federal Paperboard Co.  
 Client Project I.D.: Waste Stream Characteristics  
 Sample Identification: 5  
 Matrix: Leachate  
 TCLP Extraction Date: 04/17/96

Date Received: 04/10/96  
 Date Sampled: 04/08/96  
 Date Extracted: 04/22/96  
 Date Analyzed: 05/03/96  
 Analysis By: Eurillo  
 Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.  
 BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number:	979-028	Date Received:	04/10/96
IEA Sample Number:	9604259-06	Date Sampled:	04/08/96
Client Name:	Federal Paperboard Co.	Date Extracted:	04/19/96
Client Project I.D.:	Waste Stream Characteristics	Date Analyzed:	04/22/96
Sample Identification:	6 <i>Power Boiler Ash PW</i>	Analysis By:	Van Lare
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	04/17/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentrati. (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604260-06  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 6  
Matrix: WATER  
TCLP Extraction Date: 04/19/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Analyzed: 04/26/96  
Analysis By: CREWES  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 TCLP METALS REGULATED

IEA Project #: 979 028

IEA Sample #: 960426006

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample I.D.: 6

Matrix: LEACHATE

Date Received: 04/10/96

Date Sampled: 04/08/96

TCLP Extraction: 04/17/96

Parameter	Method	N.C.		Result	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
		Regulatory Level	Quant Limit						
ARSENIC	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
BARIUM	SW846 6010	10000	1000	2110	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	100	10.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
LEAD	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
MERCURY	SW846 7470	20	2.00	BQL	04/19/96	04/20/96	MLH	R4982	04199602H
SELENIUM	SW846 7740	100	10.0	BQL	04/19/96	04/22/96	RRM	R5028	04199603F
SILVER	SW846 6010	500	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 979-028  
 IEA Sample #: 9604260-06  
 Client Name: Federal Paperboard Co. Matrix: Soil  
 Client Proj. I.D.: Waste Stream Characteristics Date Received: 04/10/96  
 Sample I.D.: 6 Date Sampled: 04/08/96

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
Ignitability	46 FR 25193	N/A	Non-Flammable	N/A	04/16/96	NB
pH	SW-846 9045	0.1	10.8	N/A	04/16/96	NB
R-Cyanide	SW-846 CHAP 8.3	0.25 mg/kg	BQL	04/26/96	04/26/96	SJ
R-pH	SW-846 CHAP 8.3	0.1	10.8	N/A	04/16/96	NB
R-Sulfide	SW-846 CHAP 8.3	25 mg/kg	BQL	04/26/96	04/26/96	PW

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED PESTICIDES / PCBs  
 SW-846 METHOD 8080

IEA Project Number:	979-028	Date Received:	04/10/96
IEA Sample Number:	9604260-06	Date Sampled:	04/08/96
Client Name:	Federal Paperboard Co.	Date Extracted:	04/23/96
Client Project ID:	Waste Stream Characteristics	Date Analyzed:	04/27/96
Sample Identification:	6	Analysis By:	Eurillo
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	-04/17/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604260-06  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: 6  
Matrix: Leachate  
TCLP Extraction Date: 04/17/96  
Date Received: 04/10/96  
Date Sampled: 04/08/96  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604259  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: QC BLANK (VBLK5S)  
Matrix: WATER  
TCLP Extraction Date: N/A  
Date Received: N/A  
Date Sampled: N/A  
Date Analyzed: 04/26/96  
Analysis By: MOORE  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 9604259-01, 01LS, 02, 05

Filename: 0426503

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604259  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: QC BLANK (VBLKJH)  
Matrix: WATER  
TCLP Extraction Date: N/A  
Date Received: N/A  
Date Sampled: N/A  
Date Analyzed: 04/26/96  
Analysis By: MOORE  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 9604259-03,04, 9604260-06, ZHE BLK#750

Filename: 0426503

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP/ZHE REGULATED GC/MS PURGEABLES  
SW-846 METHOD 8240

IEA Project Number: 979-028  
IEA Sample Number: 9604259  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: ZHE BLK#750  
Matrix: WATER  
TCLP Extraction Date: 04/19/96  
Date Received: N/A  
Date Sampled: N/A  
Date Analyzed: 04/26/96  
Analysis By: MOORE  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	Benzene	0.05	0.010	BQL
2	2-Butanone	20	0.020	BQL
3	Carbon tetrachloride	0.05	0.010	BQL
4	Chlorobenzene	10	0.010	BQL
5	Chloroform	0.60	0.010	BQL
6	1,2-Dichloroethane	0.05	0.010	BQL
7	1,1-Dichloroethene	0.07	0.010	BQL
8	Tetrachloroethene	0.07	0.010	BQL
9	Trichloroethene	0.05	0.010	BQL
10	Vinyl chloride	0.02	0.020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 9604259-01,01LS through -05, 9604260-06

Filename: 0426106

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 979-028  
IEA Sample #: 9604259 Matrix: Solid  
Client Name: Federal Paperboard Co. Date Received: N/A  
Client Proj. I.D.: Waste Stream Characteristics Date Sampled: N/A  
Sample I.D.: QC Blank

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
Cyanide	SW-846 CHAP 8.3	0.25 mg/kg	BQL	04/26/96	04/26/96	SJ
R-Sulfide	SW-846 CHAP 8.3	25 mg/kg	BQL	04/26/96	04/26/96	PW

Comments:

Corresponding Samples: 9604259-01 through 05 and 9604260-06

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number:	979-028	Date Received:	N/A
IEA Sample Number:	9604259	Date Sampled:	N/A
Client Name:	Federal Paperboard Co.	Date Extracted:	04/19/96
Client Project I.D.:	Waste Stream Characteristics	Date Analyzed:	04/22/96
Sample Identification:	QC Blank (SVB351)	Analysis By:	Van Lare
Matrix:	Water	Dilution Factor:	1.0
TCLP Extraction Date:	N/A		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: TCLP556, 9604259-01, 01SPK, 02, 04, 05, 9604260-06

Filename: 0422402

FORM N.C. TCLP-8270R Rev. 081892

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number:	979-028	Date Received:	N/A
IEA Sample Number:	9604259	Date Sampled:	N/A
Client Name:	Federal Paperboard Co.	Date Extracted:	04/19/96
Client Project I.D.:	Waste Stream Characteristics	Date Analyzed:	04/22/96
Sample Identification:	Method Blank (TCLP556)	Analysis By:	Van Lare
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	04/17/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 9604259-01, 02, 04, 05, 9604260-06

Filename: 0422408

FORM N.C. TCLP-8270R Rev. 081892

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number: 979-028  
 IEA Sample Number: 9604259  
 Client Name: Federal Paperboard Co.  
 Client Project I.D.: Waste Stream Characteristics  
 Sample Identification: QC Blank (SVB354)  
 Matrix: Water  
 TCLP Extraction Date: N/A

Date Received: N/A  
 Date Sampled: N/A  
 Date Extracted: 04/22/96  
 Date Analyzed: 04/23/96  
 Analysis By: Dixon  
 Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: TCLP564, 9604259-03, 03SPK

Filename: 0422D03

FORM N.C. TCLP-8270R Rev. 081892

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED  
 BASE/NEUTRAL/ACID EXTRACTABLES SW-846 METHOD 8270

IEA Project Number:	979-028	Date Received:	N/A
IEA Sample Number:	9604259	Date Sampled:	N/A
Client Name:	Federal Paperboard Co.	Date Extracted:	04/22/96
Client Project I.D.:	Waste Stream Characteristics	Date Analyzed:	04/23/96
Sample Identification:	Method Blank (TCLP564)	Analysis By:	Dixon
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	04/19/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	1,4-Dichlorobenzene	0.75	0.010	BQL
2	2,4-Dinitrotoluene	0.013	0.010	BQL
3	Hexachlorobutadiene	0.05	0.010	BQL
4	Hexachloroethane	0.30	0.010	BQL
5	Total Cresol	20	0.010	BQL
6	Nitrobenzene	0.20	0.010	BQL
7	Pentachlorophenol	10	0.050	BQL
8	Pyridine	0.50	0.010	BQL
9	2,4,5-Trichlorophenol	40	0.010	BQL
10	2,4,6-Trichlorophenol	0.20	0.010	BQL
11	Hexachlorobenzene	0.013	0.010	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Sample: 9604259-03

Filename: 0422D02

FORM N.C. TCLP-8270R Rev. 081892

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP SEMIVOLATILE MATRIX SPIKE

IEA Project No.: 979-028  
IEA Sample ID: 9604259-01  
Date Extracted: 04/19/96  
Date Analyzed: 04/23/96

COMPOUND	QUANTITATION LIMIT (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS % REC #
1,4-Dichlorobenzene	0.020	BQL	70
2,4-Dinitrotoluene	0.020	BQL	82
Hexachlorobutadiene	0.020	BQL	77
Hexachloroethane	0.020	BQL	70
Total Cresol	0.020	BQL	72
Nitrobenzene	0.020	BQL	80
Pentachlorophenol	0.100	BQL	97
Pyridine	0.020	BQL	46
2,4,5-Trichlorophenol	0.020	BQL	87
2,4,6-Trichlorophenol	0.020	BQL	85
Hexachlorobenzene	0.020	BQL	73

Comments:  
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP SEMIVOLATILE MATRIX SPIKE

IEA Project No.: 979-028  
IEA Sample ID: 9604259-03  
Date Extracted: 04/22/96  
Date Analyzed: 04/23/96

COMPOUND	QUANTITATION LIMIT (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS & REC #
1,4-Dichlorobenzene	0.020	BQL	62
2,4-Dinitrotoluene	0.020	BQL	77
Hexachlorobutadiene	0.020	BQL	71
Hexachloroethane	0.020	BQL	65
Total Cresol	0.020	BQL	77
Nitrobenzene	0.020	BQL	91
Pentachlorophenol	0.100	BQL	90
Pyridine	0.020	BQL	52
2,4,5-Trichlorophenol	0.020	BQL	84
2,4,6-Trichlorophenol	0.020	BQL	87
Hexachlorobenzene	0.020	BQL	70

Comments:

BQL = Below Quantitation Limit

Sample was diluted due to the high concentration of non-target compounds present.

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: PBW 04199602H

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
HEAVY METALS	SW846 7470	2.00	BQL	04/19/96	04/20/96	MLH	R4982	04199602H

Corresponding Samples:

960425901, 960425902, 960425904, 960425905, 960426006, 960434401,  
960434402

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: PBW 04199603P

Parameter	Method	Quant Limit	Result (ug/l)	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
ARSENIC	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
BARIUM	SW846 6010	1000	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	10.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
LEAD	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
SILVER	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P

Corresponding Samples:

960425901, 960425902, 960425904, 960425905, 960426006

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: PBW 04249608P

Parameter	Method	Quant Limit	Result (ug/l)	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
ARSENIC	SW846 6010	50.0	BQL	04/24/96	04/29/96	RRM	R5099	04249608P
BARIUM	SW846 6010	1000	BQL	04/24/96	04/29/96	RRM	R5099	04249608P
CADMIUM	SW846 6010	10.0	BQL	04/24/96	04/29/96	RRM	R5099	04249608P
CHROMIUM	SW846 6010	50.0	BQL	04/24/96	04/29/96	RRM	R5099	04249608P
LEAD	SW846 6010	50.0	BQL	04/24/96	04/29/96	RRM	R5099	04249608P
SILVER	SW846 6010	50.0	BQL	04/24/96	04/29/96	RRM	R5099	04249608P

Corresponding Samples:  
 960425903

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: PBW 04229601H

Parameter	Method	Quant Limit	Result (ug/l)	Date Prepared	Date Analyzed	IEA Analyst	Prep Batch
MERCURY	SW846 7470	2.00	BQL	04/22/96	04/20/96	LXG R4984	04229601H

Corresponding Samples:

960425903, 960434101, 960434102, 960434702, 960434703, 960434704,  
960434705, 960434706, 960434707, 960434708, 960434709, 960434710,  
960434711, 960436709

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: PBW 04249609F

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	IEA Analyst	IEA Run	Prep Batch
SELENIUM	SW846 7740	10.0	BQL	04/24/96	04/26/96	RRM	R5082	04249609F

Corresponding Samples:  
60425903

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: TB556 04199602H

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	IEA Analyst	Prep Run	Batch
MERCURY	SW846 7470	2.00	BQL	04/19/96	04/20/96	MLH	R4982	04199602H

Corresponding Samples:

960425901, 960425902, 960425904, 960425905, 960426006, 960434401,  
960434402

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: TB556 04199603F

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
SELENIUM	SW846 7740	10.0	BQL	04/19/96	04/22/96	RRM	R5028	04199603F

Corresponding Samples:

960425901, 960425902, 960425904, 960425905, 960426006

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: TB556 04199603P

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
ARSENIC	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	1000	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	10.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CHROMIUM	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
CADMIUM	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P
COPPER	SW846 6010	50.0	BQL	04/19/96	04/19/96	FXW	R4989	04199603P

Corresponding Samples:

960425901, 960425902, 960425904, 960425905, 960426006

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: TB564 04229601H

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	Analyst	IEA Run	Prep Batch
MERCURY	SW846 7470	2.00	BQL	04/22/96	04/20/96	LXG	R4984	04229601H

Corresponding Samples:

960425903, 960434101, 960434102, 960434702, 960434703, 960434704,  
960434705, 960434706, 960434707, 960434708, 960434709, 960434710,  
960434711, 960436709

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979 028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: TB564 04249609F

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	IEA Analyst	Prep Run Batch
LENIUM	SW846 7740	10.0	BQL	04/24/96	04/26/96	RRM	R5082 04249609F

Corresponding Samples:  
960425903

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
Level 2 Metals Results Report  
PREPARATION BLANKS

IEA Project #: 979\_028

Matrix: LEACHATE

Client Name: Federal Paperboard Co.

Client Proj. I.D.: Waste Stream Characteristics

Sample Number: TB565 04229601H

Parameter	Method	Quant Limit	Result (ug/l )	Date Prepared	Date Analyzed	IEA Run	Prep Batch
MERCURY	SW846 7470	2.00	BQL	04/22/96	04/20/96	LXG	R4984 04229601H

Corresponding Samples:

960425903, 960434101, 960434102, 960434702, 960434703, 960434704,  
960434705, 960434706, 960434707, 960434708, 960434709, 960434710,  
960434711, 960436709

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 MATRIX SPIKE RESULTS

IEA Project #: 979\_028  
 IEA Sample #: 960425902  
 Matrix: LEACHATE

Matrix Spike Results ( ug/l)

Parameter	Method	SA	SR	SSR	%RCY	Date Analyzed	Samp Run	Spike Run
ARSENIC	SW846 6010	556.	BQL	412.	74.2	04/19/96	R4989	R4989
BARIUM	SW846 6010	11100	1550	10600	81.4	04/19/96	R4989	R4989
CADMIUM	SW846 6010	111.	BQL	81.6	73.4	04/19/96	R4989	R4989
CHROMIUM	SW846 6010	556.	BQL	425.	76.5	04/19/96	R4989	R4989
LEAD	SW846 6010	556.	BQL	421.	75.8	04/19/96	R4989	R4989
MERCURY	SW846 7470	20.0	BQL	16.9	82.4	04/20/96	R4982	R4982
SELENIUM	SW846 7740	111.	BQL	86.7	78.1	04/24/96	R5103	R5103
SILVER	SW846 6010	556.	BQL	408.	73.4	04/19/96	R4989	R4989

$$\%R = ((SSR - SR) / SA) * 100$$

Corresponding Samples:

960425901, 960425902, 960425904, 960425905, 960426006, 960434401,  
 960434402

Comments:

Industrial & Environmental Analysts, Inc. (IEA)  
 Level 2 Metals Results Report  
 MATRIX SPIKE RESULTS

Project #: 979\_028  
 IEA Sample #: 960425903  
 Matrix: LEACHATE

Matrix Spike Results ( ug/l)

Parameter	Method	SA	SR	SSR	%RCY	Date Analyzed	Samp Run	Spike Run
ARSENIC	SW846 6010	500.	391.	417.	5.11	04/29/96	R5099	R5099
BARIUM	SW846 6010	10000	7720	8290	5.75	04/29/96	R5099	R5099
CADMIUM	SW846 6010	100.	80.2	79.4	-0.8	04/29/96	R5099	R5099
CHROMIUM	SW846 6010	500.	401.	392.	-1.8	04/29/96	R5099	R5099
LEAD	SW846 6010	500.	355.	388.	6.56	04/29/96	R5099	R5099
MERCURY	SW846 7470	20.0	BQL	13.0	63.7	04/20/96	R4984	R4984
MOLYBDENUM	SW846 7740	100.	BQL	56.0	56.0	04/26/96	R5082	R5082
SILVER	SW846 6010	500.	357.	375.	3.62	04/29/96	R5099	R5099

$$\%R = ((SSR - SR) / SA) * 100$$

Corresponding Samples:

960425903, 960434101, 960434102, 960434702, 960434703, 960434704,  
 960434705, 960434706, 960434707, 960434708, 960434709, 960434710,  
 960434711, 960436709

Comments:

## ABBREVIATIONS

A	=	Amenable
Alk	=	Alkalinity as CaCO <sub>3</sub>
Bcrb	=	Alkalinity as Bicarbonate
BOD	=	Biochemical Oxygen Demand
BQL	=	Below Quantitation Limit
c/100mL	=	Colonies per 100 mL of Sample
CEC	=	Cation Exchange Capacity
Chrom	=	Chromotropic
COD	=	Chemical Oxygen Demand
Crb	=	Alkalinity as Carbonate
D	=	Dissolved
DO	=	Dissolved Oxygen
DOC	=	Dissolved Organic Carbon
D/T	=	Distillation/Titration
E	=	Extractable (Prepped by Std M 3030C)
F	=	Free
Hex	=	Hexavalent
Hyd	=	Hydroxide
ISE	=	Ion Selective Electrode
mmpy	=	Millimeter per Year
MPN	=	Most Probable Number
N/A	=	Not Applicable
R	=	Reactivity
SA	=	Spike Added
SSR	=	Spike Sample Results
SR	=	Sample Results
Sp Cond	=	Specific Conductance
SM	=	Settleable Matter
SPC	=	Standard Plate Count
T	=	Total
TDS	=	Total Dissolved Solids
TKN	=	Total Kjeldahl Nitrogen
TMLSS	=	Total Mixed Liquor Suspended Solids
TOC	=	Total Organic Carbon
TON	=	Total Organic Nitrogen
TOX	=	Total Organic Halogens
TS	=	Total Solids
TSS	=	Total Suspended Solids
TVS	=	Total Volatile Solids
VSS	=	Volatile Suspended Solids
WAD	=	Weak and Dissociable

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED PESTICIDES / PCBs  
 SW-846 METHOD 8080

IEA Project Number:	979-028	Date Received:	N/A
IEA Sample Number:	9604259	Date Sampled:	N/A
Client Name:	Federal Paperboard Co.	Date Extracted:	04/23/96
Client Project ID:	Waste Stream Characteristics	Date Analyzed:	04/27/96
Sample Identification:	QC Blank (PB969)	Analysis By:	Cubbedge
Matrix:	Water	Dilution Factor:	1.0
TCLP Extraction Date:	N/A		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: TCLP556, TCLP564, 9604259-01 through -05, -01SPK, -03SPK, 9604260-06

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED PESTICIDES / PCBs  
 SW-846 METHOD 8080

IEA Project Number:	979-028	Date Received:	N/A
IEA Sample Number:	9604259	Date Sampled:	N/A
Client Name:	Federal Paperboard Co.	Date Extracted:	04/23/96
Client Project ID:	Waste Stream Characteristics	Date Analyzed:	04/27/96
Sample Identification:	Method Blank (TCLP556)	Analysis By:	Cubbedge
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	04/17/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 9604259-01, -02, -04, -05, 9604260-06

Industrial & Environmental Analysts, Inc. (IEA)  
 TCLP REGULATED PESTICIDES / PCBs  
 SW-846 METHOD 8080

IEA Project Number:	979-028	Date Received:	N/A
IEA Sample Number:	9604259	Date Sampled:	N/A
Client Name:	Federal Paperboard Co.	Date Extracted:	04/23/96
Client Project ID:	Waste Stream Characteristics	Date Analyzed:	04/27/96
Sample Identification:	Method Blank (TCLP564)	Analysis By:	Cubbedge
Matrix:	Leachate	Dilution Factor:	1.0
TCLP Extraction Date:	04/19/96		

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	gamma-BHC (Lindane)	0.04	0.00025	BQL
2	Heptachlor	0.0008	0.00025	BQL
3	Heptachlor epoxide	0.0008	0.00025	BQL
4	Endrin	0.002	0.00050	BQL
5	Methoxychlor	1.00	0.0025	BQL
6	Toxaphene	0.05	0.0050	BQL
7	Chlordane (technical)	0.003	0.0025	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Sample: 9604259-03

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP PESTICIDE MATRIX SPIKE

IEA Project ID: 979-028  
IEA Sample ID: 9604259-01  
Date Extracted: 04/23/96  
Date Analyzed: 04/27/96

COMPOUND	QUANTITATION LIMIT (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS % REC #
gamma-BHC (Lindane)	0.00025	BQL	42
Heptachlor	0.00025	BQL	93
Heptachlor epoxide	0.00025	BQL	80
Endrin	0.00050	BQL	105
Methoxychlor	0.0025	BQL	83
Toxaphene	0.0050	BQL	81
Chlordane (technical)	0.0025	BQL	81

Comments:

BQL = Below Quantitation Limit

\*MS% Recovery for the multi-response pesticides is calculated as the av  
recovery of the single-response compounds (as per communication with t  
EPA Office of Solid Waste, Washington, D.C.)

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP PESTICIDE MATRIX SPIKE

IEA Project ID: 979-028  
IEA Sample ID: 9604259-03  
Date Extracted: 04/23/96  
Date Analyzed: 04/27/96

COMPOUND	QUANTITATION LIMIT (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS % REC #
gamma-BHC (Lindane)	0.00025	BQL	36
Heptachlor	0.00025	BQL	80
Heptachlor epoxide	0.00025	BQL	87
Endrin	0.00050	BQL	135
Methoxychlor	0.0025	BQL	90
Toxaphene	0.0050	BQL	84
Chlordane (technical)	0.0025	BQL	84

Comments:

BQL = Below Quantitation Limit

\*MS% Recovery for the multi-response pesticides is calculated as the av  
recovery of the single-response compounds (as per communication with t  
EPA Office of Solid Waste, Washington, D.C.)

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604259  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: QC Blank (HB672)  
Matrix: Water  
TCLP Extraction Date: N/A

Date Received: N/A  
Date Sampled: N/A  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: TCLP556, TCLP564, 9604259-01, -02, -04, -05, -01SPK  
9604260-06, 9604259-03, 03SPK

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604259  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: Method Blank (TCLP556)  
Matrix: Leachate  
TCLP Extraction Date: 04/17/96  
Date Received: N/A  
Date Sampled: N/A  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 9604259-01, -02, -04, -05, 9604260-06

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDES REGULATED  
METHOD 8150

IEA Project Number: 979-028  
IEA Sample Number: 9604259  
Client Name: Federal Paperboard Co.  
Client Project I.D.: Waste Stream Characteristics  
Sample Identification: Method Blank (TCLP564)  
Matrix: Leachate  
TCLP Extraction Date: 04/19/96  
Date Received: N/A  
Date Sampled: N/A  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96  
Analysis By: Eurillo  
Dilution Factor: 1.0

Number	Compound	N.C. Regulatory Level (mg/L)	Quantitation Limit (mg/L)	Results Concentration (mg/L)
1	2,4-D	1.00	0.010	BQL
2	2,4,5-TP	0.10	0.0020	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Sample: 9604259-03

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDE MATRIX SPIKE

IEA Project ID: 979-028  
IEA Sample ID: 9604259-01  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96

COMPOUND	QUANTITATION LIMIT (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS % REC #
2,4-D	0.010	BQL	80
2,4,5-TP	0.0020	BQL	77

Comments:

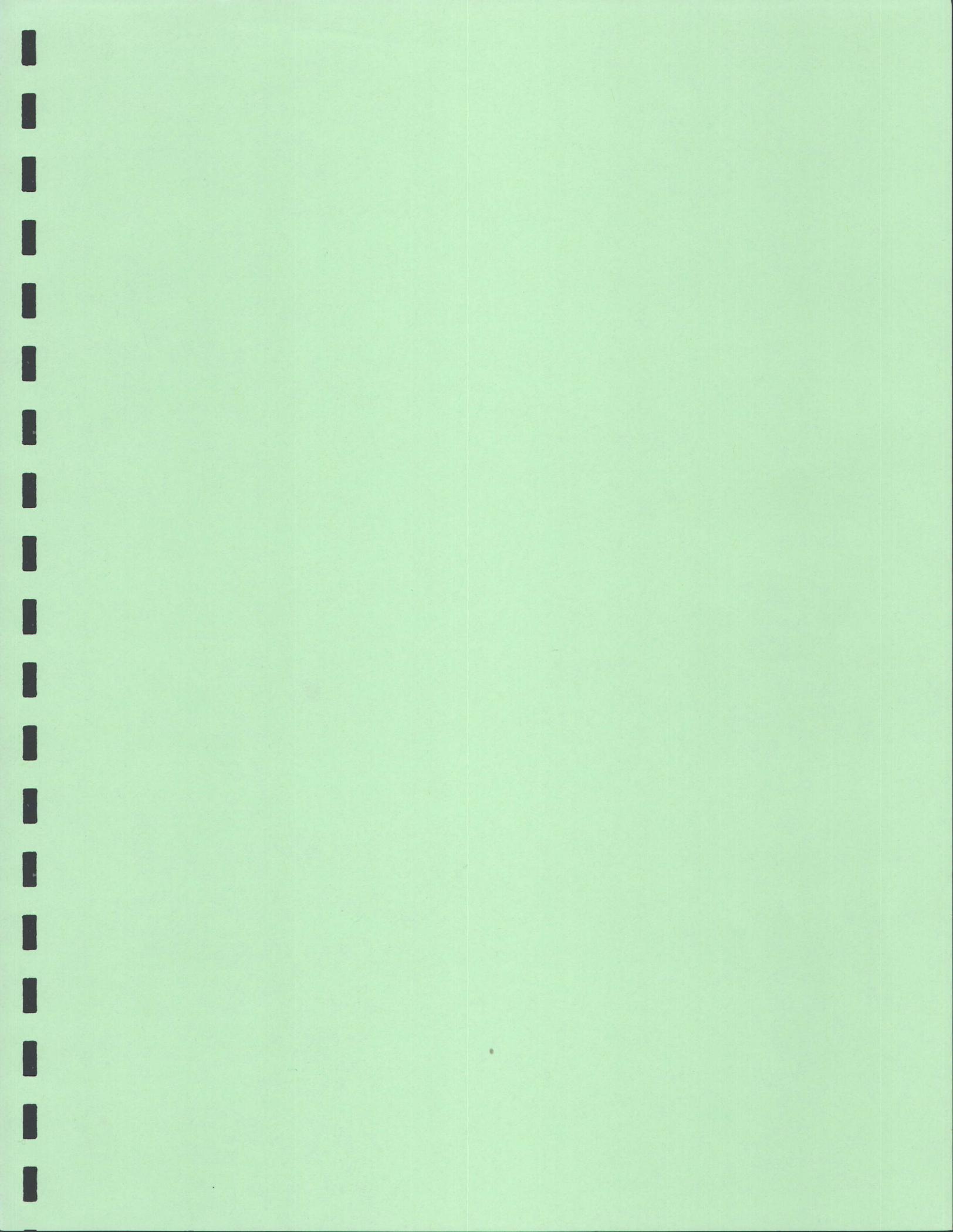
BQL = Below Quantitation Limit

Industrial & Environmental Analysts, Inc. (IEA)  
TCLP HERBICIDE MATRIX SPIKE

IEA Project ID: 979-028  
IEA Sample ID: 9604259-03  
Date Extracted: 04/22/96  
Date Analyzed: 05/03/96

COMPOUND	QUANTITATION LIMIT (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS % REC #
2,4-D	0.010	BQL	80
2,4,5-TP	0.0020	BQL	86

Comments:  
BQL = Below Quantitation Limit



ATTACHMENT 4

WETLAND MAP

*Under Seperate Cover*