SITE NO: 338 SITE NAME: Smurfit Newsprint Corp

SITE ADDRESS:

Foot of Wynooski Street
Newberg, OR 97132-

COUNTY: YAMH STATUS: A REGION: WV

DEQ CONTACT: Skirvin, Fritz

SITE CONTACTS:

Wayne Barlow
Vice President
Smurfit Newsprint Co
PO Box 70
Newberg, OR 97132

SIC CODES: 2621

CERCLIS ORD#:

DEQ PROGRAMS: None Listed

CONFIRMED RELEASE?	YES	
EVIDENCE VERIFIED?	YES	TYPE: 1
ON INVENTORY?	NO	
SPILL?	YES	
COMPLAINT?	NO	
PRIOR VISIT?	NO	
SOME REMEDIAL ACTION?	YES	
ADJACENT PROPERTY?	NO	

SIZE: 4.0 TNSHP: 3S RANGE: 2W SECT: 20,20CD

TAX LOTS: 800,1100

*** FACILITY INFORMATION ***

FACILITY DESCRIPTION:

Paper mill
Private site

INDUSTRY TYPE(S): Pulp and paper mills

WASTE MGMNT UNIT	QTY	COMMENTS
pond		

SITE NO: 338 SITE NAME: Smurfit Newsprint Corp

*** HAZARDOUS SUBSTANCES/WASTE TYPES ***

cadmium, lead, chromium

*** CONTAMINATION INFORMATION ***

A 60 million gallon sludge release to Hess Creek occurred in May 1981. Some presence of heavy metals was detected in the sludge in the creek. Several small oil spills, two bunker "C" fuel oil spills and a small spill of caustic alkali cleaning chemical have also occurred at this site.

*** OTHER INFORMATION ***

Surface water, potential for soil.

*** POTENTIAL RESPONSIBLE PARTIES ***

PRP NO. 1 PRP NAME: Smurfit Newsprint Corp. - Oregon City PHONE:

AFFILIATION: Owner STATUS: Current

Rod Schmall
Smurfit Newsprint Corp. - Oregon City
427 Main Street
Oregon City, OR 97045

PRP NO. 2 PRP NAME: Smurfit Newsprint Corporation PHONE:

AFFILIATION: Legal Owner STATUS: Current

c/o Little A.D. Valuation, Inc.
Property Tax Department
P.O.Box 4028
Woodland Hills, CA 91365

*** INFORMATION AND DATA SOURCES ***

INFORMATION REVIEWED:

Inspection Reports
Correspondence from Owner or Operator
Notice of Violation Letter
Complaint Form
Lab Results
Pictures

SITE NO: 338 SITE NAME: Smurfit Newsprint Corp

DATA SOURCES:

Dead WQ Source files Pub Paper

*** HAZARDOUS SUBSTANCES ***

SUBSTANCE NAME: lead

WASTE MGMNT UNITS: Other pond

DATE RELEASED: 5-13-81
QTY RELEASED: see comment

MEDIA/LEVEL OF CONC: Other 100 ppm

samples from sludge in creek

SUBSTANCE NAME: cadmium

WASTE MGMNT UNITS: Other pond

DATE RELEASED: 5-13-81
QTY RELEASED: see comment

MEDIA/LEVEL OF CONC: Other 0.62 ppm

samples from sludge in creek

SUBSTANCE NAME: chromium

WASTE MGMNT UNITS: Other pond

DATE RELEASED: 5-13-81
QTY RELEASED: see comment

MEDIA/LEVEL OF CONC: Other 19 ppm

samples from sludge in creek

MEDIA COMMENTS FOR LEGISLATIVE REPORT:

60 million gallons of sludge released. Sludge in adjacent creek sampled.

SITE NO: 338 SITE NAME: Smurfit Newsprint Corp

*** MANNER OF RELEASE ***

Pond failure caused release to Hess Creek.

*** STATUS OF REMOVAL OR REMEDIAL ACTION ***

Responsible party investigation. DEQ felt that some sludge remaining would cause less harm than removal action.

REMEDIAL ACTION CODES ASSIGNED FOR LEGISLATIVE REPORT:

FIR Further Information or Investigation Needed

PREPARED BY: Michael Zollitsch ORIGINATION DATE: 09/09/88

LAST MODIFIED BY: Alice Larsen MODIFICATION DATE: 03/21/89

LAST UPDATED: 03/21/89 13:36:38

NEIL GOLDSCHMIDT
GOVERNOR

Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 29, 1989

J. Mark Morford
Stoel, Rives, Boley et al
Standard Insurance Center
900 S.W. Fifth Ave., Suite 230
Portland, OR 97204-1268

RE: Smurfit Newsprint Corp
Recision of Inventory of Confirmed Releases
Notice of Dismissal of DEQ Order Number SA-891-338
Notice of Proposed EQC Order

The facility referenced above was listed, subject to appeal, on an Inventory of Confirmed Releases by an order of the Department of Environmental Quality (DEQ) dated November 30, 1988. That order was issued under authority set forth in ORS 466.557 (1987). The 1989 Legislature amended ORS 466.557 to require DEQ to replace the Inventory of Confirmed Releases with a new process for identifying facilities where a release of hazardous substances is confirmed. 1989 OR Laws Ch. 485 (HB 3235).

In accordance with HB 3235, **DEQ rescinds the Inventory of Confirmed Releases** established by the orders dated November 30, 1988. The facility referenced above therefore is no longer listed on an Inventory of Confirmed Releases under ORS 466.557.

Future listings will be handled through a three-step process now required by HB 3235. First, the Environmental Quality Commission (EQC) will adopt rules, which will define "confirmed release", establish exemptions from listing, and establish criteria for delisting. Second, a list of facilities having a confirmed release will be developed. Third, an inventory of facilities having both a confirmed release and a need for further investigation or cleanup will be developed.

Owners and operators of facilities will have opportunities to comment and provide information regarding this process during the EQC rulemaking and at the time any facility is proposed to be placed on the List or Inventory. A citizens advisory committee will be consulted in the development of the EQC rules. No facility will be placed on the List or Inventory until after the EQC rulemaking, which should be completed in approximately nine months. DEQ will contact the current owner and operator, if known, in writing if the above-referenced site is again proposed for the listing.

After such consultation, a decision to add a facility to the List or Inventory will not be appealable. As with the original inventory, the purpose of any listing will be to inform the public of the presence and extent of sites in the state that are contaminated by hazardous substances. Listing will not involve or constitute a determination of liability for the contamination.

In accordance with HB 3235 and the recision of the Inventory of Confirmed Releases, PLEASE TAKE NOTICE that the above-referenced order is dismissed.

If you did not request a contested case hearing on the above-referenced order, the process generally described above will govern future listing consideration, if any, of the referenced site. The notice set forth below will not apply.

If you requested a contested case hearing on the above-referenced order, both the process described above and the notice set forth below will apply.

If you requested a contested case hearing on the above-referenced order, PLEASE TAKE NOTICE that DEQ will submit a proposed order to the EQC dismissing all contested case hearings to be considered at the EQC meeting scheduled for October 20, 1989, at the 4th Floor Conference Room, Department of Environmental Quality, 811 S. W. 6th Avenue, Portland, Oregon 97204. A copy of the proposed order is attached. Written exceptions to the proposed order must be filed at the above address, c/o Secretary to the EQC, no later than October 6, 1989.

Sincerely,

Fred Hansen
Director

DSL:m
SM2400
Attachment
cc: Members, Environmental Quality Commission
Linda Zucker, EQC Hearings Officer
Willamette Valley Region, DEQ
Oregon Department of Justice

(PROPOSED)

STATE OF OREGON

ENVIRONMENTAL QUALITY COMMISSION

In the Matter of	)	ORDER DISMISSING
	)	CONTESTED CASE
SITE INVENTORY LISTINGS	)	PROCEEDINGS
	)	
	)	

1. Findings of Fact

a. On November 30, 1988, the Director of the Department of Environmental Quality (DEQ) issued orders listing 325 facilities on an Inventory of Confirmed Releases, pursuant to ORS 466.557 (1987).

b. Two hundred and ten (210) requests for a contested case hearing on the orders were filed with this Commission. The specific orders and persons requesting hearings are identified in the Certificate of Service attached to this order.

c. ORS 466.557 was amended by the 1989 Legislative Assembly, requiring DEQ to replace the Inventory of Confirmed Releases with a new process for listing sites having a confirmed release of hazardous substances. 1989 OR Law Ch. 485 (HB 3235).

d. On August 29, 1989, the Director rescinded the Inventory of Confirmed Releases developed under the 1987 law and dismissed all DEQ orders listing facilities on such Inventory. No facilities are currently listed on an Inventory of Confirmed Releases.

///

2. **Conclusion of Law**

HB 3235, the recision of the Inventory of Confirmed Releases, and the dismissal of all orders listing facilities on such Inventory render these matters moot.

IT IS THEREFORE ORDERED that the above-referenced contested case proceedings are dismissed.

DATED this _____ day of _____, 1989.

On behalf of the Environmental Quality Commission

_____
William P. Hutchison
Chair

NEIL GOLDSCHMIDT
GOVERNOR

Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 29, 1989

c/o Little A.D. Valuation, Inc.
Property Tax Department
P.O.Box 4028
Woodland Hills, CA 91365

ATTN: Manager of Environmental Affairs

RE: Smurfit Newsprint Corp
Recision of Inventory of Confirmed Releases
Notice of Dismissal of DEQ Order Number SA-891-338
Notice of Proposed EQC Order

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Sincerely,

Fred Hansen
Director

DSL:m
SM2400
Attachment
cc: Members, Environmental Quality Commission
Linda Zucker, EQC Hearings Officer
Willamette Valley Region, DEQ
Oregon Department of Justice

(PROPOSED)

STATE OF OREGON

ENVIRONMENTAL QUALITY COMMISSION

In the Matter of	)	ORDER DISMISSING
	)	CONTESTED CASE
SITE INVENTORY LISTINGS	)	PROCEEDINGS
	)	
	)	

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IT IS THEREFORE ORDERED that the above-referenced contested case proceedings are dismissed.

DATED this _____ day of _____, 1989.

On behalf of the Environmental Quality Commission

_____
William P. Hutchison
Chair

STOEL RIVES BOLEY
JONES & GREY

ATTORNEYS AT LAW
SUITE 2300
STANDARD INSURANCE CENTER
900 SW FIFTH AVENUE
PORTLAND, OREGON 97204-1268

Telephone (503) 224-3380
Telecopier (503) 220-2480
Cable Lawport
Telex 703455
Writer's Direct Dial Number

DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
DEC 21 1988
OFFICE OF THE DIRECTOR

294-9546

December 20, 1988

Mr. Fred Hansen
Director
Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

Re: Request to Amend Answer and Request for Hearing
Order No. SA-891-338; Smurfitt Newsprint
Corporation; Wynooski Street, Newberg, Site

Dear Mr. Hansen:

An appeal has already been filed on behalf of Respondent with respect to the Department of Environmental Quality ("DEQ") Order referenced above. Respondent wishes to amend the Answer and Request for Hearing already filed to include the following additional defenses:

> The decision of the DEQ to list the Property was arbitrary and capricious, outside the range of discretion delegated to the DEQ and not in accordance with law. The DEQ chose to list the Property while choosing not to list other properties which clearly fit the statutory criteria for listing. Such listing decisions were made without the benefit of any identifiable or legally sufficient standards. By choosing among similarly situated candidates for listing without legally sufficient standards the DEQ has acted arbitrarily and capriciously, has violated the Due Process and Equal Protection Clauses of the United

STOEL RIVES BOLEY
JONES & GREY

States Constitution, and has violated Sections 10 and 20 of the Oregon Constitution. In addition, the DEQ acted outside the range of discretion delegated to it under ORS 466.557 et seq.

Please treat these defenses as though they were part of Respondent's original pleading.

Sincerely,

Kevin Q. Davis

KQD:cac

CERTIFICATE OF SERVICE

I certify that on this date I served the foregoing REQUEST TO AMEND ANSWER AND REQUEST FOR HEARING on Mr. Fred Hansen, Director of Department of Environmental Quality by sending the original to Mr. Fred Hansen, via messenger, contained in a sealed envelope and addressed to said Mr. Fred Hansen at his address listed below.

Mr. Fred Hansen
Director
Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204-1390

Dated: December 20, 1988

Kevin Q. Davis, OSB No. 83133
Of Attorneys for Respondent

STOEL RIVES BOLEY JONES & GREY
ATTORNEYS AT LAW
900 SW FIFTH AVENUE PORTLAND, OREGON 97204-1268

STOEL RIVES BOLEY
JONES & GREY

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Cable Lawport
Telex 703455
Writer's Direct Dial Number

(503) 294-9259

DEC 19 1988

OFFICE OF THE DIRECTOR

December 15, 1988

VIA MESSENGER

Mr. Fred Hansen, Director
Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

Re: Order No. SA-891-338

Dear Mr. Hansen:

Enclosed on behalf of Smurfit Newsprint Corporation is an Answer and Request for Hearing in the above-referenced proceeding.

Although we request a hearing in this proceeding, we hope that it can be resolved in a settlement conference. Accordingly, we request that the hearing not be scheduled until we have had the opportunity to meet with you to discuss this matter.

Very truly yours,

J. Mark Morford

JMM21.56:e-g
Enclosure
cc: Mr. Rod Schmall
Mr. Jim Terrill
Mr. Karl K. Hoagland
Mr. David P. Miller

RECEIVED
DEC 15 1992
OFFICE OF THE DIRECTOR

BEFORE THE ENVIRONMENTAL QUALITY COMMISSION

OF THE STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY, Department, v. SMURFIT NEWSPRINT CORPORATION, Respondent.	RESPONDENT'S ANSWER AND REQUEST FOR HEARING No. _____

Respondent, Smurfit Newsprint Corporation, admits, denies or explains the factual allegations of the Department's Order No. SA-891-338 (the "Order"), states its defenses to the Order, and requests a hearing, all as follows:

I. ANSWER.

1. With respect to the allegations of Paragraph I.A of the Order, Respondent admits that it is the owner of property located at Foot of Wynooski Street, Newberg, Oregon (the "Property"). Respondent denies that it is the owner of all property that may fit the description set forth in Paragraph I.A of the Order.

2. With respect to the allegations of Paragraph I.B of the Order, Respondent denies that there is a confirmed release of lead, cadmium or chromium at the Property within the meaning of ORS 466.557(1).

3. With respect to the allegations of Paragraph I.C of the Order, Respondent admits that lead, cadmium and chromium are "hazardous substances" as defined by ORS 466.540(9), but denies

STOEL RIVES BOLEY JONES & GREY
ATTORNEYS AT LAW
900 SW FIFTH AVENUE PORTLAND, OREGON 97204-1268
(503) 224-3380

that every substance containing lead, cadmium or chromium is a hazardous substance.

4. With respect to the allegations of Paragraph I.D of the Order, Respondent denies that the Property is a "facility" as that term is used in ORS 466.557(1).

II. DEFENSES.

5. The Department has no evidence to confirm the alleged release of lead, cadmium and chromium at the Property as required by ORS 466.557(1).

6. Even assuming arguendo that lead, cadmium and chromium at some time may have been released on the Property, any such past release has been investigated and corrected and any necessary removal or remedial action has been completed in a manner that is protective of public health, safety and welfare and the environment, all under the Department's direction and to its prior satisfaction. Accordingly, the Property could not properly be listed as a facility "where there is a release confirmed by the Department," ORS 446.557(1) (emphasis added), unless and until the Department presents new evidence confirming that the response to the alleged release was not protective of public health, safety and welfare and the environment or confirming the existence of a subsequent release. The Department has no such new evidence.

7. Even assuming arguendo that substances have been released at the Property that contain detectable levels of lead,

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ATTORNEYS AT LAW
900 SW FIFTH AVENUE PORTLAND, OREGON 97204-1268
(503) 224-3380

cadmium and chromium, such sbustances are not hazardous substances.

III. REQUEST FOR HEARING.

8. Respondent respectfully requests a hearing before the Environmental Quality Commission in this matter on the issues raised in this Answer and on any other issues that may be raised during the course of these proceedings.

IV. PRAYER FOR RELIEF.

9. Having fully answered the Order and having presented its defenses to the Order, Respondent prays that the Order be revoked with prejudice.

Dated this 15th day of December, 1988.

OSB No. 83291

J. Mark Morford
of Attorneys for Respondent

NEIL GOLDSCHMIDT
GOVERNOR

Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

November 30, 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Smurfit Newsprint Corporation
c/o Little A.D. Valuation Inc.
Property Tax Department
P.O. Box 4028
Woodland Hills, CA 91365

ATTN: Manager of Environmental Affairs

RE: Listing of Smurfit Newsprint Corp
on Inventory of Confirmed Releases
DEQ Site Identification No. 338

This letter is to notify you that the facility located at

Foot of Wynooski Street, Newberg

is hereby proposed for listing on the Department of Environmental Quality (DEQ) Inventory of facilities where a release of hazardous substances has been confirmed. Based on a review of records

Smurfit Newsprint Corporation

has been identified as an owner of all or part of the facility. While
[illegible] has identified you as an owner for purposes of the Inventory,
[illegible]nation as to your responsibility for the release or

[illegible]roviding public information, the DEQ is required to
an Inventory of all facilities where a release of
is confirmed by the Department. The development of
[illegible]ected by Oregon Revised Statutes (ORS) 466.557.
[illegible]e submitted to the Governor, the Legislative Assembly
[illegible]l Quality Commission on January 15, 1989 and each
specified in ORS 466.557(5).

[illegible]ter is an order by the Department formally stating
the facility on the Inventory. The facility will
[illegible]ventory unless you appeal the listing by submitting to
[illegible]earing before the Environmental Quality Commission.

[illegible]aring must be submitted within 15 days of receiving
Otherwise the facility will be listed on the Inventory.
[illegible]f a facility on the Inventory is not a determination
[illegible]sponsible for the release nor legally liable. If a
[illegible]hearing is made, the decision to list the facility on
[illegible]automatically be postponed until final disposition of

P 915 446 168

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to Smurfit Newsprint Corp c/o Little A.D. Valuation Inc	
Street and No. Property Tax Dept / PO Box 4028	
P.O., State and ZIP Code Woodland Hills CA 91365	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$ 2.20
Postmark or Date	DEQ 338

PS Form 3800, June 1985

DEQ-1

The Department will attempt to resolve appeals without using a formal contested case hearing. Where this is not possible, a hearing will be scheduled and conducted in accordance with contested case hearing procedures provided for in ORS Chapter 183, as described in the attached order. You may appeal the decision to list the facility on the Inventory if you believe any of the items listed in Section 1. Findings of Fact and Conclusions of Law in the attached order are in error or based on any other factual or legal reasons.

The Inventory is a list of all facilities that have confirmed releases of hazardous substances, regardless of the status of the site. Many sites will need preliminary assessments to determine whether further investigation or cleanup is needed or whether cleanup actions taken previously are adequate. At other sites, investigations or actions have already been taken to address the release. Depending on the status of the site, the Department will determine the appropriate response for each site and schedule follow-up action based on the environmental hazard and available Department resources.

Should you want copies of the state Environmental Cleanup law or Environmental Cleanup rules, please contact Carol Harris at 503-229-6853 or write to:

Environmental Cleanup Division
811 S.W. Sixth Avenue
Portland, Oregon 97204

If you have specific questions about the Inventory or the listing of your facility, please contact the Site Assessment Section of the Environmental Cleanup Division at 503-229-5733.

Sincerely,

Fred Hansen
Director

cc: Willamette Valley Region

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF: SITE INVENTORY LISTING OF PROPERTY LOCATED IN YAMHILL COUNTY, OREGON, SMURFIT NEWSPRINT CORPORATION, OWNER	)	DEPARTMENT ORDER AND NOTICE OF OPPORTUNITY FOR CONTESTED CASE HEARING NO. SA-891-338

Pursuant to ORS 466.557, the Director, Oregon Department of Environmental Quality (DEQ), issues this order placing the property described in this order on the inventory of facilities where a release of a hazardous substance is confirmed (Site Inventory).

I.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

A. Smurfit Newsprint Corporation is the owner of the following described property:

Foot of Wynooski Street, Newberg

B. On the basis of documented observation, DEQ has confirmed that

lead
cadmium
chromium

have been "released" at the property within the meaning of ORS 466.540(14).

C. The substance(s)

lead
cadmium
chromium

are "hazardous substances" within the meaning of ORS 466.540(9).

D. The property is a "facility" within the meaning of ORS 466.540(6).

II.

ORDER

Based upon the above Findings of Fact, Conclusions of Law and supporting documentation in DEQ files, DEQ orders that the above-described property shall be placed on the Site Inventory thirty (30) days from the date of receipt of this order by the owner, except as provided for in Section 3.

III.

OPPORTUNITY FOR HEARING

In accordance with ORS 466.557(4), the owner may request a hearing before the Environmental Quality Commission (EQC) or its hearings officer regarding this order. Any request for a hearing must be made in writing and received by the Director of DEQ within fifteen (15) days from the owner's receipt of this order and notice. Any such request must be accompanied by a written answer admitting or denying all factual matters contained in this order, and must affirmatively allege any and all affirmative claims or defenses the owner might have. Any hearing shall be conducted under ORS Chapter 183 and OAR Chapter 340 Division 11.

If the owner does not request a hearing within fifteen (15) days of receipt of this order and notice, the owner shall waive the right to a hearing under ORS Chapter 183, except as provided under OAR 137-03-075(6) and (7). In the absence of a timely answer and request for hearing, this order shall become effective, based on a prima facie case made on agency files and records. If the owner is an agency, corporation, or unincorporated association, the owner must be represented by an attorney

licensed in Oregon, except as provided under OAR 340-11-102.

DATED this 30th day of November, 1988.

DEPARTMENT OF ENVIRONMENTAL
QUALITY OF THE STATE OF OREGON

BY: _____
Fred Hansen, Director

Copy to ECSI #338

State of Oregon
Department of Environmental Quality — Memorandum

Date: September 24, 2007

To: File – Smurfit Newsprint

From: Cathy Rodda
Tanks Program, DEQ – Eugene

Subject: Status of Smurfit Newsprint
1301 Wynooski Street, Newberg
USTC #36-93-4206

A review of the file and associated information for the Smurfit Newsprint site (USTC #36-93-4206) was completed to determine if the petroleum release identified in 1993 was from an underground storage tank (UST). The files reviewed included the referenced USTC site, the records for UST facility ID #4628, and ECSI #338. Each of these DEQ facilities is referenced as "Smurfit Newsprint" or "Smurfit Newberg".

Upon review of all available site information, DEQ has determined that the petroleum release identified at the site is related to an above ground storage tank (AST). This determination was based on the following details gathered in review of the referenced files:

1. On November 18, 1993, the DEQ was notified of releases of diesel and bunker fuel at the Smurfit facility in Newberg. The petroleum release may have included PCB-containing transformer oil according to a letter from the DEQ dated November 24, 1993 for the USTC #36-93-4206 site. No reference is made in this letter to USTs, but the Smurfit Corporation was directed to submit site information and wait for DEQ oversight before beginning any major actions such as remediation.

2. A separate USTC site (#36-90-4258) exists for the Smurfit Facility. The site was initiated as a result of the decommissioning of one 550-gallon gasoline UST in October 1990. The site was closed by the DEQ in a letter dated November 16, 1990. The gasoline UST had been located east of the Machine Shop building.

3. The property has a UST facility number with the DEQ (4628) that includes the 550-gallon gasoline UST, as well as two waste oil USTs that were decommissioned in place in September 2005. The waste oil USTs were concrete vaults. No petroleum release was identified during the decommissioning of the waste oil vaults according to file notes from the DEQ inspector.

4. The DEQ's Cleanup Program has provided oversight to Smurfit Newsprint for ECSI #338. In 1995, the Cleanup Program documented environmental conditions in a site assessment screening report. The site was selected for screening based on a 60-million gallon spill of wastewater and sludge in 1981, and several reported petroleum spills of kerosene and Bunker C fuel oil from the facility's ASTs in 1978, 1983, 1989, 1993, and 1994.

5. The site assessment report documented the presence of four ASTs at the Smurfit facility, including one 153,000-gallon Bunker C AST, two 8,000-gallon diesel fuel ASTs, one 2,000-gallon lube oil AST, and one 3,000-gallon kerosene AST.

6. According to the site assessment report, a subsurface investigation was completed in 1993. Four borings were installed with soil and groundwater samples collected and analyzed for diesel and Bunker C fuel. The investigation identified soil impacted by Bunker C fuel oil, and in 1994 the excavation of 1,756 tons of petroleum-contaminated soil took place. The cleanup occurred at the AST containment area, with the excavation reaching depths up to 13 feet below ground surface.

7. Additional assessment work has occurred at the Smurfit facility since 1994, including that of areas associated with repair of locomotive engines.

Based on the information available to DEQ, it appears that the petroleum contamination identified at the site in 1993 assessment activities is not related to an underground storage tank system at the property, but instead to several spills from the facility's ASTs. At this time, additional work under the DEQ's Tanks Program is not required. However, documentation of the above will be needed to close (or issue "No Further Action") the USTC file #36-93-4206 for this property. Future site actions may be referred to the DEQ's Environmental Cleanup Program and ECSI #338.

OREGON DEPARTMENT of ENVIRONMENTAL QUALITY
SITE ASSESSMENT ACTION - WR REGION

Facility Name: Smurfit Newsprint
Address: Foot of Wynooski Rd
Newberg

ECSI #: 338

PRP:
Company: Same
Name
Address

Phone:

Action Date: 9/26/95

Report Type: PAE

Preliminary Assessment:

___ State ___ Federal ___ Voluntary ✓ PAE ___ XPA

Screening:

✓ State ___ Federal ___ Spill (also a screening?)

Note: Spill screenings may not require Strategy Recommendation

Recommended Action:

___ NFA [Need management approval]

✓ Add to CRL

___ Add to Inventory

___ High Priority--Requires immediate response

___ Other

Describe:

Report Writer: ACV

	Headquarters	EPA	Other
Transmittal Date(s):			
Report Supplement(s):			

	Sample Analysis	Photos	Plans	Operating Other
Supplemental Date(s):				

Checklist:
✓ Strategy Recommendation ✓ Letter to RP ✓ SAPS ✓ Map ___ Data (if applicable) ___ Spill Report (if applicable)
___ Site Report

Manager's approval: _____

October 9, 1995

Oregon

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

Western Region -
Salem Office

Gene Faltus
Smurfit Newsprint Corporation
P.O. Box 70
Newberg, OR 97132

Re: WMC - ECSI # 338
Smurfit Newsprint Corporation
Newberg, Oregon

Dear Mr. Faltus:

Information concerning your property at the above address was referred to the Site Assessment Program of the Department of Environmental Quality's (DEQ) Western Region-Salem Office by the DEQ Spill Program. The referral indicated that soil and groundwater at your facility was impacted by petroleum products.

The Site Assessment Program investigates and assesses sites which involve known, or potential, environmental contamination. My review of existing information indicates bunker C fuel and kerosene contamination on your site.

The information from this site evaluation will be added to the Department's Environmental Cleanup Site Information System (ECSI) through DEQ's Site Assessment Program. DEQ uses the ECSI database to track sites with known or suspected releases of hazardous substances.

Your site will be assigned a priority based on the potential threat that the site may represent. The time frame in which the Site Assessment Program addresses your site for further assessment or action will depend on the total number of sites being evaluated by the Program and the priority associated with your site.

You have the following options available to you at this time:

1. The first option is to wait for DEQ to evaluate your site and deal with any required assessment and/or cleanup at that time. DEQ will track its cost in performing any required assessment and/or cleanup and will seek to recover these costs against persons liable under ORS 465.255. Costs are recovered if DEQ determines that removal or remedial action is needed to protect public health and the environment from releases of hazardous substances.

2. The second option is to assess and/or cleanup the site without the oversight of DEQ. This would entail conducting the assessment and/or cleanup and keeping records of your actions. Then, when DEQ evaluates your site at a later date, these records would be used to determine if further assessment

750 Front St. NE
Suite 120
Salem, OR 97310
(503) 378-8240
(503) 378-3684 TDD

and/or cleanup is warranted. DEQ will track its costs in reviewing any site information and will seek to recover those costs against any persons liable under ORS 465.255. Costs are recovered if DEQ determines that removal or remedial action is needed, or was needed when further action was first recommended.

3. The final option is to assess and/or cleanup the site under the Department's Voluntary Cleanup Program (VCP). In the VCP, you pay an initial deposit to cover DEQ's oversight costs. You will be invoiced if costs exceed this deposit, and reimbursed if costs are under the initial deposit. I have enclosed information about the Voluntary Cleanup Program for your review.

If you wish Department oversight on the assessment/cleanup of your site, the Voluntary Cleanup option may be your most expedient choice. While there is a current waiting list of sites, new projects are initiated as resources become available. Inquiries about this option may be directed to the VCP Duty Officer in Eugene at 686-7838, ext. 253.

Should your site, based on the information available to us, be assigned a high priority from either an environmental or public health standpoint, the Department's involvement throughout the process will likely be necessary.

Enclosed is a copy of the Strategy Recommendation prepared for your site. If you have any questions, please contact me at (503) 378-8240, extension 247.

Sincerely,

Alicia C. Voss
Site Assessment-Cleanup Program
Western Region-Salem Office

ACV:klw
x:\acv\sas\smurfit.opt

enc.: Strategy Recommendation

cc: Mike McCann, Voluntary Cleanup Program - Eugene

DEQ SITE ASSESSMENT SECTION - STRATEGY RECOMMENDATION

Site Name:	Smurfit Newsprint Corp.
Site CERCLIS Number:	ORD009620378
DEQ ESCI Number:	338
Site Address:	Foot of Wynooski Street PO Box 70 Newberg, Oregon
Recommendation By:	Alicia C. Voss
Approved By:	Kerri Nelson Manager, Cleanup Programs Western Region, Salem
Date:	September 28, 1995

This Strategy Recommendation serves as a Preliminary Assessment Equivalent.

Background

The original Newberg mill started production of unbleached sulfite pulp in 1927 and operated for approximately 40 years as Spaulding Pulp and Paper Company. In 1965 the mill was sold to Publishers Paper Company, which instituted a series of facility expansions and upgrades in 1966, 1979, 1980 and 1984. In 1986, Publishers Paper Company was acquired by Jefferson Smurfit Corporation and later officially designated as Smurfit Newsprint Corporation.

In 1981 a failure in one of the on-site waste water lagoons released approximately 60-million gallons of waste water and sludge to an adjacent creek and the Willamette River. Several spills of petroleum products have been reported on the site since Smurfit Newsprint Corporation acquired the mill in 1986. The site was selected for screening based on the history of the facility and two recent site investigations involving kerosene and Bunker C fuel releases.

Site Description

The Smurfit Newsprint Corporation mill is located in Section 29 of T 3 S, R 2 W, Newberg Quadrangle, Oregon (Figure 1), which is on the southeast side of the city of Newberg. The Willamette River is south and southwest of the mill and flows generally from west to east in the vicinity of the site.

The site is an irregularly-shaped, 100-acre parcel. Buildings, outdoor storage areas (hog fuel, wood chips, and bulk petroleum products), a waste water treatment plant and two storage lagoons cover most of the site (Figure 2). The wastewater treatment plant process an estimated 11,000,000 gallons of water per day.

One 153,000-gallon, above-ground storage tank (AST) and two 8,000-gallon ASTs are located near the center of the plant site. The large AST (rebuilt in 1991) is used to store bunker C fuel and the two smaller ASTs are used for diesel fuel. Other ASTs on the site included a 2,000-gallon lube oil, a 3,000-gallon kerosene and several small portable tanks for refueling.

Private residences are located north and west of the site. The city of Newberg wastewater treatment plant and municipal solid waste transfer station are located east of the site.

Site Geology

The site is located on alluvial terrace deposits of the Willamette River. The near-surface soils in the area of the Bunker C AST were described as clayey to sandy silts to about 9 feet below ground surface (bgs). Groundwater was noted about 9 feet bgs during soil boring activities at the site in late 1993. Information on the presence of production wells at the site was not obtained for this report.

The regional geology consists of alluvial and lacustrine deposits composed of clay, silt, sand and gravel. The alluvium ranges in thickness from 10 to 30 feet on the flood plains of the nearby rivers. Generally, the shallow groundwater aquifer has a low permeability and is not considered an important source of groundwater for the area.

The underlying Troutdale Formation and Columbia River Basalts are major suppliers of groundwater for use in the area. Wells into these aquifers range from 58 to 240 feet bgs.

Site Investigations

Spill and release reports were noted from 1978 to 1994. Each incident will be briefly summarized below.

- DEQ file information regarding releases at the site began with a 1978 report from Publishers Paper of a bunker C release near the large AST. The release was reportedly noted from two

sources in this area; a tube leak to the containment area and an underground pipe leak. The release to the containment area was noted as 'cleaned up' but any investigation or cleanup related to the underground pipe leak was not addressed.

- In 1981, the north lagoon had a catastrophic failure due to the collapse of a culvert used to divert Hess Creek beneath the lagoon. Approximately 60,000,000 gallons of waste water and sludge were released to Hess Creek, Springbrook Creek, and then the Willamette River. Hess Creek was 'wiped out' by the slug of waste water and sludge, and the Willamette was impacted with high BOD concentrations. Sludge samples collected from Hess Creek detected elevated levels of copper, chromium, zinc, cadmium, lead, and nickel. Extensive sludge removals were not required by DEQ in Hess Creek after the release because it was thought that removal may be more detrimental to the creek environment.

- In 1983, a 500- to 1000-gallon release of Bunker C was detected from the large AST. The release was largely confined to the containment unit although a portion had made its way to the lagoon through a site drainage system. The cause of the release was not given and no further investigation was conducted.

- In 1989, Smurfit Newsprint reported an overfill of the large AST which caused a release of 50-100 gallons of bunker C to the containment unit. The petroleum was recovered from the unit and no further action was required.

- In 1993 and 1994, a subsurface investigation and soil removal were conducted in the area of the bunker C AST. The initial 1993 subsurface investigation indicated that four soil borings were advanced within the secondary containment area to depths of 9 to 15 feet bgs. Groundwater was encountered about 10 feet bgs. The soil boring logs indicated that over 1 foot of wood and sawdust debris was present above native clayey to sandy silts (note: no liner in containment area). Selected soil samples were analyzed for bunker C and diesel fuel, and results indicated levels from 14.6 to 3,613 milligrams per kilogram (mg/kg).

  In 1994, approximately 1,756 tons of petroleum-impacted soils were excavated from the AST containment area (Figure 3). The excavation was a maximum of 13 feet deep and confirmatory analyses of insitu soils indicated TPH levels below 500 mg/kg with the exception of one area between the bunker C AST and the diesel ASTs, which could not be excavated due to its proximity to the ASTs. The remaining levels were as high as 771 mg/kg. Groundwater was reportedly not encountered during excavation activities.

  The excavated soil was taken to the North Marion County Disposal Facility for thermal treatment.

- In late 1994, a 100- to 150-gallon kerosene release from an AST was reported south of the paper machine building. Approximately 1,000 to 1,500 gallons of water with kerosene was recovered near the foot of the building. A vapor extraction system is proposed or has just recently been installed (as of the date of this strategy recommendation). Three groundwater

monitoring wells and a product recovery well have been installed and the results of this installation are to be reported in the fourth quarter of 1994.

Pathway Information

The *Soil* at the site has been impacted by several reported releases of bunker C fuel, diesel fuel, and kerosene. Approximately 1,750 tons of soil were excavated from areas surrounding the bunker C and diesel ASTs and thermally treated off-site. Levels of TPH in the residual soils exceeds 700 mg/kg in one area near the ASTs and could not be removed due to structural integrity concerns. Information about soil conditions near the kerosene release is incomplete.

The site currently has an NPDES permit for *Surface Water* discharge into the Willamette River. A catastrophic release to Hess Creek and the Willamette River was documented in 1982, resulting in metals contamination of the creek sediments. The current site NPDES permit has just been reauthorized.

The *Groundwater* quality at the site has not been thoroughly investigated. The site NPDES permit requirement (July, 1995) stated that a groundwater characterization was due for the site in November, 1996. Considering the site historical usage and the reported releases, it is likely that groundwater has been impacted at the site.

The site currently has an *Air Quality* discharge permit. Periodic surface spills of fuels on site would have impacted the air quality near the spill location.

Recommendation/Action

An expanded preliminary assessment is recommended for the site at this time. This assessment should include a groundwater evaluation because it appears that the potential for groundwater impact is significant. The groundwater assessment should be conducted to comply with the Water Quality Program and Cleanup Program requirements. The existing well system is not be adequate to address this issue.

The site priority is medium. The site should be added to the Confirmed Release List.

Referrals Within or Outside DEQ

The Water Quality Program will be informed of the results of this assessment and the added request for groundwater assessment.

References

DEQ Hazardous Waste, Water Quality and Waste Management and Cleanup Files.

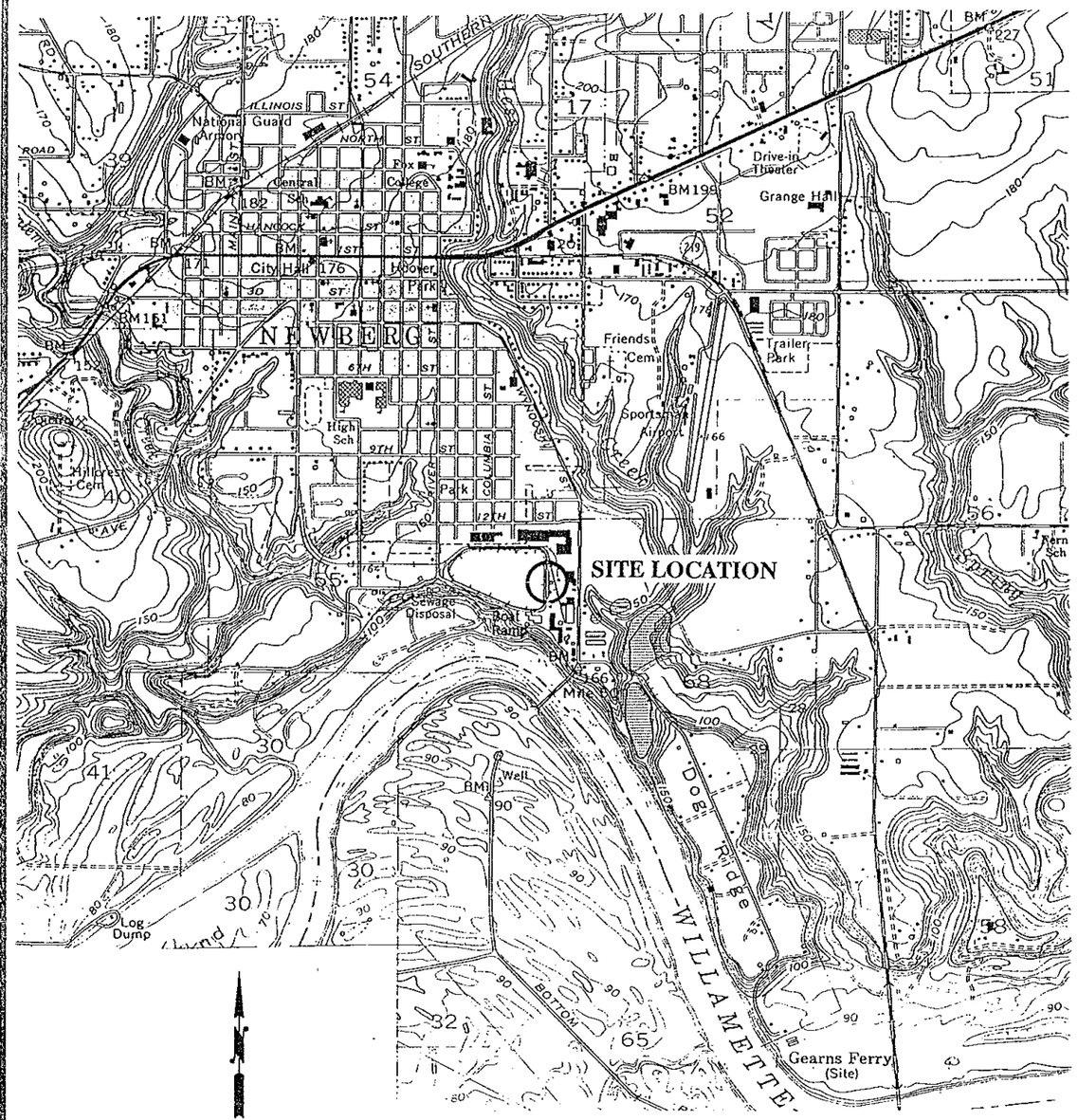


FIGURE 1

W.O.	21-07698
DESIGN	LCF
DRAWN	MJF
DATE	SEP 1994
SCALE	

AGRA
Earth & Environmental
7477 SW Tech Center Drive
Portland Oregon 97223-8025

BUNKER C CONTAINMENT
SMURFIT NEWSPRINT CORP.
NEWBURG PLANT
NEWBURG, OREGON

SITE VICINITY MAP

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \21\07698\LOCATION\.DWG

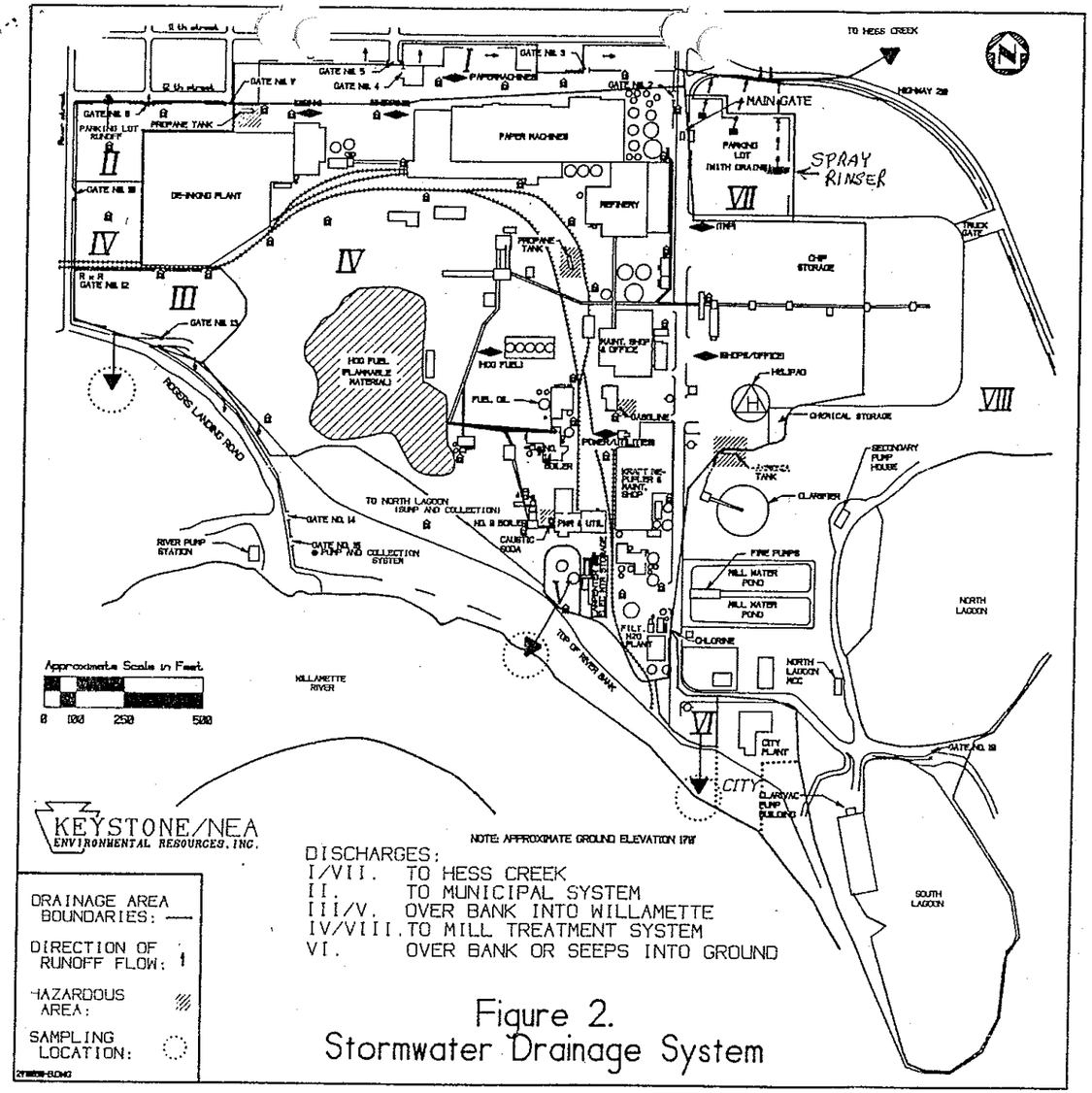
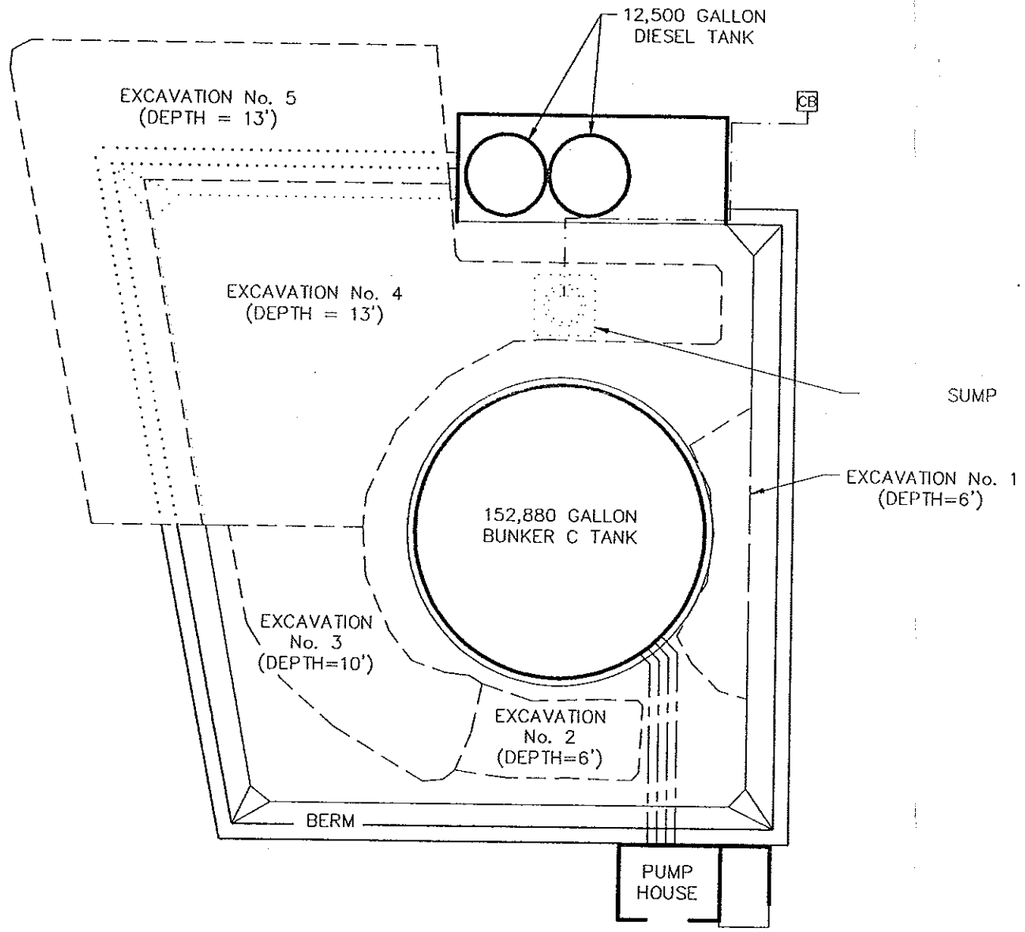


Figure 2.
Stormwater Drainage System

24
38
40
28
32
162
22
162



LEGEND

- CB — · — · — CATCH BASIN AND STORM DRAIN LINE
- ——— ——— BUNKER C LINES
- [ ] LIMITS OF EXCAVATION

0 20 40

SCALE IN FEET

FIGURE 3

AGRA
Earth & Environmental
7477 SW Tech Center Drive
Portland, Oregon 97223-8025

W.O.	21-07698
DESIGN	LCF
DRAWN	MJF
DATE	SEP 1994
SCALE	1"=20'

BUNKER C CONTAINMENT
SMURFIT NEWSPRINT CORP.
NEWBERG PLANT
NEWBERG, OREGON

EXCAVATION CONFIGURATION

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \21\07698\EXCAVA.DWG

ENVIRONMENTAL CLEANUP SITE INFORMATION
SITE SUMMARY REPORT

September 28, 1995 11:38 am

SITE ID: 338 SITE NAME: Smurfit Newsprint Corp. - Newberg CERCLIS NO: 009620378

ALIASES: Jefferson Smurfit Corporation
Publishers Paper Company
Spauliding Pulp and Paper Company

ADDRESS: Wynooski ST (Foot of) Newberg 97132

COUNTY: YAMHILL REGION: WR

INVG STATUS: SUS NPL SITE: N ORPHAN SITE: N STUDY AREA: N

PROPERTY: TWNSHP/RANGE/SECT: 3S,2W,20 TAX LOTS: 800,1100

LATITUDE: 45 deg.17'10" LONGITUDE: 122 deg.57'15" SITE SIZE: 4 acres

STUDY AREAS:

STUDY ID	STUDY NAME	INVG STATUS
1547	Middle Willamette River Basin Study Area (MWRBSA)	XCN

FACILITIES:

NAME: Smurfit Newsprint Corp. - Newberg
COMMENTS: Paper mill
YEARS OF OPERATION: 68
SIC CODES: 2621, OPERATING STATUS: Active

PERMITS:

PERMIT NO.	PERMIT TYPE	ISSUED BY	COMMENTS
009620378	RCRA FRG	DEQ	

HAZARDOUS SUBSTANCES/WASTE TYPES:

cadmium, lead, chromium (9/28/95 ACV) bunker c, diesel fuel, kerosene

MANNER AND TIME OF RELEASE:

Pond failure caused release to Hess Creek. Time of release: 5-13-81 Reported releases in 1983, 1989 of bunker C from AST.Reported release in 1994 of kerosene from AST.

SITE ID: 338 Smurfit Newsprint Corp. - Newberg SITE SUMMARY REPORT

CONTAMINATION INFORMATION:

A 60 million gallon sludge release to Hess Creek occurred in May 1981. Some presence of heavy metals was detected in the sludge in the creek. Several small oil spills, two bunker 'C' fuel oil spills and a small spill of caustic alkali cleaning chemical have also occurred at this site. (9/28/95 ACV) Smurfit conducted an investigation near the AST containment area in 1993 and 1994. Approximately 1,750 cubic yards of impacted soil were re- moved and thermally treated off-site. (Note: the containment area did not have any liner other than wood chips over native soil). Also a kerosene releasfrom an AST near the paper machine building was reported in late 1994. monitoring wells have been installed but groundwater quality data is not avial.Recovery well and VES system also installed in 1995. No details yet prov

PATHWAYS:

Surface water, potential for soil. (9/28/95 ACV) GW Preliminary Assessment required by WQ for NPDES permit, due November, 1996. Site Assessment recommendation of GW evaluation also.

HAZARDOUS SUBSTANCES

SUBSTANCE	RELEASE AREAS	COMMENTS
BUNKER - FUEL OIL ( )		Quantity Released: unknown
CADMIUM ( )	Pond	Date released: 5-13-81 Quantity Released: see comment
CHROMIUM ( )	Pond	Date released: 5-13-81 Quantity Released: see comment
KEROSENE ( )		Quantity Released: unknown
LEAD ( )	Pond	Date released: 5-13-81 Quantity Released: see comment

SUBSTANCE CONTAMINATION

SUBSTANCE	MEDIA CONTAMINATED	CONCENTRATION LEVEL	EVIDENCE	OBSERV. DATE
BUNKER - FUEL OIL	Soil		Laboratory Data	

CADMIUM	Other	0.62 ppm Comments: samples from sludge in creek	
CHROMIUM	Other	19 ppm Comments: samples from sludge in creek	
KEROSENE	Groundwater	free product	Owner
LEAD	Other	100 ppm Comments: samples from sludge in creek	

MEDIA CONTAMINATION COMMENTS:

60 million gallons of sludge released. Sludge in adjacent creek sam- pled. (9/28/95 ACV) bunker c, diesel, kerosene releases at severla locations onthe site cause concern for gw quality.

ENVIRONMENTAL/HEALTH THREATS:

GW, soil, surface water discharge

STATUS OF INVESTIGATIVE OR REMEDIAL ACTION:

Responsible party investigation. DEQ felt that some sludge remaining would cause less harm than removal action.

INVESTIGATIVE, REMEDIAL, AND ADMINISTRATIVE ACTIONS

ACTION	START DATE	COMPL. DATE	RESP. STAFF	AGENCY CODE	REGION	LEAD PROGRAM
Site added to database	09-SEP-88		Michael Zollitsch	DEQ		SAS
Responsible party notified re 11/88 Inventory listing	30-NOV-88			DEQ		SAS
Site Screening recommended (EV)	11-FEB-94	11-FEB-94	Dan Crouse	DEQ		SAS
SITE EVALUATION PA Priority for Further Action: MED COMMENTS: federal screening	18-AUG-95	28-SEP-95	Alicia Voss	DEQ	W	SAS

SITE ID: 338 Smurfit Newsprint Corp. - Newberg SITE SUMMARY REPORT

PRELIMINARY ASSESSMENT EQUIVALENT PA Priority for Further Action: MED COMMENTS: federal pae	18-AUG-95	28-SEP-95	Alicia Voss	DEQ	W	SAS
Other remedial or investigative action recommended PA Priority for Further Action: MED	28-SEP-95		Alicia Voss	DEQ	W	SAS

PARTY INFORMATION

SITE CONTACT:

ASSOCIATED PARTIES NAME AND ADDRESS	AFFILIATION	AFFILIATION STATUS	INFORMATION AS OF DATE
Monroe County Health Department 119 West 7th Bloomington, IN 47401 COMMENTS:	Owner		09-SEP-88
c/o Little A.D. Valuation, Inc. Property Tax Department PO Box 4028 Woodland Hills, CA 91365 COMMENTS:	Legal Owner		09-SEP-88

DATA SOURCES: Other File Dead WQ Source files Pub Paper Inspection reports Correspondence FROM owner and/or operator Notice of Violation Letter Complaint form Lab results Pictures

LAST UPDATED BY: acv DATE: 28-SEP-95

(site_report.rpt)

SITE PRIORITIZATION WORKSHEET

Site Name: Sunset - Newberg

Medium of Concern: GW

	H	M	L	NA
1. Substance Characteristics:				
A. Toxicity/Persistence:	—	—	✓	—
B. Mobility:	✓	—	—	—
2. Contamination Route:	—	✓	—	—
3. Vulnerable Targets:				
A. Population Affected:	—	—	✓	—
B. Sensitive Environments/Species:	—	✓	—	—
4. Verification of Release /Threatened Release:	✓	—	—	—
5. Quantity/Concentration of Substance:	—	✓	—	—
6. Environmental Effects Release Control:	—	—	✓	—
Overall Site Priority:	—	✓	—	—

Comments:

Evaluator: AGW Date: 9/28/95

FAX COVER SHEET

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY
WESTERN REGION - EUGENE OFFICE
1102 Lincoln St., Suite 210
Eugene, OR 97401

FAX # (503) 686-7551

DATE: 9/26/95 # PAGES 2

TO: Alicia Voss

OF: DEQ Salem

PHONE #:

FAX #:

FROM: Pat Troxel

PHONE #: 686-7838

COMMENTS: Keratosis Release

SCALE 1" = 30'
0 30 60 120 180
O BM-1
MW-4
(93.46)
MW-2(ABANDONED)
(93.39)
MW-3
(93.36)
FILLED AREA
FLOW
PAPERMACHINES BUILDING
MW-1
(93.10)
GATE NO. 3
HYDRANTS
CHEMICAL STORAGE TANK
(EMPTY)
POWER LOCATION OF KEROSENE STORAGE TANK
AST
KEY
MW-1 • - Monitoring Well Location
(93.23) - Relative Groundwater Elevations 4/17/95
PEMCO
SWANSON NEWS PRINT CORP.
D- 6711-01

SUBSURFACE INVESTIGATION

NEWBERG MILL BUNKER C AST SECONDARY CONTAINMENT AREA

NEWBERG, OREGON

PREPARED FOR:
SMURFIT NEWSPRINT CORPORATION

10-7198

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OCTOBER 1993

RZA AGRA, Inc.
Engineering & Environmental Services

AGRA
Earth & Environmental Group

RZA AGRA, Inc.
Formerly: Rittenhouse-Zeman & Associates, Inc.
Engineering & Environmental Services

7477 SW Tech Center Drive
Portland, Oregon 97223-8024
(503) 639-3400
FAX (503) 620-7892

October 21, 1993 10-7198

Smurfit Newsprint Corporations
P.O. Box 70
Newberg, OR 97132

Attn: Mr. Gene Faltus

SUBJECT: FINAL REPORT ON SUBSURFACE INVESTIGATION
NEWBERG MILL
NEWBERG, OREGON

Dear Mr. Faltus:

RZA AGRA, Inc. (RZA) is pleased to present the final results of our subsurface investigation conducted in the vicinity of your Bunker C aboveground storage tank at the Newberg Mill. Based upon the results of our investigation, it appears that soils underlying the Bunker C aboveground storage tank secondary containment area have been impacted by a release.

The attached report contains the details of the subsurface investigation. We have also provided our recommended approach to address the impacted soils identified during our investigation. Several options for soil remediation are available. RZA can provide remediation and paving design services, and would by happy to provide a cost estimate for these services.

We appreciate the opportunity to assist you with this project. If you have any questions or desire further information, please contact the undersigned at (503) 639-3400.

Respectfully submitted,

RZA AGRA, Inc.

Leonard C. Farr, Jr., P.G., Staff Geologist

TABLE OF CONTENTS

	Page Number
0.0 SUMMARY	1
1.0 INTRODUCTION	1
1.1 Objectives and Scope-of-Work	2
2.0 SITE CONDITIONS	2
2.1 Climate	2
2.2 Regional Geology	2
2.3 Regional Hydrogeology	3
3.0 SUBSURFACE EXPLORATION AND CONDITIONS	3
3.1 Exploratory Methods	3
3.2 Subsurface Conditions	5
4.0 QUANTITATIVE CHEMICAL ANALYSES	5
4.1 Total Petroleum Hydrocarbons (ODEQ TPH-D Extended	5
5.0 APPLICABLE STATE REGULATIONS	5
9.0 CONCLUSIONS AND RECOMMENDATIONS	7

List of Appendices

Appendix A	Boring Logs
Appendix B	Laboratory Test Results Chain-of-Custody Records

0.0 SUMMARY

RZA AGRA, Inc. (RZA) recently completed a subsurface investigation at the Smurfit Newsprint Corporation's Newberg Mill. The primary goal of our assessment was to determine if Bunker C is present in soils in the vicinity of a Bunker C aboveground storage tank (AST). Field investigations were carried out on October 7, 1993. Our investigation consisted of a subsurface drilling investigation, including soil sample collection and laboratory testing.

Subsurface Investigation Results: Evidence of the presence of Bunker C in subsurface soils was noted visually in three of the four borings (B-1, B-2, and B-3) drilled during performance of the subsurface investigation. A total of six soil samples collected during the performance of the subsurface investigation were submitted for laboratory testing. Total petroleum hydrocarbon concentrations were below detection limits in one of the six soil samples. Total petroleum hydrocarbon concentrations detected in the other five soil samples ranged from 14.6 to 3,613 milligrams per kilograms.

Conclusions and Recommendations: Based upon the results of field and laboratory testing, it appears that a Bunker C release has impacted soils underlying the Bunker C AST secondary containment area. It is our understanding that construction (paving) is planned for the secondary containment area. We recommend that a soil clean-up project be performed concurrently with the planned construction activities.

An evaluation of the condition of soils outside the secondary containment area and groundwater quality underlying and surrounding the secondary containment area was beyond the scope of this investigation. If cleanup of the impacted soils within the secondary containment is not performed in the near future, we recommend that additional assessment be performed in order to determine if impacts to soil and groundwater extend beyond the ASTs secondary containment area.

The preceding summary is intended for introductory and reference use. A complete reading of this report is recommended.

1.0 INTRODUCTION

This report presents the results of our subsurface investigation conducted at the Smurfit Newsprint Mill located in Newberg, Oregon. The configuration of the exploration area, and the locations of soil borings drilled during the project, are presented in the Site Plan (Plate 1).

1.1 Objectives and Scope-of-Work

The purpose of our investigation was to determine if soil in the vicinity of a Bunker C above-ground storage tank (AST) had been impacted by a spill or release. The scope of work for the project included: 1) conducting a subsurface drilling investigation, including the collection and analysis of soil samples, and 2) preparing a report documenting our work on the project.

This report has been prepared for the exclusive use of the Smurfit Newsprint Corporation, and its agents, for specific application to this project, in accordance with generally accepted environmental engineering practices. No other warranty, expressed or implied, is made.

2.0 SITE CONDITIONS

The Newberg mill property is located near the southern margin of the City of Newberg, Oregon. The property is generally flat-lying in the area in which the subsurface investigation was performed. Two 10,000 gallon diesel ASTs and a Bunker C AST are present within the exploration area (Plate 1).

The Willamette River is located adjacent to the southern margin of the mill property. Property to the north of the mill is dominated by residential properties. The City of Newberg wastewater treatment plant and municipal solid waste transfer station are located east of the mill property. Based upon local physiography, the groundwater gradient at the subject site can be inferred to dip to the south-southeast.

2.1 Climate

The Yamhill Valley has a modified marine climate with a mean annual precipitation rate of 43 inches, 70% of which falls as rain between October and May. The average annual maximum and minimum temperatures for the valley floor are 64°F and 40°F, respectively.

2.2 Regional Geology

The general near-surface geology of the Newberg area consists of Quaternary alluvial soils and lacustrine deposits composed of silt, clay, sand, gravel, and minor peat in areas of poor drainage. The alluvium ranges in thickness from ten to 30 feet on the flood plains of the Willamette, North Yamhill, and Tualatin Rivers.

The Quaternary deposits are underlain by silts, clays, sands and occasional gravels of the Pliocene Troutdale Formation. The Troutdale Formation ranges in thickness from 10 to 300 feet in the Newberg area. The Troutdale Formation is exposed in the bottoms of several stream beds near Newberg.

The Troutdale Formation unconformably overlies the Miocene Columbia River Basalt Group (CRB), or older marine sedimentary rocks where the basalts are not present. The CRB ranges in thickness from a few feet, to more than 1,000 feet in the Newberg area.

2.3 Regional Hydrogeology

Groundwater is first encountered in fine-grained Quaternary Alluvium in the Newberg area. The groundwater is unconfined. The Quaternary Alluvium aquifer generally has low to very low permeability. A few water supply wells tap the Quaternary Alluvium, but it is not considered to be an important source of groundwater.

The underlying Troutdale Formation and CRB are the principal sources of groundwater used for municipal services, industry, irrigation, and domestic consumption. Water supply wells tapping the Troutdale Formation in the Newberg area range in depth from 58 feet to 240 feet, and have average yields of 10 gallons per minute (gpm). Groundwater yield from water supply wells tapping the CRB range from approximately 15 gpm to more than 1,000 gpm in some lowland areas.

3.0 SUBSURFACE EXPLORATION AND CONDITIONS

The objective of the subsurface investigation was to determine if there were evidence of subsurface soil contamination adjacent to a Bunker C AST. The methods utilized to achieve project objectives are described below.

3.1 Exploratory Methods

Our field explorations were carried out on October 7, 1993. The investigation consisted of drilling four borings to depths ranging from nine to 15 feet below grade. Vandehey Soil Exploration, Banks, Oregon performed the drilling utilizing an Acker Soil Mechanic portable auger drill. The solid-stem augers used during drilling of the borings had a diameter of four-inches. All drill cuttings were placed in a 55-gallon drum which was labeled and is currently being stored adjacent to the building located east of the exploration area.

Soil samples were collected at three to six foot intervals from each boring while drilling. The samples were obtained using a split-spoon sampler, and standard penetration test sampling techniques. This sampling, combined with the logging of drilling character, provided the basis of our geologic

characterization of the site. Geologic boring logs showing sampling intervals, the results of sample screening, and a graphic representation of the subsurface geology are provided in Appendix A.

Samples were observed and classified in the field by a geologist from our firm. Representative portions of each sample were collected, placed in air-tight, laboratory prepared Teflon-sealed containers, and were returned to RZA's in-house laboratory located in Portland, Oregon. Laboratory testing of selected soil samples were performed by RZA's in-house laboratory. The samples selected for analysis, and the methods utilized are shown on the boring logs (Appendix A). Laboratory reports and chain-of-custody records are provided in Appendix B.

The first boring (B-1) was drilled to a depth of 15 feet. Groundwater was encountered at a depth of 9.8 feet. Subsequent borings were drilled only to the capillary fringe (a depth of nine feet). After completing each boring, it was backfilled with $^3/_8$-inch bentonite chips in order to eliminate the potential for the boring to act as a preferential flow path for surface water to reach the water table aquifer.

Petroleum-like odors and visible product were detected during the drilling of three of the four soil borings. Within the uppermost three feet of borings B-1 and B-2, Bunker C was present in small soil void spaces. The soil sample collected at a depth of three feet in boring B-3 appeared to be saturated with Bunker C. Visible product was only present in small soil void spaces in the soil sample collected at a depth of six feet in boring B-3. No odor or visible product was noted in soil samples collected in boring B-4.

The detection of petroleum-like odors is dependent on the olfactory sensitivity of the person classifying the sample, as well as on other factors, including air and sample temperature, wind velocity, the length of time the sample is out of the boring, product type, and the degree of product degradation. Because these constraints are not readily quantifiable, and no test standards exist, the presence or absence of petroleum-like odors during drilling should be taken as subjective information.

Each soil sample was screened for volatile organic compounds (VOCs). This was carried out using a Photovac Microtip Photoionization Detector (PID). Soil screening indicated moderately elevated VOC vapor concentrations (>50 parts per million) only in borings B-3 and B-4. The concentrations obtained with the PID are provided on the boring logs (Appendix A).

The volatiles were measured by head-space methods, i.e. soils at specific intervals from the borings were placed in air-tight bags, and the probe end of the instrument was inserted through a small slit in the bag to measure the relative concentrations of VOC vapors present in the bag headspace. It should be noted that screening of soils is only effective for fuels with a high percentage of VOCs, such as gasoline or mineral spirits. Screening soils for VOC vapors is only marginally effective for fuels such as diesel and Bunker C.

3.2 Subsurface Conditions

The uppermost 1.5 feet of material encountered consisted of fine sawdust. Native soils encountered under sawdust consisted of stiff, clayey silt. The silt coarsened with depth to a sandy silt with some thin silty sand interbeds. Groundwater was encountered in boring B-1, where the water level was measured at 9.8 feet below grade.

4.0 QUANTITATIVE CHEMICAL ANALYSES

A minimum of one soil sample from each boring was evaluated for the presence of diesel and heavy oils by Oregon Department of Environmental Quality (ODEQ) Method TPH-D Extended. The results of soils testing are discussed in Section 4.1 below. Laboratory reports and chain-of-custody documents are included in Appendix B.

4.1 Total Petroleum Hydrocarbons (ODEQ TPH-D Extended) - A total of six soil samples were analyzed for diesel and heavy oil by ODEQ Method TPH-D, Extended. The concentration of both fuel types tested were below detection limits in a soil sample collected at a depth of nine feet in boring B-4. Relatively low levels of diesel (<200 milligrams per kilogram) were detected in soils collected at depths of three and six feet in borings B-2 and B-4, respectively. The sum of diesel and heavy oil concentrations in the three remaining soil samples ranged from 975 milligrams per kilogram (mg/kg) to 3,613 mg/kg.

5.0 APPLICABLE STATE REGULATIONS

Fuel oil and/or diesel spills from ASTs are regulated by Chapter 340, Division 108 of the Oregon Administrative Rules (OAR). OAR 340-108-110 states that a spill of 42 gallons or greater is considered a reportable quantity and that the Oregon Emergency Management Division should be contacted within a 24 hour period. Spill volumes can not be determined based upon the testing of soils impacted by a release. Thus, our investigation indicates that a release has likely occurred, but does not indicated whether or not the release constitutes a reportable quantity.

OAR 340-108-020 also states that a release need not be reported if 1) the owner of the property on which the spill occurred is aware of the spill occurrence, 2) the spill is contained, and 3) the spill is cleaned-up and the cause of the release corrected.

Numeric clean-up standards for hydrocarbon fuel releases from ASTs have not been established by the state. Clean-up levels are determined by the ODEQ on a case-by-case basis. Factors considered in selecting a clean-up level are numerous, and include threat to human health, threat to groundwater quality, local hydrogeologic conditions, and climate.

Should a clean-up be undertaken, numeric clean-up levels established for releases from underground storage tank systems could be utilized as a basic clean-up guideline, provided groundwater has not been impacted. Underground storage tank clean-up levels are determined by evaluating site specific parameters, as provided by Oregon Administrative Rules (OAR) 340-122-305 to 340-122-360. The five parameters provided in OAR 340-122-330 (1)-(5) are: 1) depth to groundwater, 2) mean annual precipitation, 3) soil type, 4) sensitivity of the uppermost aquifer, and 5) potential receptors. Based on data presented above, the Newberg mill site matrix score would be as follows:

1) **Depth to groundwater**
   Depth to groundwater determined in boring B-1 was approximately 10 feet below the ground surface. Groundwater levels of less than 25 feet in depth score a **"10"**.

2) **Mean annual precipitation**
   Based on climatological data for the Newberg area, the mean annual precipitation is 43 inches. This results in a score of **"5"**.

3) **Soil type**
   Based on the soil type containing the first aquifer, sandy silt to silty sand, we assign a moderate rating of "5".

4) **Sensitivity of the uppermost aquifer**
   In the area of the project site the aquifer is not utilized for drinking water, but the quality is such that it could be used. This results in a score of **"4"**.

5) **Potential Receptors**

   (a) Based on the distance to the nearest well, and taking into account the regional and local groundwater migration direction and gradient, the distance descriptor would be considered **"near"**.

(b) The number of people at risk, based on population of the area within 3 miles of the site would be deemed to be **"many"**.

(c) The combination of these two factors would give the subject site a score of "**10**".

The total score for the Newberg mill property would be 34, and Level 2 Numeric Soil Clean-up Standards would therefore apply. This would require site soils to be cleaned up to a 500 ppm standard for diesel and/or heavy oil contamination, as referenced to ODEQ Method TPH-D.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of field and laboratory testing, it appears that soils in the vicinity of the Bunker C AST have been impacted by a spill or release. It is our understanding that construction (paving) is planned for the secondary containment area. We recommend that soils be remediated during planned construction activities.

The scope of our assessment was limited to soils underlying the secondary containment for the Bunker C AST, so no data regarding soil conditions or groundwater quality outside the secondary containment area is available. If cleanup of the impacted soils within the secondary containment is not performed in the near future, we recommend that additional assessment be performed in order to determine if impacts to soil and groundwater extend beyond the ASTs secondary containment area.

We are pleased to have had the opportunity to assist you with this project. If you have any questions or desire further information, please feel free to contact the undersigned.

RZA AGRA, Inc.

Leonard C. Farr Jr., P.G., Staff Geologist

REGISTERED PROFESSIONAL GEOLOGIST OREGON LEONARD C. FARR JR. #G1169

Gerard Koschal, P.G., Senior Staff Geologist

10/31/94

REGISTERED PROFESSIONAL GEOLOGIST OREGON GERARD KOSCHAL #G 1015

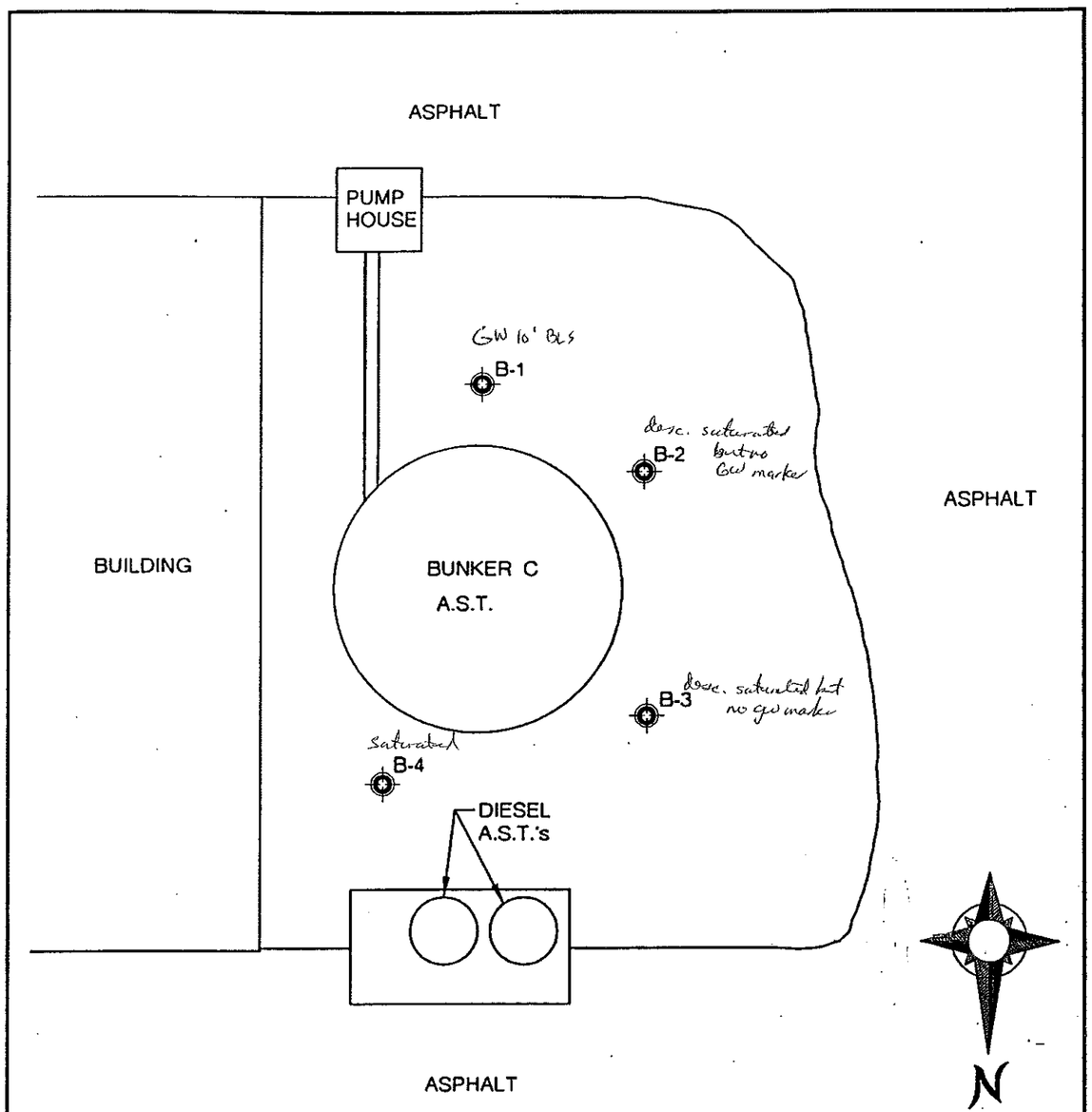


PLATE 1

RZA AGRA, Inc.
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ENGINEERING & ENVIRONMENTAL SERVICES
7477 S.W. Tech Center Drive
Portland, Oregon 97223-8024
Phone (503) 639-3400 Fax (503) 620-7892

W.O.	21-7198-00
DESIGN	L.C.F.
DRAWN	W.R.N.
DATE	10/19/93
SCALE	NONE

CAD FILE NAME: \21719800\SITEP .LAN

SITE PLAN
BUNKER C ABOVE GROUND STORAGE TANK ASSESSMENT
SMURFIT NEWSPRINT CORP.
NEWBERG, OREGON

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APPENDIX A

Boring Logs

PROJECT: SMURFIT NEWBERG | START CARD No.: N / A | BORING No.: B-1

Elevation Reference: N / A
Groundwater Surface Elevation: N / A
Well Completed: N / A
Relative Casing Elevation: N / A
Boring Method: Solid stem auger
Borehole Diameter: 4 In.

Depth (feet)	SOIL DESCRIPTION	Graphic Log	Sample Type	Blow Counts	Volatile Readings %LEL/ppm	Ground Water	AS-BUILT DESIGN	ANALYSES
0	Sawdust / wood debris						Sawdust / wood debris	
			S-1	14	25			TPH-D
5	Stiff, moist to saturated, dark gray to brown, clayey SILT, grading to sandy SILT with occasional very fine grained sand interbeds.						Backfilled boring with bentoite	
			S-2	10	4.5	▼ AB		
15	TOTAL DEPTH 15.0 FT.		S-3	10	5.4			
20								
25								
30								

LEGEND

- 2-Inch O.D. split-spoon sample with % recovered
- ▼ AB — Encountered groundwater level After boring
- ▼ SW — Measured static groundwater level
- Groundwater Analysis (Sample No. Shown)
- 8015 / 8240 — Soil Analysis (Test Method Shown)

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Newberg, Oregon

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Portland, Oregon 97223-8024
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Drilling Started: 10 / 7 / 93 | Drilling Completed: 10 / 7 / 93 | Logged By: L.C.F.

PROJECT: SMURFIT NEWBERG | START CARD No.: N / A | BORING No.: B-2

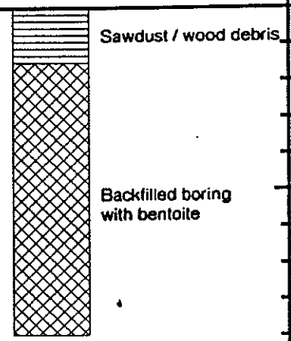
Elevation Reference: N / A
Groundwater Surface Elevation: N / A

Well Completed: N / A
Relative Casing Elevation: N / A

Boring Method: Solid stem auger
Borehole Diameter: 4 in.

Depth (feet)	SOIL DESCRIPTION	Sample Type	Blow Counts	Volatile Readings %LEL/ppm	Ground Water
0	Sawdust / wood debris				
		S-1	8	11	
5	Stiff, moist to saturated, dark gray to brown, clayey SILT, grading to sandy SILT with occasional very fine grained sand interbeds.	S-2	10	8.5	
		S-3	10	5.5	
10	TOTAL DEPTH 9.0 FT.				
15					
20					
25					
30					

AS-BUILT DESIGN



ANALYSES

TPH-D

TPH-D

LEGEND

- 2-Inch O.D. split-spoon sample with % recovered
- Encountered groundwater level
- AB After boring
- SW Measured static groundwater level
- Groundwater Analysis (Sample No. Shown)
- 8015 / 8240 Soil Analysis (Test Method Shown)

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Drilling Started: 10 / 7 / 93 | Drilling Completed: 10 / 7 / 93 | Logged By: L.C.F.

PROJECT: SMURFIT NEWBERG | START CARD No.: N / A | BORING No.: B-3

Elevation Reference: N / A
Groundwater Surface Elevation: N / A
Well Completed: N / A
Relative Casing Elevation: N / A
Boring Method: Solid stem auger
Borehole Diameter: 4 in.

Depth (feet)	SOIL DESCRIPTION	Graphic Log	Sample Type	Blow Counts	Volatile Readings %LEL/ppm	Ground Water	AS-BUILT DESIGN	ANALYSES
0	Sawdust / wood debris		S-1	9	60		Sawdust / wood debris	
5	Stiff, moist to saturated, dark gray to brown, clayey SILT, grading to sandy SILT with occasional very fine grained sand interbeds.		S-2	10	52		Backfilled boring with bentoite	TPH-D
	TOTAL DEPTH 9.0 FT.		S-3	8				
10					20			
15								
20								
25								
30								

LEGEND

- 2-Inch O.D. split-spoon sample with % recovered
- Encountered groundwater level
- AB After boring
- SW Measured static groundwater level
- Groundwater Analysis (Sample No. Shown)
- 8015 / 8240 Soil Analysis (Test Method Shown)

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Phone (503) 639-3400 Fax (503) 620-7892

Drilling Started: 10 / 7 / 93 | Drilling Completed: 10 / 7 / 93 | Logged By: L.C.F.

PROJECT: SMURFIT NEWBERG | START CARD No.: N / A | BORING No.: B-4

Elevation Reference: N / A
Groundwater Surface Elevation: N / A
Well Completed: N / A
Relative Casing Elevation: N / A
Boring Method: Solid stem auger
Borehole Diameter: 4 in.

Depth (feet)	SOIL DESCRIPTION	Graphic Log	Sample Type	Blow Counts	Volatile Readings %LEL/ppm	Ground Water	AS-BUILT DESIGN	ANALYSES
0	Sawdust / wood debris						Sawdust / wood debris	
			S-1	9	51			
5	Stiff, moist to saturated, dark gray to brown, clayey SILT, grading to sandy SILT with occasional very fine grained sand interbeds.		S-2	8	92		Backfilled boring with bentoite	TPH-D
	TOTAL DEPTH 9.0 FT.		S-3	11	69			TPH-D
10								
15								
20								
25								
30								

LEGEND

- 2-Inch O.D. split-spoon sample with % recovered
- ▼ AB — Encountered groundwater level After boring
- ▼ SW — Measured static groundwater level
- △ — Groundwater Analysis (Sample No. Shown)
- 8015 / 8240 — Soil Analysis (Test Method Shown)

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Drilling Started: 10 / 7 / 93 | Drilling Completed: 10 / 7 / 93 | Logged By: L.C.F.

APPENDIX B

Laboratory Test Results
Chain-of-Custody Records

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Engineering & Environmental Services

7477 SW Tech Center Drive
Portland, Oregon 97223-8024
(503) 639-3400
FAX (503) 620-7892

Client: Smurfit
Project No.: 7198
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR930183
Report Date: 10/18/93
Report No.: 5068
C.O.C. No.: 0085

Diesel and Heavy Oil
ODEQ Method TPH-D Extended
mg/kg(ppm)

Sample Name:	B1-S1	B2-S1	B2-S2	B3-S2	B4-S2	B4-S3
Lab Code:	0183-1	0183-2	0183-3	0183-4	0183-5	0183-6
Diesel Range (Decane-Octacosane)	2910	14.6	160	1910	975	ND
Heavy Oil Range (>Octacosane)	703	ND	ND	890	ND	ND
Sample Date:	10/7/93	10/7/93	10/7/93	10/7/93	10/7/93	10/7/93
Analysis Date:	10/11,15/93	10/11,15/93	10/11,15/93	10/11/93	10/11/93	10/11/93
% Surrogate Recovery: 2-Fluorobiphenyl:	*	138	**	*	**	131

Sample Name:	Lab Blank	Detection
Lab Code:	10-11SBKD	Limit
Diesel Range (Decane-Octacosane)	ND	12.5
Heavy Oil Range (>Octacosane)	ND	100
Sample Date:	-	
Analysis Date:	10/11/93	
% Surrogate Recovery:		Control Limits
2-Fluorobiphenyl:	136	50%-150%

* Surrogate recovery can not be reported due to a dilution factor which reduced the surrogate concentration below the method detection limit

** Surrogate recovery can not be reported due to target and non-target peaks within the retention time window of the surrogate.

ND Not Detected

Signature of Chemist

Jean Tormley

Laboratory Manager

AGRA
Earth & Environmental Group

RZA AGRA, Inc.
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Engineering & Environmental Services
7477 SW Tech Center Drive • Portland, OR 97223-8024
(503) 639-3400 • FAX (503) 620-7892

Chain-of-Custody Record / Laboratory Analyses Request

Project: Newberg Plant	**Job #:** 7198
Client: Smurfit	
Project Manager: Len Farr	**Phone #:** 639-3400
Sampler's Name:	**Phone #:**
Sampler's Signature: Len Farr	

Analysis Requested: (Circle, Check Box, or Write Preferred Method in Box)

Sample I.D. #	Date	Time	Preserv.	Matrix	Halogenated Volatiles EPA 601 EPA 8010	Volatile Aromatics EPA 602 EPA 8020	BTXE or BTXE / TPH-G	WA. TPH-G or OR. TPH-G	WA. TPH-D or OR. TPH-D	Fuel Scan / TPH by GC 8015-modified	GC Fingerprint / HCID	WA. 418.1 Modified or OR. 418.1 Modified	GC / MS Volatiles	GC / MS Semi Volatiles	Total Metals ICP AA Other	TC LP Metals	pH Cond. Alk Color	TPH-D extended		# of Containers	Comments
1. B1-S1	10.7.93	9:05	4°C	Soil														X		2	
2. B2-S1	↓	10:30	↓	↓														X		2	
3. B2-S2		10:40																X		2	
4. B3-S2		11:30																X		2	
5. B4-S2		12:10																X		2	
6. B4-S3	↓	12:20	↓	↓														X		2	
7.																					
8.																					
9.																					
10.																					

Relinquished by RZA:	**Relinquished by:**	**Relinquished by:**	**Laboratory:**	**Sample Receipt:**
Signature: Len Farr	Signature:	Signature:		
Printed Name: Len Farr	Printed Name:	Printed Name:	Shipping I.D.#	Total # Containers:
Firm: RZA AGRA	Firm:	Firm:	Carrier:	Condition of Containers:
Date/Time: 10.8.93 / 9:00	Date/Time:	Date/Time:	DOT Designation:	Condition of Seals:
Received by:	**Received by:**	**Received by:**	**Special Instructions/Comments:**	
Signature: Jean Gormley	Signature:	Signature:		
Printed Name: Jean Gormley	Printed Name:	Printed Name:		
Firm: RZA AGRA	Firm:	Firm:		
Date/Time: 10/8/93 09:00	Date/Time:	Date/Time:		

DISTRIBUTION: WHITE & PINK returned to project manager, YELLOW - lab.

Page _____ of _____.

SERVICE REQUEST #: _____

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Engineering & Environmental Services

7477 SW Tech Center Drive
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FAX (503) 620-7892

November 12, 1993

21-7198

Smurfit Newsprint Corporation
P.O. Box 70
Newberg, OR 97132

Attn: Mr. Gene Faltus

SUBJECT: RESULTS OF ADDITIONAL TESTING AND ESTIMATE OF IMPACT SOIL VOLUME AND TREATMENT COSTS NEWBERG MILL NEWBERG, OREGON

Dear Mr. Faltus:

The purpose of this letter is to address issues raised during our October 22, 1993 meeting. Three issues requiring follow-up were discussed. Each of the issues is addressed below.

ISSUE #1: Testing of two additional soil samples in order to determine the vertical extent of Bunker C at boring locations B-1 and B-3.

The deepest samples submitted for laboratory testing from boring B-1 (collected at a depth of three feet) indicated diesel and heavy oil concentrations above basic clean-up guidelines discussed in the Subsurface Investigation Report. In order to better define the vertical extent of the Bunker C, an additional sample collected at a depth of nine feet in boring B-1 was analyzed. Both diesel and heavy oil concentrations were below detection limits. The laboratory report for the sample (B1-S2) is attached.

The deepest sample collected in boring B-3 (collected at a depth of six feet) also indicated diesel and heavy oil concentrations above basic clean-up guidelines. An attempt was made to obtain a sample at a depth of nine feet in boring B-3, but due to poor sample recovery laboratory testing of the sample could not be performed. Thus, the vertical extent of Bunker C at boring location B-3 cannot be better characterized.

ISSUE #2: Estimate volume of soil impacted at a concentration greater than basic clean-up guidelines.

Due to the limited number of sample points tested during the subsurface investigation, it is difficult to accurately determine the volume of soil which has been impacted. Our estimate of the volume of soil with a diesel/heavy oil concentration of greater than 500 mg/kg is 600 cubic yards. Plate 1 (attached) indicates the lateral and vertical extent of soils which have been used in determining the impacted soil volume.

ISSUE #3: Approximate costs for soil disposal/remediation.

We are providing a rough estimate of costs for two corrective action strategies. The first strategy includes the excavation and off-site disposal of the impacted soils. The approximate per yard cost, assuming a volume of approximately 600 cubic yards, would be $85.

RECEIVED
JUL 27 1995
WESTERN REGION

The second strategy includes the excavation and on-site treatment of the impacted soils. The approximate cost for this strategy, assuming a volume of approximately 600 cubic yards, would be $50/yard.

We would be happy to sit down and further discuss your corrective action options, and to provide our recommendations. It may not be necessary to achieve the basic clean-up levels provided in our Subsurface Investigation Report depending on the design of the secondary containment area liner. The liner may act as a cap, eliminating the infiltration of precipitation and contaminant migration.

We appreciate the opportunity to provide you with this additional information. If you have any questions, do not hesitate to contact myself, or Gerry Koschal at 503-639-3400.

Respectfully Submitted,

RZA AGRA, Inc.

Leonard C. Farr Jr., P.G. Staff Geologist

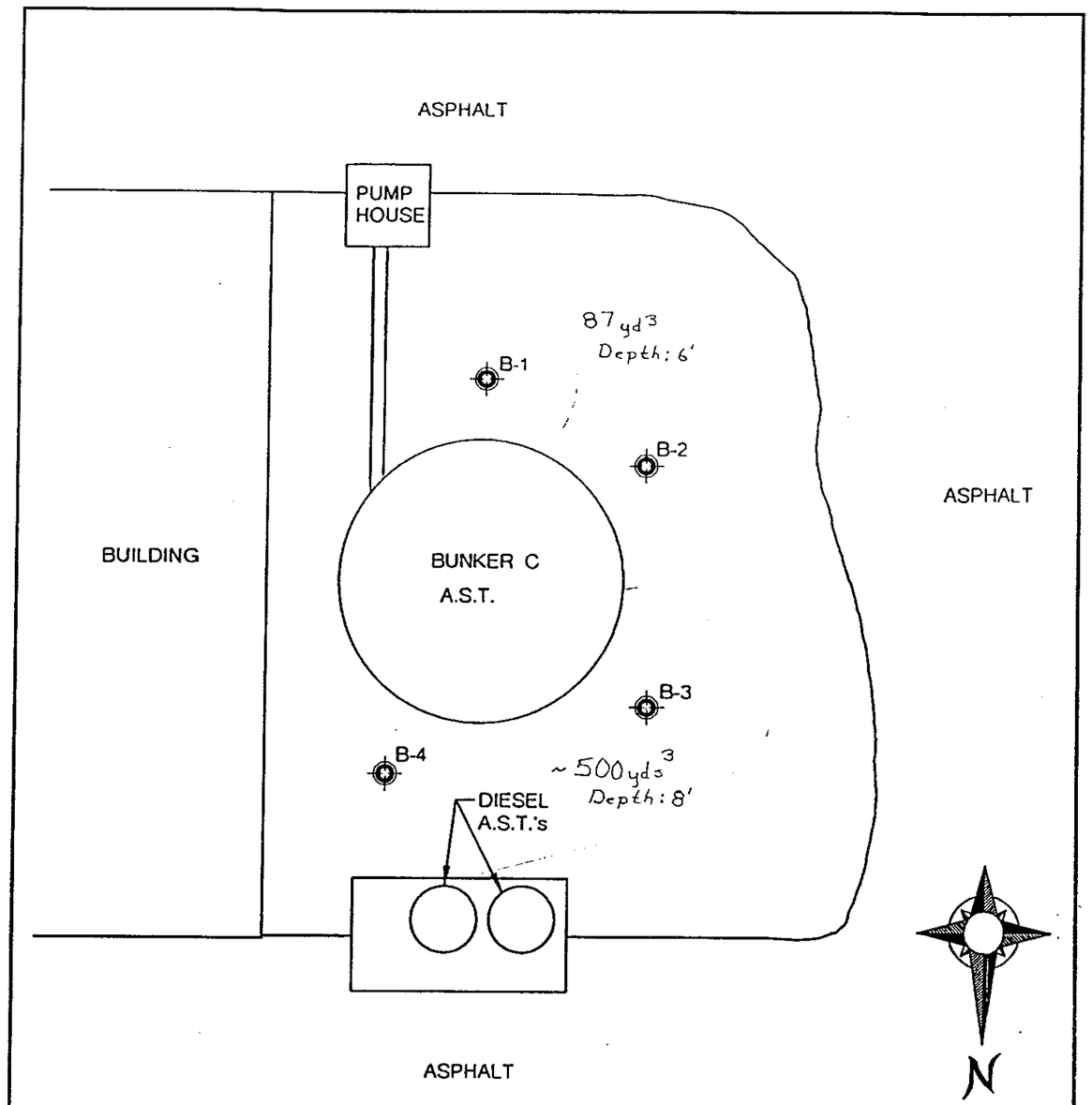


PLATE 1

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W.O.	21-7198-00
DESIGN	L.C.F.
DRAWN	W.R.N.
DATE	10/19/93
SCALE	NONE

CAD FILE NAME: \21719800\SITEP .LAN

SITE PLAN
BUNKER C ABOVE GROUND STORAGE
TANK ASSESSMENT
SMURFIT NEWSPRINT CORP.
NEWBERG, OREGON

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Engineering & Environmental Services

7477 SW Tech Center Drive
Portland, Oregon 97223-8024
(503) 639-3400
FAX (503) 620-7892

Client:	**Smurfit**	**Service Request No.:**	**OR930210**
Project No.:	**7198**	**Report Date:**	**11/8/93**
Project Manager:	**Len Farr**	**Report No.:**	**5120**
Sample Matrix:	**Soil**	**C.O.C. No.:**	**104**

Diesel and Heavy Oil Range Hydrocarbons
ODEQ Method TPH-D Modified
mg/kg (ppm)

Sample Name	Lab Code	Sample Date	Analysis Date	Method Detection Limit DSL/HEAVY OIL	Concentration DSL/HEAVY OIL	Surrogate Recovery 2-Fluorobiphenyl
B1-S2	0210-1	10/7	11/1	12.5/100	ND/ND	93.2
LAB BLANK	10-30SBKD	"	11/1	12.5/100	ND/ND	97.5

ODEQ Acceptance Criteria **50%-150%**

ND Not Detected
DSL Diesel

Signature of Chemist

Laboratory Manager

Smurfit Newsprint Corp.
Newberg Mill
Foot of Wynooski Street
P.O.Box 70
Newberg, Oregon 97132

October 6, 1994
Phone 503-538-2151
Fax 503-537-1344

Steve Fortuna
Willamette Valley Region
Oregon Department of Environmental Quality
750 Front Street NE Suite 120
Salem, Oregon 97310

Dear Steve,

The enclosed Remedial Action Report by AGRA Earth & Environmental cover the clean up of the bunker C and diesel contaminated soil at the Newberg Mill. We think the site has been cleaned to the point where the site does not pose significant risk to human health or the environment. Please review the report and contact me with any questions. If you agree that the site is "clean", please close this incident and send me a confirming letter.

Sincerely,

Stan Miller

Stan Miller
Process Engineer

cc: P. Slagle

OCT 0 7 1994

REMEDIAL ACTION REPORT

SMURFIT NEWSPRINT CORP.

NEWBERG, OREGON

Submitted To:

Smurfit Newsprint Corporation

Submitted By:

AGRA Earth & Environmental, Inc.
7477 S. W. Tech Center Drive
Portland, Oregon 97223-8025

21-07698-00

September 1994

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REMEDIAL RESPONSE

AGRA
Earth & Environmental

TABLE OF CONTENTS

PAGE

SUMMARY ii

1.0 INTRODUCTION 1

2.0 SITE CONDITIONS AND BACKGROUND 1
2.1 SITE DESCRIPTION 1
2.2 CLIMATE 1
2.3 REGIONAL GEOLOGY 1
2.4 REGIONAL HYDROGEOLOGY 2
2.5 PREVIOUS WORK 2

3.0 REMEDIAL GOALS 3

4.0 REMEDIAL METHODS AND ACTIVITIES 3
4.1 FIELD SCREENING METHODS 3
4.2 REMEDIAL ACTIVITIES 4
4.2.1 Initial Excavation and Sampling 4
4.2.2 Excavation Area #1 5
4.2.3 Excavation Area #2 6
4.2.4 Excavation Area #3 7
4.2.5 Excavation Area #4 8
4.2.6 Excavation Area #5 9

5.0 DISPOSAL PERMITTING 10

6.0 CONCLUSIONS 11

Appendix A Laboratory reports
Chain-of-Custody Documents

SUMMARY

AGRA Earth & Environmental (AGRA) recently provided field monitoring and soil sampling services for a soil remediation project performed at the Smurfit Newsprint Corporation's Newberg Plant. The soil remediation project was a component of a larger project which included the installation of an engineered liner in a secondary containment area surrounding a Bunker C above-ground storage tank (AST). The goal of the soil remediation project was to remove petroleum hydrocarbon impacted soils which contained total petroleum hydrocarbon concentrations of greater than 500 milligrams per kilogram (mg/kg).

- Soil sampling performed during excavation activities identified the presence of diesel and heavy oil range hydrocarbons in site soils. Total petroleum hydrocarbons concentrations as high as 3,290 mg/kg were detected in soils excavated during the project.

- A total of 1,756.76 tons of impacted soil was excavated and transported off-site for thermal treatment.

- Based upon the results of field and laboratory testing conducted by AGRA, it appears that clean-up goals were achieved in all areas where excavation was not inhibited by the presence of structures. A small pocket of impacted soil located between the Bunker C and diesel ASTs could not be removed without the risk of undermining the ASTs.

The preceding summary is intended for introductory and reference use only, and should by used in conjunction with the full test of this report.

1.0 INTRODUCTION

This report presents the results of recent remedial activities performed at the Smurfit Newsprint Corporation's Newberg Plant. The project included the excavation and temporary stockpiling of petroleum hydrocarbon impacted soils, and the transport of the soils to the North Marion County Petroleum Contaminated Soil Recycling Facility for thermal treatment.

The role of AGRA Earth & Environmental, Inc. (AGRA) in the project was to monitor soil conditions and direct excavation activities, and to collected soil samples from the base and sidewalls of the excavation. The remedial activities were performed in conjunction with the installation of a secondary containment area liner for the site's Bunker C above-ground storage tank (AST).

This report has been prepared for the exclusive use of the Smurfit Newsprint Corporation and its agents, for specific application to this project, in accordance with generally accepted environmental engineering and geology practices. No other warranty, expressed or implied, is made.

2.0 SITE CONDITIONS AND BACKGROUND

2.1 SITE DESCRIPTION

The Newberg Plant is located near the southern margin of the City of Newberg, Oregon (Figure 1). The property is generally flat-lying in the project area. Near its southern margin, the property slopes off-steeply to the Willamette River, which is approximately 1,000 feet south of the project area. The difference in elevation between the project area and Willamette River is approximately 110 feet.

2.2 CLIMATE

The Willamette Valley has a modified marine climate with a mean annual precipitation of 43 inches, 70% of which falls as rain between October and May. The average annual maximum and minimum temperatures for the valley floor are 64° and 40° fahrenheit, respectively.

2.3 REGIONAL GEOLOGY

The general near-surface geology of the Newberg area consists of Quaternary alluvial soils and lacustrine deposits composed of clay, silt, sand, gravel, and minor peat in areas of poor drainage. The alluvium ranges in thickness from ten to 30 feet on the flood plains of the Willamette, North Yamhill, and Tualatin rivers.

The Quaternary deposits are underlain by clays, sands, and occasional gravels of the Pliocene Troutdale Formation. The Troutdale Formation ranges in thickness from 10 to 300 feet in the Newberg area, and is exposed in the bottoms of several local stream beds.

The Troutdale Formation unconformably overlies the Miocene Columbia River Basalt Group (CRB), or older marine sedimentary rocks where the CRB is not present. The CRB ranges in thickness from a few feet, to more than 1,000 feet in the Newberg area.

2.4 REGIONAL HYDROGEOLOGY

Groundwater is first encountered in fine-grained Quaternary Alluvium in the Newberg area, and is unconfined. The Quaternary Alluvium aquifer generally has low to very low permeability. A few water supply wells tap the Quaternary Alluvium, but it is not considered to be an important source of groundwater.

The underlying Troutdale Formation and CRB are the principal sources of groundwater used for municipal services, industry, irrigation, and domestic consumption. Water supply wells tapping the Troutdale Formation in the Newberg area range in depth from 58 feet to 240 feet below ground surface. The average yield of wells tapping the Troutdale Formation in the Newberg area is 10 gallons per minute (gpm). Groundwater yield from water supply wells tapping the CRB range from approximately 15 gpm to more than 1,000 gpm in some lowland areas.

2.5 PREVIOUS WORK

Four soil borings were drilled in the Bunker C Containment Area in October, 1993. The purpose of the assessment was to determine if impacted soils were present in the containment area, and to estimate their volume. The borings ranged in depth from nine to 15 feet below the former containment area grade. Groundwater was encountered during drilling at a depth of approximately 14 feet below the asphalt surface located adjacent to the containment area.

Total petroleum hydrocarbon (TPH) concentrations of up to 3,610 milligrams per kilogram (mg/kg) were detected in containment area soils. Both diesel and heavy oil range hydrocarbons were detected. Based upon the field and laboratory data collected, it was estimated that approximately 600 cubic yards of soil with a TPH concentration of greater than 500 mg/kg was present underlying the containment area.

3.0 REMEDIAL GOALS

Numeric soil clean-up standards for hydrocarbon fuel releases from ASTs have not been established by the ODEQ. For releases from ASTs, clean-up levels are determined on a case-by-case basis. Factors considered in selecting a clean-up level are numerous, and include the threat posed to human health and the environment by the release, local hydrogeologic conditions, and climate.

Numeric soil cleanup standards have been established by the ODEQ for soils impacted by releases from underground storage tanks (USTs). If AST releases involve only fuel hydrocarbons, the UST cleanup standards are often considered appropriate for use in establishing cleanup goals or action levels for AST releases. Since the releases which have occurred in the Bunker C containment area have only involved diesel and Bunker C, the use of the UST cleanup standards as remediation goals is considered appropriate. UST numeric soil cleanup standards are determined by evaluating site specific parameters, as provided by Oregon Administrative Rules (OAR) 340-122-360. A soil matrix determination for the site was completed as part of the Subsurface Investigation Report prepared by AGRA in October 1993. The matrix score for the Newberg Plant was 34, and Level 2 Numeric Soil Clean-up Standards would therefore apply. This would require site soils to be cleaned up to a 500 mg/kg standard for non-gasoline fraction hydrocarbons, as referenced to either EPA Method 418.1 (ODEQ modified) or ODEQ Method TPH-D.

4.0 REMEDIAL METHODS AND ACTIVITIES

Remedial activities included the excavation of impacted soils, the temporary stockpiling of the soils in an asphalt paved area located approximately 1,500 feet east of the project area, and transport and treatment of the soils at the North Marion County Soil Recycling Facility. Excavation services for the project were provided by Bill Erickson Heavy Construction, Oregon City, Oregon. Transportation of the impacted soils to the North Marion County Soil Recycling Facility was performed by PEMCO, Portland, Oregon. AGRA monitored excavation activities and collected soil samples to confirm that soils with TPH concentrations exceeding project remediation goals were excavated.

4.1 FIELD SCREENING METHODS

Three field screening methods were utilized by AGRA to obtain the data necessary to guide excavation activities. The methods included: 1) field testing with a infrared spectrometer (IR) by EPA Method 418.1, 2) screening with a direct reading instrument, and 3) mixing soil with water and noting if a sheen developed.

The primary field screening method which AGRA intended to rely upon was analyzing samples in the field by EPA Method 418.1. This field screening method generally provides data superior to that obtainable using the other two screening methods. However, a laboratory

technician is required to test the soil samples, making this screening method relatively expensive.

The IR screening proved to be very effective in detecting diesel, but was only marginally effective in detecting heavy oil range hydrocarbons. This was likely a result of the insolubility of heavy oils in trichlorofluoromethane, the solvent used in extraction of the soils prior to analysis. Consequently, the use of the IR was suspended after the first two days of excavation.

The use of direct reading instruments (both a combustible gas indicator and/or photoionization detector were utilized) was ineffective in detecting diesel or heavy oil range hydrocarbons due to their low volatility. Mixing soil with water proved to be very effective in detecting heavy oil range hydrocarbons and diesel.

4.2 REMEDIAL ACTIVITIES

Excavation activities were initiated on August 22, 1994, and were completed on September 10, 1994. A total of 1,756.76 tons (approximately 1350 cubic yards) of impacted soil were excavated and transported off-site for thermal treatment. A total of 33 soil samples were tested either in the field as part of the excavation monitoring effort, or in AGRA's in-house laboratory. Laboratory report for the 33 soil samples are included in Appendix A. A detailed description of remedial activities is provided below.

4.2.1 Initial Excavation and Sampling

The containment area liner design required that soils be graded to an elevation 1.5 feet below the top of the Bunker C AST concrete slab foundation. The top of the Bunker C AST foundation is approximately three feet below the grade of the asphalt surface surrounding the containment area on its north, west, and south sides. The depth of excavations were measured relative to the asphalt surface grade.

AGRA personnel began monitoring excavation activities on August 23, 1994, after the engineered grade in the containment area had been achieved. A total of fifteen near surface soil samples (S-1 through S-15) were then collected by AGRA personnel to determine in which areas petroleum hydrocarbons were present, and additional excavation was necessary. In shallow excavations, soil samples were collected using a stainless steel spoon. Sampling locations are shown in Figure 2. The soil samples were tested in the field by EPA Method 418.1. The results of initial soil sampling are summarized in Table 1.

TABLE 1
SOIL SAMPLE ANALYTICAL SUMMARY
SAMPLES S1 THROUGH S15

SAMPLE #	EPA 418.1
S-1	21.3 mg/kg
S-2	ND
S-3	90.6 mg/kg
S-4	10.9 mg/kg
S-5	53.0 mg/kg
S-6	390 mg/kg
S-7	6.90 mg/kg
S-8	15.4 mg/kg
S-9	4.60 mg/kg
S-10	ND
S-11	431 mg/kg
S-12	357 mg/kg
S-13	15.4 mg/kg
S-14	12.4 mg/kg
S-15	3,290 mg/kg

Based upon the results of initial soil sampling, and upon the results of testing performed during the drilling investigation previously conducted at the site, additional excavation was performed in five areas (Figure 3). The volume of material removed from each excavation area, and samples collected within the excavations are discussed below.

4.2.2 Excavation Area #1

Soil samples collected at sampling locations S-11 and S-12 indicated TPH concentrations near the cleanup goal established for the project. Therefore, additional excavation was performed in this area. Excavation #1 was extended to a depth of six feet below the asphalt surface grade (basg). Two additional soil samples (S-16 and S-17) were collected from the base of Excavation #1 and were tested in the field by EPA Method 418.1. Soil sample S-17 was

additionally tested by ODEQ Method TPH-D Extended. The results of Excavation #1 soil sample testing is summarized in Table 2.

TABLE 2
SOIL SAMPLE ANALYTICAL SUMMARY
EXCAVATION AREA #1

SAMPLE #	EPA 418.1	ODEQ METHOD TPH-D	
		DIESEL	HEAVY OIL
S-11	431 mg/kg	-	-
S-12	357 mg/kg	-	-
S-13	15.4 mg/kg	-	-
S-16	ND	-	-
S-17	ND	ND	ND

An additional eight cubic yards of soil was removed in EA1. Based upon the results of field and laboratory testing of soil samples collected in EA1, it appears that all soils with TPH concentrations above the cleanup goal established for the project have been removed.

4.2.3 Excavation Area #2

Based upon the initial testing of soil samples in Excavation Area #2 (EA2), additional excavation did not appear necessary. Soil samples S-1 and S-2, which were collected at a depth of 1.5 feet below the top of the AST foundation, indicated TPH concentrations of 21.3 mg/kg and non-detect, respectively. However, due to the detection of elevated TPH concentrations at a depth of approximately three feet below the top of the AST foundation during previous work at the site, some additional excavation was performed. Furthermore, additional excavation in EA2 was necessary so that a roller could be used to compact fill material placed in Excavation #3.

After additional excavation had been completed, the depth of Excavation #2 ranged from 4.5 feet basg at its east end, to 10 feet below asphalt surface grade at its west end. The average depth of Excavation #2 was six feet basg. Two additional soil samples were collected from the base of Excavation #2. The results of field and laboratory testing for EA2 soil samples are summarized in Table 3.

TABLE 3
SOIL SAMPLE ANALYTICAL SUMMARY
EXCAVATION AREA #2

SAMPLE #	EPA 418.1	ODEQ METHOD TPH-D	
		DIESEL	HEAVY OIL
S-1	21.3 mg/kg	-	-
S-2	ND	-	-
S-18	ND	-	-
S-19	ND	ND	ND

An additional 12 cubic yards of soil was removed from EA2. Based upon the results of field and laboratory testing performed in EA2, it appears that all soils with TPH concentrations above the cleanup goal established for the project have been removed.

4.2.4 Excavation Area #3

Soil samples collected at sampling locations S-3 and S-6, and tested in the field by EPA Method 418.1, indicated TPH concentrations of 90.6 mg/kg and 390 mg/kg, respectively. Therefore, additional excavation in Excavation Area #3 (EA3) was performed. After the excavation had been deepened to a depth of 7.5 feet basg, two soil samples (S-20 and S-23) were collected and tested in the field by EPA Method 418.1. TPH concentrations in soil samples S-20 and S-23 were 578 mg/kg and 120 mg/kg, respectively. Further excavation was performed, deepening the excavation to a depth of 10 feet basg. A soil sample (S-24) collected at a depth of 10 feet in Excavation #3 indicated a TPH concentration of 9.44 mg/kg. Soil sample S-24 was additionally tested by ODEQ Method TPH-D Extended. Diesel and heavy oil range hydrocarbons were not detected in the sample.

TABLE 4
SOIL SAMPLE ANALYTICAL SUMMARY
EXCAVATION AREA #3

SAMPLE #	EPA 418.1	ODEQ METHOD TPH-D	
		DIESEL	HEAVY OIL
S-3	90.6 mg/kg	-	-
S-4	10.9 mg/kg	-	-
S-5	53.0 mg/kg	-	-
S-6	390 mg/kg	-	-
S-7	6.90 mg/kg	-	-
S-20	578 mg/kg	-	-
S-23	120 mg/kg	-	-
S-24	9.44 mg/kg	ND	ND

Based upon the results of field and laboratory testing performed in EA3, it appears that all soils with TPH concentrations above the cleanup goal established for the project have been removed. A total of approximately 100 cubic yards of impacted soils were removed from Excavation #3.

4.2.5 Excavation Area #4

During the October 1993 assessment, elevated concentrations of TPH were detected in two borings drilled in Excavation Area #4 (EA4). Field testing at sampling location S-15 also indicated an elevated TPH concentration (Table 1). Therefore, additional excavation was performed in EA4.

In the area between the Bunker C and diesel ASTs, some soils with TPH concentrations above project clean-up goals were left in-place. These soils could not be excavated without undermining the Bunker C and diesel ASTs. Two soil samples (S-21 and S-22) were collected from the base of Excavation #4 in this area to document maximum TPH concentrations in the impacted soils left in-place. Field testing by EPA Method 418.1 indicated TPH concentrations of 771 mg/kg and 637 mg/kg at sampling locations S-21 and S-22, respectively.

The western and northern margins of Excavation #4 were determined based upon the location of the margins of the containment area. Excavation #4 was completed on August 26, 1994. Sidewall samples were collected from the north (S-28) and west (S-30) sidewalls of

Excavation #4, and the base (S-29) of Excavation #4, to determine if the margins of the excavation needed to be expanded beyond the boundaries of the containment area. The samples were submitted to AGRA's in-house laboratory for testing. Testing results for soil samples collected in EA4 are summarized below.

TABLE 5
SOIL SAMPLE ANALYTICAL SUMMARY
EXCAVATION AREA #4

SAMPLE #	EPA 418.1	ODEQ METHOD TPH-D	
		DIESEL	HEAVY OIL
S-8	15.4 mg/kg	-	-
S-9	4.60 mg/kg	-	-
S-14	12.4 mg/kg	-	-
S-15	3,290 mg/kg	-	-
S-21	771 mg/kg	-	-
S-22	637 mg/kg	-	-
S-28	-	1,540 mg/kg	799 mg/kg
S-29	1,390 mg/kg	1,800 mg/kg	857 mg/kg
S-30	-	1,560 mg/kg	727 mg/kg

A total of approximately 550 cubic yards of impacted soil were removed from Excavation #4. Based upon the results of laboratory testing, it was determined that excavation activities needed to be expanded beyond the containment area. The removal of soils to the west and north of Excavation #4 is described as Excavation #5 below.

4.2.6 Excavation Area #5

On September 8, 1994 the removal of impacted soils in Excavation Area #5 (EA5) was initiated. The western margin of Excavation #5 was initially expanded approximately 14 feet to the west. Field screening indicated that significant petroleum hydrocarbon concentrations were no longer present in the western sidewall at this point. Three soil samples were collected from the western sidewall, and two of the three samples (S-31 and S-33) were submitted for testing at AGRA's in-house laboratory. The results of laboratory testing are summarized in Table 6.

The northern margin of Excavation #5 was initially expanded approximately 10 feet to the north. However, screening of soils collected from the sidewall at sampling location S-35 indicated that significant concentrations of petroleum hydrocarbons were still present in sidewall soils. Thus, Excavation #5 was expanded an additional eight feet to the north. Field screening then indicated that significant levels of petroleum hydrocarbons were not present in the north sidewall. Two soil samples collected from the north sidewall (S-37 and S-38), one sidewall soil sample collected adjacent to the diesel ASTs (S-36), and a soil sample collected from the base of Excavation #5 (S-39) were submitted for laboratory testing. The results of laboratory testing are summarized in Table 6.

TABLE 6
SOIL SAMPLE ANALYTICAL SUMMARY
EXCAVATION AREA #5

SAMPLE #	EPA 418.1	ODEQ METHOD TPH-D	
		DIESEL	HEAVY OIL
S-31	-	ND	ND
S-33	-	ND	ND
S-36	-	317 mg/kg	ND
S-37	-	26.3 mg/kg	ND
S-38	-	ND	ND
S-39	-	30.0 mg/kg	ND

Based upon the results of laboratory testing, it appears that remediation goals were achieved in EA5. A total of approximately 550 cubic yards of impacted soil were removed from Excavation #5.

5.0 DISPOSAL PERMITTING

In order to obtain acceptance of the impacted soils at the North Marion County Soil Recycling Facility, additional laboratory testing was performed. The chemical constituents tested included volatile organic compounds (VOCs) by EPA Methods 8010 and 8020, polychlorinated biphenyls (PCBs) by EPA Method 8080, and leachable metals by EPA Method 1311/6010/7000.

Soil sample S-22 was tested for VOCs. VOCs were not detected in the sample. A composite soil sample prepared by combining soil samples S-28, S-29, and S-30 was tested for PCBs and leachable metals. PCBs were not detected in the composite sample. The only leachable

metal detected in the sample was barium at a concentration of 0.97 milligrams per liter. After receipt of the requested laboratory testing, acceptance of the soils was approved.

6.0 CONCLUSIONS

Corrective actions were undertaken on August 22, 1994 to remediate petroleum hydrocarbon impacted soils associated with a Bunker C AST and two diesel ASTs located at the Smurfit Newsprint Corporations Newberg Plant. A total of 1,756.76 tons (approximately 1,350 cubic yards) of impacted soil were transported to the North Marion County Soil Recycling Facility for thermal treatment. Confirmation soil samples were collected from the base and sidewalls of five excavations. Selected samples were tested for TPH by EPA Method 418.1 or ODEQ Method TPH-D in order to determine if the cleanup goal of 500 mg/kg had been achieved.

Field and laboratory testing has indicated that the clean-up goal was achieved in all excavations with the exception of a small pocket of impacted soil present in Excavation #4. TPH concentrations as high as 771 mg/kg were detected in the base of Excavation #4 between the Bunker C AST and diesel ASTs. The impacted soil could not be excavated without threatening the integrity of the ASTs, and therefore it was not excavated. The installation of the containment area liner will act as a cap, preventing transport of the small pocket of impacted soil. Therefore, the small pocket of contamination left in place does not pose significant risk to human health and the environment.

We are pleased to have had the opportunity to assist you on this project. If you have any questions or desire further information, please contact the undersigned.

AGRA Earth & Environmental, Inc.

Leonard C Farr

REGISTERED PROFESSIONAL
OREGON
LEONARD C. FARR JR.
#61169
GEOLOGIST

5/31/

Leonard C. Farr Jr., P.G.
Staff Geologist

Charles T. Esler, CHMM
Senior Environmental Scientist

LCF/skh

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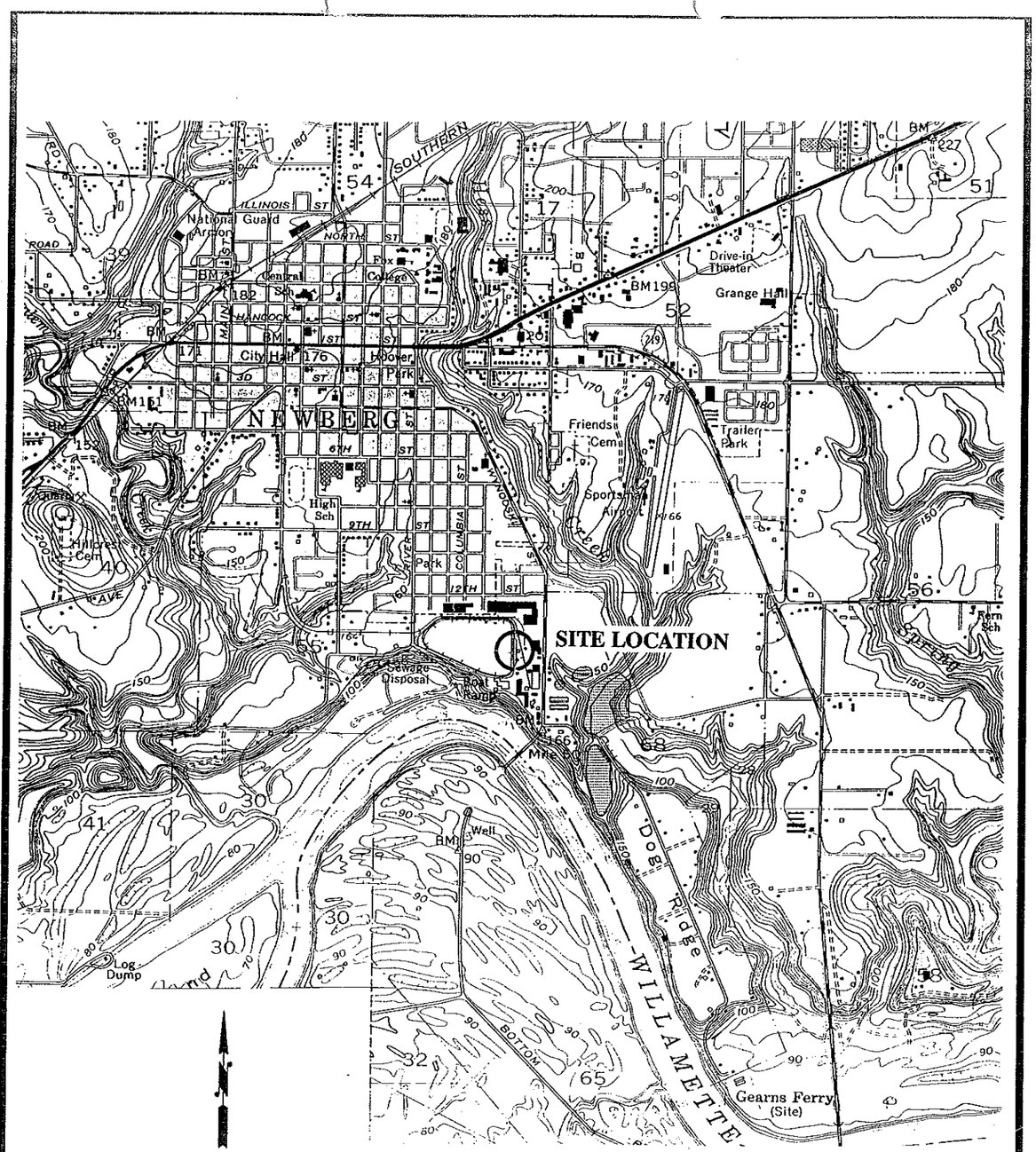


FIGURE 1

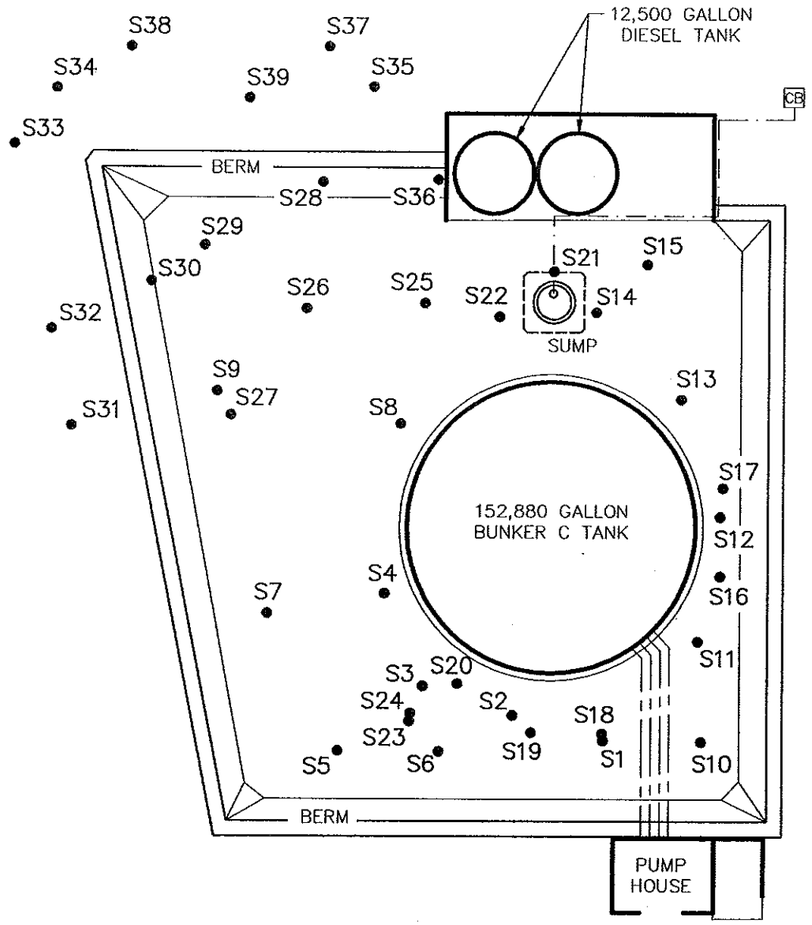
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W.O.	21--07698
DESIGN	LCF
DRAWN	MJF
DATE	SEP 1994
SCALE	

BUNKER C CONTAINMENT
SMURFIT NEWSPRINT CORP.
NEWBURG PLANT
NEWBURG, OREGON

SITE VICINITY MAP

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \21\07698\LOCATION\.DWG



LEGEND

CB — · — · — CATCH BASIN AND STORM DRAIN LINE

— — — — BUNKER C LINES

S39 SOIL SAMPLE NUMBER AND APPROXIMATE LOCATION

0 20 40

SCALE IN FEET

FIGURE 2

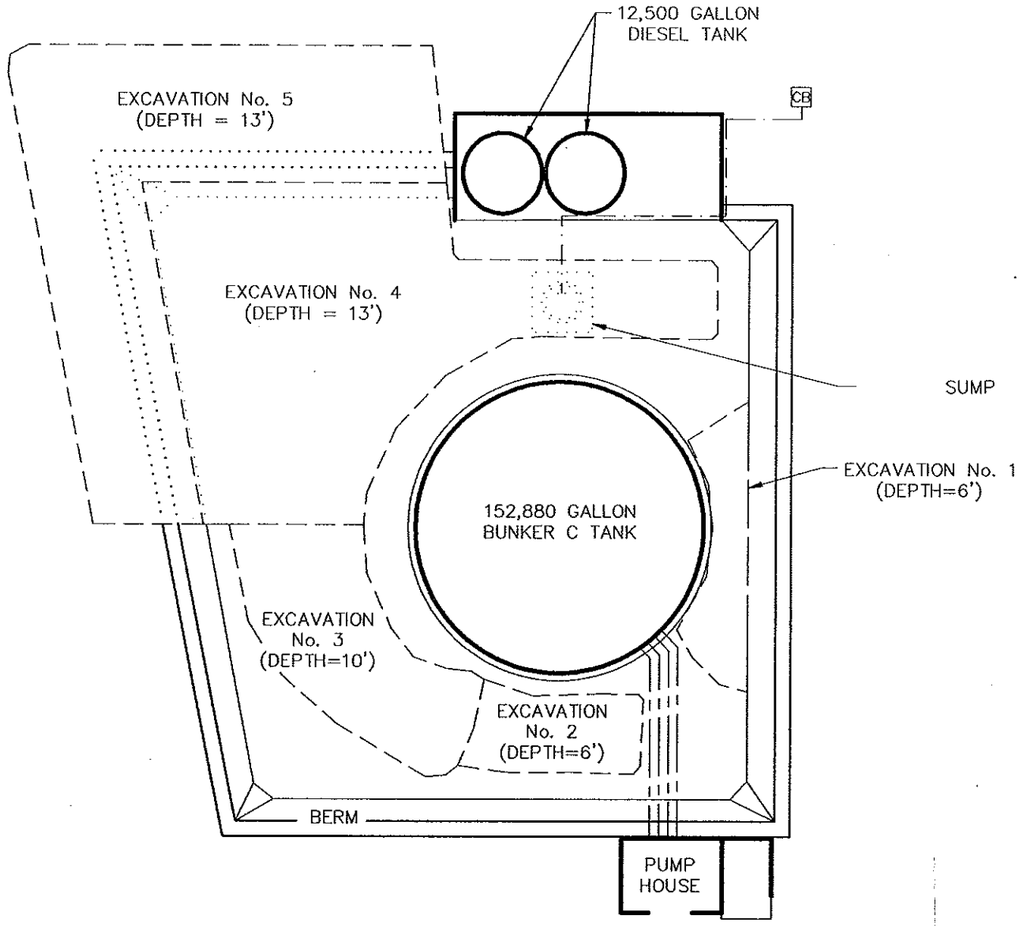
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BUNKER C CONTAINMENT
SMURFIT NEWSPRINT CORP.
NEWBERG PLANT
NEWBERG, OREGON

SITE AND EXPLORATION PLAN

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LEGEND

CB — · — · — CATCH BASIN AND STORM DRAIN LINE

— — — — BUNKER C LINES

LIMITS OF EXCAVATION

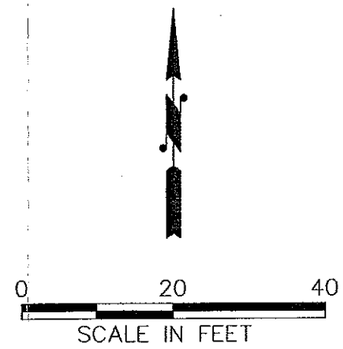


FIGURE 3

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W.O.	21-07698
DESIGN	LCF
DRAWN	MJF
DATE	SEP 1994
SCALE	1"=20'

BUNKER C CONTAINMENT
SMURFIT NEWSPRINT CORP.
NEWBERG PLANT
NEWBERG, OREGON

EXCAVATION CONFIGURATION

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \21\07698\EXCAVA.DWG

APPENDIX A

Laboratory Reports

Chain-of-Custody Documents

Project: Smurfit
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: NA
Report Date: 9/22/94
Report No.: 0769801
C.O.C. No.: NA

Total Petroleum Hydrocarbons by IR
EPA Method 418.1 Modified
mg/kg(ppm)

Sample Name	Lab Code	Sample Date	Date Extracted	Date Analyzed	Method Reporting Limit	Result
S-1	S-1	8/23/94	8/23/94	8/23/94	4.00	21.3
S-2	S-2	8/23/94	8/23/94	8/23/94	4.00	ND
S-3	S-3	8/23/94	8/23/94	8/23/94	4.00	90.6
S-4	S-4	8/23/94	8/23/94	8/23/94	4.00	10.9
S-5	S-5	8/23/94	8/23/94	8/23/94	4.00	53.0
S-6	S-6	8/23/94	8/23/94	8/23/94	40.0(a)	396
S-7	S-7	8/23/94	8/23/94	8/23/94	4.00	6.90
S-8	S-8	8/23/94	8/23/94	8/23/94	4.00	15.4
S-9	S-9	8/23/94	8/23/94	8/23/94	4.00	4.60
S-10	S-10	8/23/94	8/23/94	8/23/94	4.00	ND
S-11	S-11	8/23/94	8/23/94	8/23/94	100(a)	431
S-12	S-12	8/23/94	8/23/94	8/23/94	100(a)	357
S-13	S-13	8/23/94	8/23/94	8/23/94	4.00	15.4
S-14	S-14	8/23/94	8/23/94	8/23/94	4.00	12.4
S-15	S-15	8/23/94	8/23/94	8/23/94	100(a)	3290
S-16	S-16	8/24/94	8/24/94	8/24/94	4.00	ND
S-17	S-17	8/24/94	8/24/94	8/24/94	4.00	ND
S-18	S-18	8/24/94	8/24/94	8/24/94	4.00	ND
S-19	S-19	8/24/94	8/24/94	8/24/94	4.00	ND
S-20	S-20	8/24/94	8/24/94	8/24/94	40.0(a)	578
S-21	S-21	8/24/94	8/24/94	8/24/94	40.0(a)	771
S-22	S-22	8/24/94	8/24/94	8/24/94	40.0(a)	637
S-23	S-23	8/24/94	8/24/94	8/24/94	4.00	120
S-24	S-24	8/24/94	8/24/94	8/24/94	4.00	9.44
Lab Blank	08-23MB	8/23/94	8/23/94	8/23/94	4.00	ND
Lab Blank	08-24MB	8/24/94	8/24/94	8/24/94	4.00	ND

ND Not Detected
(a) Elevated detection limits due to a dilution factor.

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

Project: Smurfit
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: NA
Report Date: 9/22/94
Report No.: 0769802
C.O.C. No.: NA

Quality Assurance Data Report
Total Petroleum Hydrocarbons by IR
EPA Method 418.1 Modified
mg/kg(ppm)

Sample Name	Lab Code	Sample Result	Dup. Result	Relative Percent Difference	Spike Level	Spiked Result	Percent Recovery
S-4	S-4	10.9	10.9	~	100	111	100
S-13	S-13	15.4	14.6	3.67	100	130	115
S-16	S-16	ND	ND	~	100	110	110
LCS	LCS	2083	~	~	~	~	108
Acceptance Limits(%):				<25			75%-125%

LCS= ERA Standard #2, Lot # 91028, TV= 1920.

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

AGRA
Earth & Environmental

AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

September 15, 1994

AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, OR 97223-8024

Attention: Mr. Len Farr

Dear Mr. Farr:

RE: Analytical Results For Project 21-07698-00

Attached are the results for the samples submitted on August 26, 1994 from the above referenced project. For your reference, our project number associated with these samples is OR940483.

The samples were analyzed with EPA and ODEQ methods or equivalents at the AGRA Earth & Environmental Portland Chemistry Laboratory. Samples S-28, S-29, and S-30 were subcontracted to North Creek Analytical (NCA), where they were composited and analyzed for PCB's and TCLP metals.

All analyses were conducted in accordance with applicable QA/QC guidelines. The results apply only to the samples submitted. The NCA data is reported in Appendix A.

Please feel free to contact me if you have any questions regarding this report, or if I can be of any assistance in any other matter.

Respectfully submitted,

AGRA Earth & Environmental

Sean Gormley
Laboratory Manager

Project: Bunker C Containment
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR940483
Report Date: 9/6/94
Report No.: 94048301
C.O.C. No.: 0714/0715

Total Petroleum Hydrocarbons by IR
EPA Method 418.1 Modified
mg/kg(ppm)

Sample Name	Lab Code	Sample Date	Date Extracted	Date Analyzed	Method Reporting Limit	Result
S-29	0483-17	8/26/94	9/2/94	9/2/94	4.00	1390
Lab Blank	0483-MB	9/2/94	9/2/94	9/2/94	4.00	ND

ND Not Detected

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

Project: Bunker C Containment
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR940483
Report Date: 9/7/94
Report No.: 94048303
C.O.C. No.: 0714/0715

Total Petroleum Hydrocarbons - Diesel Range and Heavy Oil Range
ODEQ Method TPH-D Extended
mg/kg (ppm)

Sample Name	Lab Code	Sample Date	Analysis Date	Diesel Concentration	Heavy Oil Concentration	Surrogate Recovery 2-Fluorobiphenyl
S-4	0483-2	8/24/94	9/6/94	<25.0	<100	76%
S-17	0483-7	8/24/94	9/6/94	<25.0	<100	60%
S-19	0483-9	8/24/94	9/6/94	<25.0	<100	69%
S-24	0483-12	8/26/94	8/30/94	<25.0	<100	96%
S-28	0483-16	8/26/94	8/30/94	1540	799	(a)
S-29	0483-17	8/26/94	8/30/94	1800	857	(a)
S-30	0483-18	8/26/94	8/30/94	1560	727	(a)
Lab Blank	0483-MB	8/30/94	8/30/94	<25.0	<100	149%
Lab Blank	0483-MB	9/6/94	9/6/94	<25.0	<100	73%

ND Not Detected ODEQ Acceptance Criteria 50%-150%

(a) Surrogate recovery cannot be reported due to target and non-target analytes within the retention time window of the surrogate.

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

Project: Bunker C Containment
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR940483
Report Date: 9/7/94
Report No.: 94048304
C.O.C. No.: 0714/0715

Quality Assurance Data Report
Total Petroleum Hydrocarbons GC - Diesel & Heavy Oil Range
ODEQ Method TPH-D Extended
mg/kg (ppm)

Sample Name	Lab Code	Sample Result	Dup. Result	Relative Percent Difference	Spike Level	Spiked Result	Percent Recovery
S-17	0483-7	<25.0	<25.0	~	~	~	~
Blank Spike	0483-MESD	~	~	~	250	235	94.0%

Acceptance Limits(%):	<25	75%-125%

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

Project: Bunker C Containment
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR940483
Report Date: 9/8/94
Report No.: 94048306
C.O.C. No.: 0714/0715

Volatile Organic Compounds
EPA Methods 5030/8010
mg/kg(ppm)

Sample Name:	S-22	Lab Blank	Reporting
Lab Code:	0483-11	0483-MB	Limit
Chloromethane	ND	ND	1.0
Vinyl Chloride	ND	ND	1.0
Bromomethane	ND	ND	1.0
Chloroethane	ND	ND	1.0
Trichlorofluoromethane	ND	ND	1.0
1,1-Dichloroethene	ND	ND	0.5
Methylene Chloride	ND	ND	0.5
T-1,2-Dichloroethene	ND	ND	0.5
1,1-Dichloroethane	ND	ND	0.5
C-1,2-Dichloroethene	ND	ND	0.5
Chloroform	ND	ND	0.5
1,1,1-Trichloroethane (TCA)	ND	ND	0.5
Carbon Tetrachloride	ND	ND	1.0
1,2-Dichloroethane (EDC)	ND	ND	0.5
Trichloroethene (TCE)	ND	ND	0.5
1,2-Dichloropropane	ND	ND	0.5
Bromodichloromethane	ND	ND	0.5
2-Chloroethylvinyl ether	ND	ND	1.0
T-1,3-Dichloropropene	ND	ND	0.5
C-1,3-Dichloropropene	ND	ND	0.5
1,1,2-Trichloroethane	ND	ND	0.5
Tetrachloroethene (PCE)	ND	ND	0.5
Dibromochloromethane	ND	ND	1.0
1,2-Dibromoethane (EDB)	ND	ND	1.0
Chlorobenzene	ND	ND	0.5
Bromoform	ND	ND	0.5
1,1,2,2-Tetrachloroethane	ND	ND	0.5
1,3-Dichlorobenzene	ND	ND	0.5
1,4-Dichlorobenzene	ND	ND	0.5
1,2-Dichlorobenzene	ND	ND	0.5
Sample Date:	8/24/94	9/7/94	
Analysis Date:	9/7/94	9/7/94	

ND Not Detected

Surrogate Recoveries:			Control Limits
Bromochloromethane:	70.5%	77.2%	60%-124%
1,4 - Dichlorobutane:	71.3%	73.0%	59%-125%

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

Project: Bunker C Containment
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR940483
Report Date: 9/8/94
Report No.: 94048305
C.O.C. No.: 0714/0715

Volatile Aromatic Hydrocarbons
EPA Method 5030/8020
mg/kg(ppm)

Sample Name:	S-22	Lab Blank	**Reporting**
Lab Code:	0483-11	0483-MB	**Limit**
Benzene	ND	ND	0.5
Toluene	ND	ND	0.5
Chlorobenzene	ND	ND	0.5
Ethylbenzene	ND	ND	0.5
m/p-Xylene	ND	ND	0.5
o-Xylene	ND	ND	0.5
1,3-Dichlorobenzene	ND	ND	0.5
1,4-Dichlorobenzene	ND	ND	0.5
1,2-Dichlorobenzene	ND	ND	0.5
MEK	ND	ND	10.
MIBK	ND	ND	10.
Sample Date:	8/24/94	9/7/94	
Analysis Date:	9/7/94	9/7/94	
Surrogate Recovery:			**Control Limits**
a,a,a-Trifluorotoluene:	98.1%	97.4%	50%-150%

ND Not Detected

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

RZA AGRA, Inc.
(Formerly: Rittenhouse-Zeman & Associates, Inc.)
Engineering & Environmental Services
7477 SW Tech Center Drive • Portland, OR 97223-8024
(503) 639-3400 • FAX (503) 620-7892

Chain-of-Custody Record / Laboratory Analyses Request

Project: Bunker C Containment Job #: 7698
Client: Smurfit Newsprint Corp.
Project Manager: Len Farr Phone #: 639.3400
Sampler's Name: Len Farr Phone #:
Sampler's Signature: Len Farr

Analysis Requested: (Circle, Check Box, or Write Preferred Method in Box)

Sample I.D. #	Date	Time	Preserv.	Matrix	Halogenated Volatiles EPA 601 EPA 8010	Volatile Aromatics EPA 602 EPA 8020	BTXE or BTXE / TPH-G	WA. TPH-G or OR. TPH-G	WA. TPH-D or OR. TPH-D	Fuel Scan / TPH by GC 8015-modified	GC Fingerprint / HCID	WA. 418.1 Modified or OR. 418.1 Modified	GC / MS Volatiles	GC / MS Semi Volatiles	Total Metals ICP AA Other	TC LP Metals	pH Cond. Alk Color			# of Containers	Comments
1. S-1	8.26.94		4°C	Soil																1	
2. S-4	"		"	"																"	
3. S-5	"		"	"																"	
4. S-8	"		"	"																"	
5. S-10	"		"	"																"	
6. S-16	8.27.94		"	"																"	
7. S-17	"		"	"																"	
8. S-18	"		"	"																"	
9. S-19	"		"	"																"	
10. S-21	"		"	"																"	

Relinquished by RZA:	Relinquished by:	Relinquished by:	Laboratory:	Sample Receipt:
Signature: Len Farr	Signature:	Signature:		
Printed Name: Len Farr	Printed Name:	Printed Name:	Shipping I.D.#	Total # Containers:
Firm: AGRA E+E	Firm:	Firm:	Carrier:	Condition of Containers:
Date/Time: 8.26.94 / 16:15	Date/Time:	Date/Time:	DOT Designation:	Condition of Seals:

Received by:	Received by:	Received by:	Special Instructions/Comments:
Signature:	Signature:	Signature: Cynthia Nuxoll	Hold all samples until Monday 8/29
Printed Name:	Printed Name:	Printed Name: CYNTHIA NUXOLL	
Firm:	Firm:	Firm: AGRA	
Date/Time:	Date/Time:	Date/Time: 8/29/94 430p	

DISTRIBUTION: WHITE & PINK returned to project manager, YELLOW - lab.

SERVICE REQUEST #: OTR 4404 33

RZA AGRA, Inc.
(Formerly: Rittenhouse-Zeman & Associates, Inc.)
Engineering & Environmental Services
7477 SW Tech Center Drive • Portland, OR 97223-8024
(503) 639-3400 • FAX (503) 620-7892

Chain-of-Custody Record / Laboratory Analyses Request

Project: Bunker C Containment Job #: 7698
Client:
Project Manager: Phone #:
Sampler's Name: Phone #:
Sampler's Signature:

Analysis Requested: (Circle, Check Box, or Write Preferred Method in Box)

Sample I.D. #	Date	Time	Preserv.	Matrix	Halogenated Volatiles EPA 601 EPA 8010	Volatile Aromatics EPA 602 EPA 8020	BTXE or BTXE / TPH-G	WA TPH-G or OR. TPH-G	WA TPH-D or OR. TPH-D Extract	Fuel Scan / TPH by GC 8015-modified	GC Fingerprint / HCID	WA 418.1 Modified or OR. 418.1 Modified	GC / MS Volatiles	GC / MS Semi Volatiles	Total Metals ICP AA Other	TC LP Metals	pH Cond. Alk Color			# of Containers	Comments
1. S-22			4°C	Soil																	
2. S-24			↓	↓					X												
3. S-25	8-25-94																				
4. S-26																					
5. S-27	8-26-94																				
6. S-28	↓								X												
7. S-29									X												
8. S-30	↓		↓	↓					X												
9.																					
10.																					

Relinquished by RZA:	Relinquished by:	Relinquished by:	Laboratory:	Sample Receipt:
Signature: Len Farr	Signature:	Signature:		
Printed Name: Len Farr	Printed Name:	Printed Name:	Shipping I.D.#	Total # Containers:
Firm: AGRA E+E	Firm:	Firm:	Carrier:	Condition of Containers:
Date/Time: 8-26-94 / 16:15	Date/Time:	Date/Time:	DOT Designation:	Condition of Seals:

Received by:	Received by:	Received by:	Special Instructions/Comments:
Signature:	Signature:	Signature: Cynthia Nuxoll	Rush S-28, 29 + 30
Printed Name:	Printed Name:	Printed Name: CYNTHIA NUXOLL	
Firm:	Firm:	Firm: AGRA	
Date/Time:	Date/Time:	Date/Time: 8/26/94 430 PM	

DISTRIBUTION: WHITE & PINK returned to project manager, YELLOW - lab.

SERVICE REQUEST #: ORAHC4-83

Appendix A
Subcontractor Data

AGRA
Earth & Environmental

NORTH CREEK ANALYTICAL

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East 11115 Montgomery, Suite B • Spokane, WA 99206-4776 (509) 924-9200 • FAX 924-9290
9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

AGRA Earth & Environmental
7477 SW Tech. Ctr. Dr., #135
Portland, OR 97223
Attention: Sean Gormley

Project: Bunker C Containment

Enclosed are the results from 1 soil sample received at North Creek Analytical on September 6,1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
94-2534	Soil, Composite	8/26/94	EPA 8080 TCLP (8)

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

NORTH CREEK ANALYTICAL

Philip Nerenberg
Laboratory Manager

NORTH CREEK ANALYTICAL

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AGRA Earth & Environmental	Client Project ID:	Bunker C Containment	Sampled: Aug 26, 1994
7477 SW Tech. Ctr. Dr., #135	Sample Descript:	Soil, Composite	Received: Sep 6, 1994
Portland, OR 97223	Analysis Method:	EPA 1311/6010/7000	TCLP Ext: Sep 6, 1994
Attention: Sean Gormley	Sample Number:	94-2534	Analyzed: Sep 8, 1994
			Reported: Sep 12, 1994

TCLP Extraction Metals

Analyte	Regulatory Level mg/L (ppm)	Reporting Limit mg/L (ppm)	Sample Results mg/L (ppm)
Arsenic	5.0	0.50	N.D.
Barium	100	0.50	0.97
Cadmium	1.0	0.020	N.D.
Chromium	5.0	0.020	N.D.
Lead	5.0	0.20	N.D.
Mercury	0.20	0.00050	N.D.
Selenium	1.0	0.25	N.D.
Silver	5.0	0.020	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Philip Nerenberg
Laboratory Manager

NORTH CREEK ANALYTICAL

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AGRA Earth & Environmental
7477 SW Tech. Ctr. Dr., #135
Portland, OR 97223
Attention: Sean Gormley

Client Project ID: Bunker C Containment
Sample Descript: Method Blank
Analysis Method: EPA 1311/6010/7000
Sample Number: BLK090694

TCLP Ext: Sep 6, 1994
Analyzed: Sep 8, 1994
Reported: Sep 12, 1994

TCLP Extraction Metals

Analyte	Regulatory Level mg/L (ppm)	Reporting Limit mg/L (ppm)	Sample Results mg/L (ppm)
Arsenic	5.0	0.50	N.D.
Barium	100	0.50	N.D.
Cadmium	1.0	0.020	N.D.
Chromium	5.0	0.020	N.D.
Lead	5.0	0.20	N.D.
Mercury	0.20	0.00050	N.D.
Selenium	1.0	0.25	N.D.
Silver	5.0	0.020	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Philip Nerenberg
Laboratory Manager

NORTH CREEK ANALYTICAL

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AGRA Earth & Environmental
7477 SW Tech. Ctr. Dr., #135
Portland, OR 97223
Attention: Sean Gormley

Client Project ID: Bunker C Containment
Sample Matrix : TCLP Extract
Units: mg/L (ppm)

Digested: Sep 6, 1994
Reported: Sep 12, 1994

METALS QUALITY CONTROL DATA REPORT

ANALYTE	Arsenic	Barium	Cadmium	Chromium
EPA Method:	7060	6010	6010	6010
Date Analyzed:	Sep 8, 1994	Sep 8, 1994	Sep 8, 1994	Sep 8, 1994
ACCURACY ASSESSMENT				
LCS Spike Conc. Added:	5.0	10	1.0	5.0
LCS Spike Result:	5.1	9.1	0.94	4.7
LCS Spike % Recovery:	102	91	94	94
Upper Control Limit:	150	150	150	150
Lower Control Limit:	50	50	50	50
Matrix Spike Sample #:	KR94130a	KR94130a	KR94130a	KR94130a
Matrix Spike % Recovery:	96	92	94	94
PRECISION ASSESSMENT				
Sample #:	KR94130a	KR94130a	KR94130a	KR94130a
Original:	4.8	9.8	0.94	4.7
Duplicate:	5.4	9.5	0.94	4.6
Relative % Difference:	12	3.3	0	2.2

NORTH CREEK ANALYTICAL Inc.

Philip Nerenberg
Laboratory Manager

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AGRA Earth & Environmental
7477 SW Tech. Ctr. Dr., #135
Portland, OR 97223
Attention: Sean Gormley

Client Project ID: Bunker C Containment
Sample Matrix : TCLP Extract
Units: mg/L (ppm)

Digested: Sep 6, 1994
Reported: Sep 12, 1994

METALS QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Mercury	Selenium	Silver
EPA Method:	6010	7471	7740	6010
Date Analyzed:	Sep 8, 1994	Sep 8, 1994	Sep 8, 1994	Sep 8, 1994
ACCURACY ASSESSMENT				
LCS Spike Conc. Added:	5.0	0.0050	1.0	2.0
LCS Spike Result:	4.6	0.0054	1.0	1.7
LCS Spike % Recovery:	92	108	100	85
Upper Control Limit:	150	150	150	150
Lower Control Limit:	50	50	50	50
Matrix Spike Sample #:	KR94130a	ZT94158a	KR94130a	KR94130a
Matrix Spike % Recovery:	94	108	100	90
PRECISION ASSESSMENT				
Sample #:	KR94130a	ZT94158a	KR94130a	KR94130a
Original:	4.7	0.0054	1.0	1.8
Duplicate:	4.8	0.0053	0.97	1.7
Relative % Difference:	2.1	1.9	3.0	5.7

NORTH CREEK ANALYTICAL Inc.

Philip Nerenberg
Laboratory Manager

NORTH CREEK ANALYTICAL

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9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

AGRA Earth & Environmental	Client Project ID:	Bunker C Containment	Sampled:	Aug 26, 1994
7477 SW Tech. Ctr. Dr., #135	Sample Descript:	Soil, Composite	Received:	Sep 6, 1994
Portland, OR 97223	Analysis Method:	EPA 8080	Extracted:	Sep 6, 1994
Attention: Sean Gormley	Sample Number:	94-2534	Analyzed:	Sep 8, 1994
			Reported:	Sep 12, 1994

POLYCHLORINATED BIPHENYLS

Analyte	Reporting Limit µg/kg (ppb)	Sample Results µg/kg (ppb)
PCB 1016	50	N.D.
PCB 1221	100	N.D.
PCB 1232	80	N.D.
PCB 1242	50	N.D.
PCB 1248	50	N.D.
PCB 1254	50	N.D.
PCB 1260	50	N.D.

2,4,5,6-Tetrachloro-m-xylene Surrogate Recovery, %: 76
Surrogate Recovery Control Limits are 73 - 125 %.
The results reported above are on a dry weight basis.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Philip Nerenberg
Laboratory Manager

NORTH CREEK ANALYTICAL

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9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

AGRA Earth & Environmental
7477 SW Tech. Ctr. Dr., #135
Portland, OR 97223
Attention: Sean Gormley

Client Project ID: Bunker C Containment
Sample Descript: Method Blank
Analysis Method: EPA 8080
Sample Number: BLK090694

Extracted: Sep 6, 1994
Analyzed: Sep 8, 1994
Reported: Sep 12, 1994

POLYCHLORINATED BIPHENYLS

Analyte	Reporting Limit µg/kg (ppb)	Sample Results µg/kg (ppb)
PCB 1016	50	N.D.
PCB 1221	100	N.D.
PCB 1232	50	N.D.
PCB 1242	50	N.D.
PCB 1248	50	N.D.
PCB 1254	50	N.D.
PCB 1260	50	N.D.

2,4,5,6-Tetrachloro-m-xylene Surrogate Recovery, %: 94
Surrogate Recovery Control Limits are 73 - 125 %.
The results reported above are on a dry weight basis.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Philip Nerenberg
Laboratory Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-9508 (206) 481-9200 • FAX 485-2992
East 11115 Montgomery, Suite B • Spokane, WA 99206-4776 (509) 924-9200 • FAX 924-9290
9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

AGRA Earth & Environmental
7477 SW Tech. Ctr. Dr., #135
Portland, OR 97223
Attention: Sean Gormley

Client Project ID: Bunker C Containment
Sample Matrix: Soil
Analysis Method: EPA 8080
Units: µg/kg (ppb)
QC Sample #: PN94032a

Extracted: Sep 6, 1994
Analyzed: Sep 8, 1994
Reported: Sep 12, 1994

MATRIX SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	PCB 1016	PCB 1260
Sample Result:	N.D.	N.D.
Spike Conc. Added:	330	330
Spike Result:	S1	S1
Spike % Recovery:	N.A.	N.A.
Spike Dup. Result:	S1	S1
Spike Duplicate % Recovery:	N.A.	N.A.
Upper Control Limit %:	149	137
Lower Control Limit %:	60	70
Relative % Difference:	N.A.	N.A.
Maximum RPD:	S1	S1

NORTH CREEK ANALYTICAL Inc.

Please Note:
S1: Unable to determine the spike recoveries due to high concentration of analyte in the sample.

Philip Nerenberg
Laboratory Manager

PACIFIC ENVIRONMENTAL LABORATORY, INC.

9405 S.W. Nimbus Ave.
Beaverton, OR 97005
(503) 644-0660
Fax (503) 644-2202

CHAIN OF CUSTODY RECORD

PEL. # 94-0547

Page 1 of 1

Company: AGRA E+E

Project Manager: Sean Gormley

Project Name: Bunker C Containment

Project Number: 21-07698-00

Final Report and faxes to: (if other than Project Manager)

Invoice to: (If other than Project Manager)

P.O. Number: Conf. 9/6/94

RUSH: 9/8/94

☑ YES ☐ NO

COMMENTS:
Prepare equal weight composite of samples S-28, S-29, and S-30

Sample Requirements:
SDWA (drinking water) ☐ NPDES (storm water) ☐ RCRA ☐
Other

IF SAMPLE IS LIQUID & HAS SEDIMENT OR PARTICULATE, SHALL WE:
_____ Test Filtrate Only?
_____ Mix Sample by Shaking?
_____ Test Particulate Only?

IF SAMPLE IS MULTI-LAYER, SHALL WE:
_____ Test Each Layer separately?
_____ Test only ONE Layer? Which Layer?
_____ Mix All Layers by Shaking?

QC Information (check one)
☐ Level 1 ☐ Level 2 ☐ Level 3 (10% Surcharge)

PEL NO.	SAMPLE I.D. (Please print clearly to ensure accurate report.)	DATE	TIME	PRESERV.	MATRIX: SOIL	WATER	OTHER	NUMBER OF CONTAINERS	TPH - HCID STATE:	QUANT. IF DETECTED (✓)	TPH-Gasoline STATE:	TPH - Diesel STATE:	TPH - 418.1 Modified STATE:	8015M - Gas	8015M - Diesel	TPH 418.1	BTEX 602/8020	Halogenated Volatiles 601/8010	Volatiles (circle one) 624/8240/8260/524.2	Semivolatiles 625/8270	PCB's 608/8080	Chlorinated Pesticides 608/8080	TCLP (8) Metals	REMARKS
	Composite	9/2/94	NA	ice	X			3													X		X		See comment

COLLECTED BY:	RELINQUISHED BY: Cynthia Nuvalle	COMPANY: AGRA	DATE/TIME 9/6/94 1057	RECEIVED BY:	COMPANY:
COOLER #	RELINQUISHED BY:	COMPANY:	DATE/TIME	RECEIVED BY: Doreen Voss 15:11	COMPANY:
SEAL #	RELINQUISHED BY:	COMPANY:	DATE/TIME	RECEIVED BY:	COMPANY:

NOTE: Samples are disposed of 30 days after report is mailed unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

AGRA
Earth & Environmental

AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
U.S.A. 97223-8025
Tel (503) 639-3400
Fax (503) 620-7892

September 22, 1994

AGRA Earth & Environmental, Inc.
7477 SW Tech Center Drive
Portland, OR 97223-8024

Attention: Mr. Len Farr

Dear Mr. Farr:

RE: Analytical Results For Project 21-07698-00

Attached are the results for the samples submitted on September 12, 1994 from the above referenced project. For your reference, our project number associated with these samples is OR940509.

The samples were analyzed for diesel and heavy oil range petroleum hydrocarbons at the AGRA Earth & Environmental Portland Chemistry Laboratory.

All analyses were conducted in accordance with applicable QA/QC guidelines. The results apply only to the samples submitted.

Please feel free to contact me if you have any questions regarding this report, or if I can be of any assistance in any other matter.

Respectfully submitted,

AGRA Earth & Environmental

Sean Gormley
Laboratory Manager

Project: Newberg Bunker C
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR940509
Report Date: 9/21/94
Report No.: 94050901
C.O.C. No.: 0713

Total Petroleum Hydrocarbons - Diesel & Heavy Oil Range
ODEQ Method TPH-D Extended
mg/kg(ppm)

Sample Name	Lab Code	Sample Date	Analysis Date	Diesel Concentration	Heavy Oil Concentration	Surrogate Recovery 2-Fluorobiphenyl
S-31	0509-1	9/9/94	9/19/94	<25.0	<100	66
S-33	0509-3	9/9/94	9/19/94	<25.0	<100	60
S-36	0509-6	9/9/94	9/19/94	317	<100	(a)
S-37	0509-7	9/10/94	9/19/94	26.3	<100	70
S-38	0509-8	9/10/94	9/19/94	<25.0	<100	70
S-39	0509-9	9/10/94	9/19/94	30.0	<100	75
Lab Blank	0509-MB	9/19/94	9/19/94	<25.0	<100	64

ND Not Detected ODEQ Acceptance Criteria 50%-150%

(a) Surrogate recovery cannot be reported due to target and non-target analytes within the retention time window of the surrogate.

Signature of Chemist

Laboratory Manager

Project: Newberg Bunker C
Project No.: 21-07698-00
Project Manager: Len Farr
Sample Matrix: Soil

Service Request No.: OR940509
Report Date: 9/22/94
Report No.: 94050902
C.O.C. No.: 0713

Quality Assurance Data Report
Total Petroleum Hydrocarbons - Diesel & Heavy Oil Range
ODEQ Method - TPH-D Extended
mg/kg(ppm)

Sample Name	Lab Code	Diesel/ Heavy Oil Sample Result	Diesel/ Heavy Oil Dup. Result	Diesel/ Heavy Oil Relative Percent Difference	Diesel Spike Level	Diesel Spiked Result	Diesel Percent Recovery
S-39	0509-9	30.0/<100	<25.0/<100	NA/NA	250	238	83.2
Blank Spike	0509-BS	"	"	"	250	247	98.8
Acceptance Limits(%):				<25			75%-125%

Signature of Chemist

Laboratory Manager

AGRA
Earth & Environmental

RZA AGRA, Inc.
(Formerly: Rittenhouse-Zeman & Associates, Inc.)
Engineering & Environmental Services
7477 SW Tech Center Drive • Portland, OR 97223-8024
(503) 639-3400 • FAX (503) 620-7892

Chain-of-Custody Record / Laboratory Analyses Request

Project: Newberg Bunker C Job #: 7698
Client: Smurfit Newberg Mill
Project Manager: Len Farr Phone #: 639-3400
Sampler's Name: Phone #:
Sampler's Signature: Len Farr

Sample I.D. #	Date	Time	Preserv.	Matrix
1. S-31	9.9.94	12:35	4°C	Soil
2. S-32	"	12:40	"	"
3. S-33	"	12:45	"	"
4. S-34	"	14:30	"	"
5. S-35	"	14:50	"	"
6. S-36	"	14:55	"	"
7. S-37	9.10.94	11:15	"	"
8. S-38	"	11:20	"	"
9. S-39	"	11:25	"	"
10.				

Analysis Requested: (Circle, Check Box, or Write Preferred Method in Box)

Halogenated Volatiles EPA 601 EPA 8010	Volatile Aromatics EPA 602 EPA 8020	BTXE or BTXE / TPH-G	WA. TPH-G or OR. TPH-G	WA. TPH-D or OR. TPH-D (Ext.)	Fuel Scan / TPH by GC 8015-modified	GC Fingerprint / HCID	WA. 418.1 Modified or OR. 418.1 Modified	GC / MS Volatiles	GC / MS Semi Volatiles	Total Metals ICP AA Other	TC LP Metals	pH Cond. Alk Color	# of Containers	Comments
				X									2	
HOLD													2	
				X									2	
HOLD													2	
HOLD													1	
				X									1	
				X									2	
				X									2	
				X									2	
				X									2	

Relinquished by RZA:	Relinquished by:	Relinquished by:	Laboratory:	Sample Receipt:
Signature: Len Farr	Signature:	Signature:		
Printed Name: Len Farr	Printed Name:	Printed Name:	Shipping I.D.#	Total # Containers:
Firm: AGRA E&E	Firm:	Firm:	Carrier:	Condition of Containers:
Date/Time: 9.12.94 / 8:25	Date/Time:	Date/Time:	DOT Designation:	Condition of Seals:

Received by:	Received by:	Received by:	Special Instructions/Comments:
Signature:	Signature:	Signature: Cynthia Nuxoll	
Printed Name:	Printed Name:	Printed Name: CYNTHIA NUXOLL	
Firm:	Firm:	Firm: AGRA	
Date/Time:	Date/Time:	Date/Time: 9/12/94 8:25am	

DISTRIBUTION: WHITE & PINK returned to project manager, YELLOW - lab.

SERVICE REQUEST #: OR940509

SITE ASSESSMENT SECTION
EVALUATION OF INFORMATION FOR ENTRY
INTO SITE ASSESSMENT DATABASE

Site Name: Smurfit Newsprint

X No Further Action

- X On Site Assessment Database (# 338).
- ___ De minimis Release specifically authorized by and in compliance with a current and legally enforceable permit issued by DEQ or EPA.
- ___ Release that by its nature rapidly dissipated to undetectable or insignificant levels.
- ___ Release poses no significant threat to present and future public health, safety, welfare or the environment.
- ___ Release has been cleaned up to a level that:
  - ___ Is consistent with ECD cleanup rules, or
  - ___ Poses no significant threat to present or future public health, safety, welfare or the environment.
- X Screening decision (See Site Assessment Section Inventory Policy and Screening Decision)
  - X Petroleum release
  - ___ Pesticide, herbicide, agricultural chemical
  - ___ Sewage treatment facility
  - ___ Not a hazardous substance
  - ___ Other _____
  - ___ Asbestos
  - ___ LUST
  - ___ PCB

___ Further Action (Enter into SAS Database).
- ___ Site Assessment Section (DEQ/PRP Preliminally Assessment)
- ___ Emergency Removal
- ___ Refer to: _____
- ___ Program/Region currently working on: _____
- ___ Update Database
- ___ Other

BASIS FOR ACTION 100 Gallon Diesel

Attached:
- X 1.Referral information from: WVR
- ___ 2.Site Discovery Form
- ___ 3.Site Screening Criteria Score Sheet
- ___ 4.Other _____
- ___ 5.Other _____

Prepared by: MJB Date: 9/8/89

Entered by: _____

Site ID #: _____ Date: _____

SM2169

STATE OF OREGON

338

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

TO: Manager, Site Assessment Section
Environmental Cleanup Division

DATE: 8/4/89

FROM: F. Skirvin through supervisor, reg. mgr., or branch manager

SUBJECT: Notification of Hazardous Substance Release

Location of Release Smurfit Newsprint, Newberg, OR

Party Responsible for Release Smurfit Newsprint

Facility/Property Owner Smurfit Newsprint

Date of Release 8/4/89 EMD No. ____ Reg. No. ____

Substance Released Bunker C Quantity 50-100 gal

I have reviewed the attached information on the above reported release and have determined that:

Validate Information

___ The information on the release is invalid; no further action needed.
X The information is valid.

Confirm Release

X A release has occurred, but not of a hazardous substance.
___ A release of a hazardous substance has been confirmed through written report or site inspection by DEQ/other agency.
___ Other releases are known or suspected.

Evaluate Cleanup

___ No remedial action has occurred.
X Remedial action has occurred and consisted of:
  ___ Cleanup to no visible sheen or odor; no sample taken.
  ___ Cleanup to background and sample results have been received and reviewed.
  ___ Cleanup to level protective of human health and environment (however, not to background) and sample results have been received and reviewed.
  X Cleanup occurred, but no sampling was done.
  ___ Partial cleanup occurred and more work is needed.

Assess Impact

X No public health or environmental impacts remain or have the potential to occur because:
  X Cleanup satisfactory. (Cleaned up to background or some trace soil contamination may remain.)
  ___ Substances released dissipate quickly in the environment to harmless concentration levels.
  ___ Remote location and small quantity released.
  ___ No waterways near.
  ___ No groundwater impact likely.
  ___ Other ____

___ Potential for health or environmental impact remains due to:
- ___ Surface water impact occurred and users are nearby.
- ___ Groundwater impact is known or likely.
- ___ Surface water impact and wildlife nearby.
- ___ Location not remote and potential exists for direct exposure.

___ Other _____

Site Visit
- ___ A site visit was conducted by DEQ.
- ___ A site visit was conducted by another public official.
- X No site visit occurred.

Other Regulatory Actions
- X Site has DEQ permit or approval (AQ, WQ, SW or HW).
- ___ Site has had no prior DEQ involvement.
- X Other releases have occurred and have been investigated by DEQ.
- ___ EPA has had involvement on current or past releases.

Further Action Needed
- ___ Additional documentation (e.g., sampling results).
- ___ Additional cleanup (to background, matrix levels).
- ___ Additional review of site history or data, including other releases.
- ___ Additional evaluation of health, welfare or environmental impacts.
- ___ Additional information on extent of release.
- ___ Map or sketch of release area.
- X None at this time.

Further Assessment
- ___ Further assessment is recommended for this release.
- X Further assessment is not recommended.

NOTE: Attach a copy of the supporting information that documents the release (e.g., lab report, letter from facility manager, DEQ memo). Also, submit a map or illustration that shows where on the site the release occurred or where samples were taken.

SM2177
(5/25/89)
cc: _____

DEQ EMERGENCY RESPONSE FORM (WVR)
EMD NO. ✓
WVR NO.

ROUTING: cc: SPILL RESPONSE SECT, HAZ. & SOLID WASTE
1--SUPPORT X LOG/SECTION 3--MANAGER 5--FILE
2--_____FOL-UP GWM 4--SUPPORT RE-LOG/X SECT.

FILE:
SFM NEEDED?
(FIRE? POLICE? MED? DEQ?)

PERSON COMPLETING THIS SECTION:

NAME F. A. Skirvin
PHONE 378-8240
DATE 8/4/89 TIME 14:45

PERSON REPORTING SPILL (VIA EMD?)

NAME Bill Cobb
CO./AGENCY Smurfit Newsprint
PHONE (503) 538-2151

ON- SCENE CONTACT:

NAME Bill Cobb
CO./AGENCY Smurfit Newsprint
PHONE 538-2151

SPILLER/RESPONSIBLE PARTY:

NAME
ADDRESS
PHONE ( )

WHERE/WHEN SPILL OCCURRED:

LOCATION Smurfit Newsprint Plant, Wynooski St., Newberg, Fuel Tank Farm
COUNTY Yamhill
DATE 8/4/89 TIME 11:45

MATERIAL AND QUANTITY SPILLED: Bunker C fuel, 50-100 gal

HOW SPILL OCCURRED: Overfilled storage tank

POTENTIAL FOR FURTHER SPILLAGE? No

THREAT TO PUBLIC WATERS? YES? (NO?)

DESCRIBE:

THREAT TO PUBLIC SAFETY? YES? (NO?)

DESCRIBE:

RESPONSE ACTIONS INITIATED:

1. IS SITE SECURED FOR SAFETY? NO? (YES?)
   BY WHOM?
2. CONTAINMENT STEPS TAKEN: Spill occurred with in bermed area
3. SPILLER NOTIFIED? (YES?) NO?
   WHEN? At time of incident
   ASSUMED RESPONSIBILITY? Yes
4. CLEANUP CONTRACTOR N/A (Smurfit will clean up.)
   PHONE ( )
   WHEN ARRIVE?
5. OTHER PUBLIC AGENCIES RESPONDING? None
6. OTHER AGENCIES NOTIFIED? None
7. PUBLIC AFFAIRS ADVISED? No

DEQ RESPONDER: F. Skirvin
TYPE RESPONSE?
- EMERGENCY FIELD RESPONSE
- FOL-UP FIELD RESPONSE
- X TELEPHONE RESPONSE
- REFERRAL TO OTHERS

ACTION TAKEN: (note date and when completed)

8/4/89 -
Bill Cobb, Smurfit advised that no material spilled outside of fuel tank berm. Sawdust will be mixed w/ Bunker C, removed from berm and fed to hogged-fuel boilers. (Bunker C is normally used in boilers @ Smurfit.)
This is a satisfactory resolution of spill. Clean up will be completed by next Monday (8/7/89). FAS

-30-

Update

Please print or type with ELITE type (12 c... the unshaded ... only

Form Approved. OMB No. 2050-0028. Expires 5-30-88.
GSA No. 0246-EPA-OT

United States Environmental ... otection Agency
Washington, DC 20460

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

EPA Notification of Hazardous Waste Activity

RECEIVED
OCT 21 1986
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALEM, OFFICE

For Official Use Only

Comments: Yamhill Co WVR

Date Received (mo. day)

Installation's EPA ID Number: T/A C 1

I. Name of Installation

SMURFIT NEWSPRINT CORP (NEWBERG PLANT)

II. Installation Mailing Address

Street or P.O. Box: P.O. BOX 70

City or Town: NEWBERG — State: OR — ZIP Code: 97132

III. Location of Installation

Street or Route Number: END OF WYNOOSKI STREET

City or Town: NEWBERG — State: OR — ZIP Code: 97132

IV. Installation Contact

Name and Title *(last, first, and job title)*: BARLOW WAYNE MGR.

Phone Number *(area code and number)*: 503 538 2151

V. Ownership

A. Name of Installation's Legal Owner: SMURFIT NEWSPRINT CORP

B. Type of Ownership *(enter code)*: P

VI. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to instructions.)*

A. Hazardous Waste Activity

- ☐ 1a. Generator
- ☒ 1b. Less than 1,000 kg/mo.
- ☐ 2. Transporter
- ☐ 3. Treater/Storer/Disposer
- ☐ 4. Underground Injection
- ☐ 5. Market or Burn Hazardous Waste Fuel *(enter 'X' and mark appropriate boxes below)*
  - ☐ a. Generator Marketing to Burner
  - ☐ b. Other Marketer
  - ☐ c. Burner

B. Used Oil Fuel Activities

- ☐ 6. Off-Specification Used Oil Fuel *(enter 'X' and mark appropriate boxes below)*
  - ☐ a. Generator Marketing to Burner
  - ☐ b. Other Marketer
  - ☐ c. Burner
- ☐ 7. Specification Used Oil Fuel Marketer *(or On site Burner)* Who First Claims the Oil Meets the Specification

Hazardous & Solid Waste Division
Dept. of Environmental Quality
RECEIVED
OCT 02 1986

VII. Waste Fuel Burning: Type of Combustion Device *(enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.)*

☐ A. Utility Boiler ☐ B. Industrial Boiler ☐ C. Industrial Furnace

VIII. Mode of Transportation *(transporters only — enter 'X' in the appropriate box(es)*

☐ A. Air ☐ B. Rail ☐ C. Highway ☐ D. Water ☐ E. Other *(specify)*

IX. First or Subsequent Notification

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

☐ A. First Notification ☒ B. Subsequent Notification *(complete item C)*

C. Installation's EPA ID Number: ORD009620378

Continue on reverse

976

PUBLISHERS PAPER TIMES MIRROR

July 6, 1984

Mr. Jeffrey Dresser
Environmental Engineer
Dept. of Environmental Quality
895 Summer Street, N.E.
Salem, Oregon 97310

Dear Jeff:

This Spill Report is a follow up to our phone conversation on July 5, 1984 during which I notified you about the chemical spill at our Newberg Division.

On July 4, 1984 the Newberg Division of Publishers Paper Co. received a tractor-trailer loaded with full drums and tote drums from Dubois Chemical Co. When the truck entered the mill site it was pointed out that there was a liquid leaking out of the trailer. (The truck driver reported that he had noticed the leak about 300 to 400 miles north of Los Angeles on his way to Newberg.) The truck was moved to a wash down area where Assistant Pulp Mill Superintendent Bill Cobb had the truck washed out. The wash water was collected in the mill waste water treatment system. After this clean up the leak was found to be coming from a tote bin containing Dubois Chemical Dustrypp, a caustic alkali cleaning chemical. The cause of the leak has yet to be determined but it was leaking at the bottom of the tote bin. On July 5th when mill personnel opened the bin to estimate the volume of material lost, the leak began again, apparently a vacuum had been created by the leak which had stopped the leak. It is estimated that 175 gallons of Dustrypp had leaked out with only a small quantity actually leaking out and being washed down at our mill.

When the leak was discovered at our mill the mill personnel used the Spill Prevention, Control, and Countermeasure Plan for proper notification procedures. I was notified at 8:00 a.m., July 5 by the Maintenance Manager, Bob Wheeler. I then notified Bill Hartford at ODEQ Hazardous Waste Headquarters in Portland. When all of the final details were available I contacted you. At the same time our Purchasing Department had contacted Dubois Chemical Co. and their local representative was advised of the situation. He visted the truck on July 5. As of this time the truck and its contents remain on site at Newberg.

Thank you for your help and assistance with this situation. If you have any questions, please feel free to call me at 656-5211, ext. 443.

Sincerely,

Donald C. Sitko

Donald C. Sitko
Environmental Project Chemist

ms

cc: Rod Schmall
Mike Franklin

419 MAIN ST., OREGON CITY, OREGON 97045, TELEPHONE (503) 656-5211

RECEIVED
JUL 13 1984
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALEM, OFFICE

DEQ EMERGENCY RESPONSE FORM

PERSON RECEIVING REPORT

NAME: Kollias

PHONE NO.:

WHEN RECEIVED

DATE: 4-27-83 TIME: 9:00 am

EMD INCIDENT NO.

PERSON REPORTING SPILL

NAME: Wilma - WVR

COMPANY/AGENCY:

PHONE NO.:

ON SCENE CONTACT PERSON:

NAME: Mike Franklin

COMPANY/AGENCY: Publishers Paper Co. Newberg

PHONE NO.: 538-2151

WHERE/WHEN SPILL OCCURRED

LOCATION: Publishers, Newberg

COUNTY: Yamhill

DATE: 4-26-83 TIME: Last nite

MATERIAL(S) DESCRIPTION AND QUANTITY

500 to 1,000 gallons
Bunker C fuel oil

GO303 (2)

PROXIMITY TO PUBLIC WATERS AND OTHER HAZARDS:

none
- oil is contained and Riebel on scene.

HOW SPILL OCCURRED

EXPLAIN:

Pumps ruptured

RECEIVED
APR 28 1983
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALEM, OFFICE

NOTIFICATION:

DEQ REGION? ____ YES ____ NO

WHO?

PUBLIC INFO? ✓ YES ___ NO

WHO? Gayla 9:20 pm

EPA? ____ YES ✓ NO

WHO?

EMD? ____ YES ____ NO

WHO?

UPDATE EMD? ✓ YES ____ NO

DATE: Evelyn 3:10 pm

① WVR
② P.A.

ACTION TAKEN:

Franklin reported spill to Evelyn Hunter, EMD off-hours duty officer at 11 pm last nite after she did not call the regional call list since the spill was contained, not in public waters, and EES hired to clean up spill.

Franklin called WVR office this morning to also report the spill, Wilma wondered if DEQ had been notified, so I checked.

I told Evelyn to please call field staff off hours, even for contained spills, if greater than ~200 gallons. Then they can make decision to respond immediately, make phone call, or drive to scene from their home first thing in the morning.

Dave St. Louis reached Mark Whitson (who was working) this morning in the Newberg area. Mark will visit Publishers this morning.

3:00 pm - Mark called from office. EES did a good job of cleanup. Most of the oil was contained in the first waste treatment pond in the sump/collection system.

Aerators were shut down in the 2nd pond & production was cut to complete cleanup of the oil.

STATE OF OREGON

INTEROFFICE MEMO

TO: File through JEB and TRF 11/9 11/13

DATE: Nov. 6, 1981

FROM: DSL

SUBJECT: WQ - Publishers Paper, Newberg
Yamhill Co.

Mrs. Fehrenbacher, 639-0754, phoned on Nov. 5th to again discuss the removal of Publishers' sludge from her property West of the St Paul Bridge:

1. She doesn't want the sludge touched until she's assurred no further damage will result from the removal.

2. She has called in the State Vet to review our sampling analysis, as he has expressed concern over copper and chrome.

3. The cleanup offered by Publishers appeared to be a one time effort; and did not include any future deposits resulting from high stream flows or future metals damage to crops or livestock.

4. She still feels our Department has been extremely unresponsive to her wishes and thinks we ought to be supervising the removal and negotiations with Publishers.

I again told her that our primary concern was for the zinc levels. Removal of accumulations over 6 inches deep would bring the one-time loading within a reasonable level.

I emphasized that the negotiations as to the exact nature of the cleanup and restoration were between Publishers and her. I have previously sent her correspondence and sludge analyses from our files.

DSL

STATE OF OREGON

INTEROFFICE MEMO

11/9 11/17

TO: ~~TRF~~, JEB, ~~DSL~~, File

DATE: Oct. 28, 1981

FROM: DSL

SUBJECT: WQ - Publishers Paper, Newberg - Lagoon Sludge Reomval
Yamhill County

I've talked to Mike Franklin and Andy Anderson twice on the removal or more widely distributing the lagoon sludge deoposited on farm lands. Our original letter required the work to be accomplished by October 15th.

Publishers has contacted all of the affected property owners several times, but only one or two have accepted the offer for sludge cleanup. One farmer had his own equipment and did the removal himself and refused compensation. Publishers did supply some rock and rebuild a fence.

Estimates were obtained on all affected areas and contractors were lined up, but little or no work has been authorized by the property owners.

Publishers feels much of the area is vegetating nicely, although some of the larger deposits are still bare in the center areas. They've also talked to OSU Soils Dept. (Vomocil) and have been assured that most of the soluble Zinc is already gone.

In essence, Publishers would like another evaluation of the area before taking a harder stand with property owners.

Do you have any thoughts on this? Should we arrange another site visit?

Thanks.

DSL

Dave. Further removal this year is not feasible.
I suggest that we contact publishers and suggest that we
reevaluate the situation with them in the spring. We then
should have further samples taken of the sludge in place.
and we should have a better idea then of the long term
effects of the sludge on the area.

— Advised Andy Anderson on 11-16-81.

STATE OF OREGON

INTEROFFICE MEMO

TO: JEB, File

DATE: Sept. 15, 1981

FROM: DSL

SUBJECT: WQ - Publishers Paper, Newberg
Yamhill

On Sept. 15th, a Ms. Helen Fehrenbacher (11685 SW N. Dakota, Tigard, 97223, phone 639-0754) phoned to request all of our field notes and analytical work on the sludge deposited on properties around Hess Creek. She owns the farm just NW of the Hess Creek bridge.

I asked her if she had called Publishers. She indicated she called and the company had agreed to clean her property. Now her concern is that the DEQ isn't supervising the cleanup to assure land is not further damaged, flood hazards are not created and wells and creeks are not further contaminated.

I told her our main objective was to assure further contamination did not occur and any excess sludge was to be removed and applied to nearby farmland. I mailed her copies of our recent letter and the two memos on the field surveys.

She wasn't happy and is quite concerned about flooding or damage to her farm.

I advised Mike Franklin, who will have Andy Anderson call if more information is needed. Andy is coordinating the cleanup. Publishers was aware of her concerns.

DSL

ENFORCEMENT REFERRAL

Department of Environmental Quality

8/7 JEL
7/29
#338

1. Parties responsible for the violation. Names, addresses, identify position (if company or city) or violator status, e.g., owner, renter, lessee, etc. (if individual).

(1) Winslow H. Buxton, Resident Manager
Publishers Paper Company
P.O. Box 70
Newberg, OR 97132

(2) Registered Agent
Herbert N. Moon
419 Main St.
Oregon City, OR 97045

2. Location of Violation. Section___, Township___, Range___, Tax Lot___.
(If individual)

Other Publishers Paper Company

Wynooski Street, Newberg, OR 97132

3. Recommended Action.

/XX/ Civil Penalty Warning Notice. /XX/ Civil Penalty Assessment

/ / Other _____

4. Complete the following if you recommended civil penalty action:

/ / Assess minimum penalty. /XX/ Assess penalty greater than minimum.

I offer the following aggravating factors in support of a penalty greater than the minimum: (Refer to OAR Section 340-12-045. Complete Item II on back if the aggravating factor is a prior violation that did not receive legal enforcement action).

SEE ATTACHED MEMO FOR FURTHER DETAILS.

Send cc to: Mr. R.A. Schmall, Corporate Manager
Energy and Environmental Services
419 Main St.
Oregon City, OR 97045

July 27, 1981 — Date
Stephen E Dow — Investigator
July 27, 1981 — Date
_____ — Reviewer

STATE OF OREGON

INTEROFFICE MEMO

TO: JEBorden, DSt.Louis cc: WHYoung DATE: July 27, 1981
cc: FMBolton, VKollias cc: HLSawyer,CKAshbaker
cc: LDPatterson

FROM: SCDowns

SUBJECT: WQ-Publishers Paper Company, Newberg
Yamhill County
File #72615; NPDES OR-100055-8 (2832-J)
Summary Memo of May 13, 1981 Spill

This memo supplements my earlier memos of May 26 and June 24 concerning the May 13 failure of the primary treatment lagoon and subsequent activities.

Publishers' Spill Report: The Company's formal spill report was submitted July 12, fulfilling their requirements under Permit Condition G12c. A June 9 summary report by Dames and Moore was also included. Major points include:

1. The spill occurred at approximately 0300, May 13, with an estimated loss of 60 million gallons (100,000 lbs. BOD-5).

2. First observed at 0545, with cleanup contractor notified at 0730 and DEQ informed by 0800.

3. Sulfite mill shutdown started at 0845; paper machine #1 and deink down at 1200; paper machine #2 down at 1300. Most mill operations resumed at 2000 (following piping rerouting). Sulfite mill remained down until May 20.

4. Total treatment facilities back in full operation May 20, with normal full discharge to the river by May 25.

5. Costs incurred as of June 12 were $450,000 for clean-up and lagoon repair, plus $320,000 for business interruptions and lost production. [NOTE: An additional $2.5 million is expected for permanent Hess Creek Diversion.]

6. During interim repair period, aeration was increased at the south lagoon, with the lagoon level increased to provide more detention time.

7. Water usage was reduced by about 16% between May 13 and May 21 in an effort to provide greater lagoon detention times.

8. The snap-buckle failure of the 84" culvert resulted from a loss of support outside the culvert; likely due to piping and erosion of backfill into joints in the area of the 30° bend.

9. Other failure locations (under the northeast county road) resulted from structural overload (56 ft. actual cover vs. 34 ft. recommended).

10. Verbal discussions with Company representatives confirmed the culvert was last inspected in 1976. No subsequent inspections have been conducted since an employee's retirement.

Summary of Reported Effluent Violations

Aside from the obvious violation when the lagoon failed (100,000 lbs. BOD-5), the Company's Discharge Monitoring Reports for May and June revealed the following violations (Permit Condition A1):

Parameter	Permit Limit	Reported Discharge
BOD-5	May: mo.aver. 10,000 lb/day	16,900 lbs. on 5/18
	daily max. 15,000 lbs.	20,700 lbs. on 5/19 mo.aver.OK: 7,690 lb/day
	June: weekly aver.6,000 lb/day	wkly.aver.(6/1-7) 7816 lb/day (6/8-14) 7634 lb/day (6/23-28) 9524 lb/day
	daily max. 10,000 lbs.	daily max: 12,900 lb(6/5) 11,400 lb(6/9) 11,100 lb(6/23) 11,100 lb(6/24)
TSS	May: mo.aver. 18,000 lb/day	mo.aver.OK: 11,300 lbs/day
	daily max. 27,000 lbs.	30,500 lbs. on 5/27
	June: mo.aver. 13,500 lb/day	mo.aver. 15,387 lb/day
	daily max. 20,250 lbs.	daily max. 22,300 lb(6/8) 20,800 lb(6/10) 20,500 lb(6/23)

The above represent a total of three (3) violations for May, and eleven (11) violations for June. It should be noted, however, that for the better part of June, the south lagoon was being operated at reduced elevation due to the dike seepage problem (see memo of June 24). This has contributed to the poorer effluent levels.

STATE OF OREGON INTEROFFICE MEMO

dh9 4/29/DSL

TO: JEB, DSL cc: FMB, Reg. Operations DATE: June 24, 1981
cc: HLSawyer, (LDP) WQ Div.

FROM: SCDowns

SUBJECT: WQ-Publishers Paper Company, Newberg
Yamhill County
Failure of Primary Treatment Lagoon

May 13, 1981

WVR was notified at approximately 0745 by Al Williams, Technical Director, Publishers Paper, Newberg, that a dike had failed on the north lagoon, with its entire contents draining into the Willamette River via Hess Creek. Apparently, it was first observed at 0600 with the lagoon being virtually empty. They estimate that the failure occurred about 0200. Emergency Services was notified at 0729 by an adjacent property owner, Bob Botts. Emergency Services then notified WVR at 0756.

Rod Schmall, Publishers Paper, Oregon City, notified WVR at about the same time to assure we were informed. Details were very sketchy at that time but it appeared that a dike had failed.

SCD and JEB arrived at the plant site at approximately 1000, going straight to the north lagoon. The lagoon was virtually empty, with the dewatering sludge and continuing raw effluent leaving the southeast corner of the lagoon by what appeared to be a sinkhole. Closer examination revealed that a culvert carrying Hess Creek beneath the lagoon had collapsed, resulting in a total failure of the lagoon's stability. The dikes themselves were intact.

JEB proceeded to the plant's office, while I attempted to survey the situation immediately downstream, including the potential location for a containment dam. Harold Zarling of Environmental Emergency Services (Willamette Western) was also on the scene and trying to locate possible containment areas.

At that point, considerable flow was still entering the lagoon from the main influent line and it was evident that mill operations had not completely ceased.

At about 1115, CKA, GDC and LDP of WQ Division arrived at the scene, and they soon departed with JEB to locate the mouth of Hess Creek, review the downstream situation, and evaluate the potential for containment dams. [NOTE: During JEB's initial plant office visit, he contacted downstream property owners to obtain their permission for access to the creek. These included Leslie McPhee and Bruce Hall, Brysons, and C.M. Bishop.] I then proceeded to the mill to review the plant situation with Al Williams. He confirmed

that the lagoon was observed to be virtually empty at 0600 with an estimated initial occurrence at about 0200. The sulfite mill was going down, with its complete shutdown estimated by 0950. He said this represented about 1/2 of the total wastewater flow. At this point, the paper machines, deink plant, and refiner mill were still in operation. Mr. Williams said they were pursuing the immediate alternative of re-routing the old wood stave line to the secondary lagoon, thereby diverting all waste water around the north lagoon. They anticipated that would be completed by 1500, with additional aerators at the south lagoon. Operation of the two paper machines, deink and refiners was estimated to represent about 5 MGD and that their complete shutdown would require a couple of hours. Therefore, the time to effect complete shutdown versus completion of the waste water diversion was relatively comparable. However, I advised Mr. Williams that it was in their best interests to reduce waste water flows as much as possible, and as a minimum at least one paper machine should go down.

It should be noted that there was considerable confusion initially at the plant site as to what was operating and what course of action should be taken. It was initially estimated that about 40 MG was lost. John Englebrecht reported that there was no readily available dam site and it would be about 1800 before effective containment could be installed due to lack of equipment; and that the waste water could be diverted via the wood stave line before then. During this period, I also contacted Al Hose and requested Lab assistance along with a boat so that an evaluation could be made on the river. [NOTE: DEQ Lab personnel made several sample runs along the river, both by boat and car, not only on May 13 but later on through that week and the following week, and their analyses are summarized on the attached table.]

JEB returned at 1130 and we met with Wayne Barlow, Assistant Manager, Al Williams and Rod Schmall. NOTE: Windy Buxton, Plant Manager, was on vacation. At that point, JEB informed the company that if they had not seriously considered shutting down all mill operations before this, they should do so now.

As of 1205, #1 paper machine and deink were going down, representing an estimated 3 MGD. The recovery boiler was also going down; however, until it was completely down some condensate would still being going into the lagoon. By 1230, both machines were down and they would remain down until the wood stave bypass was completed. A status meeting was to be held at 1530 that afternoon. The refiner plant was still in operation. Plans for the south lagoon included additional aeration and raise the level of the lagoon to optimize treatment once the bypass was completed.

Discussions with Rod Schmall, Mike Franklin, and Al Williams resulted in an estimate that approximately 66,720# of BOD were lost from the lagoon (based on 40 MGD at 219 mg/l). With a river flow of 9700 cfs and assuming the lagoon drained over a 6 hr. period, it was estimated that a dilution

factor of 39:1 was available in the river.

Considerable discussions ensued that afternoon with Rod Schmall, Al Williams and others, including JEB and SCD, concerning the mill's expressed desire to continue some operations once the diversions to the south lagoon were complete. This was based on the mill's intention to increase the level of the south lagoon without discharge to the river for as long as possible, thus allowing an evaluation of the downstream impact on the river and providing some breathing room before subsequent discharge within permit limits.

At this point, company officials were hopeful for north lagoon repair completion by Saturday and a resulting one week's operation with the interim system. Some cull tonnage (repulp) would be used; thereby allowing for several hours of operation (sulfite mill remaining shut down). At this point, they were estimating the south lagoon would continue to hold with no discharge for about 16 hours. Rod Schmall cited the following factors to the company's benefit:

1. River transit time to Oregon City is about 2 days.

2. Sulfite plant at Oregon City was down now, probably through Thursday the 14th.

3. They have been getting exceptional treatment at Oregon City for the last two months; in the range of 4,000 to 5,000 lb/day as opposed to permit limit of about 10,000.

With proposed mill operations of 2 paper machines, deink and refiners (total 9 MGD at 15,000 - 16,000 lb/BOD/day) and assuming 30-40% reduction to the primary clarifier and south lagoon (with six aerators), Rod Schmall predicted they could come close to meeting their permit BOD limit of 11,250 lb/day max., and with a four to five day fill requirement for the north lagoon (with no discharge from the south) meeting the monthly average at 7500 lb/day. It should be noted that during these discussions it was assumed that the discharge from the south lagoon had been stopped. However, by about 1500, there was some confusion as to whether this indeed was the case;, and it was subsequently verified that this discharge had never been completely stopped, as they had experienced valve problems. Our subsequent check at 1930 that evening verified the discharge had finally stopped.

At about 2000, JEB and SCD met Irv Jones (Fish & Wildlife), who was noting conditions of Hess Creek at the St. Paul Bridge (Hwy. 214). They had been out the previous day evaluating the creek (for the proposed Newberg Landfill immediately downstream) and confirmed that the spill had pretty well wiped out the entire creek. They estimated the previous day's flow was about 2 cfs and their evaluation at that time found a few squawfish; however, no evidence of any game fish.

May 14

0825: I obtained a telephoned status report from C.C. "Mac" McVicker,

Plant Engineer, as follows:

1. No flow going into the north lagoon.

2. The wood stave bypass line was in, having been completed by 2000 hours, 5/13. By late that evening, the entire north side of the plant (paper machines, refiner and deink) was running with full flow going into the south lagoon. At that point, an estimated 5 ft. of storage was available in the south lagoon.

3. Also by about 2000 hrs, 5/13, the south lagoon discharge valve was fixed and the overflow stopped.

4. They are looking at installing a coffer dam around the collapsed section of the north lagoon in order to effect repairs. Central engineering office is evaluating the entire situation for not only emergency repairs but long term solutions. According to Al Williams, as of 0600, 5/14, they were seeing the south lagoon raise about 2 inches per hour and with 38 inches yet to go; they estimated storage capacity of about 18 hours. My own calculations, assuming 9 MGD flow, indicated a 3.3 inches/hour rise, thereby giving them holding capacity of about 10 hours.

1045: LDP and I arrived at the plant site, meeting throughout the day with McVicker, Williams, Franklin and others. As of 1045, #2 paper machine has not been running, and the refiner lines have been operating on a sporadic basis; going up and down due to excess pulp. Flow data shows flows to south lagoon ranging from 5.7 to almost 10 MGD since 1900, 5/13. Flows are presently at 7.5 MGD, excluding the recovery sewer.

Al Williams confirmed that the order to shut down the sulfite mill occurred during a 0830 meeting on the 13th, with the actual order probably given at 0900, and the mill going down at 0950. Once the order was given, naturally they have to finish cooks in process, and they still have evaporation. Each cook lasts about 4 hours.

Later that morning/early afternoon, LDP and I evaluated the situation by helicopter, accompanied by Al Goodman (EPA, OOO) who contracted the flight. The Hess Creek flow was quite evident, dark gray in color and hugging the river's north bank. The main "slug" of wastewater became evident in the Canby Ferry/Molalla River area, with the river having a darker color. There were no apparent problems, aside from some occasional scum. The wastewater did not appear to have reached the Oregon City falls. No fish kills were evident anywhere along the river.

The force of the failure was quite dramatic, as evidenced by the volume of wastewater/sludge deposited both upstream and downstream in Hess Creek. It was quite evident that Hess Creek had been virtually wiped out.

1400: Both paper machines were running as of 1000, with deink and refiners 2, 3, 5 and 6 in operation. Recovery sewer was 1.7 MGD with the process at 7.8 MGD for a total flow of 9.5 MGD to the south lagoon.

As of about 1000 or 1100, south lagoon had an estimated 20 inches capacity, plus 18 inches more with extra stop blocks at the overflow; and was still rising at about 2 inches per hour. Assuming conservatively an additional 10 hours' storage, it meant the south lagoon would be full by 2000 hours. It was agreed at this point that for monitoring purposes, the company would have to monitor not only the south lagoon discharge but the discharge from Hess Creek, with the combination of these two being considered the total plant discharge and for comparison with permitted effluent limits. This direction was based upon conversations with JEB, LDP, HLS and SCD.

1500: McVicker reports company is pursuing two avenues:

1. Temporary repairs. An early estimated lagoon repair completion by Saturday morning, 5/16; more likely Monday or Tuesday, 5/18 or 19. They intend to dig both ways along the culvert until they get back to good sections of pipe and then replace "in kind", working around the clock. The excavation will be refilled and properly compacted; aerator conditions would be checked; and the aeration basin sheet piling would be repaired at the same time.

2. The permanent solution is being pursued either in the form of lining the existing culvert to insure adequate structural support, or complete bypassing outside the lagoon, quite likely along the eastern edge of the county road. The consulting firm of Dames and Moore, Portland, (contact Kenneth Robbins) is being retained for all phases of this work, including complete evaluation of all dikes.

During an afternoon meeting with company personnel, HLS, JEB, etc., company was informed that the decision to discharge from the south lagoon and continue operating was theirs, and that permit limits would be compared with the combined discharges of Hess Creek and the south lagoon with respect to compliance. This decision was based upon DEQ river analyses, which showed that standards were not being approached, and no apparent adverse effect on the river's salmon run. Any violations of permit limits would be viewed under the Department's normal evaluation process and discretionary authority.

May 15: Received a status report from McVicker. I advised him that DEQ approval was needed for interim lagoon solution. Formal submittal was not necessary; however, onsite evaluation by SCD and/or LDP with company personnel was necessary to insure that everyone was in agreement as to what was to be done.

Their findings thus far were that that old culvert was asphalt coated aluminum, 1/8 inch thick with no evidence of corrosion. They propose replacement of the collapsed section with 12 gauge steel (asphalt dipped) from Vancouver (84" dia.), which is reportedly good to depths of 71 feet. It comes in 20 ft. sections and they have purchased 120 feet. They are having a factory fabricated elbow delivered, and if there is any doubt on elbow joint integrity, it will be concrete encased. The 20 ft. sections will be joined by a standard 24" sectional bolted joint.

At this point they hope to start the compacted earth fill around the joint by late Saturday, 5/16, using an imported clay, with an anticipated completion by Sunday night or Monday morning, 5/18. They are also investigating some sort of spray or membrane sealer above the fill to insure watertight integrity until the lagoon "skins over". LDP raised a question as far as zinc-aluminum interaction, since they're using galvanized steel. However, since this is a temporary solution (probably less than a year) this should not be a problem.

May 16; 1700: Phone calls with both LDP and McVicker indicated they are about 12 hours behind and are hoping to begin laying culvert early Sunday 5/17. They are sandbagging the lagoon side of the collapsed section and the south end is being excavated down to expose the good culvert. They are also looking at installing a thrust block at the new elbow along with 3 to 4 pilings put in along the wet bank on the east side.

May 17; 1325: I inspected the progress being made on the north lagoon repairs. The lagoon side of the collapsed section had been sandbagged to control seepage and excavated area was being dewatered by pumping the creek around the south culvert. They had excavated back to the good sections of the north and south culvert which looked reasonably good and cleared out. It appeared that a 50 to 60 ft. section needed to be replaced. At the aeration basin the sheet pile had been reasonably pulled back to vertical by cables connected to seven wood piles driven on the west side. Seven cables were connected with 14 attachment points on the sheet pile itself. The south lagoon was about 2 ft. below the Clari-vac top, with 6 aerators in operation.

I inspected the Hess Creek outfall to the Willamette, which was well down and sluggish, very gray in color, but significantly improved from a couple of days before. A backwater effect was evident at the river.

1420: I met with McVicker at the plant site. As shown by the attached drawing, the existing culvert was considered a total failure. It was near total collapse in various spots along the entire length, and at one point on the upper end had a 2 ft. clearance (company officials had walked the entire length). They now propose to block both ends (upstream and downstream) with 25-30 ft. plugs of concrete. They will install a pumping station at the upstream end and pump Hess Creek around the lagoon through a temporary pipeline placed along the eastern dike; to remain in operation

until a permanent diversion is completed this fall. As of now, they are looking at installing concrete plugs at the upper and lower ends and sandbagging the interior sections with an eventual fill of the interior length of the culvert itself, abandoning it in place. The excavated corner will be filled and compacted in lifts, using either bentonite or imported clay material to insure watertight integrity without seepage and with good compaction. The company's insurance agent sent in a retired professor from Univ. of Washington, who termed the culvert as having a structural failure (not corrosion) and basically being unsuitable material (aluminum) for the job.

May 18

Advised HLS of the situation. His main concerns were:

1. Each culvert end should be plugged on the inside of the lagoon as well, with a properly designed seal (barrier) to prevent an avenue for water flow longitudinally along the pipe.

2. The downstream end should be plugged as well.

3. The pipe should be adequately filled to prevent further deformation under the dike.

As of 1400, McVicker advised that there were no real physical changes at the site, as the contractor was in the process of mobilizing for repairs. Representatives from Dames and Moore were on the site that afternoon preparing to review all dike integrity. They were also proceeding to install vent stacks at each end of the abandoned culvert, probably 16-18 in. in diameter, as a fill mechanism.

Later that afternoon, I met with McVicker and Ken Robbins of Dames and Moore:

1. The north lagoon has experienced a side slope failure at the northeast corner, as evidenced by the deep and closely spaced fissures. This may have been due to the rapid drawdown of the lagoon, but it did appear to be getting worse. It was not considered an immediate threat, but did require closer evaluation as part of their eventual overall dike evaluation.

2. The culvert itself failed due to a loss of side support; although some slope failure appeared likely due to some diagonal deformation.

3. They would proceed to fill the abandoned culvert as soon as possible, although the exact procedures and materials have not been determined.

4. One possible contributor for the failure may have been a very minor earthquake which was experienced in the Portland-Newberg area during the last 2-3 months. In addition, the north lagoon level was raised considerably (2.5 to 3 ft.) during the recent

construction of the activated sludge/Clari-vac system. They also noticed the original culvert was banded with an old straight-band joint without rubber gaskets.

5. They would begin restoring the collapsed/excavated portions of the lagoon using imported clay material from Crabtree's pit in Dundee. The clay would be placed in 2-3" lifts, with compaction being provided by dozer and/or a small sheepsfoot roller. Pebble lime would be bladed in after each lift to insure proper compaction. They estimated a fill requirement of 1500 to 2000 cubic yards.

6. Review of the construction specs for the original culvert showed a recommendation for 4 cutoff walls (seepage stops) in the culvert segment downstream from the lagoon itself. This should prevent any longitudinal flow along the culvert. Therefore, Mr. Robbins felt confident that the lagoon's integrity could be insured by concreting the upstream and downstream ends of the culvert, with the ends within the lagoon itself being sandbagged, sackcreted, and the interior section eventually filled. Based upon this approach, the company anticipated starting the recovery boiler on natural gas that night (5/18) with an eventual flow returning to the north lagoon by Wednesday, 5/20.

May 19, 1000 hrs:

WHY, HLS, LDP, JEB and SCD met with company officials (Buxton, Schmall, Williams, McVicker, etc.) to review the status of repairs and the impending operation.

1. The fill operation is expected to be 4 ft. above the lagoon bottom by 1800 hrs. Charlton Labs is testing for adequate soil compaction, and representatives from Dames and Moore are reviewing the process on a 24 hr. basis.

2. A temporary diversion of Hess Creek is proceeding. County clearance has been obtained and culverting will be accomplished under both County roads that day. They presently have 2 6-inch diameter pumps operating and will eventually have 2 10-inch pumps as well, for a total of 10,000 gpm. This system with hopefully be in operation by that evening or 5/20.

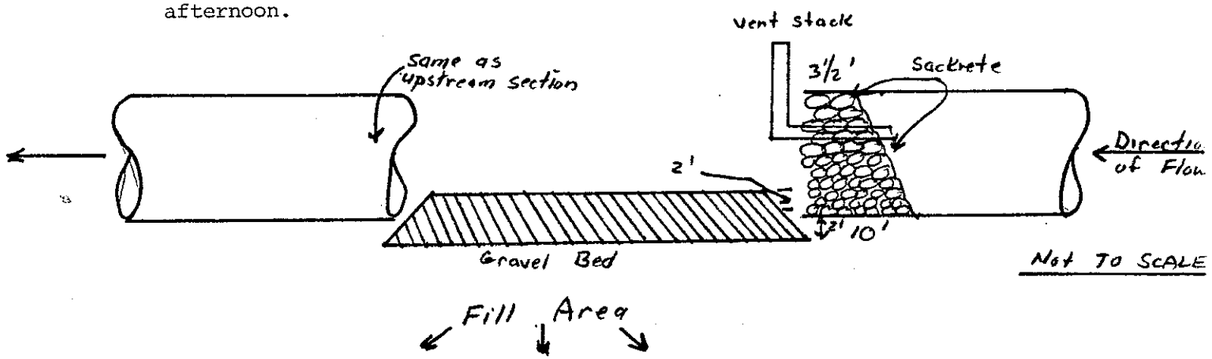
3. The lagoon sides of the culvert were plugged with sandbags and sackcrete prior to the filling operation. The next step will be to install 10 ft. concrete plugs at each exterior end. This is the controlling factor for refilling the lagoon and should be completed by 2000 hrs. 5/19. They again confirmed that seal stops had been provided as part of the initial culvert construction.

4. They have provided 6 inch diameter grout lines for eventual filling of the abandoned culvert. As of now it will be filled with a sand mixture, beginning approximately 7 days after the concrete plugs have been poured.

5. Initial BOD results for the discharge from Hess Creek show a concentration of 66 mg/l on 5/14. Additional sampling results are summarized elsewhere in this report.

6. At this point, the company anticipates beginning to refill the north lagoon by that night, or once the fill operation is four feet above the lagoon bottom. Initially, they will begin to divert back from the south lagoon via the aeration basin while still maintaining some flow from the south lagoon to the river. Essentially then, they will be splitting "raw" wastewater flows between the north and south lagoon. This refilling process will be governed by Dames and Moore and the compaction acceptability of the fill. The sulfite recovery boiler is now on natural gas. They will commence warming up and cooking digesters that day with orders for immediate shutdown if the lagoon is not operational. Microscopic analyses will commence of the lagoon and bagged urea will be added as nutrient. The ammonia tank was being repaired at the time of the spill, and it should be back on line by 5/19. They again confirmed that the concrete plugs must be in place before filling commences.

McVicker devised a sketch of the culvert sandbagging operation as shown below. This was of particular concern since our observations at the site had shown a heavy reddish flow from the culvert's outlet. McVicker and Robbins felt confident this would subside, and indeed it did later that afternoon.



May 20

Repairs were about 24 hours behind schedule according to McVicker. Everything going OK, except for the concrete plugs, which are now anticipated

to be poured by 1600 to 2000. The fill is well up and beginning to taper. Mac indicated he just learned that they finished the north (upstream) pour at 1115. The creek was still going into the lagoon as the contractor was still laying the temporary pipe and culverting under the roads. Hopefully, the temporary diversion would be complete by that night. Assuming the concrete pours were completed satisfactorily, the plant would start up that night, feeding the north lagoon initially from the south lagoon. It would be about 24 to 30 hours before they could be in full production, if everything went well.

1605: Rod Schmall reported that the company received the go ahead from Dames and Moore for plant operation at 1545 and mill startup had commenced.

May 21, 0810: McVicker telephoned to confirm they had received the go ahead from Dames and Moore at 1545, 5/20, and the sulfite mill had been started with flow recirculated back to the north lagoon. In addition, piping had been completed along the upper dike and the temporary creek diversion was in operation.

May 22: McVicker telephoned and indicated that they have not yet finalized the fill material and procedure for the abandoned culvert. Apparently the biggest concern is that of friction factor. At this point, they are looking at possibly sand and pea gravel, using water as a carrier. As of now, they hope to start filling the culvert on Tuesday, 5/26.

A telephone conversation with Al Williams later that day confirmed that the aerators had been started up in the north lagoon on Thursday, 5/21, and that nine were operational by Friday morning, 5/22. They were having problems with a couple of them kicking out electrically. By Saturday, the aeration basin aerators should be operational, giving a total capacity of 25 to 26 aerators (including 6 in the south). Flow from the south lagoon back to the north was 4.4 MGD on 5/21. Anticipate about 3 days to completely fill the north lagoon, which should be completed by 5/25 or 5/26. Williams also provided an update on Hess Creek and south lagoon discharge BOD's and COD's as shown on the attached table.

5/26, Noon: Al Williams reported that the north lagoon was back in full operation and that the Clari-vac unit had been running since Sunday, 5/24. At this point, they had 25-26 total aerators running, with six in the south, six in the aeration basin, and 13-14 in the north. The temporary diversion of Hess Creek had been completed, including culverting under the roads, and everything appeared to be OK. Treatment efficiency was still down and they were experiencing the to-be-expected balancing problems between the activated sludge plant and the south lagoon.

May 27, 0930: I reviewed the Hess Creek situation in the field with GDC, LDP, Irv Jones (F & W), and Mike Franklin and Don Sitko of Publishers, with respect to environmental damage and the potential need for cleanup operations. See separate memo for our findings and recommendations.

Associated with that field evaluation, I observed the treatment system and met with Al Williams. Six aerators were reinstalled in the aeration basin and 5 were operational. Fifteen were installed in the north lagoon, with 12 operating, and all 6 were operating in the south lagoon. South lagoon level was about 3 ft. below the Clari-vac unit. The north lagoon repair fill had been completed, with rock riprap overlayed. A small riprap area in the NE corner of the slope failure area was also evident, although further evaluation is necessary. The temporary Hess Creek diversion system looks good, with its outlet at the old culvert structure. Therefore, the downstream route of the creek was not changed.

I then reviewed the situation with Al Williams. I advised him at this point that Hess Creek cleanup did not appear necessary, pending the results of the sludge analyses. I further indicated the Company's spill report should be submitted with their normal monthly monitoring report, with both due by June 15. The original package should be submitted to WHY, with a carbon copy for WVRS. The company is still proceeding with culvert filling operations as well as developing a permanent solution to Hess Creek diversion. Dames and Moore is proceeding with the evaluation of all dikes. As far as the north lagoon aerators are concerned, two are kicking out due to overload conditions, and two others have grounded cables which require electrical repair. Review of the effluent treatment printout (attached) shows that the lagoon failure occurred between 0300 and 0400 on May 13; however, 0345 observations from the digester complex by the sulfite superintendent revealed all aerators still running. A security guard then observed the failure at 0545 who notified the sulfite superintendent; who, in turn, confirmed the failure at 0605. This coincides with reports that some of the neighbors heard noises of brush breaking around 0430 to 0500.

At this point, they are still pursuing options for final solution, including tunneling for a new culvert or modifications for a new lagoon to provide more of an activated sludge system. This is based on an estimated tunneling cost of $3,000/ft. and an estimated length of 1500 feet.

May 29, 0945: McVicker reported they still had not finalized the program for filling the abandoned culvert. Apparently, Dames and Moore representatives are working extensively with Willamette Western people on various options, each of which has an apparent drawback. Their report with recommendations is anticipated by 6/2 or 6/3. In the meantime, the surveyor has been busy physically locating the pipe to aid in the filling operation.

June 11, 1520: Rod Schmall reported that a program for refilling the abandoned culvert had been adopted, based on reports from Dames and Moore. They are looking at using a mixture of water, cement, sand and Boardman ash; inside and around the culvert, with more cement added to

provide less than 2% shrinkage. Two hundred feet will be filled at one end with 300 ft. at the other, with the filling operation to commence 6/12 and lasting about 8 days. Apparently, Dames and Moore don't feel filling the entire length of the culvert is necessary.

June 18

Met with McVicker, Williams and Franklin. Alternatives for permanent creek diversion being pursued in parallel (treatment lagoon reconfiguration vs. creek relocation). Soil borings being taken in filbert orchard just east of lagoon. Four possible relocation routes being investigated (weighed against possible future third lagoon). Tunneling appears likely solution, similar to project for Chelan Irrigation district in Washington (preliminary cost is $2 million). Also doing estimate for replacing in-place, in-kind (for insurance claim purposes only). Mac expects complete package within two weeks. The consulting firm of Murray-Smith has been retained to develop the alternatives, and do the eventual final design.

Culvert filling hasn't begun, as they can't physically locate the pipe (necessary for intermediate fill ports). The material/procedure has been pilot tested, and Willamette Western is mobilized.

The sheet piling at the activated sludge plant is being shored up on the lagoon side; so the cables presently supporting the piling can be eventually removed.

Bacteria population in the activated sludge is improving, but still of relatively poor quality (25% ash and fast settling); although removal efficiencies are about normal. Overall treatment efficiency is down, due to the lowered south lagoon level and the inherent lag time to restore a healthy population in the lagoons. At this point, all mill production facilities were in full operation.

Unofficial effluent BOD data from 5/25 - 6/12 shows an average of 8,673 lb/day (3521-14,648), with a downward trend. Daily maximum violations occurred on 6/4; 6/5 and 6/9. This coincides with efforts to lower the south lagoon level to relieve the static head on the seepage area (see separate memo). This lowering commenced on 6/5, with the level being progressively dropped to 2 feet below normal operating level and 4 feet below the previous higher level.

Operating efficiencies are summarized below and indicate major culprit is the north lagoon:

North lagoon:	47.8% (normally about 60%)
Activated sludge:	65.6% (about normal)
South lagoon:	39.0% (normally about 40%)
Total system:	77.7% (designed for 70%)

The north lagoon influent has averaged about 40,131 lb/day, compared to a design load of 53,000 lb/day.

Stephen C Downs

wr
Attachments

PUBLISHERS PAPER TIMES MIRROR NEWBERG DIVISION

WINSLOW H. BUXTON
RESIDENT MANAGER

June 12, 1981

Mr. William Young - Director
Department of Environmental Quality
533 Southwest 5th Avenue
Portland, OR

Dear Mr. Young:

Attached are reports pertaining to the recent spill from the north lagoon which is part of the effluent treatment plant at Publishers Paper Co., in Newberg, Oregon. The spill occurred at approximately 3:00 a.m. on Wednesday, May 13, 1981.

The spill occurred when a section of a culvert located under the southeast corner of the north aeration lagoon failed. The purpose of the 7' diameter culvert was to permit the natural flow of Hess Creek under the road and east dike of the lagoon. The contents of the lagoon drained into Hess Creek which flows into Springbrook Creek and then into the Willamette River, a distance of approximately 2½ miles from the mill.

The spill was initially estimated to be 40,000,000 gallons. This volume has been revised to 60,000,000 gallons based on additional information. The effluent was non-toxic with a pH of 6.8, contained some suspended wood fibers and dark sludge material that had settled to the bottom of the lagoon. B.O.D. contributed was originally estimated to be 67,000 pounds but has been revised to 100,000 pounds based on the larger flow.

The problem was first observed at approximately 5:45 a.m. when an employee reported to the security guard that the north lagoon was empty. The information was promptly relayed to the sulfite mill shift supervisor who verified that the lagoon was empty at approximately 6:00 a.m.

Calls were made to various operating, technical, and engineering people between 6:00 a.m. and 7:00 a.m. Maintenance and operating personnel were dispatched to the Hess Creek area to assess the damage and to determine what action was required in order to minimize the problem.

Willamette Western Environmental Services was contacted by the Plant Engineer and immediate assistance was requested to contain and clean-up the spill and to repair the hole in the north lagoon. They were notified at 7:30 a.m. and were on the scene at 10:30 a.m. The Department of Environmental Quality in Salem was notified at 8:00 a.m.

POST OFFICE BOX 70 NEWBERG, OREGON 97132 TELEPHONE (503) 538-2151

Operating superintendents had been notified between 6:30 and 7:00 to make preparations for shutting down their various operations. The sulfite pulping facilities which contribute 50% of the B.O.D. load started shutting down at 8:45 a.m. After further assessment of the situation, No. 1 paper machine and the deinking plant were shut down at 12:00 noon and No. 2 paper machine at 1:00 p.m. Therefore, virtually the entire process was shut down although effluent from fresh water sources continued.

The total mill effluent was diverted from the north lagoon to the south lagoon through temporary piping. One additional aerator was added to the south lagoon to increase aeration.

No. 1 paper machine, deink plant, and refiner mill resumed production operations at 8:00 p.m. No. 2 paper machine remained down until 10:30 a.m., May 14th, due to mechanical reasons. The entire sulfite mill remained shut down for 8½ days until repairs were completed to the north lagoon and the mill effluent was diverted back to normal treatment.

Assessment of the environmental impact indicated that the Willamette River was not significantly affected. Dissolved oxygen levels tested in Table 2 indicate acceptable levels as the "plume" moved down stream in all areas except at the mouth of Springbrook Creek. All other locations were above 7.9 and generally in the 9.0-10.0 range. Turbidity levels measured at Oregon City increased from 4.5 to 12.0 jtu. Turbidity levels are observed to be above 100 during the rainy season. All property owners along Hess Creek have been contacted with only minimal damage reported from sludge deposits. Some temporary loss in pasture may occur and we will continue to monitor and make appropriate restitution for any damage that may result. Representatives from the Department of Environmental Quality, Fish and Wildlife, and Publishers Paper Co. surveyed the Hess Creek area on May 27, 1981. Although there were obvious sludge deposits from the spill, it was generally concluded that further clean-up was not warranted.

Review of the monthly Waste Discharge indicates compliance with monthly B.O.D., TSS, and pH permit conditions. The average daily B.O.D. rate was 7690 from the mill outfall and 8000 pounds including Hess Creek contribution. Two daily B.O.D.'s violations occurred on May 18 and May 19 and one daily TSS violation occurred on May 27. The three violations were a result of the lagoon outage. The values were:

	B.O.D.	TSS	Daily Max. Limit
May 18	16,900		15,000
May 19	20,700		15,000
May 27		30,500	27,000

Total treatment facilities were put back into operation on May 20th. Normal full discharge into the river did not resume until Monday, May 25th. Repairs to the north lagoon included removal of the section of the culvert that

collapsed. The four ends were plugged with concrete and the sink hole filled. The abandoned culvert will be filled in selected areas starting June 10th and will be completed June 19th. A temporary bypass system to carry Hess Creek past the lagoon has been installed. Engineering of a permanent bypass has been initiated and completion of the construction phase is targeted for October 15, 1981. We will be in contact with your staff as the project develops. Existing dikes are being surveyed and tested by Dames and Moore for structural integrity.

Costs to date incurred for clean-up and repair of the lagoon are approximately $450,000. Other losses incurred we estimate to be approximately $320,000 for business interruptions and loss of production.

Surveillance of the aerated basins has been increased from once every four hours to once every two hours by our security officers. The facilities are also monitored every four hours by operating personnel.

More detailed reports can be found in the attachments. We will be in contact with your staff as more engineering and technical information becomes available. Thank you and your department for your cooperation and assistance during this incident.

Sincerely,

Winslow H Buxton

Winslow H. Buxton
Resident Manager

WHB/jle

cc: F.E. Woods
Rod Schmall
Bill Lesh
Ralph Gentry
Steve Downs
Al Williams
Mac McVicker

Attachments
1. Summary of Technical Data
   By: Mike Franklin
2. Property Owners Along Hess Creek
   By: Andy Anderson
3. Repair of Failure in North Lagoon
   By: John Englebrecht
4. Summary Report
   Geotechnical Consultation, Investigation, and Inspections
   By: Dames and Moore

Summary of Technical Data Pertaining to May , 1981 Effluent Discharge from Publishers Paper Co., Newberg, Oregon Facility

By: Mike Franklin
Environmental Process Engineer

June 10, 1981

TABLE OF CONTENTS

May, 1981 Waste Discharge Data
Monthly Waste Discharge Report
Impact of North Lagoon Spill
Additional Monitoring
Flow and BOD Estimations
Summary

List of Tables
Table 1. May Effluent Discharge Report
Table 2. DEQ Generated Willamette River Data
Table 3. Willamette River Data at Publishers' Oregon City Site
Table 4. DEQ Analysis of Sludge Found in Bess Creek Basin
Table 5. Mill Water Usage and Effluent Flow
Table 6. Effluent to Willamette - South Lagoon and Springbrook
Table 7. Comparison of BOD and COD.
Table 8. Estimation of Volume and BOD Discharge to Bess Creek
Table 9. Activated Sludge Plant Computer Print Out.

May, 1981 Waste Discharge Data

Following this section is a group of tables labeled 1 through 9 which outline the monthly waste discharge from the south lagoon, the impact of the north lagoon spill on the Willamette River and the Hess Creek/Springbrook Creek basin, the additional monitoring results, and data estimating the volume discharged and time of lagoon failure.

Monthly Waste Discharge Report

The first table of this section indicates

a) Compliance with monthly BOD_5, TSS, and pH permit conditions.

b) Two BOD daily violations on May 18 and May 19 after discharging to the south lagoon for five and six days and prior to sealing and refilling the north lagoon.

c) One TSS daily violation on May 27 when control of the lagoon level was lost and 17.73×10^6 gallons were discharged to the river as compared to normal discharge rates of apporixmately 11.5×10^6 gallons.

? stop logs removed + head differential across lagoon

Also, for May 13 through May 31, two sets of flow values are presented, indicating first the flow to the lagoons and second, the flow discharged to the river. The flow to the river is less than the effluent flow to the lagoons because of raising the south lagoon level and refilling of the north lagoon.

Impact of North Lagoon Spill

On the afternoon of May 13 and five other occassions, DEQ personnel monitored the Willamette River from a boat, measuring such parameters as DO, Conductivity and Pearl Benson Indicator values (PBI). The results of these tests are presented in Table 2. These data indicate the following:

a) Only directly in the plume of Springbrook Creek at the Willamette River on May 13, was the river DO measured below 6.0 mg/l, the lower limit that has been established. The next lowest values, 7.9 mg/l, was measured 0.25 miles downstream, again in the plume and on the same day. All other values remained above 8.4 mg/l.

b) Conductivity values indicated only on May 13 was there a significant effect, and then only 0.25 miles downstream, due to the spill.

c) PBI values were useful in following the spill down the Willamette until May 16 when only slight variations were noticed from background levels.
d) DEQ personnel indicated there were no observable fish kills in the Willamette River.

Table 3 presents information generated at Publishers' Oregon City site relative to river pH and turbidity as the spill past that location. The pH of the river was not affected. However, river turbidity was monitored as high as 12 jtu on May 15 compared to a background measurement of about 4.5 jtu. The majority of the spill appeared to pass that location between 6:00 A.M. on May 15 and 5:00 A.M. the following morning.

Table 4 is a summary of the analysis performed by the DEQ laboratory on sludge collected from the Hess Creek/Springbrook basin. This is of most value when relating to farmers the implications of having the sludge deposited on their land. DEQ has indicated the heavy metals concentrations are low when compared with municipal sludges that are considered clean. However, no information is readily available concerning their impact on a receiving water.

Additional Monitoring

Table 5 simply presents the flow data present in Table I relative to effluent flows and also mill water usage on a daily basis. It can be noted that between May 13 and May 21, water usage was reduced substantially below the normal 12 MGD in an effort to increase residence time in the lagoons, thereby increasing treatment efficiency and reducing the impact on the river.

Table 6 presents information relative to the total contribution of Hess Creek and the south lagoon outfall. Two sets of values are available, one set denoted "Chem Eng." has utilized a flow of Springbrook to the Willamette of 6.66 MGD as determined by formulas from Perry's Chemical Engineers' Handbook and a flow in Hess Creek as determined by measuring the flow velocity and estimated at 1.55 MGD. The second set of values, denoted "Fish & Wildlife" are derived by utilizing Fish & Wildlife Department personnel's estimates of 1 CFS for Hess Creek and 4 CFS for Springbrook at its confluence with the Willamette River. The BOD and TSS values for Springbrook have been corrected for contributions from Hess Creek above the mill (Hoover Park) and Springbrook Creek prior to Hess Creek's confluence with it.

It is of significant note that with even the larger values denoted "Chem Eng.", no additional violations, other than those previously noted, occurred.

Table 7 presents the additional COD (with the corresponding BOD data) as requested by the DEQ. This data did correlate better than expected when considering all available data points. A least squares method correlation indicates a best fit equation of $Y = 0.255x - 12.12$ where Y = the COD value and X = the BOD value. The correlation coefficient was $r = 0.96$. However, the lagoon data individually yielded a correlation coefficient of only $r = 0.84$ and only the Springbrook to Willamette data yielded a value of $r = 0.94$.

Flow and BOD Estimations

Table 8, by two different methods, indicates approximately 60×10^6 gallons were discharged down Hess Creek on May 13. Method A makes the determination by estimation of volume lost and Method B makes the same determination by calculating the volume required to refill the lagoons.

Also, the BOD for the month of May in the north lagoon had averaged approximately 220 mg/l. This calculates to approximately 100,000 pounds of BOD discharged to Hess Creek.

Finally, Table 9 is the computer print-out of the hourly averages relative to the activated sludge plant operation. The first column after the time, entitled "35F200 X10 GPM CLARIF EFFLUENT FLOW" indicates the hourly average (when multiplied by 10) of the gallons per minute discharged from the clari-vac after the activated sludge plant. The activated sludge plant is entirely a gravity flow operation, therefore, variations in the influent head directly affect the effluent discharged to the south lagoon from the clari-vac. A perusal of the values recorded indicate the flow started dropping off between 3:00 and 4:00 A.M. on May 13 as the flow decreased from an average of 5,070 gpm from 2:00 A.M. to 3:00 A.M. to an average of 3,160 gpm from 3:00 A.M. to 4:00 A.M.

Summary

The following comments can be made:

- Two BOD and one TSS daily violations have occurred as a direct result of this upset condition.
- There have been no observable deliterious effects on the Willamette River to date, either visually (other than discoloration) or by testing technique.
- Deliterious effects of the sludge deposited in the Hess Creek/ Springbrook basin are minimal at this time and are being handled on a case-by-case basis.
- No additional violations were noted when the Springbrook discharge to the Willamette was added to the south lagoon discharge.

- Additional monitoring during this period provided a coarse correlation between BOD and COD.

- It has been estimated that approximately 60 X 10^6 gallons of effluent were lost amounting to approximately 100,000 pounds of BOD.

- The north lagoon apparently began discharging to Hess Creek between 3:00 and 4:00 A.M. the morning of May 13.

MF:ces

TABLE 1

Department of Environmental Quality

COMPANY Fishers Paper Co. LOCATION Sweet, Oregon

MONTH & YEAR May, 1981

DAY OF MON	DAY OF WK.	PROCESS WASTE WATER EFFLUENT								
		FLOW MGD	BOD-5 mg/l	BOD-5 PPD	TSS mg/l	TSS PPD	SETTLEABLE SOLIDS, ml/l	pH	COLOR	TEMP. °C
1	F	11.17	63	5,870	139	13,000		7.3	922	22
2	S	11.17	-	-	-	-		-	-	-
3	S	11.17	-	-	-	-		-	-	-
4	M	11.14	64	5,950	92	8,550		7.4	849	21
5	T	11.39	66	6,270	128	12,200		7.4	825	22
6	W	10.99	73	6,670	140	12,800		7.2	728	23
7	T	11.33	79	7,470	149	14,100		6.9	752	22
8	F	11.63	87	8,440	146	14,200		6.8	728	23
9	S	11.63	-	-	-	-		-	-	-
10	S	11.63	-	-	-	-		-	-	-
11	M	10.78	75	6,750	184	16,600		7.0	726	23
12	T	11.39	-	-	-	-		6.7	728	23
13	W	10.65/ 6.09*	-	-	-	-		-	-	-
14	T	8.95/ 2.96	68	1,680	142	3,500		7.3	922	24
15	F	9.85/ 8.09	97	6,550	148	10,000		7.0	922	24
16	S	8.60/ 8.60	158	11,300	170	12,200		7.3	-	26
17	S	9.03/ 8.84	179	13,200	168	12,400		7.2	-	27
18	M	9.12/ 9.12	222	16,900	160	12,200		7.0	-	28
19	T	9.30/ 9.49	261	20,700	-	-		6.9	-	29
20	W	9.07/ 4.85	253	10,200	320	13,000		7.1	-	29
21	T	9.89/ 0.50	≥198	~820	268	1,120		7.3	-	28
22	F	9.68/ 0.50	198	820	324	1,350		7.3	-	24
23	S	9.43/ 0.50	186	770	291	1,210		7.3	-	-
24	S	9.56/ 0.10	189	158	226	189		7.2	-	24
25	M	9.61/ 7.64	129	8,220	244	15,600		7.4	1,100	23
26	T	9.50/ 9.28	115	8,910	231	17,900		6.8	1,130	26
27	W	9.40/17.73	99	14,600	206	30,500		6.8	1,040	25
28	T	10.00/11.93	110	11,000	194	19,300		6.9	1,040	26
29	F	10.17/ 4.85	87	3,520	184	7,450		6.8	1,310	24
30	S	10.17/ 7.22	-	-	-	-		-	-	-
31	S	10.17/ 8.61	-	-	-	-		-	-	-
AVERAGE		10.24/ 8.46		≥7,690		11,300		7.1	915	25
MON. AVG. LIMIT				10,000		18,000				-
DAILY MAX. LIMIT				15,000		27,000		5.0 - 9.0		-

Avg. Daily Pulp Production, ADT: Groundwood 600 TPD

Unbleached Chem. Pulp 15 TPD SSSC — TPD Waste Paper — TPD

Deink Pulp 175 TPD Other Pulp —

		WTP BACKWASH			TOTAL 001&002	WASTE DISPOSED ON LAND			
		FLOW	TSS PPD	PH	TSS PPD	BOD-5 PPD	TSS PPD	FLOW MGD	
					13,600				
					8,500				
					12,200				
					12,800				
					14,100				
					14,200				
					16,600				
					3,300				
					19,200				
					14,200				
					12,500				
					12,300				
					13,[illegible]				
					1,[illegible]0				
					[illegible]				
					[illegible]				
					15,500				
					17,300				
					30,[illegible]0				
					19,300				
					7,[illegible]30				
					11,300				

Location:	Date / Parameter	5/13 (1:15 PM) DO	5/13 (1:15 PM) Conductivity	5/14 (6:00 AM) DO	5/14 (6:00 AM) Conductivity	5/14 (PM)** DO	5/14 (PM)** PBI	5/15 DO	5/16 DO	5/16 PBI	5/18** DO	5/18** PBI
New Newberg Bridge		-	-	-	-	9.7	16	9.8	9.3	20	9.7	18
Oregon City		-	-	-	-	10.5	15	8.4	9.5	15	9.3	16
Staff-Jennings Marina		-	-	-	-	10.5	14	9.9	9.5	26	10.1	15
Steel Bridge		-	-	-	-	10.4	15	-	-	-	-	-
Sp&S Bridge		-	-	-	-	10.4	12	10.0	9.9	13	9.1	14
Canby Ferry		-	-	-	-	8.9	52	9.6	9.8	15	9.8	15
Old Newberg Bridge		-	-	-	-	9.5	15	-	9.6	17	9.6	15
Champoeg Boat Dock		-	-	-	-	9.9	17	-	-	-	-	-
Wilsonville Dock		-	-	-	-	8.5	48	9.6	9.5	15	9.[illegible]	[illegible]
Sport Craft Marina		-	-	-	-	9.9	15	9.6	9.8	18	9.[illegible]	[illegible]
Hawthorne Bridge		-	-	-	-	-	-	9.8	9.8	15	9	[illegible]
Maulding Marina		-	-	-	-	-	-	9.4	9.4	21	9.6	[illegible]
Lake Oswego Boat Landing		-	-	-	-	-	-	9.8	-	-	-	-
Above Springbrook		9.7	80	-	-	-	-	-	-	-	-	-
Mouth of Springbrook		3.5	248	-	-	-	-	-	-	-	-	-
½ M. below Springbrook		7.9	120	-	-	-	-	-	-	-	-	-
½ M. Upstream Butteville		9.9/9.5/10.0*	88/94/83*	-	-	-	-	-	-	-	-	-
Champoeg Dock		9.2	94	-	-	-	-	-	-	-	-	-
River Mile	35	-	-	10.4	86	-	-	-	-	-	-	-
	36	-	-	10.0	-	-	-	-	-	-	-	-
	36.5	-	-	9.8	-	-	-	-	-	-	-	-
	37.5	-	-	9.3/9.5/9.7	-	-	-	-	-	-	-	-
	38-41	-	-	9.2 - 9.4	-	-	-	-	-	-	-	-
	42	-	-	9.5	-	-	-	-	-	-	-	-
	43	-	-	9.6	-	-	-	-	-	-	-	-
	44	-	-	10.0	-	-	-	-	-	-	-	-
	45	-	-	-	86	-	-	-	-	-	-	-

*Samples from Both Sides of River & Middle

**Pearl-Benson Indicator Test.

TABLE 3. WILLAMETTE RIVER DATA AT PUBLISHERS' OREGON CITY SITE

Date	Time	pH	Turbidity (jtu)
5/14/81	12 M	6.9	4.7
	1 AM	7.0	4.5
	2	7.0	4.7
	3	7.0	4.5
	4	7.1	4.8
	5	7.1	4.9
	6	7.2	5.3
	7	7.1	5.6
5/15/81	8	6.8	6.5
	9	6.9	7.2
	10	7.0	7.8
	11	7.0	8.3
	12 N	7.0	8.8
	1 PM	6.9	9.0
	2	6.9	12.0
	3	6.8	11.0
	4	6.9	9.1
	5	7.0	8.5
	6	6.9	8.3

Date	Time	pH	Turbidity (jtu)
5/15/81	7	7.0	7.9
	8	7.0	7.4
	9	7.0	6.8
	10	7.0	6.4
	11	6.9	6.0
	12 M	6.6	6.2
	1 AM	6.8	5.8
	2	6.6	5.9
	3	6.7	5.3
	4	6.9	5.2
	5	6.9	5.1
	6	6.9	4.9
5/16/81	7	6.9	4.8
	8	6.8	4.6
	9	6.9	4.6
	10	6.9	4.5

TABLE 4. DEQ ANALYSIS OF SLUDGE FOUND IN BESS CREEK BASIN

81% Organic (Publishers Determined 77.1% on separate sample)

0.2% Sulfur

Microscopic Analysis:

40 - 45% Wood Fiber
30 - 40% Microbial Cells
Remainder - Fine Crystalline Material

Heavy Metals Analysis: (mg/Kg Sample @ 86.8% Moisture)

Copper	160
Chrome	19
Zinc	2690
Cadmium	0.62
Lead	100
Nickel	34

TABLE 5. MILL WATER USAGE AND EFFLUENT FLOW

Date	Water Use (MGD)	Effluent To Lagoons (MGD)	Effluent to Willamette (MGD)
5-10-81	11.76	11.63	11.63
11	12.05	10.78	10.78
12	12.63	11.39	11.39
13	11.05	10.65	6.09
14	9.30	8.95	2.96
15	9.57	9.85	8.09
16	9.54	8.60	8.60
17	10.11	9.03	8.84
18	10.20	9.12	9.12
19	10.55	9.30	9.49
20	10.58	9.07	4.85
21	11.83	9.89	0.50
22	11.68	9.68	0.50
23	11.46	9.43	0.50
24	11.73	9.56	0.10
25	11.26	9.61	7.64
26	11.14	9.50	9.28
27	11.19	9.40	17.73
28	12.03	10.00	11.93
29	12.31	10.17	4.85
30	12.31	10.17	7.22
31	12.31	10.17	8.61

PUBLISHERS PAPER TIMES MIRROR NEWSPRINT DIVISION

June 9, 1981

O: C. C. McVicker Jr.

ROM: John Englebrecht

UBJECT: Repair of Failure in North Lagoon

ay 13, 1981

t approximately 7:30 the morning of May 13, 1981, I was assigned to the roject of investigating and repairing the damage to the North lagoon..

nvestigation of Damage to the lagoon

t my request, John Groff cut a path down to the East side of the lagoon o that a visual inspection of the damaged area could be made. There was a large hole in the bottom of the lagoon in the South East corner approximately 50 feet in diameter, approximately 15 feet deep and in the bottom of the pit was a large twisted and badly deformed culvert protruding from one side and a one foot opening of culvert on the opposite side of the hole. The appearance was that there was a piece of culvert missing and there was considerable lagoon water draining into the pit. The lagoon was virtually empty with only isolated puddles reamining. Pictures were taken at this point to document intital conditions.

A short section of the fence and guard rail along Dog Ridge Road was then removed and a new path was cut to view the failure from a different direction. Pictures were again taken to document the initial conditions at the failure.

The culvert from this new view showed to be bent in a "U" shape and twisted out of position.

The ground was wet at the backside of the pit toward the bank but was dry at both sides and the lagoon side of the pit.

At my request, Bill Zipprich noted other conditions in the lagoon which are as follows:

(1) All Deaerators are hanging from their tie lines.

(2) Black sludge covers approximately three acres on East side road.

(3) Huge hole approximately 50 in. diameter has sunken into culvert at bottom of lagoon.

(4) Metal piling retaining activated sludge is bowed out toward the North lagoon. Bowed length is approximately 40 feet.

(5) Very deep black sludge in lagoon.

(6) Dry slide area approximately 60 foot wide at North end of lagoon.

(7) All effluent from lagoon is going into sunken hole.

(8) Mr. Botts (neighbor) noticed water problems at 6:00 a.m.

Bill Zipprich left to work on diverting the mill waste water from the North lagoon to the South lagoon (see report "Mill Waste Water Diversion to the South Lagoon")

A meeting was held with Mr. Tom Lindsey of Willamette Western and he was given a purchase order number 40-63964 for the repairs to the lagoon's hole. He then surveyed the damaged area, requested that an access road be built to a working site along side of the pit and the trees and undergrowth be removed along side the lagoon for working access to the pit. He then left to get his equipment and personnel.

John Groff had the road built and undergrowth removed.

At approximately 5:30 p.m., May 13, the equipment arrived and the remainder of the day was spent assembling the equipment and moving it into position.

May 14, 1981

The big crawler type crane began removing material from the failure pit until it became stuck at 9:50 a.m. at which time work stopped and the crane was pulled out to the upper ground. An investigation of the work site showed that the soil was a soft, wet clay that would not support equipment. The work site was then covered with rock approximately one foot deep. The big crane was then returned to the work site and the removing of the material continued.

Coinciding with the work at the failure site, arrangements were being made to repair the sheet piling at the activated sludge pond (see "Piling repair-Activated Sludge Pond")

Willamette Western had many problems with machine breakdowns, delays due to shortage of material, etc. all of which were instrumental in delaying the job.

May 15, 1981:

The big crane continued to remove material from the pit. At 8:30 p.m. the diesel generator arrived for use in the pumping out the pit.

May 16, 1981

The big crane continued to remove material from the pit until 2:30 at which time two 6 inch pumps were intalled into the pit and the water level reduced such that I could get down to the top of the culvert and inspect the damaged culvert and look for the missing piece.

I could not find the missing piece but could see that the exit end of the culvet was nearly plugged solid. After further digging and pumping, I was able to view closely the exit end of the culvert and found that it was nearly plugged with a mixture of rock and clay.

New culvert was purchased and brought to the plant site in anticipation of replacing the damaged culvert. Further digging and pumping loosened the damaged culvert, it was pulled loose and placed on the high bank for close inspection.

Note: Removing the damaged culvert released all the water and sludge that was being held back upstream, thus flooding the pit, and the work in the exit pipe stopped.

The damaged culvert pipe was inspected and noted as follows:

(A) The culvert material was aluminum .125 inches thick.

(B) Tar coated both inside and out.

(C) Each section was riveted.

(D) There appeared to be no corrosion or other material reason for failure.

ay 17, 1981

he big crane continued to remove material and two men were put to work xcavating the exit culvert to find the extent of the plugging. The pit as then pumped and a rock was laid so that the culvert ends could be entered nd inspected visually. A party of four people entered the pipe, took pipe eformation and pipe length measurements. The results of the inspection owed the pipe to have failed in other places to the point where the culvert s no longer safe or usable.

inspection of the top fill above the culvert (with Mr. Ken Robbins of mes and Moore) revealed cracks at several places approximately 2 to 3 ches wide and about 8 feet deep which indicates some movement of the earth ove the culvert. Mr. Ken Robbins stated that the culvert is no longer fe to enter.

cause of the condition of the culvert, it was then decided to abandon e culvert by sealing the pipe and temporarily diverting Hess Creek by- ssing.

e rest of the day was used preparing to seal the culvert and fill in the e.

18th, 1981

pipe ends at the failure pit was plugged with a mixture of sandbags sacks of cement. A stand pipe was inserted in each end down in the to aid in future filling of the pipe. The pit was then back filled h clay and roack with a 2 - 3% lime mixture, following the directions Mr. Ken Robbins.

May 19, 1981

The entrance and exit ends of the culvert were plugged with concrete approximately 10 feet long in the ends of the pipe. Each of these ends have two 10 inch pipes thru the concrete plugs to failitate the future filling of the culvert. The upper pipe has a 6" PVC pipe running the full length of the culvert and may be removed.

A pumping station and temporary 26 inch culvert was installed to divert Hess Creek around the lagoon. The pumping station consists of two 10" and two 6" submersible pumps.

May 20, 1981

The area was then regraded and cleaned up and all fences and guard rails replaced.

Conclusion:

From my experiences with the culvert, it appears that the culvert deformed until sudden failure. I suspect that the earth around the culvert shifted allowing the culvert to deform. I believe the problem started with a wet area on the bank side of the culvert and gradually washed the soil from around the culvert thus removing the side restraint on the culvert, which would allow the culvert to deform (eggshape) and thus, fail.

JE/srr

HLS
GDE
WVR (salem)

IW81-094

DEPARTMENT OF ENVIRONMENTAL QUALITY

SPECIAL SURVEY DATA SHEET

Location: PUBLISHERS NEWBERG Date: 5/14/81 Date Received (Lab): 5/15/81

Collected by: LDP / SCD Weather: OVERCAST Date Reported: 6/3/81

Purpose: SLUDGE SAMPLE FROM HESS CREEK UNDER HWY BRIDGE (JUST BELOW LAKE)

FIELD INFORMATION

Lab. No.	Bottle No. DO		pH	Temp.	Cl_2	Flow	Description	Test Required
0813							PRIMARY LAGOON SLUDGE	MICROSCOPIC EXAMINATION (ASH, WOOD FIBER, MICROBIAL CELLS)?
0813							PRIMARY LAGOON SLUDGE	SULFUR CONTENT % VOLATILE

RECEIVED JUL 06 1981 State of Oregon DEPARTMENT OF ENVIRONMENTAL QUALITY SALEM, OFFICE

LABORATORY RESULTS

Lab. No.	Lab. pH	DO	BOD Results	Susp. Solids ml	Susp. Solids SS	% VS		S			
0813						81		0.2%			Please see attached data sheet for metals and microscopic examination results.

DEQ/L- -7/76

IW81-094

052

DEPARTMENT OF ENVIRONMENTAL QUALITY

SPECIAL SURVEY DATA SHEET

Location: Publishers, Newberg Date: Date Received (Lab): 5/15/81

Collected by: Weather: Date Reported: 6/3/81

Purpose:

FIELD INFORMATION

Lab. No.	Bottle No. DO		pH	Temp.	Cl_2	Flow	Description	Test Required

LABORATORY RESULTS

Lab. No.	Lab. pH	Moisture	BOD Results	Susp. Solids ml	Susp. Solids SS	Cu mg/kg dry	Cr mg/kg dry	Zn mg/kg dry	Cd mg/kg dry	Pb mg/kg dry	Ni mg/kg dry
0813		86.8				160	19	2,690	0.62	100	34

DEQ/L- -7/76

DEPT. TELEPHONE

TO: File via ~~DSL~~ 11/15, ~~JGJ~~ 11/15
cc: ~~LD~~Patterson, WQ Div. DATE: Nov. 14, 1978
cc: ~~Doug~~ Fraley, Regional Operations

FROM: SCD

SUBJECT: WQ-Publishers Paper Co.
Newberg, Yamhill County

On Oct. 20, 1978, Rod Schmall reported an oil spill at the Newberg plant, with oil reaching the primary lagoon. Migration to the secondary lagoon was minimal due to the underwater discharge between ponds.

The oil was Bunker C and resulted when a tube in the recovery furnace oil preheater ruptured and the gasket gave way. The associated sewer line has two oil sump collectors in it, both of which filled and overflowed. Apparently lagoon #1 had an oil sheen over most of it. Crowley Environmental Services was called in with a line skimmer to remove the oil from the collector traps and sump. In addition, mill personnel used sawdust and paper machine felt to collect the oil on the lagoon. They raised the level in the secondary lagoon as a precautionary measure to prevent any oil overflow into the river, none of which did occur. A report was submitted on Oct. 25.

Stephen E Owens

wr

81-125-1387

...minationary wage orderings.
...Good cause under its selected offices

TIMES MIRROR

October 25, 1978

Mr. Steve Downs
Dept of Environmental Quality
796 Winter Street, N. E.
Salem, Oregon 97310

Dear Mr. Downs:

As a supplement to telephone calls made to your regional office on 10/20 and 10/23, additional information is submitted herein regarding a contained oil spill at the Newberg Division on 10/20.

Occurrence: Bunker C oil from recovery area entered #1 lagoon

Cause:
1. Small observable leak in oil preheater tube bundle (repaired night of 10/19)
2. Larger, non-apparent leak from broken underground oil line (discovered 10/20)

Action:
1. Oil system shutdown and repairs made to oil line (10/20)
2. Oil containment sumps were manned continuously to remove oil
3. Oil on #1 lagoon was removed from surface on weekend of 10/21 by mill personnel

Amount: Undetermined; however, an observable film was present on the surface of approximately 50% of the #1 lagoon

Comments:
1. No oil reached the river
2. Very little oil entered the #2 lagoon cell (sub-surface pipe connection)
3. Except for periods during clean up (safety reasons) and inspection, all aerators were operated
4. No agency other than the DEQ was notified
5. An initial depression of dissolved oxygen was exhibited by the #1 cell but it recovered during the weekend

419 MAIN ST. OREGON CITY, OREGON 97045 TELEPHONE (503) 656-5211

Please contact this office if you have questions.

Respectfully submitted,

R A Schmall

R. A. Schmall, Manager
Environmental Services

RAS:cb

cc: B. Andrews
R. Brucker
P. Delekto
Z. Rozycki