FS 1082



STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

November 5, 1998

Mr. Kenneth J. Willings BF Goodrich Specialty Chemicals 9911 Brecksville Road Cleveland, OH 44141-3247

Mr. F. Randolph Smith c/o 1550 –355 Burrard Street Vancouver, B.C. V6C 2G8 Canada

Dear Sirs:

I am pleased to send you the final executed Corrective Action Order for the BF Goodrich Kalama site. This Order cumulates several months of hard negotiations. Although there will be several issues still to negotiate in the upcoming Work Plan, I consider this a major step forward. Thank you for the contributions made by you and your companies' representatives in completing this action.

I look forward to environmental progress on this site. As always, should you have any questions, Leon Wilhelm, our project manager, can be reached at (360) 407-6362.

Sincerely,

K. Seiler

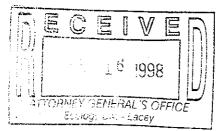
K Seiler, Section Manager

Hazardous Waste & Toxic Reduction Program

Southwest Regional Office

KBS:dn Enclosure

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STATE OF WASHINGTON

2 3 DEPARTMENT OF ECOLOGY 4 In the Matter of Remedial Action: 5 6 7 AT: BF Goodrich Kalama, Inc. AGREED ORDER 1296 Third Street Northwest 8 9 Kalama, Washington, 98625-9799 No DE 98HW-S327 10 BY: BF Goodrich Kalama, Inc. 11 1296 Third Street Northwest 12 Kalama, Washington, 98625-9799 13 14 Rogers Sugar Ltd. c/o 1550 - 355 Burrard Street Vancouver, BC V6C 2G8 15 16 17 Canada 18 19 20 TABLE OF CONTENTS 21 I. 22 JURISDICTION 2 II. 23 DEFINITIONS 2 III... 24 IV. FINDINGS OF FACT 25 $V_{\cdot \cdot}$ 26 ECOLOGY DETERMINATIONS 6 $VI_{\cdot \cdot}$ 27 VII. 28 TERMS AND CONDITIONS OF ORDER 9 VIII. 29 STIPULATED PENALTIES 17 30 IX. SATISFACTION OF THIS ORDER 18 Χ. ENFORCEMENT 18 31 32 33 **ATTACHMENTS** 34 Number 1: 35 Facility Diagram Number 2: 36 Scope of Work for Remedial Investigation and Feasibility Study, and Preparation 37 of Cleanup Action Plan Number 3: Schedule for Implementation of Scope of Work 38

Areas Within Central Area Requiring Notice of Excavation Activities

Number 4:

I	I. JURISDICTION
2	This Agreed Order ("Order") is issued pursuant to the authority of RCW 70.105D 050(l).
3 4	II. DEFINITIONS
5	Unless otherwise specified, the definitions set forth in Chapter 70.105D RCW and
6	Chapter 173-340 WAC shall control the meanings of the terms used in this Order
7	Additional definitions are as follows:
8	1 Agreed Order or Order means this Order issued under RCW 70.105D.050(1) The
9	term includes the text of this Order, all Attachments to this Order, and all Washington State
10	Department of Ecology (Ecology)-approved submittals required pursuant to this Order
11	Attachments to this Order and Ecology-approved submittals are incorporated into this Order by
12	this reference and are enforceable parts of this Order as if fully set forth herein.
13	2. <u>Corrective Measure</u> means any measure or action to control, prevent, or mitigate
14	releases and/or potential releases of dangerous constituents (including dangerous waste and
15	hazardous substances) reviewed and approved by Ecology for the facility and set forth in a
16	facility specific Cleanup Action Plan (CAP). Corrective measures may include interim actions as
17	defined by Chapter 173-340 WAC. Interim actions will not necessarily be set forth in a facility-
18	specific CAP.
19	3 <u>Facility</u> means the property currently owned and controlled by BF Goodrich
20	Kalama, Inc. and located at 1296 Third Street Northwest in Kalama, Washington, where
21	hazardous substances, including dangerous wastes as defined in WAC 173-303-070 through 173-
22	303-100 and dangerous constituents as defined in WAC 173-303-9905 or 40 CFR Part 264,
23	Appendix IX, have been deposited, stored, disposed of, placed, or otherwise come to be located
24	and all property, regardless of control at which releases of these hazardous substances have

Hazardous Substance(s) means any dangerous or extremely hazardous waste as defined in RCW 70.105.010(5) and (6), or any dangerous or extremely dangerous waste as designated by rule under Chapter 70.105. RCW; any hazardous substance as defined in RCW

come to be located.

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- 70 105 010(14) or any hazardous substance as defined by rule under Chapter 70 105 RCW; any
- substance that, as of February 26, 1996, is a hazardous substance under Section 101(14) of the
- federal cleanup law, 42 U.S.C., Sec. 9601(14); dangerous constituents identified in WAC 173-
- 4 303-9905 or 40 CFR Part 264 Appendix IX; and any dangerous waste designated in WAC 173-
- 5 303-070 through 173-303-100 as dangerous or extremely hazardous or mixed waste.
- 6 Release means any intentional or unintentional spilling, leaking, pouring,
- 7 emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing
- 8 of Hazardous Substances into the environment including any dangerous waste management unit,
- 9 area of concern and solid waste management unit. It includes the abandonment or discarding of
- barrels, containers and other receptacles containing Hazardous Substances and includes the
- definition of release in RCW 70.105D.020(20).
- 12 Remedial Action means any activities including investigations, studies,
- characterizations and corrective measures, including actions taken pursuant to Chapter 70.105D
- 14 RCW and Chapter 173-340 WAC, undertaken in whole or in part to fulfill the requirements of
- 15 WAC 173-303-646.

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III. OBJECTIVES

- The remedial action objectives for this facility are:
- 18 Respondents (as defined below) shall conduct a remedial investigation and a
- 19 feasibility study (RI/FS) to be approved by Ecology in accordance with the requirements of the
- 20 Scope of Work, included as Attachment 2 to this Order and incorporated herein by this reference.
- 21 This work will be completed in accordance with the schedule attached hereto as Attachment 3
- 22 and incorporated herein by this reference. The purpose of the RI/FS shall, in part, be to
- 23 concurrently satisfy the corrective action requirements (a RCRA facility investigation and RCRA
- corrective measures study) of WAC 173-303-646.
- 25 After Ecology approves of the remedial investigation and subsequent feasibility
- study, Respondents will draft a cleanup action plan (CAP) to satisfy the requirements of

1	WAC 1/3-340-400 and to concurrently satisfy the corrective action requirements of
2 3	WAC 173-303-646(2) IV. FINDINGS OF FACT
4	Ecology makes the following Findings of Fact, without any express or implied admission
5	by Rogers Sugar Ltd. (Rogers Sugar) or BF Goodrich Kalama, Inc. (collectively Respondents).
6	BF Goodrich Kalama, Inc. is a Washington corporation, doing business in
7	Kalama, Washington. Rogers Sugar Ltd., a corporation organized under the laws of Canada, is
8	successor by amalgamation to BC Sugar Refinery, Ltd. (BC Sugar). At all relevant times prior to
9	the amalgamation, BC Sugar was a corporation organized under the laws of British Columbia
10	and doing business in Vancouver, British Columbia. Rogers Sugar continues to do business in
11	Vancouver, British Columbia
12	2. Kalama Chemical, Inc. purchased the property located at 1296 Third Street in
13	Kalama, Washington from Dow Chemical in 1971 and has wholly owned and operated it since
14	that date. In 1986 BC Sugar acquired less than 50% of Kalama Chemical, Inc.'s stock. By
15	January 1990, BC Sugar acquired the remaining stock and Kalama Chemical, Inc. was a wholly
16	owned subsidiary. In May 1994, BC Sugar sold all of its stock in Kalama Chemical, Inc. to
17	Freedom Chemical. As part of the purchase and sale of Kalama Chemical, Inc.'s stock, BC
18	Sugar agreed to indemnify Kalama Chemical, Inc. and Freedom Chemical for certain
19	environmental remediation. In March 1998, Kalama Chemical, Inc. was acquired by BF
20	Goodrich and changed its name to BF Goodrich Kalama, Inc. Further references to BF Goodrich
21	Kalama shall include Kalama Chemical unless otherwise specified.
22	The property was operated as a dangerous waste management facility on or after
23	November 19, 1980, the date which subjects facilities to RCRA permitting requirements,
24	including interim status requirements pursuant to Section 3005 of RCRA and implementing
25	regulations thereunder, and including authorized state regulations promulgated in Chapter

173-303 WAC.

- Kalama Chemical, Inc. initially notified EPA of its dangerous waste management
- 2 activities in August 1980. In the notification, Kalama Chemical, Inc. identified itself as
- 3 managing a U118 waste at the facility. In a letter dated November 18, 1980, Kalama Chemical,
- 4 Inc. notified EPA that the initial notification form contained a typographical error and that the
- 5 actual listed dangerous waste managed at the facility was phenol (which has a U188 listing).
- 6 Pursuant to the August 1980 notification, Kalama Chemical, Inc. was issued
- 7 identification number WAD 00006516 by EPA. EPA subsequently replaced this identification
- 8 number with the current identification number WAD 092899574.
- 9 6 In January 1989, EPA performed a RCRA Facility Assessment (RFA) at the
- Facility. The purpose of an RFA is to identify those areas where Releases of Hazardous
- Substances may have occurred or may be occurring.
- In April 1991, Kalama Chemical, Inc. entered into an Agreed Order with EPA
- 13 (EPA Agreed Order) pursuant to Section 3008(h) of the Resource Conservation and Recovery
- 14 Act (RCRA). According to the terms of the EPA Agreed Order, a RCRA Facility Investigation
- (RFI) was conducted and was submitted to EPA in August 1994. The EPA approved the RFI as
- 16 final in January 1995.
- Releases and/or potential Releases of Hazardous Substances including, but not
- limited to toluene, benzene, phenol, diphenyl oxide and metals are documented in the RFA
- 19 Report, in the RFI dated August 29, 1994, and in the draft Supplemental RCRA Facility
- Investigation Report, as revised on December 19, 1997
- In December 1995, Kalama Chemical, Inc. constructed an interim corrective
- measure in the "North Impacted Area" of the Facility (the NIA ICM), which consists of a 1500
- 23 foot-long trench to capture shallow groundwater to prevent its discharge to a wetland adjacent to
- the Facility. In 1997, Kalama Chemical, Inc. constructed an interim corrective measure in the
- 25 "West Impacted Area" of the Facility (the WIA ICM). The WIA ICM consists of a soil vapor
- 26 extraction system, seven recovery wells in the intermediate sand water-bearing zone, and two

- shallow interception trenches adjacent to the Columbia River. BF Goodrich Kalama, Inc. has
- 2 operated and maintained both the NIA ICM and the WIA ICM since their construction.
- Hazardous Substances have been and continue to be released from the Facility
- 4 into the environment including surface water, groundwater beneath and beyond the facility, air,
- 5 and human work areas.

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V. ECOLOGY DETERMINATIONS

- Ecology makes the following determinations without any express or implied admissions

 by BF Goodrich Kalama, Inc. or Rogers Sugar Ltd.
 - 1. Respondents are persons within the meaning of RCW 70.105D.020(14).
- BF Goodrich Kalama, Inc. is the current owner and operator of the Facility that
- has operated, is operating, or should have been operating under interim status subject to Section
- 3005(e) of RCRA and regulations promulgated thereunder, including authorized state regulations
- in Chapter 173-303 WAC. BC Sugar is the former parent and a contractual indemnitor of
- Kalama Chemical, Inc. BC Sugar owned the Facility at times when Releases of Hazardous
- 15 Substances occurred
- 16 Certain wastes and other materials found at the Facility are Hazardous Substances.
- Ecology has determined that Releases and potential Releases of Hazardous
- Substances at and/or from the facility may present a threat to human health and the environment.
- By letter dated November 11, 1997, Kalama Chemical, Inc. voluntarily waived its
- 20 rights to notice and comment and accepted Ecology's determination that Kalama Chemical, Inc.
- is a "potentially liable person" under RCW 70.105D.040. By facsimile dated November 20,
- 22 1997, BC Sugar voluntarily waived its rights to notice and comment and accepted Ecology's
- determination that BC Sugar is a "potentially liable person" under RCW 70.105D.040. By doing
- so, neither BF Goodrich Kalama, Inc. nor BC Sugar admitted guilt or accepted liability under
- state or federal law. Both parties accepted Ecology's determination that they are "potentially
- 26 liable parties" to expedite the cleanup of the Facility.

- Pursuant to RCW 70.105D.030(1) and RCW 70.105D.050, the Department may require potentially liable persons to investigate or conduct other Remedial Actions with respect to the Release or threatened Release of Hazardous Substances, whenever it believes such action
 - 7 Ecology finds that the actions, including investigations, required by this Order are in the public interest.

VI. WORK TO BE PERFORMED

Based on the foregoing Findings of Fact and Ecology Determinations, it is hereby ordered that Respondents and their contractors take the following Remedial Actions and that these actions be conducted in accordance with Chapter 173-340 WAC and applicable provisions of Chapter 173-303 WAC, unless otherwise specifically provided for herein.

- Respondents shall conduct a remedial investigation as specified in Chapter 173-340 WAC and the attached Scope of Work for Remedial Investigation and Feasibility Study, and Preparation of Draft Cleanup Action Plan ("Scope of Work") (Attachment 2) Upon completion of the remedial investigation, a report containing the results and documentation of the remedial investigation shall be submitted for Ecology's review according to the schedule set forth in Attachment 3.
- Respondents shall conduct a feasibility study as specified in Chapter 173-340

 WAC and the attached Scope of Work. Upon completion of the feasibility study, a report containing the results and documentation of the feasibility study shall be submitted for Ecology's review and approval and according to the schedule attached as Attachment 3.
 - Respondents shall draft a cleanup action plan (CAP) as specified in the Scope of Work to satisfy the requirements of Chapter 173-340 WAC and to concurrently satisfy the corrective action requirements of WAC 173-303-646(3).
- Ecology shall prepare the associated SEPA documents and submit the remedial investigation, feasibility study, draft CAP and associated SEPA documents for public review and comment.

to be in the public interest.

1	5.	Respondents shall modify the draft CAP, if r	necessary	according to an	v conditions

- specified in Ecology's approval letter. It is the intent of the parties that the selected cleanup or
- 3 corrective actions will be designed and implemented pursuant to a subsequently negotiated
- 4 consent decree. A permit modification will be initiated which will incorporate by reference
- 5 relevant portions of the consent decree into the RCRA permit to be issued jointly by the U.S.
- 6 Environmental Protection Agency and Ecology
- Respondents shall maintain a Health and Safety Plan under which site-specific
- 8 activities will be conducted. The Health and Safety Plan shall be submitted to Ecology for
- 9 review and comment but not approval or disapproval.
- Respondents will continue to operate and maintain the NIA ICM and WIA ICM,
- unless Ecology directs otherwise. All monitoring and reporting requirements associated with the
- interim measures shall be according to the attached Scope of Work (Attachment 2).
- 13 Respondents shall submit a quarterly progress report by the 15th day of the month
- following each reporting period ending March 31, June 30, September 30, and December 31.
- 15 The quarterly progress report shall include the following information:
- A. Summary of the current status of activities that were conducted during the
- past quarter and significant results. All submittals to Ecology during the past quarter shall be
- 18 identified.
- B Summary of investigative and/or remedial activities planned for the
- following quarter, including anticipated submittals.
- 21 C. A description of and justification for any significant deviations from the
- 22 approved Work Plan made during the previous quarter, any significant problems encountered
- 23 during the previous quarter and actions taken to correct them.
- Once approved or conditionally approved in writing by Ecology, work plans,
- 25 reports or the draft CAP identified in the Scope of Work (Attachment 2) are incorporated by
- reference and become enforceable parts of this Order as if fully set forth herein. These
- submittals shall be provided to Ecology as required according to the attached Schedule

- 1 (Attachment 3) During the performance of work under an approved work plan, field
- 2 modifications to the submittal may be agreed to verbally with the concurrence of all Project
- 3 Managers Such field modifications will take effect, however, only after Respondents submit a
- 4 written description of the modification to the Ecology Project Manager, and Ecology's Project
- 5 Manager provides written confirmation of the agreed modification. To expedite this process, the
- 6 Project Managers may transmit their descriptions and confirmation by facsimile and/or electronic
- 7 mail

- No later than fifteen days after discovery, by either BF Goodrich Kalama, Inc. or
- 9 Rogers Sugar, the discovering party shall notify Ecology's Project Manager in writing of any
- newly identified Releases that are to soil or groundwater. Respondents shall investigate and
- report on these Releases as directed by Ecology's Project Manager. If required, the investigation
- 12 (assessment) and reporting shall be done in accordance with the procedures specified in this
- order and in the attached Scope of Work.
- 14 All performance monitoring and operating data (including water level results and
- laboratory analysis) developed pursuant to this Order, shall be submitted in written and/or
- electronic format to be set forth in the work plan for the Remedial Investigation
- All draft plans, reports or other documents submitted to Ecology, shall be
- reviewed for approval, approval with conditions, or comments. Respondents shall incorporate
- 19 Ecology's comments in a revised draft document, or if directed by Ecology, the draft modified
- by Ecology's comments shall constitute the final approved document

VII. TERMS AND CONDITIONS OF ORDER

- 22 Public Notices: WAC 173-340-600(10)(c) requires a thirty (30) day public
- comment period before this Agreed Order becomes effective. Ecology shall be responsible for
- 24 providing such public notice and reserves the right to modify or withdraw any provisions of this
- 25 Order should public comment disclose facts or considerations which indicate to Ecology that the
- 26 Order is inadequate or improper in any respect.

1	2. Remedial and	Investigative Costs: Respondents agree to pay costs incurred by
2	Ecology pursuant to this Ord	er These costs shall include work performed by Ecology or
3	Ecology's contractors for inv	vestigations, Remedial Actions, and Order preparation, negotiations,
4	oversight and administration	Ecology costs shall include costs of direct activities and support
5	costs of direct activities as de	efined in WAC 173-340-550(2). Prior to December 31 of each year,
6	Ecology will provide Respon	ndents with a summary of estimated costs, by category, for the
7	upcoming year Respondent	s agree to pay the required amount within ninety (90) days of
8	receiving from Ecology an i	temized statement of costs that includes a summary of costs incurred,
9	an identification of involved	staff, and the amount of time spent by involved staff members on
10	the project. A general descr	iption of work performed will be provided. Itemized statements will
11	be prepared quarterly. Failu	re to pay Ecology's costs within ninety (90) days of receipt of the
12	itemized statement of costs	will result in interest charges at the rate of twelve (12) percent per
13	annum If Ecology determin	nes that additional work beyond that defined in the work plan is
14	required, Ecology will provi	de written notification to Respondents, including the scope of the
15	proposed work. Responden	ts may undertake the work, and shall notify Ecology within fourteen
16	(14) days of receipt of Ecolo	ogy's written notification whether or not they intend to undertake the
17	work. Respondents shall als	so notify Ecology at least seven (7) days before commencing the
18	work.	
19	3. <u>Designated F</u>	Project Managers: The Project Manager for Ecology is:
20	Name:	Leon J. Wilhelm, PE
21	Address:	Department of Ecology
22		Southwest Regional Office
23		P.O. Box 47775
24		Olympia, Washington, 98504-7775
25		Telephone: (360) 407-6362 Fax: (360) 407-6305
26 27		E-mail: leow461@ecy.wa.gov
28	The Project Manager for BI	
29	Name:	Kenneth J. Willings
30	Address:	BF Goodrich Specialty Chemicals

9911 Brecksville Rd Cleveland, OH 44141-3247 2 Telephone: (216) 447-5636 3 Fax: (216) 447-5760 4 5 6 The Project Manager for Rogers Sugar is: 7 8 Name: F. Randolph Smith Address: c/o 1550 - 355 Burrard Street 9 Vancouver, B.C. V6C 2G8 10 Canada 11 Telephone: (604) 688-8533 12 Fax: (604) 688-3569 13 E-mail: rsmith@balaclava.com 14 The Project Managers shall be responsible for overseeing the implementation of this 15 Order. To the maximum extent possible, communications between Ecology and BF Goodrich 16 Kalama, Inc. and Rogers Sugar, and all documents, including reports, approvals, and other 17 correspondence concerning the activities performed pursuant to the terms and conditions of this 18 Order, shall be directed through the Project Managers. Should Ecology, BF Goodrich Kalama, 19 Inc., or Rogers Sugar change Project Managers, written notification shall be provided to all other 20 parties at least ten (10) days prior to the change, if possible. 21 Performance: All work performed by Respondents pursuant to this Order shall be 4. 22 under the direction and supervision, as appropriate, of a professional engineer or hydrogeologist, 23 or similar expert, with appropriate training, experience and expertise. Respondents shall notify 24 Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors to be 25 used in carrying out the terms of this Order. Respondents shall provide a copy of this Order to 26 all contractors retained to perform work required by this Order Respondents remain obligated 27 by this Order regardless of whether they carry out its terms through agents, contractors, and/or 28 consultants. 29 After the effective date of this Order and upon termination of the existing EPA Agreed 30 Order, Respondents shall not perform any Remedial Actions at the BF Goodrich Kalama, Inc. 31

facility other than those required by this Order unless Ecology concurs, in writing, concurrence

not to be unreasonably withheld, with such additional Remedial Actions or unless necessary to abate an emergency situation

All sampling, analyses, and reporting of results performed under this Order shall be consistent with the quality assurance and quality control procedures described in the Ecology publication <u>Guidelines and Specifications for Preparing Quality Assurance Project Plans</u>,

Publication 91 16.

5 Access:

A Scope of Work Activities

Ecology or any Ecology-authorized representative shall have the authority to enter and freely move about the Facility at all reasonable times for the purposes of, among other things, inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting samples as Ecology or the Project Manager may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology Ecology shall allow split or replicate samples to be taken by Respondents during an inspection unless doing so interferes with Ecology's sampling Respondents shall allow split or replicate samples to be taken by Ecology and shall provide seven (7) days notice to Ecology before conducting any sampling activity or other field activity specified in approved work plans. All parties with access to the Facility pursuant to this section shall comply with an approved health and safety plan.

B. Excavation and Operations Activities

BF Goodrich Kalama, Inc. agrees to provide at least seven (7) days notice to Ecology prior to any significant excavation activities within portions of the Central Area of the Facility. The areas requiring such notice are described in Map 1, which is Attachment 4 to this Order. If as a result of such excavations Ecology determines that additional work is required, the parties may modify the Scope of Work under this Order.

- Public Participation: Ecology will prepare a public participation plan including a
- 2 public notice and fact sheet and will have the responsibility for public participation.
- 3 Respondents will assist in coordinating and implementing public participation as requested by
- 4 Ecology This may include providing electronic copies of mailing lists to Ecology and providing
- 5 Ecology with four (4) copies of all documents that have been prepared by BF Goodrich Kalama,
- 6 Inc. and/or Rogers Sugar and their consultants.
- 7 Retention of Records: Respondents shall preserve in a readily retrievable fashion,
- during the pendency of this Order and for ten (10) years from the date of Ecology's written
- 9 notification that all requirements of this Order have been satisfactorily completed, reports,
- documents, and underlying data in their possession relevant to this Order. Should any portion of
- the work performed hereunder be undertaken through contractors, then Respondents agree to
- include in their contract with such contractors or agents a record retention requirement meeting
- the terms of this paragraph.
- Dispute Resolution: In the event Respondents in good faith dispute an approval,
- disapproval, proposed modification or other decision or action by Ecology's Project Manager,
- 16 Respondents shall utilize the dispute resolution procedure set forth below:
- 17 A BF Goodrich Kalama, Inc. and/or Rogers Sugar shall notify Ecology's
- Project Manager of any objection to a decision within twenty-one (21) days of receipt of the
- 19 notice of disputed action. Such notification shall be in writing and directed to the signatory, or
- 20 his/her successor(s), of this Order
- 21 B. The parties' Project Managers shall then confer in an effort to resolve the
- 22 dispute If the Project Managers cannot resolve the dispute within fourteen (14) days, Ecology's
- 23 Project Manager shall issue a written decision.
- 24 C. BF Goodrich Kalama, Inc. and/or Rogers Sugar may then request Ecology
- 25 management review of the decision. This request shall be submitted in writing to Ecology's
- 26 Hazardous Waste and Toxics Reduction Program Manager or her or his designee within seven
- 27 (7) days of receipt of Ecology's Project Manager's decision

Ecology's resolution of the dispute shall be binding. During the pendency of any dispute

2 resolution hereunder, the schedules related to the approval, disapproval, proposed modification,

decision or action being disputed, and all subsequent related schedules will be extended for a

4 period equal to the period required to complete dispute resolution.

This dispute resolution process in this Paragraph 8 will be superseded by the process to be described in the corrective action section of BF Goodrich Kalama, Inc.'s BIF permit when such permit takes effect.

Reservation of Rights: This Agreed Order is not a settlement under Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any Ecology rights or authority. Ecology will not, however, bring an action against Respondents singly or together to recover remedial action costs paid to and received by Ecology under this Agreed Order. In addition, Ecology will not take additional enforcement actions against Respondents to require those Remedial Actions required by this Agreed Order, provided Respondents comply with this Order.

Ecology reserves the right, however, to require additional Remedial Actions at the Facility as set forth in Paragraph 2. or 5 B. of this Section VII or under its authority should it deem such actions necessary. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the Releases or threatened Releases of Hazardous Substances from the Kalama Chemical facility.

- Endangerment: In the event Ecology determines that conditions at the Facility are creating or have the potential to create a threat to the health or welfare of the people on the Facility or in the surrounding area or to the environment, Ecology may order Respondents to stop further implementation of this Order for such period of time as needed to abate the threat.
- 11. <u>Transference of Property</u>: Prior to any voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in the property, BF Goodrich Kalama, Inc. shall provide for continued implementation of all requirements of this Order.

Prior to transfer of any legal or equitable interest BF Goodrich Kalama, Inc. may have in the property, and during the effective period of this Order, BF Goodrich Kalama, Inc. shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in such interest. BF Goodrich Kalama, Inc. shall use its best efforts to notify Ecology at least ten (10) days prior to the finalization of any contemplated transfer.

12 Compliance with Other Applicable Laws:

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- A. All actions carried out by BF Goodrich Kalama, Inc. and Rogers Sugar pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in subparagraph B of this paragraph.
- Pursuant to RCW 70.105D 090(l), the substantive requirements of В. 11 Chapters 70.94, 70.95, 70.105, 75.20, 90.48, and 90.58 RCW are incorporated by reference. 12 Respondents have a continuing obligation to determine whether additional permits or approvals 13 would otherwise be required for the Remedial Action under this Order. In the event that 14 additional permits or approvals are required for the Remedial Action under this Order, 15 Respondents shall promptly notify Ecology of this determination. Ecology agrees that 16 Respondents shall be responsible to contact the appropriate state and/or local agencies. Ecology 17 shall make the final written determination on the additional substantive requirements that must 18 19 be met by Respondents and on how Respondents must meet those requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this 20 Order Ecology shall ensure that notice and opportunity for comment is provided to the public 21 and appropriate agencies prior to establishing the substantive requirements under this 22 subparagraph 23
 - C. Pursuant to RCW 70.105D 090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D 090(1) would result in the loss of approval from a federal agency which is necessary for the State to administer any federal law, the exemption shall not apply and Respondents shall

- comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D 090(l), including any requirements to obtain permits
- 3 Modifications. This Order can be modified by mutual written agreement of the 4 parties.
 - Extension of Schedule: An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least twenty-one (21) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. The request shall specify the reason(s) the extension is needed. Ecology shall endeavor to act upon any request for extension in a timely fashion. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. A requested extension shall not be effective until approved by Ecology. Good cause includes, but is not limited to the following:
 - A Circumstances beyond the reasonable control and despite the due diligence of Respondents including (1) delays caused by unrelated third parties or Ecology, including, but not limited to, delays by Ecology in reviewing, approving, or modifying documents submitted by Respondents; or (2) delays caused by third parties in granting, reviewing or approving permits where Respondents have applied for permits in a timely manner; or (3) delays caused by the good faith initiation of dispute resolution pursuant to Paragraph 8 of this Section VII; or
 - B Acts of God, including fire, flood, blizzard, extreme temperatures, or other unavoidable catastrophe, casualty, or unplanned interruption to operations; or
 - C. Acts of war or workforce strike.

VIII. STIPULATED PENALTIES

1. For each day Respondents fail to comply with any time schedules contained within Section VI of this Agreed Order, or any other time schedules approved or modified in writing by Ecology, Respondents stipulate and agree that Ecology may, at its discretion, assess a stipulated penalty according to the following schedule:

I	A: Op to \$250 for each day of each violation for the first ten (10) days of
2	violation;
3	B Up to \$500 for each day of each violation for days eleven (11) through
4	twenty (20) of the violation;
5	C. Up to \$5,000 for each day of each violation for days twenty-one (21) and
6	thereafter
7	If imposed, all stipulated penalties shall be payable within thirty (30) days of assessment to the
8	Department of Ecology, Cashiering Section, P.O. Box 5128, Lacey, Washington 98503-0210.
9	Any disputes arising over Ecology's issuance of a stipulated penalty shall be addressed only
10	under Section VII.8 of this Agreed Order.
11	2. Respondents shall not be liable for payment under this Section if Respondents
12	have submitted to Ecology a timely request for an extension of schedules, as described in Section
13	VII 14 of this Agreed Order, and if Ecology has not denied the request.
14	The stipulated penalties provisions of this Agreed Order do not preclude Ecology
15	from pursuing any other remedies or sanctions that may be available to Ecology based on the
16	failure of BF Goodrich Kalama, Inc or Rogers Sugar to comply with provisions of applicable
17	law, except that issuance of stipulated penalties pursuant to this section shall preclude Ecology
18	from issuing civil penalties under Chapter 70 105 RCW, or from requesting a court to impose
19	civil penalties under Chapter 70 105D RCW, based upon the same facts underlying issuance of
20	the stipulated penalty
21	4. Stipulated penalties paid under these provisions shall not be deemed damages or
22	any form of payment for any harm caused as a result of the failure of BF Goodrich Kalama, Inc.
23	or Rogers Sugar to comply with a time schedule established in or pursuant to this Agreed Order
24	IX. SATISFACTION OF THIS ORDER
25	The provisions of this Order shall be deemed satisfied upon BF Goodrich Kalama, Inc.'s
26	and Rogers Sugar's receipt of written notification from Ecology that the actions required by this

1	Order, as am	ended by any modifications, and that all other provisions of this Agreed Order have
2	been comple	ted.
3		X. ENFORCEMENT
4	Pursu	nant to RCW 70.105D 050, this Order may be enforced as follows:
5	1	The Attorney General may bring an action to enforce this Order in a state or
6	federal court	•
7	2.	The Attorney General may seek to recover, by filing an action if necessary, the
8	amounts spen	nt by Ecology for investigative and Remedial Actions and orders related to the
9	facility	
10	3	In the event Respondents refuse, without sufficient cause, to comply with any
11	term of this	Order, Respondents will be liable for:
12		A up to three times the amount of any costs incurred by the state of
13	Washington	as a result of its refusal to comply; and
14		B. civil penalties of up to \$25,000 per day for each day it refuses to comply
15	4	This Order is not appealable to the Washington Pollution Control Hearings Board
16		nay be reviewed only as provided under RCW 70 105D 060
17 18	Effective dat	te of this Order: November 5, 1998
19 20 21 22 23		WASHINGTON ENT OF ECOLOGY
24 25 26 27	K Seiler Hazardo Reductio	, Supervisor us Waste and Toxics on Section est Regional Office

BF GOODRICH KALAMA, INC.

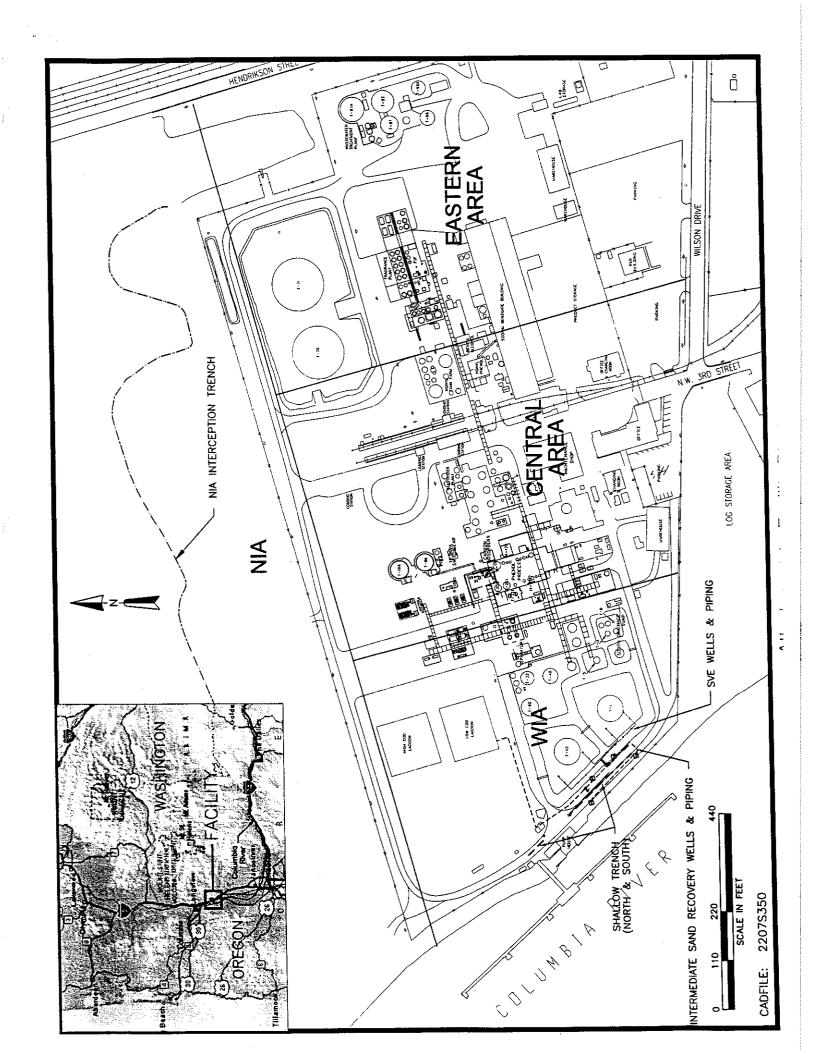
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ATTACHMENT 2

SCOPE OF WORK FOR REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AND PREPARATION OF DRAFT CLEANUP ACTION PLAN

The Remedial Investigation and Feasibility Study and preparation of the draft Cleanup Action Plan shall be accomplished in accordance with Chapter 173-340 WAC and this Agreed Order and will be performed according to the following tasks Unless otherwise defined in this Agreed Order or Scope of Work, terms such as "deep sand aquifer", mean the same as these terms are defined in the draft Supplemental RCRA Facility Investigation Report dated December 19, 1997 (Supplemental RFI) The Tasks in this Scope of Work will be submitted according to the Schedule included as Attachment 3 Ecology will use its best efforts to provide Respondents with comments on all submittals within forty-five (45) days from the time they are received by Ecology

Task 1 Prepare Remedial Investigation Work Plan

Respondents will submit a draft work plan for the Remedial Investigation (RI) for Ecology's review and approval according to the schedule set forth in Attachment 3 The Remedial Investigation will supplement data obtained and reported in the RCRA Facility Investigation (RFI) report dated August 29, 1994 and analytical results and other data from field investigations contained in the draft Supplemental RFI. The purpose of the RI Work Plan is to specify the remaining activities Ecology deems necessary to identify and locate contaminant sources originating at the facility, and to identify all potential routes and pathways through which contaminants originating from identified areas of known contamination and sources may migrate to potential human and/or ecological receptors

Respondents will revise the RI Work Plan as necessary to incorporate all Ecology comments in accordance with the Schedule in Attachment 3 Upon approval of the RI Work Plan, or its approval with conditions by Ecology, Respondents will perform the investigations required thereunder

The RI Work Plan shall address the following objectives:

A. East Area

The primary objective of additional investigation in the East Area of the site is to characterize the nature and extent of the documented contamination in the deep sand aquifer at MW-224. The initial investigation will consist of installing Geoprobe TM borings (or similar devices) and taking groundwater samples in at least seven locations. Ecology will review results of the initial investigation to determine whether further investigation is required to evaluate the severity and potential pathways of the existing identified contamination. Additional investigation, if required, may include installation of additional monitoring wells and evaluation of the influences of variation in Columbia River stages on flow patterns that may affect potential pathways of identified contamination in the East Area.

B. North Impacted Area

The objective of work in the North Impacted Area is to evaluate the operation of the interim corrective measure and evaluate the effectiveness of containment of known contamination. By April1998, Respondents will have conducted one more round of groundwater monitoring pursuant to the North Impacted Area Interim Corrective Measure Monitoring Plan, approved by EPA in a letter dated October 15, 1996. In addition, Ecology understands that Respondents will collect groundwater samples during this monitoring round from KC-23 and PZ-102. An additional well, screened in the shallow aquifer in the vicinity of NTP-3, will also be constructed and sampled during the remedial investigation.

As discussed in Task 5, Ecology and EPA will jointly review and comment on the North Impacted Area monitoring report. Ecology will subsequently evaluate results of the NIA ICM Report, results of the April 1998 monitoring and any other relevant data to determine; 1) changes to the existing EPA-approved NIA ICM Monitoring Plan and 2) whether additional characterization and/or monitoring will be incorporated into the Remedial Investigation Work Plan and conducted as part of the remedial investigation.

C. Wetlands

Sampling and analysis of Kalama Wetlands sediments and surface water will occur at the sampling locations and for the parameters specified in the Addendum to Ecological Risk Assessment Monitoring Plan for Sediment and Surface Water Sampling at the Kalama Wetlands, dated June 10, 1997 The purpose of this sampling is to further verify a conclusion stated in the Kalama Wetland Ecological Risk Assessment (Pentec Environmental, Inc October 1996) ("ERA") that concentrations of metals in surface water and sediments are likely to remain constant or to decline, and that "present sediment concentrations do not appear to be significantly affecting either water or plant tissue concentrations and are not of significance to wildlife" (ERA at pages 67, 74) After reviewing results of the third round of sampling of wetlands sediments and surface water, scheduled for late summer 1998, Ecology will determine whether this conclusion is supported by the data, or if additional sampling is required

D. Central Area

The principal objective of further investigation in the Central Area is to supplement existing characterization of the nature, extent and severity of contamination in soils and in groundwater in the upper fill aquifer and underlying interbedded unit. This characterization is needed to evaluate alternative cleanup approaches in the feasibility study and to determine the potential for off-site migration of contaminants and the degree to which potentially migrating contaminants might impact the operation of the North and West Impacted Area Interim Corrective Measures

For the purposes of this investigation, the eastern portion of the West Impacted Area will be considered part of the Central Area This includes the area east of the T-1 and T-42 containment areas

From select existing groundwater monitoring wells and piezometers in the Central Area, one round of groundwater quality samples will be collected and analyzed for volatile organic compounds, semi-volatile organic compounds, and metals. Water level measurements will also be taken. This will occur temporally with a future round of groundwater quality monitoring in the North and West Impacted Areas. The purpose is to facilitate the evaluation of site-wide contaminant distribution.

Existing product detection wells will also be examined to determine whether free product is present. If present, free product will be characterized. The product detection wells will also be evaluated for use as groundwater monitoring wells. If feasible, one round of groundwater quality samples will be collected from select product detection wells and analyzed for volatile organic compounds, semi-volatile organic compounds, and metals. Water level measurements will also be taken. This will occur temporally with monitoring of existing groundwater monitoring wells and piezometers in the Central Area.

Data collected as specified in the previous paragraphs and existing data, including "T" boring data, will be integrated to produce graphical representations of lithology and contaminant distribution in the Central Area Ecology will then determine how much further investigation will be required to evaluate the vertical and horizontal extent, severity, and potential pathways of identified contamination as necessary to develop and evaluate remedial action alternatives for the Feasibility Study

The primary candidate areas for further evaluation and/or investigation include the former flare stack line, the former process sewer lines, the rail loading area, the API separator, the phenol process area, the phenol tank farm, the benzene finishing columns, the former location of T-222, and the carbon absorption system

"Further investigation" may include the continued monitoring of specific groundwater monitoring wells, piezometers, and product detection wells, the installation and sampling of additional soil borings, and the installation and monitoring of additional groundwater monitoring wells.

E. West Impacted Area

A primary objective of the remedial investigation in the West Impacted Area (WIA) of the site is to evaluate the effectiveness of the WIA Interim Corrective Measure (ICM) Ecology and EPA will jointly review and comment on the WIA ICM Monitoring Report which will be submitted and reviewed as discussed in Task 5 Ecology will subsequently evaluate results of the WIA ICM Report and other relevant data to determine: 1) changes to the existing EPA-approved WIA ICM Monitoring Plan and 2) whether additional characterization and/or monitoring will be incorporated into the Remedial Investigation Work Plan and conducted as part of the remedial investigation.

Ecology understands that free product (LNAPL) has been detected in one of the recovery wells (ISRW-3) in 1997 during operation of the WIA ICM The first time free product is

detected, it will be sampled and characterized. The free product will be removed as practical and its extent will be evaluated during the remedial investigation.

The RI Work Plan will also provide a proposal to evaluate hydraulic containment at various river stages so as to generate capture zone analysis. The specific approach and data analysis methods for the river stage influence study shall be included in the RI work plan.

The north section of the shallow interception trench was shortened from its original design because of obstruction by underground utility lines to the riverbank in this area. Contaminant distribution in the area north of the trench extension shall be further investigated during the remedial investigation to determine whether contamination is migrating or has the potential to migrate to the Columbia River.

F. Sampling and Analysis Plan

A draft Sampling and Analysis Plan shall be submitted as an appendix to the draft RI Work Plan The Sampling and Analysis Plan shall meet the requirements specified in Chapter 173-340 WAC and shall be consistent with guidance contained in the Ecology publication <u>Guidelines and Specifications for Preparing Quality Assurance Project Plans</u>, May 1991

Task 2 Conduct Remedial Investigation and Prepare Remedial Investigation Report

The Remedial Investigation will be conducted according to the activities and schedule in the approved RI Work Plan. Respondents shall use best efforts to conduct RI sampling coincident with ICM performance sampling as set forth in Task 5. A draft Remedial Investigation Report shall be prepared based on the approved Work Plan and the results of the work thereunder. The results of investigations performed to meet the objectives of the RI Work Plan will be presented in full

Respondents shall revise the RI report as necessary to incorporate all Ecology comments in accordance with the Schedule in Attachment 3. Upon its approval or approval with conditions by Ecology, the Remedial Investigation Report, in conjunction with the RFI and analytical results and other data from field investigations collected for the draft SRFI, will comprise the remedial investigation required under this Agreed Order and Scope of Work

Task 3 Prepare Feasibility Study Work Plan

Respondents will submit a draft work plan for the Feasibility Study for Ecology's review and approval in accordance with the schedule set forth in Attachment 3

Respondents will revise the FS Work Plan as necessary to incorporate all Ecology comments in accordance with the Schedule in Attachment 3 Upon approval of the FS Work Plan, or its approval with conditions by Ecology, Respondents will perform the work required thereunder

The FS Work Plan shall address the following items:

A. Cleanup Levels and Objectives

The Feasibility Study Work Plan shall propose for Ecology's approval cleanup levels and cleanup objectives in accordance with requirements in Chapter 173-340 WAC

B. Preliminary Screening of Remedial Technologies

The Feasibility Study Work Plan shall include a preliminary screening of remedial technologies and alternatives that, when combined with the existing Interim Corrective Measures, will satisfy the cleanup levels and objectives. The most promising technologies and alternatives will be considered alone and/or in combination to form a number of final remedies for the facility to be carried forward for detailed evaluation in the feasibility study. It is envisioned that five to eight preliminary alternatives will be proposed in the FS Work Plan for detailed evaluation that will provide a reasonable range of options for achieving the proposed cleanup objectives.

C. Evaluation Criteria

The Feasibility Study Work Plan will propose the specific evaluation criteria based on the threshold and other requirements specified in WAC 173-340-360 to be used for the detailed evaluation of the alternatives identified in the Work Plan

Task 4 Conduct Feasibility Study and Prepare Feasibility Study Report

The Feasibility Study will be conducted according to the approved FS Work Plan including any conditions that Ecology may attach to Ecology's letter of approval. The Feasibility Study will address each alternative individually and on a comparative basis using the technical, environmental and human health criteria specified in WAC 173-340-360 and in the approved FS Work Plan. Respondents will prepare a Feasibility Study Report based on the approved Work Plan and the results of the work thereunder.

Respondents shall revise the FS report as necessary to incorporate all Ecology comments in accordance with the Schedule in Attachment 3. Upon its approval or approval with conditions by Ecology, the Feasibility Study Report will comprise the feasibility study required under this Agreed Order and Scope of Work.

Task 5 Interim Corrective Measures Evaluation

A. North Impacted Area Interim Corrective Measure Evaluation

The NIA ICM consists of an interception trench in the shallow aquifer Respondents will continue to operate the NIA ICM in accordance with existing EPA approved work plans for the duration of this Order, unless otherwise directed by Ecology

Respondents submitted the North Impacted Area (NIA) Interim Corrective Measure (ICM) Annual Monitoring Report (NIA ICM Report) required under the EPA agreed order to EPA and Ecology on April 29 1998. The NIA ICM Report presents results of monitoring conducted in 1997 and evaluates the effectiveness of the NIA ICM Ecology and EPA will jointly review and comment on the NIA ICM Report. Respondents will revise the NIA ICM Report as necessary to incorporate the joint EPA/Ecology comments

B. West Impacted Area Interim Corrective Measure Evaluation

The WIA ICM consists of an interception trench (with two separate segments) in the shallow aquifer, soil vapor extraction system in the shallow aquifer and recovery wells in the intermediate sand aquifer. Respondents shall continue to operate the WIA ICM in accordance with existing EPA-approved work plans for the duration of this Order, unless otherwise directed by Ecology.

Respondents will submit the West Impacted Area (WIA) Interim Corrective Measures (ICM) Annual Monitoring Report (WIA ICM Report) presently required under the EPA agreed order to EPA and Ecology in accordance with the Schedule in Attachment 3 The WIA ICM Report will present results of all monitoring conducted during the covered period and will evaluate the effectiveness of all components of the WIA ICM

Ecology and EPA will jointly review and comment on the WIA ICM Report. Respondents will revise the WIA ICM Report as necessary to incorporate the joint EPA/Ecology comments.

Task 6 Environmental Indicator Reporting

To assist Ecology in meeting a condition of Ecology's Federal RCRA Grant and to provide information for the Model Toxics Control Act Annual Report, Respondents shall annually submit to Ecology information on the number of pounds of contaminants addressed and the volume of contaminated media remediated or contained from the implementation of corrective action at the facility. This information shall be submitted by February 15 of each calendar year in a format approved by Ecology.

Task 7 Prepare Draft Cleanup Action Plan

Respondents will submit a proposed draft Cleanup Action Plan (CAP) to implement the alternative recommended in the approved Feasibility Study report The proposed CAP will comply with WAC 173-340-360 (10).

Ecology will modify the proposed CAP if necessary to satisfy the requirements of WAC 173-340-360 and WAC 173-340-400 and to concurrently satisfy the corrective action requirements of WAC 173-303-646 Ecology will issue the draft Cleanup Action Plan and associated SEPA documents for public review and comment

ATTACHMENT 3

SCHEDULE

Task 1 Prepare Remedial Investigation Work Plan

- a) Respondents shall submit a draft RI work plan within forty-five (45) days of the effective date of this Order.
- b) Respondents shall submit a revised draft of the RI work plan within fortyfive (45) days of receiving Ecology's comments on the initial draft of the RI Work Plan.

Task 2 Conduct Remedial Investigation and Prepare Remedial Investigation Report

- a) Respondents shall submit a draft Remedial Investigation Report according to the schedule in the approved RI Work Plan.
- b) Respondents shall submit a revised draft of the RI Report within forty-five (45) days of receiving Ecology's comments on the initial draft of the RI Report.

Task 3 <u>Prepare Feasibility Study Work Plan</u>

- a) Respondents shall submit a draft FS Work Plan within forty-five (45) days of receiving Ecology's approval of the RI Report.
- b) Respondents shall submit a revised draft of the FS work plan within 45 days of receiving Ecology's comments on the initial draft of the FS Work Plan.

Task 4 Conduct Feasibility Study and Prepare Feasibility Study Report

- a) Respondents shall submit a draft Feasibility Study Report within ninety (90) of receiving Ecology's approval of the FS Work Plan.
- b) Respondents shall submit a revised draft of the FS Report within thirty (30) days of receiving Ecology's comments on the initial draft of the FS Report.

ATTACHMENT 3: SCHEDULE OF WORK - 1

Task 5 Interim Corrective Measures Evaluation

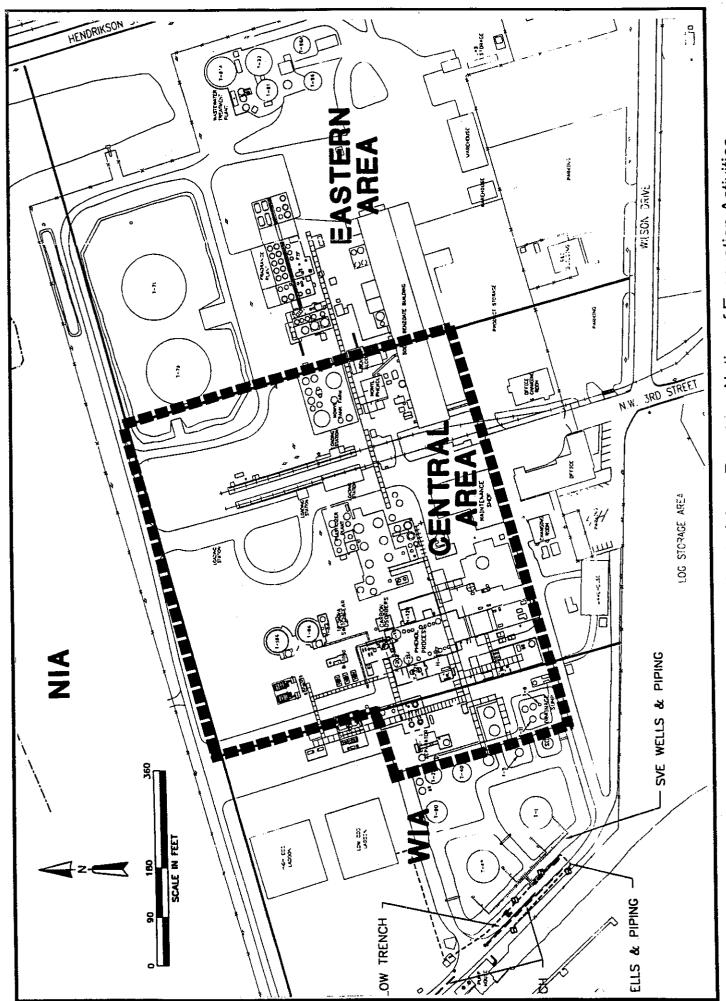
Respondents shall submit the WIA Interim Corrective Measures Annual Monitoring Report within thirty (30) days of the effective date of this Order, but in any case, not later than July 31, 1998.

Task 6 Environmental Indicator Reporting

Respondents shall submit not later than February 15, for the prior year.

Task 7 Prepare Draft Cleanup Action Plan

Respondents shall submit the draft Cleanup Action Plan within ninety (90) days of receiving Ecology's approval of the Feasibility Study Report.



Attachment 4. Areas Within the Central Area Requiring Notice of Excavation Activities.