Trans Mountain Pipeline

FS 2993

State of Washington
Department of Ecology

In the Matter of Remedial Action by:	)	Enforcement Order No. DE 91-N192
Trans Mountain Oil Pipe Line Corporation	)	

601 West Broadway
Suite 800, Broadway Plaza
Vancouver, B.C. V5Z 4C5
Canada

To: Glenn A. Irving
Vice President, Secretary,
and General Counsel

Michael Boyle
Corporate Solicitor
and Assistant
Secretary

I.

Jurisdiction

This Order is issued pursuant to the authority of RCW 70.105D.050(1).

II.

Statement of Facts

1. The Department of Ecology (Ecology) observed a release of natural gas condensate, a petroleum product, on January 15, 1991 at and from the Trans Mountain Oil Pipe Line Corporation - Laurel Pump Station, 1009 East Smith Road, Bellingham, Washington.

2. Trans Mountain Oil Pipe Line Corporation is the owner and operator of the Laurel Pump Station.

3. Trans Mountain Oil Pipe Line Corporation responded to the reported release and commenced containment and cleanup operations. Trans Mountain Oil Pipe Line Corporation also retained a geotechnical consulting firm to perform a site assessment, which was received by Ecology on May 20, 1991. On June 19, 1991, Trans Mountain Oil Pipe Line Corporation concurred with Ecology's decision to issue an Enforcement Order to expedite remedial actions at the facility.

4. The Facility or Site is defined as the Laurel Pump Station property and all other properties in the vicinity of the pump station property which have been affected or are potentially affected by the natural gas condensate leak or other spills, leaks or discharges of hazardous substances from the pump station, if any, including the following areas: (1) Area 1 - all property located up to 350 feet west of the pump station property line, south of Smith Road, including the portion of the access easement located west of the pump station property line; (2) Area 2 - all property located north of Area 1 including the adjacent eastern access road, north of Smith Road; (3) Area 3 - Deer Creek and its tributaries including all wetlands, ditches, culverts, streams, ponds, creeks, and other surface water bodies and uplands adjacent to Deer Creek and its tributaries from the southern Smith Road culvert, immediately north of Area 1, downstream to Guide Meridian Road. The facility or site definition may be expanded based on the results of future remedial actions.

5. Petroleum products are defined as hazardous substances under the Model Toxics Control Act, Chapter 70.105D RCW, and pose a threat to human health and the environment.

6. Soil, sediments, groundwater, and surface water at the facility have been demonstrated to be contaminated with petroleum product based on the results presented in the following plans and reports: (1) Proposed Site Assessment Plan For The Condensate Spill At Laurel Pump Station, January 15, 1991, Trans Mountain Oil Pipe Line Corporation, February 1, 1991; (2) Laurel Pump Station Condensate Spill: Fisheries Assessment, Seymour & Associates, May 16, 1991; and (3) Site Assessment Report - Soil & Water Analysis, Laurel Pump Station Natural Gas Condensate Spill, East Smith Road, Whatcom County, Washington, Purnell & Associates, May 17, 1991.

III.

Ecology Determinations

1. The Trans Mountain Oil Pipe Line Corporation is an "owner and operator" as defined in RCW 70.105D.020(6) of a "facility" as defined in RCW 70.105D.020(3).

2. The facility is known as the Laurel Pump Station and properties (Areas 1, 2, and 3) in the vicinity of the pump station affected or potentially affected by the natural gas condensate leak. Laurel Pump Station is located at 1009 East Smith Road. Area 1 is located west of the pump station,

south of Smith Road; Area 2 is located north and northeast of Area 1, north of Smith Road; and Area 3 is located within and adjacent to Deer Creek and its tributaries from the southern Smith Road culvert, north of Area 1, to Guide Meridian Road.

3. The substances found at the facility as described above are "hazardous substances" as defined in RCW 70.105D.020(5).

4. Based on the presence of these hazardous substances at the facility and all factors known to the Department, there is a release or threatened release of hazardous substances from the facility, as defined in RCW 70.105D.020(10).

5. By a letter of April 1, 1991, Trans Mountain Oil Pipe Line Corporation voluntarily waived its rights to notice and comment and accepted Ecology's determination that Trans Mountain Oil Pipe Line Corporation is a "potentially liable person" under RCW 70.105D.040.

6. Pursuant to RCW 70.105D.030(1) and 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 to be in the public interest.

7. Based on the foregoing facts, Ecology believes the remedial action required by this Order is in the public interest.

IV.

Work to be Performed

Based on the foregoing Facts and Determinations, it is hereby ordered that Trans Mountain Oil Pipe Line Corporation take the remedial actions described in the attached Exhibit A, Scope of Remedial Actions, and Exhibit B, Performance Schedule for Remedial Actions. Exhibit A and B are incorporated by reference and are an integral and enforceable part of this Enforcement Order.

V.

Terms and Conditions of Order

1. Definitions

Unless otherwise specified, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms used in this Order.

2. Public Notice

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that the Order is inadequate or improper in any respect.

3. Remedial Action Costs.

Trans Mountain Oil Pipe Line Corporation shall pay to Ecology costs incurred by Ecology prior to the effective date of the Order and costs incurred by Ecology pursuant to this Order. These costs shall include work performed by Ecology or its contractors for investigations, remedial actions, and Order preparation, oversight and administration. Ecology costs shall include costs of direct activities; e.g., employee salary, laboratory costs, travel costs, contractor fees, and employee benefit packages; and agency indirect costs of direct activities. Trans Mountain Oil Pipe Line Corporation shall pay the required amount within 90 days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, a general description of work performed, an identification of involved staff, and the amount of time spent by involved staff members on the project. Failure to pay Ecology's costs within 90 days of receipt of the itemized statement of costs may result in interest charges.

4. Designated Project Coordinators.

The project coordinator for Ecology is:

Name Barbara J. Trejo
Washington State Department of Ecology

Address 3190 - 160th Avenue Southeast
Bellevue, Washington 98008-5452

The project coordinator for Trans Mountain Oil Pipe Line Corporation is:

Name Dan O'Rourke

Trans Mountain Oil Pipe Line Corporation

Address 601 West Broadway

Suite 800, Broadway Plaza

Vancouver, B.C. V5Z 4C5 Canada

The project coordinators shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and Trans Mountain Oil Pipe Line Corporation, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the project coordinators. Should Ecology or Trans Mountain Oil Pipe Line Corporation change project coordinators, written notification shall be provided to Ecology or Trans Mountain Oil Pipe Line Corporation at least ten (10) calendar days prior to the change.

5. Performance. All work performed pursuant to this Order shall be under the direction and supervision, as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate training, experience and expertise in hazardous waste site investigation and cleanup.

Trans Mountain Oil Pipe Line Corporation shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors to be used in carrying out the terms of this Order, in advance of their involvement at the Site.

WAC 173-340-400(7)(b)(i) requires that "construction" performed on the Site must be under the supervision of a professional engineer registered in Washington.

6. Access

Ecology or any Ecology authorized representative shall have the authority to enter and freely move about all property at the Site at all reasonable times for the purposes of, inter alia: 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 coordinator 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 by Trans Mountain Oil Pipe Line Corporation. Ecology shall provide reasonable notice before entering property unless an emergency prevents notice. While at the Site, Ecology and any Ecology authorized representatives shall observe reasonable safety requirements imposed by Trans Mountain Oil Pipe Line Corporation, provided that such requirements are brought to

the attention of Ecology and any Ecology authorized representatives. Ecology shall allow split or replicate samples to be taken by Trans Mountain Oil Pipe Line Corporation during an inspection unless doing so would interfere with Ecology's sampling. Trans Mountain Oil Pipe Line Corporation shall allow split or replicate samples to be taken by Ecology and shall provide Ecology seven (7) days notice before any sampling activity.

To the extent that compliance with this Order requires access to property not owned or controlled by Trans Mountain Oil Pipe Line Corporation, Trans Mountain Oil Pipe Line Corporation shall make every reasonable effort to obtain signed access agreements for itself, its contractors, and agents, and provide Ecology with copies of such agreements. With respect to non-Trans Mountain Oil Pipe Line Corporation property upon which monitoring wells, pumping wells, treatment facilities, or other response actions are to be located, the access agreements to the extent practicable shall also provide that no conveyance of title, easement, or other interest in the property shall be consummated without provisions for the continued operation of such wells, treatment facilities, or other response actions on the property. The access agreements should also provide to the extent practicable that the owners of any property where monitoring wells, pumping wells, treatment facilities, or other response actions are located shall notify Ecology by

certified mail at least thirty (30) days prior to any conveyance, of the property owner's intent to convey any interest in the property and of the provisions made for the continued operation of the monitoring wells, treatment facilities, or other response actions installed pursuant to this Order.

7. Public Participation

Trans Mountain Oil Pipe Line Corporation shall assist Ecology in preparing and/or updating a public participation plan for the Site. Trans Mountain Oil Pipe Line Corporation may assist Ecology with the plan preparation prior to the issuance of the Order. Ecology shall maintain the responsibility for public participation at the Site. Trans Mountain Oil Pipe Line Corporation shall help coordinate and implement public participation for the Site.

8. Retention of Records

Trans Mountain Oil Pipe Line Corporation shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of the work performed hereunder be undertaken through contractors or agents of Trans Mountain Oil Pipe Line Corporation, a record retention requirement meeting the terms of this paragraph shall be required of such contractors and/or agents.

9. Dispute Resolution

Trans Mountain Oil Pipe Line Corporation may request Ecology to resolve factual or technical disputes which may arise during the implementation of this Order. Such request shall be in writing and directed to the signatory of this Order. Ecology resolution of the dispute shall be binding and final. Trans Mountain Oil Pipe Line Corporation is not relieved of any requirement of this Order during the pendency of the dispute and remains responsible for timely compliance with the terms of the Order unless otherwise provided by Ecology in writing.

10. Reservation of Rights

Ecology reserves all rights to issue additional orders or take any action authorized by law in the event or upon the discovery of a release or threatened release of hazardous substances not addressed by this Order, upon discovery of any factors not known at the time of issuance of this Order, in order to abate an emergency, or under any other circumstances deemed appropriate by Ecology.

In the event Ecology determines that conditions at the Site are creating or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the environment, Ecology may Order Trans Mountain Oil Pipe Line Corporation to stop further implementation of this Order for such period of time as needed to abate the danger.

11. Transference of Property

No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by Trans Mountain Oil Pipe Line Corporation without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to transfer of any legal or equitable interest Trans Mountain Oil Pipe Line Corporation may have in the Site or any portions thereof, Trans Mountain Oil Pipe Line Corporation shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in such interest. At least thirty (30) days prior to finalization of any transfer, Trans Mountain Oil Pipe Line Corporation shall notify Ecology of the contemplated transfer.

12. Compliance With Other Applicable Laws

All actions carried out by Trans Mountain Oil Pipe Line Corporation pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements.

13. Revisions to the Scope of Work and Schedule

Revisions to the scope of work or to the schedule shall be granted only when a request for revision is submitted within five business days after Trans Mountain Oil Pipe Line

Corporation knew or should have known of the need for the revision, and when good cause exists for granting the revision. All revision shall be requested in writing. The request shall specify the reason(s) the revision is needed. A revision of schedule shall be granted only for such period as Ecology determines is reasonable under the circumstances. A requested revision shall not be effective until approved by Ecology, which approval shall be confirmed in writing.

The burden shall be on Trans Mountain Oil Pipe Line Corporation to demonstrate to the satisfaction of Ecology that good cause exists for granting a revision. Good cause includes, but is not limited to, the following:

1. Circumstances entirely beyond the control and despite the due diligence of Trans Mountain Oil Pipe Line Corporation such as difficulty in obtaining access to property not owned or controlled by Trans Mountain Oil Pipe Line Corporation;

2. Delays directly attributable to any changes in or need to comply with permit terms or conditions or to appeals on or lack of a permit, concurrence, or approval needed to implement the terms of this Order, provided that Trans Mountain Oil Pipe Line Corporation filed a timely application for such a permit, concurrence or approval; and

3. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, earthquake, wave or water conditions, strikes or other labor disputes or other unavoidable casualty.

However, neither increased costs of performance of the terms of this Order, nor changed economic circumstances, nor unavailability of qualified personnel to perform work required by the terms of this Order shall be considered good cause for granting a revision.

VI.

Satisfaction of this Order

The provisions of this Order shall be deemed satisfied upon Trans Mountain Oil Pipe Line Corporation's receipt of written notice from Ecology that Trans Mountain Oil Pipe Line Corporation has completed the remedial activity required by this Order, as amended by any modifications, and that all other provisions of this Enforcement Order have been complied with.

VII.

Enforcement

1. Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

   A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. In the event Trans Mountain Oil Pipe Line Corporation refuses, without sufficient cause, to comply with any term of this Order, Trans Mountain Oil Pipe Line Corporation will be liable for:

(1) up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and

(2) civil penalties of up to $25,000 per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: October 28, 1991

Michael J. Gallagher

Michael J. Gallagher

EXHIBIT A

SCOPE OF REMEDIAL ACTIONS

I. INTERIM ACTIONS

A. Submit a written response to each comment included in Ecology's June 19, 1991 comment letter on Purnell & Associates' May 17, 1991, Site Assessment Report - Soil and Water Analysis, Laurel Pump Station Natural Gas Condensate Spill, East Smith Road, Whatcom County, Washington and the Seymour & Associates' May 16, 1991, Laurel Pump Station Condensate Spill: Fisheries Assessment. The written response shall be in a report or letter format and shall include responses made prior to the issuance of this Order.

B. Groundwater and Surface Water Monitoring System

1. Submit to Ecology for review and approval a work plan and a sampling and analysis plan for the installation and sampling of groundwater monitoring wells at Area 1 to monitor the potential off-site migration of contaminants in the shallow groundwater aquifer from Area 1 and the selection and sampling of surface water stations from the southern Smith Road culvert to Guide Meridian Road to monitor surface water quality. The plans shall meet the submittal requirements under WAC 173-340-430(6). The sampling and analysis plan shall also include a summary of the cleanup levels in each affected or potentially affected media for each contaminant of concern.

2. Install the groundwater monitoring wells, establish the surface water sampling stations, and collect concurrent groundwater and surface water samples after receiving Ecology's approval of the work plan and the sampling and analysis plan, described in B1, above.

3. Submit to Ecology for review a groundwater monitoring well installation report which includes but is not limited to a discussion of well installation procedures, copies of soil boring logs, and well installation diagrams.

4. Submit to Ecology a written report of all chemical analytical results for each sampling event along with copies of all laboratory analytical and quality control/quality assurance (QA/QC) data. The report shall also include discussions of any changes to the sampling and analytical procedures described in the sampling and analysis plan prepared for B.1, above; data quality based on the results of QA/QC data; and exceedances of cleanup levels.

5. Submit to Ecology for review and approval a plan to address interim actions which will be taken when cleanup levels are exceeded.

C. Submit to Ecology for review detailed hydrogeological cross sections which cover the area within a one-mile radius of the leak site to confirm Purnell & Associates hypothesis that no aquifer other than the shallow aquifer is contaminated with natural gas condensate or other contaminants related to the Laurel Pump Station and that no drinking water wells are affected. Logs from registered and unregistered wells identified within a one-mile radius of the leak site as well as any other information available to Trans Mountain or their consultants shall be used to develop the cross sections.

D. Dam and Surface Water Maintenance

1. Submit to Ecology for review a plan for maintaining and operating Dam #2, located downstream of Smith Road, and Dam #3, east of Hannegan Road. The plan shall also include a discussion of the cleanup of visible contamination on the surface water. A copy of the plan shall also be sent by certified or registered mail to Mark Schuller, Department of Fisheries (Fisheries), 333 E. Blackburn Road, Mt. Vernon, Washington for Fisheries files.

2. Begin implementation of dam and surface water maintenance plan.

E. Spill Prevention Plan

1. Submit to Ecology for review a spill prevention plan which shall address future potential leaks, spills, or unauthorized discharges from the Laurel Pump Station site. The plan shall include but not be limited to the following information and procedures:

a. A description of a reporting system to be used to notify immediately persons responsible for the management of the facility and appropriate state, federal, and local authorities;

b. A description and a site plan showing equipment or facilities for the prevention, containment or treatment of leaks, spills, and unauthorized discharges;

c. A list of all hazardous substances as defined in Chapter 70.105D RCW, Hazardous Waste Cleanup - Model Toxics Control Act which are used, processed, or stored at the facility including the normal quantity maintained on the premises. The applicable Material Safety Data Sheets (MSDS) shall be included as an appendix to the plan.

d. A brief description of any leaks, spills, or unauthorized discharges which occurred during the 36-month period preceding the effective date of this Order and subsequent measures taken by Trans Mountain Oil Pipe Line Corporation to prevent or to reduce the possibility of further leaks, spills, or unauthorized discharges; and

e. An implementation schedule for additional equipment or facilities which might be required for E.1.b, above, but which are not yet operational.

The Spill Prevention Plan must be reviewed and certified by a professional engineer registered in the State of Washington. Such certification shall in no way relieve Trans Mountain Oil Pipe Line Corporation of its duty to prepare and fully implement the Spill Prevention Plan for the Laurel Pump Station.

2. Begin the Spill Prevention Plan implementation.

F. Oil/Water Separator

1. Submit to Ecology as-builts of the Laurel Pump Station oil/water separators along with a list of hazardous substances that historically may have been discharged. The as-builts shall identify historic sources connected to the separators as well as current sources.

2. Submit a sampling and analysis plan for water samples to be collected from the separators. The initial sampling round shall include priority pollutant and petroleum hydrocarbon analyses if the sources which discharge to the separators cannot be determined. If the sources discharging to the separators have been identified then the sampling may be limited to those hazardous substances associated with each source. The sampling and analysis plan shall meet the submittal requirements of WAC 173-340-430(6).

3. Collect water samples from the oil/water separator outlets.

4. Submit to Ecology a written report of the chemical analytical results for each separator sampling event. The report shall include a summary of the analytical and quality control/quality assurance results, copies of all laboratory analytical and quality control/quality assurance data, and describe any changes to the procedures described in the sampling and analysis plan prepared for F.2, above.

G. Supplemental Site Investigation

1. Submit to Ecology for review and approval a supplemental site investigation work plan and sampling and analysis plan to determine the following:

   a. the vertical and horizontal extent of soil and groundwater contamination at the Laurel Pump Station. The pump station soil investigation shall include but not be limited to the following: (a) the natural gas condensate leak site; (b) the drain tile and surrounding backfill and native soil; (c) the soil downgradient of the drain tile outlet; and (d) the soils affected by the discharge from the oil/water separator(s);

   b. the vertical extent of soil contamination and horizontal and vertical extent of groundwater contamination of Area 1;

   c. the horizontal and vertical extent of soil, sediment, surface water, and groundwater contamination of Area 2; and

   d. the horizontal and vertical extent of soil, sediment, surface water, and groundwater contamination of Area 3.

   The work plan and sampling and analysis plan shall include the appropriate items in WAC 173-340-430(6), Submittal Requirements.

2. Conduct the supplemental investigation described in G.1, above.

3. Submit to Ecology for review a written report of the results of the supplemental site investigation described in G.1, above.

H. Modified Feasability Study - Area 3: Soil, Sediment, and Surface Water; Area 2: Sediment and Surface Water; Laurel Pump Station: Wetland Soils; and Areas 1, 2, 3, and Laurel Pump Station: Groundwater

1. Submit to Ecology for review a modified feasability study which shall evaluate alternative cleanup actions for contaminated soil, sediment, and surface water for Area 3; contaminated sediment and surface water for Area 2; contaminated wetland soils for the Laurel Pump Station; and contaminated groundwater in Areas 1, 2, 3, and the Laurel Pump Station. An evaluation of alternative cleanup actions that protect human health and the environment by eliminating, reducing or otherwise controlling risks posed through each exposure pathway and migration route shall be required. The cleanup action alternatives shall be selected as described in WAC 173-340-350(6)(e).

I. Wetlands

1. Submit to Ecology a wetland determination/delineation for the Laurel Pump Station property; Area 1; Area 2; and the portions of Area 3, which have been affected by the natural gas condensate leak. A wetland mitigation plan shall be required for cleanup actions in wetland areas of the site. Appropriate wetland delineation shall be accomplished in advance of the wetland mitigation plan. Attachment 1, Report Recommendations For Wetland Determinations/Delineations and Compensatory Wetlands Mitigation Plans provides general guidelines for wetland determinations/delineations.

2. Submit to Ecology a Wetland Mitigation Plan for the Laurel Pump Station property; Area 1; Area 2; and Area 3. Attachment 1 provides general guidelines for Wetland Mitigation Plans.

3. Implement the wetland mitigation plan.

J. Interim Cleanup Action - Laurel Pump Station Property: Non-Wetland Areas Only

1. Submit to Ecology a work plan and a sampling and analysis plan for the following interim cleanup actions for non-wetland areas of the Laurel Pump Station property:

   a. Removal of the existing drain tile;

   b. Excavation of any contaminated non-wetland soils which exceed the cleanup criteria for the contaminants of concern. Contaminated non-wetland soils and any stockpiled soils from the leak site excavation shall be immediately moved to on-site treatment beds for bioremediation immediately after excavation.

c. Backfilling of the excavations completed for J.1.a and J.1.b with clean native soil or structural fill. Compacted native soils or structural fill used for backfilling must have hydraulic conductivity values less than or equal to the in-situ native soils to prevent this area from acting as a conduit for any potential future leaks, spills, or discharges from this site unless the backfill cannot be placed to meet hydraulic conductivity values due to limitations imposed by the pipe line. The backfilled areas must immediately be reseeded with appropriate fast growing native vegetation to prevent sedimentation to nearby surface waters.

d. Evaluate whether a new drainage system should be installed to replace the drain tile. Install the new drainage system as required. The new system shall contain any future potential leaks or discharges of hazardous substances.

The work plan and sampling and analysis plan shall include the appropriate items in WAC 173-340-430(6), Submittal Requirements. In addition to the items identified in WAC 173-340-430(6), the following shall be included in the plans:

(1) An evaluation of the feasability of conducting the work described in J.1.a to J.1.d., above, during the different seasons when precipitation varies;

(2) A State Environmental Policy Act (SEPA) checklist or environmental impact statement (EIS) for all interim actions which require a state, county, or city permit and/or National Environmental Policy Act (NEPA) documents for federal permits;

(3) An application for a Water Quality Modification from the Department of Ecology - Water Quality Section, if required; and

(4) A sediment/drainage control plan which shall allow <u>no</u> sediments to be discharged to any surface water body including but not limited to wetlands, drainage ditches, creeks, streams, and ponds;

(5) A plan which describes how bioremediation will be accomplished. The on-site bioremediation must be managed to maximize bioremediation (destruction) of hazardous substances rather than aeration

(volatilization). While volatilization will occur during excavation and treatment, it should be minimized. Therefore, the following must be accomplished as part of the bioremediation at the site:

(a) Excavate and place soil in lined, covered treatment beds;

(b) Control and manage all runoff related to the bioremediation treatment beds; and

(c) properly manage the soil moisture, pH, temperature, and nutrient additions to maximize the bioremediation time frame.

2. Begin Interim Cleanup Actions

3. Submit report of interim cleanup actions to Ecology.

II. SELECTION OF CLEANUP ACTIONS

A. Trans Mountain shall submit a SEPA checklist or EIS to Ecology or other appropriate local or state agency and/or NEPA documents, if required, to appropriate federal agencies for the proposed draft cleanup action plan proposed by Ecology. The checklist, EIS, and/or other documents or copies shall be included, as a minimum, with the draft cleanup action plan for public comment. Ecology shall prepare and issue a draft cleanup action plan for the cleanup actions to be accomplished within the wetlands and non-wetlands for each of the following areas: Laurel Pump Station, Areas 1, Area 2, and Area 3. The draft cleanup action plan shall meet the requirements under WAC 173-340-360(10) and (11).

III. CLEANUP ACTIONS

A. Cleanup actions shall be accomplished by Trans Mountain in compliance with WAC 173-340-400, Cleanup Actions. Submit to Ecology for review and approval all plans, specifications, and other documents required under WAC 173-340-400(4). In addition to the requirements required under WAC 173-340-400(4), Trans Mountain shall prepare a wetland mitigation plan and an evaluation of the feasability of completing the cleanup action during the different seasons when precipitation varies. The evaluation shall be submitted with the plans, specifications, and other documents.

B. Implement cleanup actions after Ecology reviews and approves plans, specifications, wetland mitigation plans, and other documents.

EXHIBIT B

PERFORMANCE SCHEDULE FOR REMEDIAL ACTIONS

The performance schedule for remedial actions follows the format established in Exhibit A, Scope of Remedial Actions. All report and plan submittal dates described in this schedule are for final plans or reports. The maximum number of days after the effective date of the Enforcement Order for submittals or actions follows each item.

Ecology's failure to perform any obligation undertaken in this Order within the time specified in Exhibit B shall not excuse Trans Mountain Oil Pipe Line Corporation from performing any of its obligations under this Order. However, the time allowed for Trans Mountain Oil Pipe Line Corporation to perform any obligation that is dependent on the review or approval of Ecology shall be extended by the number of days that Ecology is late in completing such review or approval.

I. INTERIM ACTIONS

A. Response to Ecology comments . . . . . 30 days

B. Groundwater and Surface Monitoring

1. Trans Mountain submits plans and cleanup levels to Ecology . . . . . 21 days
Ecology reviews and approves plans. . . . 42 days

2. Complete 14 days after B.1 plan approved

3. Complete 7 days after wells installed

4. Complete 7 days after lab results received

5. Trans Mountain submits plan to Ecology. . 21 days
Ecology reviews and approves plan . . . . 42 days

C. Submit hydrogeological cross sections. . . . . 45 days

D. Dam and Surface Water Maintenance Plan

1. Submit maintenance plan . . . . . 30 days

2. Revise plan and begin plan implementation 14 days after receiving Ecology's comments.

E. Spill Prevention Plan

1. Submit Spill Prevention Plan. . . . . 90 days

2. Revise plan and begin plan implementation 14 days after receiving Ecology's comments.

F. Oil/Water Separator

1. Submit as-builts and list . . . . . 14 days

2. Trans Mountain submits plan to Ecology. . 21 days
Ecology reviews and approves plan . . . . 42 days

3. Complete 14 days after F.3 plan approved

4. Complete 7 days after lab results received

G. Supplemental Site Investigation

1. Trans Mountain submits plans to Ecology for Laurel Pump Station, Area 1, and Area 2. . . . . 28 days
Ecology reviews and approves plans for Laurel Pump Station, Area 1, and Area 2 . . . . . 49 days

Trans Mountain submits plans to Ecology for Area 3 . . . . . .14 days
Ecology reviews and approves plans for Area 3 . . . . . .28 days

2. Complete 14 days after G.1 plan approved for Laurel Pump Station, Area 1, and Area 2

Complete 45 days after G.1 plan approved for Area 3

3. Complete 30 days after G.2 completed for Laurel Pump Station, Area 1, and Area 2

Complete 14 days after G.2 completed for Area 3

H. Modified Feasability Study - Areas 1, 2, 3, and Laurel Pump Station

1. Submit study to Ecology 14 days after G.3 completed

I. Wetlands

1. Trans Mountain submits delineation for Laurel Pump Station, Area 1, Area 2, and Area 3 from southern Smith Road culvert to Hannegan road. . . . 60 days
Ecology reviews/comments on delineation. .105 days

Trans Mountain submits delineation for contaminated areas of Area 3 from Hannegan Road to Guide Meridian Road. . . . . DAYS TO BE DETERMINED BASED ON RESULTS OF THE SUPPLEMENTAL INVESTIGATION

2. Trans Mountain submits plan 14 days after final cleanup action plan issued by Ecology.

3. Trans Mountain implements wetland mitigation plan as required under Section III, Cleanup Actions

J. Interim Cleanup Action - Laurel Pump Station Property: <u>Non-Wetland Areas</u>

1. Trans Mountain submits plans. . . . . 130 days
Ecology reviews and approves plans. . . . 160 days

2. Begin interim cleanup actions - to be determined based on the evaluation completed under J.1.d(1) and the permit requirements and water quality modification in J.1.d(2) to J.1.d(3).

3. Submit report 30 days after interim action completed.

II. SELECTION OF CLEANUP ACTIONS

A. Ecology provides Trans Mountain with proposed cleanup actions for contaminated soils in Area 1, Area 2, and the Laurel Pump Station 30 days from the effective date of this order

Ecology provides Trans Mountain with proposed cleanup actions for contaminated soils, sediments, or surface water in Area 3, contaminated sediments and surface water in Area 2; contaminated wetland soil at the Laurel Pump Station; and contaminated groundwater in

Areas 1, 2, and 3 and the Laurel Pump Station within 30 days of the completion of H.1

Trans Mountain provides Ecology and other appropriate agencies with SEPA/NEPA documents or copies of documents. . . . . .120 days

Ecology issues a draft cleanup action plan for 30 day public comment period . . . . . .150 days

Ecology issues a final cleanup action plan . .210 days

III. CLEANUP ACTIONS

A. Trans Mountain submit plans, specifications, and other documents . . . . . 255 days

Ecology reviews and approves plans, specifications, and other documents . . . . . 300 days

B. Trans Mountain implements cleanup actions based on results of III.A . . . . . .DAYS TO BE DETERMINED

ATTACHMENT 1

REPORT RECOMMENDATIONS FOR WETLAND DETERMINATIONS/DELINEATIONS

1. General location map, using USGS Quadrangle, *(1": 2,000')*, with site clearly defined. If a site is not associated with easily recognizable landmarks, a smaller scale map may be appropriate.

2. Topographic map of area, preferably with two foot contour intervals.

3. Site map ***(large scale – no smaller than 1": 400')***.

4. For large and/or complex projects, a large scale *(1": 400' to 1": 100')* air photo with overlays displaying site property and wetland boundaries. An orthophotograph displaying 2 foot contour intervals is preferred. If an orthophotograph is not available, have the center of a small scale *(e.g. 1": 3,333' to 1": 5,000')* air photograph enlarged to 1": 400'.

5. Site designated on a National Wetland Inventory Map.

6. Site designated on a Soil Survey Report soils map with proximate soil series profile descriptions appended.

7. Discussion in text regarding methods and results with special emphasis on whether approach was simple, intermediate, or complex as described in the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands.

8. Any previous site documentation and/or analysis including but not limited to SEPA checklist, soils engineering analysis, plant and/or wetland inventories, Washington Natural Heritage Program data, threatened and endangered species, etc.

9 All completed field data sheets *(Corps format for 3 parameter application)* numbered to correspond with each sample site.

10. Map of numbered sample sites ***(large scale and superimposed on topographic map and/ or air photograph)***. The report should identify sites where one or more of the three parameters were not sampled.

11. Field stakes should be placed marking each sample site for agency verification.

12. The wetland boundary should be staked and flagged in the field and accurately mapped on a large scale map *(e.g., county assessor's map)* or on a large scale air photograph.

13. For difficult boundary determinations, at least three samples should be taken; one in the nonwetland, one in the wetland, and one at the boundary. All three wetland parameters *(soil, plants, hydrology)* should be displayed for each sample.

REPORT RECOMMENDATIONS
For Compensatory Wetlands Mitigation Plans

A. INTRODUCTION

Mitigation for creation, restoration or enhancement of wetlands should compensate for lost functions and values. Wetlands should be designed to be **persistent** features in the landscape, negating the need for continued water level manipulation, revegetation or other types of management. An available water supply is crucial to wetland development. Design should also consider relationships of the wetland to the watershed, other wetlands, adjacent uplands and deep water habitats.

B. THE WETLAND MITIGATION PLAN

(to be prepared by a qualified wetlands consultant)

1) **Conduct a thorough ecological assessment** of the impacted wetland. Compare the values and functions of the impacted wetland to the wetland to be created, restored or enhanced.

2) **Establish goals and objectives** for the mitigation site. Goals are broad and non-specific, objectives are site specific and direct the actions of the project. Include performance standards with specific criteria for measuring project success.

3) **Prepare detailed construction and revegetation plans.** Include where species are being planted, what is being planted and the size and density of plantings. Include the same information for the buffer area. Indicate drainages and topography to 2 ft. intervals. Specify a time schedule for construction events. Site work should include the following:

* erosion control, natural contouring, proper elevations
* plant only native species, control exotic species
* fertilize and irrigate as needed to increase plant survival
* have a biologist on site during all phases of construction

4) **Develop a monitoring plan** that will measure project success through sampling of specific criteria (eg. % plant cover, %plant survival). Use a standardized sampling technique to determine whether criteria have been met. Monitoring should be done at least annually and for a minimum for 5 years. Prepare a "time-zero" report which includes an as-built survey and photographs of the established wetland. Include a signed contract with a qualified consultant to ensure monitoring is conducted.

5) **Develop a contingency plan** for corrective actions to be taken if objectives are not met. The contingency plan should be enforced with a bond to ensure successful mitigation.

** *These are general guidelines only. For the complete guidelines, call the Department of Ecology at 493-9260.*