



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

4601 N. Monroe, Suite 202 • Spokane, Washington 99205-1295 • (509) 456-2926

February 25, 2000

CERTIFIED MAIL: Z 553 583 038

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Mr. William Schwerin
Schwerin Concaves, Inc.
Route #5, Box 314-A
Walla Walla, WA 99362

Dear Mr. Schwerin:

Enclosed is Enforcement Order No. 00HWTRER-693, issued by the Department of Ecology to Schwerin Concaves, Inc. This Enforcement Order requires Schwerin Concaves, Inc. to conduct a Remedial Investigation and Feasibility Study of soil and groundwater contamination at the Schwerin Concaves, Inc. electroplating facility in Walla Walla County, Washington.

This Enforcement Order supercedes and closes Administrative Order No. DE90-E719 dated October 15, 1990.

I am also enclosing a copy of the English and Spanish versions of a fact sheet which is being sent out to the public. A thirty-day comment period will be associated with the fact sheet to allow interested parties to provide input.

If you have any questions, please contact Keith Stoffel (509/456-3176) or Andy Fitz (360/459-6703) for more information.

Sincerely,

James L. Malm
Section Manager
Hazardous Waste & Toxics Reduction Program

Enclosures

cc: Andy Fitz, Office of Attorney General
Keith Stoffel, Ecology
Leila Anderson, Ecology
Leann Ryser, Ecology

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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In the Matter of Corrective Action at:)
)
SCHWERIN CONCAVES, INC.)
Two (2) miles north of Hwy. 12 on Sapolil Road)
Walla Walla County, WA)

ENFORCEMENT ORDER
No. 00HWTRER-693

TO: Mr. William Schwerin
Schwerin Concaves, Inc.
Route #5, Box 314-A
Walla Walla, WA 99362

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ATTACHMENTS

Attachment 1: Scope of Work for Remedial Investigation and Feasibility Study of the Schwerin Concaves, Inc. Electroplating Facility

I. JURISDICTION

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

II. 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.

Additional definitions are as follows:

1. Area of Concern (AOC) means any area of the Facility where a release of a dangerous constituent has occurred, is occurring, is suspected to have occurred, or threatens to occur.
2. Corrective Action means any activities including investigations, studies, characterizations and corrective measures, including actions taken pursuant to Chapter 70.105D RCW and Chapter 173-340 WAC, undertaken in whole or in part to fulfill the requirements of WAC 173-303-646.
3. Corrective Measure means any measure or action to control, prevent, or mitigate releases and/or potential releases of dangerous constituents, which is reviewed and approved by Ecology for the Facility and set forth in a Facility specific Cleanup Action Plan (CAP) prepared in compliance with the requirements of Chapter 173-340 WAC, including WAC 173-340-360. Corrective measures may include interim actions as defined by Chapter 173-340 WAC. Interim actions will not necessarily be set forth in a Facility specific CAP.
4. Dangerous Constituent means any constituent identified in WAC 173-303-9905 or 40 CFR Part 264 Appendix IX, any constituent which caused a waste to be listed or designated as dangerous waste under the provisions of Chapter 173-303 WAC, and any constituent defined as a hazardous substance at RCW 70.105D.020(7).
5. Dangerous Waste means any solid waste designated in WAC 173-303-070 through 173-303-100 as dangerous or extremely hazardous or mixed waste. Dangerous wastes are considered hazardous substances under RCW 70.105D.020(7).
6. Dangerous Waste Management Facility (DWMF) means all contiguous property under the control of Schwerin Concaves, Inc., who is seeking or required to have a permit under Chapter 173-303 WAC to treat, store, recycle, incinerate or dispose of dangerous waste. The Schwerin Concaves, Inc. hard chromium electroplating facility Walla Walla County, Washington is the DWMF.
7. Enforcement Order or Order means this Order issued under WAC 173-340-540. The term includes the text of this Order and all Ecology-approved submittals required

pursuant to this Order. Ecology-approved submittals are incorporated into this Order by this reference and are enforceable parts of this Order as if fully set forth herein.

8. Facility means the Dangerous Waste Management Facility (DWMF) controlled by Schwerin Concaves, Inc., all property contiguous to the DWMF also controlled by Schwerin Concaves, Inc., and all property, regardless of control, affected by releases or threatened releases of dangerous constituents, at and from these areas.
9. Permit or Permitting Requirement, unless otherwise specified, means the requirements of Chapter 173-303 WAC for applying for, obtaining, maintaining, modifying, and terminating dangerous waste management facility permits.
10. Release means the definition of release at RCW 70.105D.020(20), which includes any intentional or unintentional spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of dangerous constituents into the environment. It also includes the abandonment or discarding of barrels, containers, and other receptacles containing dangerous constituents.

III. OBJECTIVE

The objective of the corrective action required by this Order is to protect human health and safety by reducing the possibility of direct human contact with electroplating wastes, which emanate from the Schwerin Concaves, Inc. hard chromium electroplating facility, and have contaminated soil and groundwater on the facility.

IV. FINDINGS OF FACT

Ecology makes the following Findings of Fact:

1. Schwerin Concaves, Inc. has owned and operated its hard chromium electroplating facility from the late 1970s to the present. Contamination of soil and groundwater has been documented at two locations at the facility.
2. Past wastewater treatment operations resulted in high levels of hexavalent chromium being deposited in soil from a leaking treatment tank. This tank is located just north of the electroplating shop. Soil contamination to a depth of twenty-four (24) feet has been documented with the full characterization of this contamination being incomplete.
3. Contamination of soil with chromium has also occurred in the area formerly used to store "self-propelled" equipment. Chromium containing wastewater and/or wastewater treatment sludge was ponded and allowed to evaporate in this area. Contamination of soil to a depth of nine (9) feet has been documented with the full characterization of this contamination also being incomplete.

4. Contamination of groundwater with chromium has also occurred at the facility. Two drinking water wells on the Facility have been contaminated with chromium. The extent of groundwater contamination has not been fully characterized.
5. Schwerin Concaves, Inc. owned and operated their electroplating operation as a Dangerous Waste Management Facility on or after November 19, 1980, the date which subjects facilities to RCRA permitting requirements, including *interim status* requirements pursuant to Section 3005 of RCRA and implementing regulations thereunder, and including authorized state regulations promulgated in Chapter 173-303 WAC.
6. On June 14, 1988, Schwerin Concaves, Inc. submitted to Ecology a "Notification of Dangerous Waste Activities" (Form 2) for the electroplating facility. In the notification, Schwerin Concaves, Inc. indicates the company is a generator of dangerous waste and is a waste management facility (treatment) for chromic acid.
7. Though Schwerin Concaves, Inc. acted as a treatment facility for hazardous waste, the company never submitted a Part A permit application to gain an *interim status* permit nor a Part B permit application to gain a final status permit.
8. Pursuant to the June 14, 1988 notification, Schwerin Concaves, Inc. was issued State/EPA identification number WAD 023412216. On May 26, 1993, Schwerin Concaves, Inc. submitted a new "Notification of Dangerous Waste Activities" requesting that their facility status be changed from a treatment facility to permit-by-rule.
9. Ecology has determined the Schwerin Concaves, Inc. facility is a Dangerous Waste Management Facility (DWMF). The Schwerin Concaves, Inc. Facility includes all properties adjacent to the DWMF, regardless of control, which are affected by releases or threatened releases of dangerous constituents from the DWMF.
10. In 1989 and 1990, Schwerin Concaves, Inc. conducted investigations to characterize the nature and extent of contamination at the DWMF. Releases and/or potential releases of dangerous constituents from the DWMF have been documented in the following reports:
 - "A PROPOSAL TO CHARACTERIZE THE SURFACE AND SUBSURFACE SOIL CONDITIONS AT THE SCHWERIN CHROME CONCAVES FACILITY", dated February 7, 1989, prepared by Hahn and Associates, Inc.
 - "Preliminary Report on Schwerin Concaves and Hard Chrome Soil Sampling Results" dated June 21, 1989, prepared by Technico & Enviro Services Co.
 - "Chromium content in soils at Schwerin Concaves and Hard Chrome" dated October 11, 1989, prepared by Technico & Enviro Services Co.
 - "CLEAN-UP PLAN FOR SCHWERIN CONCAVES, INC.", dated March 9, 1990, prepared by Technico & Enviro Services Co.
 - "PROGRESS REPORT ON SCHWERIN CONCAVES CLEAN UP PLAN", dated May 2, 1990, prepared by Technico & Enviro Services Co.
11. Ecology issued ORDER No. DE 90-E719 on October 15, 1990. This Order compels the facility to submit for approval, and implement after approval, a plan for characterizing and

mitigating contamination. The facility never responded to any of the requirements of the Order and it is now considered unenforceable.

12. PRC Environmental Management, Inc. conducted a comprehensive evaluation of waste management practices under contract to the Environmental Protection Agency. Results of this evaluation identified areas of concern in the report titled, "*Final RCRA FACILITY ASSESSMENT SCHWERIN CONCAVES, INC. WALLA WALLA WASHINGTON*" dated September 4, 1991.
13. A preliminary "NOTICE OF POTENTIAL LIABILITY FOR THE RELEASE OF HAZARDOUS SUBSTANCES UNDER THE MODEL TOXICS CONTROL ACT" was sent to the facility on May 12, 1999.
14. A final "Determination of Potentially Liable Person Status" was sent to the facility on August 3, 1999.
15. An invitation to negotiate an Agreed Order for remediation of contamination at the site was sent to the facility on August 19, 1999. A response to the invitation was requested within 30 days of the receipt of the letter, but no response was received from the facility.

ECOLOGY DETERMINATIONS

1. Schwerin Concaves, Inc. is a person within the meaning of RCW 70.105D.020(14).
2. Schwerin Concaves, Inc. is the owner of a Dangerous Waste Management Facility which has operated under *interim status* subject to Section 3005(e) of RCRA and regulations promulgated thereunder, including authorized state regulations in Chapter 173-303 WAC. The Facility includes the electroplating facility, appurtenant property, and any contaminated groundwater plume emanating from it. It is located two (2) miles north of Highway 12 on Sapolil Road in Walla Walla County.
3. The electroplating wastes and chromium contaminated groundwater at the Facility are dangerous constituents as defined in Section II of this Order.
4. These dangerous constituents are considered hazardous substances within the meaning of RCW 70.105D.020(7).
5. Based on the Findings of Fact and the administrative record, Ecology has determined that releases and potential releases of dangerous constituents at and/or from the Facility are a threat to human health and the environment. Currently, soil and groundwater contamination is known to exist, but has not been characterized.
6. By letter dated August 3, 1999, Ecology notified Schwerin Concaves, Inc. that the Department has determined Schwerin Concaves, Inc. is a "potentially liable person" (PLP) under RCW 70.105D.040 for past releases of hazardous substances at the Facility.

7. Pursuant to RCW 70.105D.030(1) and RCW 70.105D.050, the Department may require potentially liable persons to investigate or conduct other corrective actions with respect to the release or threatened release of dangerous constituents, whenever it believes such action to be in the public interest.
8. In summary, dangerous constituents have been released into the environment from the Schwerin Concaves, Inc. electroplating facility and have impacted soil and groundwater beneath the facility. Two drinking water wells have been abandoned and replaced at the site due to contamination.
9. The corrective action required by this Order is in the public interest.

VI. WORK TO BE PERFORMED

Based on the foregoing Facts and Determinations, it is hereby ordered that Schwerin Concaves, Inc. take the following corrective action, and that this action be conducted in accordance with Chapter 173-340 WAC and applicable provisions of Chapter 173-303 WAC unless otherwise specifically provided for herein.

1. Schwerin Concaves, Inc. shall conduct a remedial investigation (RI) and a feasibility study (FS) of soil and groundwater contamination at the Facility. A "Scope of Work" for the RI/FS is attached to this Order as Attachment 1. The Scope of Work requires Schwerin Concaves, Inc. to complete the following tasks in accordance with the timelines established in the "Schedule of Deliverables" in Attachment 1:
 - Submittal of a work plan for the remedial investigation and feasibility study (RI/FS);
 - Implementation of the approved RI/FS work plan;
 - Submittal of a technical report documenting the results of the remedial investigation; and
 - Submittal of a Feasibility Study technical report.
2. The work plan for the RI/FS shall consist of a detailed description of work to be performed, personnel requirements, and schedules for implementation. The work plan shall include a Health and Safety Plan, a Sampling and Analysis Plan, and a Public Participation Plan.
3. The RI/FS work plan and each element thereof shall be designed, implemented, and completed in accordance with the Model Toxics Control Act (Chapter 70.105D RCW) and its implementing regulations (Chapter 173-340 WAC) as amended, in accordance with the corrective action requirements for a RCRA facility investigation and a RCRA corrective measures study in WAC 173-303-646, and in accordance with all other applicable federal, state, and local laws and regulations.
4. After review of the RI/FS work plan, Ecology shall notify Schwerin Concaves' project coordinator, in writing, of Ecology's approval or disapproval of the work plan. In the event

of disapproval, Ecology shall specify in writing both the deficiencies and modifications recommended by Ecology.

5. Once approved, or modified and approved, in writing by Ecology, submittals will be incorporated by reference and become enforceable parts of this Order as if fully set forth herein.
6. Schwerin Concaves, Inc. shall notify Ecology's project coordinator in writing of any newly-discovered areas of concern at the facility no later than thirty (30) days after discovery, and shall investigate and report on these areas as directed by Ecology's project coordinator. If required, the investigation and reporting shall be done in accordance with the attached RI/FS Scope of Work.
7. Progress reports shall be completed on a quarterly basis, and shall be submitted by the tenth day of the month in which they are due after the effective date of this Order. The reports shall address progress made during the period, work in progress, problem areas, key activities, deliverables submitted, field work and data generated, subcontracting, analytical services performed, and any key staffing changes.

VII. TERMS AND CONDITIONS OF ORDER

1. Public Notices:
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.
2. Remedial and Investigative Costs:
Schwerin Concaves, Inc. shall pay to Ecology costs incurred by Ecology pursuant to this Order. These costs shall include work performed by Ecology or Ecology's contractors for investigations, corrective actions, and Order preparation, negotiations, oversight and administration. Ecology costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2).

Schwerin Concaves, Inc. shall pay the required amount within ninety (90) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general description of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges.
3. Financial Assurance:
Schwerin Concaves, Inc. shall establish and maintain financial assurance by either a trust fund or a financial test, in the amount necessary to implement the required corrective action, as provided in WAC 173-340-440(7) and required by WAC 173-303-646(2)(a).

Schwerin Concaves, Inc. shall provide Ecology's project coordinator documentation of this financial assurance within sixty (60) days of Ecology's issuance of the Order. Schwerin Concaves, Inc. shall adjust the financial assurance coverage for changes in cost estimates and/or for inflation within thirty (30) days after each anniversary of the date the preceding costs were first prepared and shall provide Ecology's project coordinator documentation of the updated financial assurance.

Schwerin Concaves, Inc. shall notify Ecology's project coordinator by certified mail of the commencement of a voluntary or involuntary bankruptcy proceeding under Title 11, United States Code, naming Schwerin Concaves, Inc., within ten (10) days after commencement of the proceeding. In the event of bankruptcy of the trustee, or a suspension or revocation of the authority of the trustee institution to act as a trustee, Schwerin Concaves, Inc. must establish financial assurance (trust fund) with another authorized trustee institution within sixty (60) days after such an event.

4. Designated Project Coordinators:

The project coordinator for Ecology is:

Name: Keith L. Stoffel

Address: Department of Ecology, 4601 North Monroe, Suite 200, Spokane, WA 99205-1295

Telephone: (509) 456-3176

FAX: (509) 456-6175

E-mail: ksto461@ecy.wa.gov

The project coordinator for Schwerin Concaves, Inc. is:

Name: William Schwerin

Address: Route #5, Box 314-A, Walla Walla, WA 99362

Telephone: (509) 525-7556

The project coordinators shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and Schwerin Concaves, Inc., 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 Schwerin Concaves, Inc. change project coordinators, written notification shall be provided to Ecology or Schwerin Concaves, Inc. at least ten (10) calendar days prior to the change if possible.

5. Performance:

All work performed by Schwerin Concaves, Inc. 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 facility investigation and cleanup. Schwerin Concaves, Inc. 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 Facility. Schwerin Concaves, Inc. shall provide a copy of this Order

to all agents, contractors and subcontractors retained to perform work required by this Order and shall ensure that all work undertaken by such agents, contractors and subcontractors will be in compliance with this Order.

Except where necessary to abate an emergency situation, Schwerin Concaves, Inc. shall not perform any corrective actions at the Facility other than those required by this Order unless Ecology concurs, in writing, with such additional corrective actions.

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

Schwerin Concaves, Inc. shall provide seven (7) days notice to Ecology's project coordinator prior to conducting work activities that Ecology identifies on-site.

6. Access:

Ecology or any Ecology-authorized representative shall have the authority to enter and freely move about the DWMF 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 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 Schwerin Concaves, Inc. Ecology shall provide reasonable notice prior to entering the Facility unless an emergency prevents notice. Ecology shall allow split or replicate samples to be taken by Schwerin Concaves, Inc. during an inspection unless doing so interferes with Ecology's sampling. Schwerin Concaves, Inc. shall allow split or replicate samples to be taken by Ecology and shall provide seven (7) days notice before any sampling activity.

7. Retention of Records:

Schwerin Concaves, Inc. shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of issuance by Ecology of written notification that all requirements of this Order have been satisfactorily completed, 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 Schwerin Concaves, Inc., a record retention requirement meeting the terms of this paragraph shall be included in any contracts with such contractors and/or agents.

8. Dispute Resolution:

Schwerin Concaves, Inc. may request Ecology to resolve disputes which may arise during implementation of this Order. Such requests shall be in writing and directed to the signatory, or his/her successor(s), to this Order. Ecology resolution of the dispute shall be binding and final. Schwerin Concaves, Inc. 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.

9. Reservation of Rights:

Ecology reserves all rights to issue additional orders to take any action authorized by law in the event of, or upon the discovery of, a release or threatened release of dangerous constituents 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.

Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the releases or threatened releases of dangerous constituents from the Schwerin Concaves, Inc. DWMF.

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 Schwerin Concaves, Inc. to stop further implementation of this Order for such period of time as needed to abate the threat.

10. Transference of Property:

Prior to any voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the DWMF, Schwerin Concaves, Inc. shall provide for continued implementation of all requirements of this Order and implementation of any corrective actions found to be necessary as a result of this Order.

Prior to transfer of any legal or equitable interest Schwerin Concaves, Inc. may have in the DWMF or any portions thereof, Schwerin Concaves, Inc. 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, Schwerin Concaves, Inc. shall notify Ecology of the contemplated transfer.

11. Compliance with Other Applicable Laws:

- A. All actions carried out by Schwerin Concaves, Inc. 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 paragraph B of this section.
- B. Pursuant to RCW 70.105D.090(1), the substantive requirements of chapters 70.94, 70.95, 70.105, 75.20, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals for the corrective action under this Order that are known to be applicable at the time of issuance of the Order have been included in Section VI, the Work to Be Performed, of this Order, and are binding and enforceable requirements of the Order.

Schwerin Concaves, Inc. has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the corrective action under this Order. In the event Schwerin Concaves, Inc. determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the corrective action under this

Order, it shall promptly notify Ecology of this determination. Ecology shall determine whether Ecology or Schwerin Concaves, Inc. shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, Schwerin Concaves, Inc. shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the corrective action. Ecology shall make the final determination on the additional substantive requirements that must be met by Schwerin Concaves, Inc. and on how Schwerin Concaves, Inc. must meet those requirements. Ecology shall inform Schwerin Concaves, Inc. in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. Schwerin Concaves, Inc. shall not begin or continue the corrective action potentially subject to the additional requirements until Ecology makes its final determination.

Ecology shall ensure that notice and opportunity for comment is provided to the public and appropriate agencies prior to establishing the substantive requirements under this section.

- 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 Schwerin Concaves, Inc. shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.
- D. Some requirements herein are based on the applicable requirements of Chapter 70.105 RCW and Chapter 173-303 WAC.

VIII. SATISFACTION OF THIS ORDER

The provisions of this Order shall be deemed satisfied upon Schwerin Concaves, Inc.'s receipt of written notification from Ecology that Schwerin Concaves, Inc. has completed the corrective action required by this Order, as amended by any modifications, and that all other provisions of this Order have been complied with.

IX. 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 to recover, by filing an action if necessary, the amounts spent by Ecology for investigative and corrective actions and orders related to the Facility.
 - C. In the event Schwerin Concaves, Inc. refuses, without sufficient cause, to comply with any term of this Order, Schwerin Concaves, Inc. 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 \$2,500 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: March 1, 2000

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

By James J. Malm

**SCOPE OF WORK for
REMEDIAL INVESTIGATION and FEASIBILITY STUDY
at the SCHWERIN CONCAVES, INC. ELECTROPLATING FACILITY in WALLA WALLA
COUNTY, WASHINGTON**

This Scope of Work is included as an enforceable attachment to Enforcement Order No.00HWTRER-693, issued by the Department of Ecology (Ecology) to Schwerin Concaves, Inc. It is to be implemented by Schwerin Concaves, Inc. and/or its contractor(s) through the development and implementation of a work plan for a Remedial Investigation and Feasibility Study (RI/FS) at its electroplating facility located two (2) miles north of Highway 12 on Sapolil Road, Walla Walla County, Washington. Schwerin Concaves, Inc. and/or its contractor(s) shall furnish all personnel, materials, and services necessary for, or incidental to, executing the Scope of Work.

I. PURPOSE AND OBJECTIVES
OF THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

The purpose of the RI/FS is to collect, synthesize, and evaluate information to assess the nature and extent of soil and groundwater contamination resulting from past releases of hazardous substances to the environment at the Schwerin Concaves, Inc. facility, and to identify, screen, and evaluate remedial measures which could be implemented at the site. The RI/FS shall be conducted in accordance with all requirements in the Washington *Model Toxics Control Act* (Chapter 70.105D RCW) and its implementing regulations (Chapter 173-340 WAC). The RI/FS shall also concurrently satisfy the corrective action requirements in the state *Dangerous Waste Regulations* (WAC 173-303-646).

Remedial Investigation

The general purpose of the Remedial Investigation (RI) is to determine the nature and extent of soil and groundwater resulting from past releases of hazardous substances to the environment, to evaluate potential risks to human health and the environment from the contamination, and to identify remedial action objectives.

Objectives of the RI are to compile and synthesize all existing data and to collect all additional data required to:

- Describe all existing structures at the Schwerin Concaves, Inc. facility, including all buildings and improvements on properties not controlled by Schwerin Concaves, Inc. but affected by the past releases;

- Describe all past releases of hazardous substances at the site that are the result of Schwerin Concaves, Inc.'s operation of the electroplating facility;
- Identify soil and groundwater contaminants of concern at the site;
- Characterize the nature and extent of soil and groundwater contamination at the site;
- Characterize the hydrogeology at the site, including site physiography, surface water drainage patterns, groundwater flow direction and rate;
- Describe and evaluate contaminant migration pathways;
- Determine soil and groundwater cleanup levels established in the Washington *Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC)* and all other applicable federal, state, and local regulations;
- Conduct a baseline risk assessment for the Schwerin Concaves, Inc. facility, to evaluate potential risks to human health and the environment from soil and groundwater contamination; and
- Identify remedial action objectives for the Schwerin Concaves, Inc. facility.

Feasibility Study

The general purpose of the Feasibility Study (FS) is to identify, screen, and evaluate remedial measures that could be implemented at the Schwerin Concaves, Inc. facility to meet the remedial action objectives identified during the Remedial Investigation.

Objectives of the FS are to:

- Identify, screen, and evaluate remedial measures that could be implemented at the site to mitigate risks to human health and the environment;
- Identify cleanup action alternatives capable of meeting MTCA cleanup standards and all applicable or relevant and appropriate requirements (ARARs);
- Perform a comparative analysis of the identified alternatives, and evaluate both short-term and long-term capabilities of the alternatives to reduce toxicity, mobility, and/or volume of identified contaminants of concern at the site;
- Screen the cleanup action alternatives according to effectiveness, restoration time frame, implementability, performance, and cost, as well as other criteria defined under WAC 173-340-360;

- Conduct a detailed analysis of selected alternatives that evaluates the effectiveness, implementability, cost, and potential for permanent reduction of contaminant toxicity, mobility, and volume; and
- Recommend remedial action alternative(s) to be implemented at the Schwerin Concaves, Inc. facility.

II. PREVIOUS SITE INVESTIGATIONS

Several site investigations have already been conducted by Schwerin Concaves, Inc. to determine the nature and extent of soil and groundwater contamination resulting from past releases of hazardous substances to the environment at the Schwerin Concaves, Inc. electroplating facility. Data collected during these investigations have been submitted to Ecology in the following technical reports:

- *"A PROPOSAL TO CHARACTERIZE THE SURFACE AND SUBSURFACE SOIL CONDITIONS AT THE SCHWERIN CHROME CONCAVES FACILITY"*, dated February 7, 1989, prepared by Hahn and Associates, Inc.
- *"Preliminary Report on Schwerin Concaves and Hard Chrome Soil Sampling Results"* dated June 21, 1989, prepared by Technico & Enviro Services Co.
- *"Chromium content in soils at Schwerin Concaves and Hard Chrome"* dated October 11, 1989, prepared by Technico & Enviro Services Co.
- *"CLEAN-UP PLAN FOR SCHWERIN CONCAVES, INC."*, dated March 9, 1990, prepared by Technico & Enviro Services Co.
- *"PROGRESS REPORT ON SCHWERIN CONCAVES CLEAN UP PLAN"*, dated May 2, 1990, prepared by Technico & Enviro Services Co.

Collectively, these site investigation reports contain some of the information required to fulfill requirements in the Model Toxics Control Act (Chapter 173-340 WAC) and the state Dangerous Waste Regulations (Chapter 173-303 WAC) for the remedial investigation (RI) of soil and groundwater contamination at the Schwerin Concaves, Inc. facility. However, a remedial investigation must be completed to collect the remaining information required to complete the RI and to conduct a feasibility study for the site.

III. PLANNING AND IMPLEMENTATION TASKS FOR THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

⇒ TASK 1 -- SUBMITTAL OF A WORK PLAN FOR THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

Data required to complete a Remedial Investigation and a Feasibility Study (RI/FS) of soil and groundwater contamination at the Schwerin Concaves, Inc. facility must be collected during the remedial investigation. Schwerin Concaves, Inc. shall develop a work plan for the RI/FS that describes the work to be conducted to collect the additional information required for the RI/FS. The work plan shall include:

1. *SAMPLING AND ANALYSIS PLAN*

The Sampling and Analysis Plan (SAP) for the Remedial Investigation shall include the following:

A. *Sampling and Testing Plan*

This plan shall describe in detail the sampling and testing locations and methods to be employed to obtain all data required to complete the RI/FS. This plan shall include information regarding sampling and testing to define area background concentrations for soil and groundwater at the Schwerin Concaves, Inc. facility, as well as a description of the location and construction of additional soil and/or groundwater test borings and/or monitoring wells to be installed at the facility. The Sampling and Testing Plan shall include the following:

- Tasks and schedules;
- Specific sampling/testing protocols and procedures;
- Sampling/testing types, locations, designations, and frequency;
- Field screening tests;
- Physical parameter measurements;
- Equipment and procedures;
- Sample handling techniques;
- Access considerations;
- Decontamination procedures; and
- Handling, storage, and disposal methods for investigation-derived wastes.

B. *Quality Assurance Project Plan (QAPP)*

The QAPP shall describe the project objectives and organization, functional activities, and quality control protocols that will be employed during the RI/FS. It shall contain:

- Sample custody procedures, including holding times, container requirements, treatment and preservation techniques;
- Calibration procedures for field and laboratory testing;
- Analytical procedures, methods, and detection limits;
- Internal quality control;
- Data reduction, data validation, and data reporting methods; and
- Procedures and project goals for precision, accuracy, representation, completeness, and comparability parameters.

2. HEALTH AND SAFETY PLAN

The Health and Safety Plan shall meet all applicable federal Occupational Safety and Health Administration (OSHA) and Washington Department of Labor and Industries, Division of Industrial Safety and Health worker protection requirements. The Health and Safety Plan shall include information regarding the following:

- Level of worker protection required;
- Evaluation of potential hazards;
- Description of waste characteristics;
- Special site considerations; and
- Emergency information.

3. PUBLIC PARTICIPATION PLAN

The Public Participation Plan shall meet the requirements of the Model Toxics Control Act as specified in WAC 173-340-600(8). Advice on the preparation of this plan may be obtained through Ms. Carol Bergin at Ecology's Eastern Regional Office in Spokane. Ms. Bergin's telephone number is (509) 456-6360.

TASK 1 DELIVERABLES:

- *Draft Work Plan for the Remedial Investigation and Feasibility Study*
- *Final Work Plan for Remedial Investigation and Feasibility Study*

⇒ **TASK 2 --IMPLEMENTATION OF THE WORK PLAN FOR THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY**

Upon Ecology's approval of the Final RI/FS Work Plan, Schwerin Concaves, Inc. shall begin implementation of the approved plan.

TASK 2 DELIVERABLES:

- *None*

⇒ **TASK 3 -- SUBMITTAL OF A REMEDIAL INVESTIGATION TECHNICAL REPORT**

Following completion of the remedial investigation, Schwerin Concaves, Inc. shall prepare and submit a comprehensive Remedial Investigation Technical Report summarizing all information regarding soil and groundwater contamination at the Schwerin Concaves, Inc. facility. All applicable supporting records, raw data, analytical laboratory records, data validation reports, geologic logs, and similar documentation shall be included in the report or incorporated in the RI Technical Report by reference to existing technical reports already submitted to Ecology. These data must be retained as required in the "Retention of Records" section (Section VII) of the Enforcement Order. The Remedial Investigation Technical Report shall include the following information:

1. *SITE DESCRIPTION AND HISTORICAL DATA*

A. *Site Location*

- i. Identify property boundaries of the Schwerin Concaves, Inc. facility and surrounding area, including all areas affected by soil and groundwater contamination;
- ii. Identify owners of all land adjacent to the Schwerin Concaves, Inc. facility and describe current and historic land uses of the adjacent properties; and
- iii. Identify topographic and surface drainage features on and adjacent to the facility, including all surface water bodies (natural and man-made), wetlands, and floodplains.

B. *History of Facility Owners/Operators*

- i. List and describe all current and former owners/operators of the Schwerin Concaves, Inc. electroplating facility, including dates of ownership; and
- ii. Describe current and historic facility activities.

C. *Facility Structures and Improvements*

Identify all existing buildings, engineered structures and improvements, above-ground and underground storage tanks, paved areas, utility corridors, easements, rights-of-way, and other man-made features at the facility and in the area affected by soil and groundwater contamination.

D. *Products and Raw Materials Managed*

Identify all products, by-products, and raw materials managed at the facility (current and historical). Describe chemical compositions and physical and chemical characteristics of the products/materials (e.g., solubility, mobility, etc.). Identify locations of storage and handling. Estimate quantities historically managed at the facility.

E. *Waste Management Units*

Identify all current and historic solid waste management units, including known or suspected hazardous waste treatment, storage, or disposal areas. Estimate quantities currently and historically managed in each management unit.

F. *Releases of Hazardous Substances*

Locate and describe all releases of hazardous substances known to have occurred at the Schwerin Concaves, Inc. facility, and describe all interim and/or emergency actions taken to remediate the releases.

2. *METEOROLOGIC DATA*

- A. Annual and monthly precipitation data;
- B. Annual and monthly temperature data;

3. *HYDROGEOLOGIC DATA*

All hydrogeologic data collected during all site investigations at the facility shall be submitted, including raw data and interpretive maps and cross-sections. The area and site hydrogeology shall be described. Information presented shall include, but not necessarily be limited to the following:

- A. Ground surface and top-of-casing elevations of all groundwater monitoring wells installed at the site, including those on properties not controlled by Schwerin Concaves, Inc.;
- B. All groundwater elevation data collected from all current and former monitoring wells installed at the site, including those on properties not controlled by Schwerin Concaves, Inc.;
- C. Descriptions of the geologic units beneath and adjacent to the Schwerin Concaves, Inc. facility, including lithologic, stratigraphic, and structural (if applicable) data. Descriptions of unconsolidated sediments shall include:
 - i. Grain size distribution;
 - ii. Porosity; and
 - iii. Total organic carbon content.
- D. Descriptions of the aquifer(s) beneath and adjacent to the Schwerin Concaves, Inc. facility, including:
 - i. Aquifer(s) characteristics, such as porosity, permeability, specific yield, hydraulic conductivity, etc.;
 - ii. Groundwater flow direction and velocity;
 - iii. Horizontal groundwater gradient;
 - iv. Vertical groundwater gradient (if more than one aquifer is identified); and

- v. Temporal variations in gradients, flow direction, velocity, and gradients.
- E. Descriptions of the depth and nature of the contact between the aquifer and the underlying geologic unit(s) at the site;
- F. Identification of topographic or engineered features (e.g., buried utility corridors) that may influence groundwater flow beneath and adjacent to the Schwerin Concaves, Inc. facility; and
- G. Identification of all existing and historic groundwater supply and monitoring wells on-site and within a one-mile radius of the Schwerin Concaves, Inc. facility. Location data, ground surface and top-of-casing data, and well construction data shall be included when known.

4. *SURFACE WATER DATA*

Descriptions of all surface water bodies in the vicinity of the Schwerin Concaves, Inc. facility which are potential migration pathways for, or potential receptors of, soil and/or groundwater contamination at the facility. Characterization shall include, but not necessarily be limited to, the following information:

- A. Surface water flow data;
- B. Water quality data, including pH, total dissolved solids, total suspended solids, specific conductivity, dissolved oxygen, and concentrations of all contaminants of concern identified at the Schwerin Concaves, Inc. facility, particularly hexavalent chromium; and
- C. Description of the interaction between surface water and groundwater on and adjacent to the Schwerin Concaves, Inc. facility.

5. *CONTAMINANT IDENTIFICATION AND DISTRIBUTION DATA*

- A. Geochemistry data for all groundwater and surface water samples collected and analyzed during all investigations at the Schwerin Concaves, Inc. facility, including samples collected on properties not controlled by Schwerin Concaves, Inc.;
- B. A list of contaminants of concern in soil and groundwater at the site;
- C. A description of the horizontal and vertical distribution of contaminants in soil and groundwater water at the site interpreted to identify and/or estimate:
 - i. Source areas;
 - ii. Direction and velocity of contaminant movement in groundwater at and adjacent to the Schwerin Concaves, Inc. facility; and

- ii. The volume of contaminated groundwater at the site, including changes in volume through time.

E. Contaminant fate and transport data.

6. *RISK ASSESSMENT DATA*

- A. A compilation of data describing the human and ecological populations which are potential receptors of the contaminants in soil and groundwater at and adjacent to the Schwerin Concaves, Inc. facility, including:
 - A description of access to the Schwerin Concaves, Inc. facility and adjacent properties, including recreational, residential, and commercial uses;
 - A profile of the people who have access to the facility and adjacent properties; and
 - Descriptions of the biota at the Schwerin Concaves, Inc. facility and in surface water bodies adjacent to the facility.
- B. Identification of potential contaminant exposure pathways for human health and environmental media, including information regarding:
 - Existing uses and possible future uses of groundwater within one-quarter mile of the Schwerin Concaves, Inc. facility; and
 - Existing uses and possible future uses of surface water within one-quarter mile of the facility.

7. *MTCA SOIL AND GROUNDWATER CLEANUP LEVELS*

Calculations of baseline soil and groundwater cleanup levels established in the Washington Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC) for all contaminants of concern at the Schwerin Concaves, Inc. facility.

8. *SITE CONCEPTUAL MODEL*

A preliminary model relating the site hydrogeologic, contaminant distribution data, and risk assessment data described above.

9. *IDENTIFICATION OF SITE REMEDIAL ACTION OBJECTIVES*

Identification of remedial action objectives which will meet MTCA cleanup levels and all other applicable requirements in the Model Toxics Control Act (Chapter 173-340 WAC) and the state Dangerous Waste Regulations (Chapter 173-303 WAC).

TASK 3 DELIVERABLES:

- *Draft Remedial Investigation Technical Report*
- *Final Remedial Investigation Technical Report*

⇒ TASK 4 – SUBMITTAL OF A FEASIBILITY STUDY TECHNICAL REPORT

All soil and groundwater data collected during past investigations and the remedial investigation will be the cornerstone for the Feasibility Study, which shall include:

1. *GENERAL RESPONSE ACTIONS AND TECHNOLOGY*

Response actions for each of the contaminated media shall be defined. The responses shall be grouped into those actions that address either source control, contaminant treatment and reduction, contaminant migration management, institutional controls, or other actions to satisfy MTCA cleanup requirements.

2. *REMEDIAL ACTION TECHNOLOGIES FINAL SCREENING*

Remedial action technologies shall be identified in the context of the general response actions and specific site conditions. Appropriate technology and representative process option alternatives shall be screened for implementation difficulty, applicability to the site conditions, reliability of technology, ability to meet the identified remedial action objectives and cleanup standards, timeliness, and cost. The final screening of remedial action alternatives shall include evaluating each with respect to effectiveness, implementability, cost, and other criteria required under WAC 173-340-360.

Actions determined not applicable or appropriate to the site conditions shall not be evaluated. Actions that may have some marginal applicability shall be evaluated to a limited degree to support a decision to either include or exclude the action from further consideration.

A Technical Memorandum shall be developed prior to developing and evaluating final remedial action alternatives. The memorandum, to be reviewed and approved by Ecology, shall propose the general response actions developed and shall include the identification and screening of technology and process options.

3. *REMEDIAL ACTION ALTERNATIVES*

Remedial action alternatives shall be identified. The alternatives shall span the range of alternatives required to be considered under MTCA. The range may include the "No Action" alternative. The alternatives shall be screened as to potential effectiveness, implementability, and cost.

4. *PILOT TEST AND TREATABILITY STUDIES*

If appropriate, laboratory and/or bench scale studies shall be conducted to determine the applicability of a cleanup action technology under site conditions. The pilot tests/treatability studies shall include development of test plans identifying the type(s)

and goal(s) of the study (ies), the procedures to be used for data management and interpretation, evaluation of the test results with respect to site specific conditions, and preparation of a report summarizing the testing program and its results.

5. *COMPARATIVE ANALYSIS OF REMEDIAL ACTION ALTERNATIVES*

A detailed analysis of alternatives shall be prepared using criteria specified in WAC 173-340-360, which requires that preference be given to alternatives resulting in permanent solutions. Section -360 also lists expectations for the cleanup actions evaluated and selected.

The selected range of alternatives shall be evaluated with respect to the following factors:

- Overall protection of human health and the environment;
- Compliance with remedial action objectives (RAOs) and ARARs;
- Provision for compliance monitoring;
- Short-term effectiveness;
- Long-term effectiveness;
- Permanent reduction of mobility, toxicity, and volume;
- Implementability;
- Cost;
- Community concerns; and
- Restoration time frame.

6. *FEASIBILITY STUDY REPORT*

A Final Feasibility Study Technical Report shall be prepared for review and approval by Ecology. Upon approval by Ecology, the report shall be circulated for public review and comment.

TASK 4 DELIVERABLES:

- *Feasibility Study Technical Memorandum*
- *Final Feasibility Study Technical Report*

IV. SCHEDULE OF DELIVERABLES
FOR THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

<u>DELIVERABLE</u>	<u>DATE DUE</u>
Effective Date of Enforcement Order	March 1, 2000
RI/FS Progress Reports	Every 3 months
Draft Work Plan for Remedial Investigation and Feasibility Study	May 31, 2000
Final Work Plan for Remedial Investigation and Feasibility Study	June 30, 2000
Begin implementation of RI and FS	August 1, 2000
Draft Remedial Investigation Technical Report	January 31, 2001
Final Remedial Investigation Technical Report	15 days after receipt of Ecology's comments on the Draft RI Technical Report
Feasibility Study Technical Memorandum	30 days after Ecology's approval of the Final RI Technical Report
Final Feasibility Study Technical Report	30 days after receipt of Ecology's comments on the FS Technical Memorandum