

EXHIBIT B  
**Art Brass Remedial Investigation Agreed Order  
Scope of Work**

**1. Deliverable Process**

Art Brass shall submit the required deliverables (or, “documents”) referenced below to the Ecology Project Coordinator in accordance with the due date established in Exhibit C. Ecology shall review each draft document (meaning the initial submittal of the document) and approve it as Final, approve it as Final with modifications, or disapprove it with comments. If the document is disapproved Art Brass shall submit a revised document to the Ecology Project Coordinator in accordance with the due date established in Exhibit C or, if no date is provided in Exhibit C, in Ecology’s disapproval letter. The revised document must satisfactorily address Ecology’s comments. Ecology will then approve the revision as Final, approve it as Final with modifications, or disapprove it with comments. Failure to submit a revised document which adequately addresses each of Ecology’s comments shall constitute a violation of the order.

As noted in Section VII.D of the agreed order, if at any time after the first exchange of comments on draft documents, Ecology determines Art Brass is making insufficient progress in preparing an approvable document, Ecology may choose to complete and issue the final deliverable.

In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology’s Project Coordinator, the Parties shall utilize the dispute resolution procedure set forth in Section VIII.J of the agreed order.

**2. RI Work Plan**

Sufficient information must be collected, developed, and evaluated in the remedial investigation to evaluate site conditions and the effectiveness of interim remediation actions, and to enable Art Brass to prepare a feasibility study. At this site Art Brass has already collected a significant amount of investigation data. To focus the collection on only critical outstanding data, Art Brass will prepare an RI Work Plan. The Work Plan will assemble and evaluate existing data on the site, including the results of any interim or other cleanup actions, initial investigations, site hazard assessments, and other site inspections. Art Brass shall submit the draft RI Work Plan to the Ecology Project Coordinator in accordance with the due date established in Exhibit C.

The Work Plan will also include:

- a) a preliminary conceptual site model as defined in WAC 173-340-200;
- b) proposed cleanup levels applicable for the site, and technical/regulatory justification for these proposals;
- c) likely applicable state and federal laws under WAC 173-340-710;
- d) a listing of the critical assumptions being made in proceeding with the RI/FS (including the likely contaminants of concern at the site);

- e) a listing -- based on the conceptual site model, existing data, and the assumptions being made about the site -- of the critical data gaps that must be filled in order to complete the RI and Interim Measures Evaluation. In preparing this list Art Brass shall refer to the RI characterization requirements cited in Section 3;
- f) a Field Sampling Plan compliant with WAC 173-340-820, which contains proposals for filling critical data gaps;
- g) an identification of the type, quality, and quantity of data necessary to complete the RI and Interim Measures Evaluation;
- h) an RI Quality Assurance Project Plan;
- i) proposals for conducting the RI COC fate and transport analysis;
- j) a safety and health plan conforming to the requirements specified in WAC 173-340-810;
- k) likely cleanup action components and/or interim actions to address the releases at the site, if these can be reasonably discerned at this point;
- l) an RI schedule, including milestone dates for activities occurring between approval of the Work Plan and submittal of the Draft RI Report;
- m) the location of Art Brass's data/record storage, and a description of the measures to be used to maintain and secure it; and,
- n) a draft Public Participation Plan, or a proposal to submit such a Plan by a date approvable by Ecology. This Plan shall contain, at a minimum: i) a discussion of Art Brass's plans to comply with public notice requirements (in WAC 173-340-600); ii) a discussion of Art Brass's plans to notify area property owners where site-related groundwater contamination exceeds cleanup levels, and solicit information from them to better assess risks associated with this contamination; iii) the location of a document repository, and/or web-site, which interested members of the public may use to obtain information about the site; iv) methods for identifying public concerns about the site investigation; v) methods for addressing public concerns and conveying information to the public; and, vi) procedures for modifying the Plan, as needed, as the site cleanup progresses. The Plan shall comply with requirements and be consistent with state public participation guidance provided by Ecology, the Model Toxics Control Act, and WAC 173-340-600.

### **3. Remedial Investigation (RI)**

The purpose of a remedial investigation is to collect sufficient information to characterize the Art Brass site and to evaluate the effectiveness of interim remediation measures. Sufficient investigations must be conducted to characterize the distribution of COCs present at the site, and the threat to human health and the environment. Investigations shall be designed to build upon information already available from previous investigations conducted by Art Brass and will assess whether a potential receptor of contaminated groundwater associated with the site is the Duwamish River. The RI will be conducted in accordance with WAC 173-340-350(7) and the approved RI Work Plan (see Section 2).

### **4. RI/Interim Measures Evaluation Report**

The RI/Interim Measures Evaluation Report (RI Report) documents RI activities, evaluates the effectiveness of interim remedial measures, and prepares the way for a site Feasibility Study (FS) and Cleanup Action Plan. Art Brass shall submit the draft

Report to the Ecology Project Coordinator in accordance with the due date established in Exhibit C.

The purpose of the RI is to collect data necessary to adequately characterize the site for the purpose of developing and evaluating cleanup action alternatives. The remedial investigation portion of the RI Report shall therefore contain the following information, as appropriate:

- a. general information required by WAC 173-340-350(7)(c)(i)
- b. a site conditions map, as required by required by WAC 173-340-350(7)(c)(ii)
- c. information regarding current and proposed land and resource uses, as required by WAC 173-340-350(7)(c)(iii)(E)
- d. a description of all RI field investigations, and all investigation-related information proposed for inclusion in the Report by the approved RI Work Plan
- e. maps/figures identifying the locations of all pertinent previous and new investigation-related sampling and monitoring
- f. summary tables of all pertinent media sampling results, to include: sample collection date; sample location; and constituents analyzed for and their concentrations. In addition, method reporting limits, method detection limits, and Practical Quantitation Levels shall be provided
- g. results of quality assurance activities and how and why they relate to the RI Report's findings and conclusions (see *h* below). A discussion of the assessment of data usability and the results of that analysis shall also be provided. All data, including rejected and qualified data, shall be reported. If data are rejected (due to poor quality or because they appear to be outliers), and are not used in the RI analysis, the technical basis for excluding the data shall be presented
- h. conclusions and findings, substantively supported, of the investigations performed to characterize media contaminated by releases from the facility. Findings and conclusions shall include descriptions of below-surface stratigraphy and hydrogeologic parameters, as well as characterization of the nature and extent of COCs. Regulatory designations classifying affected air, surface water and groundwater shall be included as applicable
- i) a hydrogeologic conceptual model describing groundwater movement in the area, and how groundwater contamination should be expected to migrate (direction and velocity) over time and distance
- j. identification of all applicable Cleanup Levels and likely applicable state and federal laws. Cleanup levels shall be proposed and tabulated for all COCs in each contaminated medium and for each pathway where a release has occurred using WAC 173-340-700 through 173-340-760
- k. the results of a groundwater beneficial use analysis (per WAC 173-340-720(2))<sup>1</sup>
- l. the identification of potentially impacted natural resources and ecological receptors, as required by WAC 173-340-350(7)(c)(iii)(F)

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<sup>1</sup> Unless Art Brass intends to assume that site-related groundwater is *potable*.

- m. a revised source-to-receptor conceptual site model, updated from the model included in the RI Work Plan
- n. an analysis of COC fate and transport
- o. a discussion of the uncertainty associated with the RI's contaminant characterization and fate and transport analysis. This discussion shall include assessment of existing data quality, the conservativeness of all critical assumptions, and conclusions about i) how accurately the information gathered about the site represents true site conditions, and ii) how RI hypotheses have been developed so as to conservatively represent true site conditions

The interim measures evaluation portion of the RI Report shall include the following information as appropriate:

- p. remedial action objectives
- q. a description and discussion of the standard and any proposed conditional soil, surface water, sediment, air, and/or groundwater point(s) of compliance
- r. a summary of interim measures implemented at the time of the RI Report (see Section 5)
- s. an evaluation of the performance of interim measures at achieving, or potentially achieving, remedial action objectives
- t. an evaluation of any residual threats, as described by WAC 173-340-350(8)(c)(i)(E)
- u. a focused evaluation of other potential interim measures
- v. a brief feasibility study plan, for future implementation of a study that would evaluate potential final cleanup action alternatives prior to preparation of a site cleanup action plan

**5. Interim Cleanup Action**

Art Brass Plating is currently planning to conduct an interim cleanup action that includes air sparging (AS) and soil vapor extraction (SVE). In accordance with the due dates established in Exhibit C, Art Brass shall prepare and submit the following documents associated with this action:

- a. Design Plans and Specifications
- b. Construction and Performance Monitoring Plan
- c. Operation and Maintenance (O&M) Plan
- d. Construction and Startup Report

**6. Vapor Intrusion**

Art Brass shall adopt the prescribed methods and conduct the assigned tasks under the approved Interim Vapor Intrusion Plan (VI Plan) developed by the West of 4<sup>th</sup> Avenue Group and dated July 6, 2007 (attached to this order as Exhibit D). The purpose of implementing this program is to prevent the exposure of residents, workers, and other human receptors to contaminated indoor air caused by vapor intrusion within the defined Potential Vapor Intrusion Area<sup>2</sup> and above the IPIM Action Levels defined in the VI Plan. Table 2 in the VI Plan lists the Ecology-identified locations and the proposed VI measures currently assigned to Art Brass.

Art Brass shall: (1) assess properties in the Potential Vapor Intrusion Area<sup>2</sup> to determine if contamination by source COCs presents a potential vapor intrusion threat; (2) further evaluate buildings where contamination by source COCs presents a potential vapor intrusion threat; (3) mitigate those buildings where contamination by source COCs presents a potential vapor intrusion threat and/or where indoor air has been shown to be unacceptably impacted (as defined in the VI Plan) and the intrusion of contaminated soil gas is a likely cause; (4) ensure that the mitigation systems in buildings in the affected area are meeting performance targets; and, (5) provide maintenance, as needed, so that all mitigation systems in buildings in the affected area continue to meet performance targets.

This will require three basic strategies: an assessment strategy, a mitigation strategy, and an inspection/maintenance/monitoring strategy.

a) Art Brass shall prepare and submit a draft “Vapor Intrusion Assessment Work Plan” to Ecology in accordance with the due date established in Exhibit C. The Work Plan shall include proposals for assessing properties in the Potential Vapor Intrusion Area. These properties shall be evaluated with respect to subsurface media contamination by COCs and the likelihood that the media contamination may act to contaminate indoor air via vapor intrusion. Proposals shall include routine periodic evaluations in areas where groundwater or soil VOCs continue to pose an unacceptable vapor intrusion threat. The Work Plan shall propose the documents – sampling and analysis plans and reports, e.g. – that will be used as part of the assessment to obtain information and report assessment findings. If subsurface media contamination poses a potential source for contaminating indoor air via vapor intrusion at a property, the Work Plan shall describe how Art Brass will proceed to further assess the building-specific indoor air impact or mitigate the pathway as an interim action.

b) Art Brass shall prepare and submit a property-specific draft “Vapor Intrusion Mitigation Work Plan” if it appears, pursuant to a vapor intrusion assessment conducted consistent with a) above, that a building requires mitigation. The draft VI Mitigation Work Plan will be submitted to Ecology in accordance with the schedule established in the VI Assessment Work Plan. The VI Mitigation Work Plan shall describe how Art Brass will proceed to design, install, implement, and operate mitigation systems in buildings that require these controls. The Work Plan shall

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<sup>2</sup> Defined for this AO SOW initially as the area bounded by 4<sup>th</sup> Ave. S., 1st Ave. S., S. Lucile St., and S. Orcas St. This definition may need to be revised during the RI based on the collection of new data.

propose the documents – design plans and reports, e.g. – that will be used during mitigation to obtain Ecology concurrence on system selection and performance.

c) Art Brass shall prepare and submit a draft “Vapor Intrusion Inspection, Monitoring, and Maintenance” Work Plan to Ecology in accordance with the due date established in Exhibit C. This Work Plan shall include proposals for ensuring that mitigated properties in the Potential Vapor Intrusion Area continue to be protected from vapor intrusion. The Work Plan shall describe how Art Brass will proceed to inspect and maintain systems, and monitor performance. The Work Plan shall propose those documents – inspection checklists and reports, and monitoring plans and reports, e.g. – that will be used post-mitigation to obtain information and report findings.

The Vapor Intrusion Inspection, Monitoring, and Maintenance Work Plan shall include a proposed schedule for inspection/maintenance activities, as well as monitoring. The proposed schedule will be sensitive to the structure mitigated, the type of mitigation installed, the nature of the contamination below and nearby the building, and the form of exposure expected in the event the mitigation fails. This Work Plan, like the two previously described, shall focus on actions required during the timeframe extending from Work Plan preparation to the completion date set forth in the Work Plan.

d) Vapor Intrusion Progress Reporting. In each of the three Vapor Intrusion Work Plans described above, Art Brass shall propose how assessment, mitigation, inspection, and monitoring information being collected on an on-going basis will be communicated to Ecology.

## **7. Groundwater Monitoring**

Art Brass shall monitor groundwater contamination according to the schedule set forth in an approved Groundwater Monitoring Plan until the contamination has been effectively addressed.

Art Brass shall prepare and submit a draft Groundwater Monitoring Plan to the Ecology Project Coordinator in accordance with the due date established in Exhibit C. The Plan shall propose the wells to be monitored, how frequently groundwater per well shall be sampled, what measurements/analyses shall be performed per sample, and how and when data will be presented in progress reports. The Plan shall also comply with requirements in WAC 173-340-410 and include:

- objectives of the monitoring program and associated data needs;
- figures identifying the locations of all proposed monitoring points;
- standard operating procedures (SOPs) for borehole logging, monitoring well construction, surveying, well development, purging, sampling, taking water level and quality measurements, well-decommissioning, etc.;
- descriptions of sample storage, transportation, and chain-of-custody procedures;
- descriptions of monitoring well construction and well logs;
- a description of how and when monitoring wells are and will be inspected and maintained;

- a discussion of field records associated with monitoring;
- a discussion of well surveying, and proposals, if needed, to re-survey any wells;
- a discussion of access considerations for the proposed monitoring network (i.e., a description of who, per well, owns the property and how the field team will access the well for sampling);
- a description of actions that will be taken to secure all monitoring points;
- a Quality Assurance Project Plan for routine groundwater monitoring;
- proposals for managing any solid or dangerous waste generated;
- a monitoring and reporting schedule per well/point; and,
- a proposal for new monitoring points and/or screened intervals, if required to meet the monitoring program's objectives or to otherwise fill critical RI or interim action data gaps. This shall include the objectives/rationale for each proposed monitoring well/point, figure(s) showing locations, and a description of the proposed construction.

All monitoring, testing, and analytical data obtained pursuant to this section shall be concurrently submitted to the Ecology Project Coordinator in digital data files on compact disc (or other mutually agreeable electronic media). These data files shall be formatted in accordance with instructions provided by Ecology.

If later, after the Monitoring Plan has been implemented, it appears to Art Brass and/or Ecology that additional wells, not anticipated by the approved Plan, are required to complete the RI, monitor interim actions, or for any other purpose associated with the agreed order, these new wells will be proposed in Work Plans under "Additional Work" (Section 11 below). In such a case, Art Brass will modify the Monitoring Plan to include the information described in this section (above) for the newly proposed wells, and re-submit it for approval.

## **8. Progress Reports**

During the RI and Interim Measures Evaluation it will be necessary to prepare progress reports to notify Ecology of recently conducted activities and plans for future work, to transmit data, and to communicate the results of monitoring interim action performance. Progress Reports shall be submitted to the Ecology Project Coordinator per the schedule in Exhibit C (although this schedule may be modified if Art Brass proposes a different schedule in the RI Work Plan and Ecology approves the new schedule). These reports will not be subject to disapproval requiring revision. If Ecology discovers errors or notes deficiencies in any given Report, Ecology shall direct Art Brass to correct these errors/deficiencies in the next Report.

Reports shall regularly contain the following information:

- a) a description of all agreed order-related work completed since the last progress report;
- b) quality-assured results of all media monitoring analyses obtained since the last progress reporting interval, including laboratory detection limits achieved for each constituent, in accordance with the approved Monitoring Plan. For each monitoring analyte/parameter, the progress report shall contain tables with the resulting data per well, together with an identification of pertinent cleanup level(s) per analyte;

c) data validation information associated with the groundwater monitoring results being reported;

d) figures depicting the groundwater concentrations of COCs and other analytes/parameters identified in the Monitoring Plan (semi-annual submittal);

e) figures depicting groundwater elevation contours for all monitored saturated zones (semi-annual submittal);

f) status report on vapor intrusion assessment, mitigation, inspection, and monitoring information;

g) status report on interim measures. This report shall include a description of the work performed in accordance with approved interim measure work plans, and the environmental results attributed to the measures, since the last reporting interval. It shall also: (1) describe any problems associated with interim measure O&M and corrective actions taken, or proposed for being taken, to resolve the problems; and, (2) interim measure-related work planned during the next upcoming reporting period.

The RI Work Plan shall establish how frequently these reports contain the following additional interim measure-related information<sup>3</sup>:

- interim measure/action performance data
- a comparison of the effectiveness of each measure compared to (1) its design goals, (2) its effectiveness at start up, and (3) its effectiveness since the last reporting interval
- if performance monitoring data are unable to meet the criteria for showing that adequate progress is being made toward attaining the measure's objectives, recommendations to improve the action's effectiveness. In such a case the report shall also describe how Art Brass intends to further assess the problem, and provide a date for Art Brass's completion of the evaluation
- if applicable, a discussion of efforts on-going to ensure that the measure(s) does not transfer the contamination to another medium, and if so, that an estimate of risks associated with the transfer

h) summaries of all problems encountered during the reporting period and actions taken to rectify those problems;

i) a summary of communications with any public interest groups, affected area property owners/tenants, governmental agencies, environmental interest groups, etc., related to implementation of the agreed order and Scope of Work; and,

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<sup>3</sup> This information is expected to be contained in the **Interim Measures Evaluation Report** described in Section 4. However, the RI Work Plan should propose how often performance-monitoring information should be prepared and communicated in advance of the RI Report's due date. This will allow some decisions to be made, and actions taken (if needed), in response to new information as it becomes available, and without waiting until preparation of the RI Work Plan.

j) projected work for the next reporting period.

**9. Document and Data Maintenance**

Within thirty (30) days of the effective date of the order, at a minimum, all monitoring, testing, and analytical data obtained by Art Brass and the following documents (as well as amendments, revisions, and modifications to these documents) shall be retained in the project repository:

- The agreed order, order amendments, and all attachments;
- All documents, reports, plans, and data collected to support activities conducted pursuant to the Scope of Work;
- Records and results of all laboratory analyses performed pursuant to the Scope of Work and/or cited in Scope of Work deliverables;
- Records, or the summaries of records, to include: logs of all soil borings; any recovery well pumping rates and injection well rates; any industrial pumping well rates; and any data collected to monitor interim actions;
- Records of inspections associated with the RI, interim actions, or monitoring;
- Records of any spills and releases;
- Copies of all environmental permits relevant to the RI, interim actions, or monitoring;
- Training records of facility personnel conducting activities pursuant to the Scope of Work; and,
- Well construction, maintenance and replacement records.

The records shall be stored and maintained at a secure location (a *repository*) approved by Ecology. The location shall be accessible to Ecology, provided that access rules are complied with to ensure data security and integrity.

**10. Additional work**

Additional work may become necessary due to the discovery of new information or re-assessment of site conditions. In certain cases Art Brass may identify the need for additional work; in other instances Ecology may reach this conclusion. If Ecology determines that additional work should be required to complete the RI and evaluate interim measures, more effectively monitor site conditions, or implement additional interim actions, Ecology shall communicate the specific need to Art Brass. In most cases Ecology shall direct Art Brass to submit a Work Plan for performance of the additional work within sixty (60) days. Ecology's notification of the need for a Work Plan will contain: a) the objectives of the additional work, and b) the expected content of the Work Plan. If the work to be performed constitutes a substantial change to the work anticipated under the agreed order, a formal amendment is required the terms of the Agreed Order Section VIII(L).

For example, if the additional work is the installation of a monitoring well not anticipated by the approved RI Work Plan or Groundwater Monitoring Plan, Ecology shall describe why the well is needed, where it should be located, how it should be

screened, how it should be sampled, what analyses should be performed on samples, etc.

#### New Interim Actions

While the RI is underway there are actions that are, and/or may be, needed to address contamination quickly. Sometimes these interim actions are needed to protect receptors while the site progresses towards its eventual cleanup. In other cases they are indicated to stop the spread of contamination or, by acting expeditiously, to otherwise minimize the costs of the final cleanup measure (see WAC 173-340-200 and -430). Such an action has already been initiated and is described above in Section 5.

Throughout the term of the agreed order, Art Brass shall continue to consider and evaluate site information regarding contaminant behavior, releases, and suspected releases. If Art Brass identifies:

- a potential imminent and/or substantial threat to human health or the environment, or
- a need or opportunity (such as when an immediate action may prevent a final cleanup from becoming substantially more difficult) for an interim action,

Art Brass shall immediately notify the Ecology Project Coordinator.

If Ecology determines that any release or suspected release from Art Brass property may present a potential imminent and/or substantial threat, or Ecology determines there is a need or opportunity to begin expedited cleanup actions, Ecology shall, in writing, notify Art Brass of the need to prepare an interim measure Work Plan. Any such interim measure shall be designed to protect human health and the environment and, to the maximum extent practicable, shall also strive to be consistent with, and capable of being integrated into, the likely final cleanup action for the site.

Art Brass' and Ecology's agreement on all Work Plan(s) prepared pursuant to this Section, and performance of additional work thereunder, shall be implemented under the terms of Agreed Order Section VIII (L).

#### **11. New Source Areas**

While the agreed order remains effective Art Brass shall notify the Ecology Project Coordinator within thirty (30) days if the PLP becomes aware of the existence of contamination associated with a previously un-identified source area. A typical "source area" would be a previously unidentified area on the PLP's property where a release of COCs likely occurred. In the notification Art Brass shall include:

- dates of operation and/or existence of the source
- the nature of any waste and/or hazardous substances managed -- and if applicable, being managed -- at the source;
- the potential for past, current, and future releases of any COCs (or other hazardous substances that may affect the nature and extent of COCs in the environment) from the source area, and the "mechanism(s)" for creating the release;
- dates of any known releases;

- a description of the material, and an estimate of the volume, of any known releases;
- any corresponding actions that have been taken to control or remediate releases;
- any environmental data associated with the source area or media potentially affected by releases; and,
- any future plans for investigating the contamination and associated source area.

If Ecology determines, based on the potential for releases from the new source area to result in an exceedance of media cleanup levels or otherwise threaten the health of humans or the environment, that the area must be investigated, Ecology may direct Art Brass to submit a Work Plan for performance of Additional Work (per Section 11 above and the Agreed Order). Any new work under this section will be implemented under the terms of Agreed Order Section VIII (L).

**12. Transmittal of Data**

Progress Reports shall be routinely used to communicate the results of groundwater and interim action monitoring to Ecology. However, there may be instances when actions become contingent on particular monitoring results. In such cases Ecology may not be able to wait until the issuance of a Progress Report to obtain the data in question. In these instances the Ecology Project Coordinator shall request that the particular data be submitted in advance of the Progress Report and by a date consistent with the intended use of the data. Art Brass shall then make best efforts to comply with Ecology's request. The data so transmitted may be appropriately qualified.

**13. Certification**

All reports, work plans, and other submittals required by this agreed order, and submitted by Art Brass, shall be accompanied by a certification meeting the requirements of WAC 173-340-840.