STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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October 4, 2013

Mr. Sam Farrazaino
Equinox Studios LLC
6555 5th Avenue South
Seattle, WA 98108

Re: Opinion Pursuant to WAC 173-340-515(5) on Remedial Action for the Following Hazardous Waste Site:

- **Name:** Mastermark Equinox
- **Address:** 6545 6555 5th Avenue South, Seattle, WA
- **Facility/Site No.:** 18068
- **VCP No.:** NW2489
- **Cleanup Site ID No.:** 11666

Dear Mr. Farrazaino:

Thank you for submitting documents regarding your proposed remedial action for the Mastermark Equinox facility (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site:

- Trans-1,2 dichlorethene, cis-1,2 dichloroethene, trichloroethene and vinyl chloride into groundwater.
- Total petroleum hydrocarbons-diesel (TPH-d) into soil.
- Chromium, Arsenic and lead into soil.

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the

authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your proposed remedial action(s):

1. Sound Earth Strategies, Inc., *Summary of Injection Pilot Study – Mastermark Printing Property*, dated June 21, 2013.
2. Sound Earth Strategies, Inc., *Summary of Subsurface Investigation Activities – Former Mastermark Printing Property – Vinyl Chloride Investigation*, dated May 23, 2013.
3. Sound Earth Strategies, Inc., *Groundwater Monitoring Report – Third Quarter 2011*, dated August 9, 2011.
4. Sound Earth Strategies, Inc., *Summary of Findings – Subsurface Investigation – Former Mastermark Printing*, dated September 14, 2010.

The reports listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at (425) 649.7235 or by sending an e-mail to nwro_public_request@ecy.wa.gov.

The Site is defined by the extent of contamination caused by the following releases:

- Total petroleum hydrocarbons-diesel (TPH-d) into soil.
- Chromium, Arsenic and lead into soil.
- Trichloroethene, cis-1,2 dichloroethene, trans-1,2 dichlorethene and vinyl chloride into groundwater.

The former use of the Property as a printing facility and machine shop that used and stored petroleum products and chlorinated solvents prompted a subsurface investigation to assess subsurface soil and groundwater conditions. The building located on the Property is currently being used for blacksmithing and metal fabrication, a woodshop and art studios used for sculpture, photography and painting.

The definition of the Site is based solely on the information contained in the documents listed above.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site, Ecology has determined:**

- All geological, hydrogeological and engineering work provided to Ecology for review must be submitted under the seal of an appropriately licensed professional, as required by Chapters 18.43 and 18.220 RCW. Resubmit the signature pages with a stamp included for those

reports which were signed by a licensed geologist. All future reports submitted to Ecology must be signed and stamped by the appropriate licensed professional.

- A remedial investigation needs to be completed for this Site. Additional information is needed regarding the Site including neighborhood setting/adjacent property use (be more specific than "heavy and light industrial purposes"), planned future use, surface water, nearby contaminated sites, underground utility map, floor drain location map, regional geology/hydrogeology and geologic cross sections. A remedial investigation outline is provided in Enclosure A to assist you in the planning and completion of a remedial investigation and report.
- A description of previous and current hazardous waste generation, storage practices and handling procedures needs to be submitted. The list should be as specific as possible regarding products used for what purpose and quantity produced.
- The vertical and lateral extent of TPH-d contamination in soil has not been delineated.
- The source of chlorinated solvents has not been determined. If, as suggested in the *Summary of Injection Pilot Study* report, vinyl chloride contamination detected in groundwater monitoring well MW-3 is from an upgradient source, the source needs to be determined. Ecology recommends additional investigation of subsurface conditions based on Site history to determine the probable source location of chlorinated solvent contamination in soil and groundwater.
- Further characterization is needed to evaluate the effectiveness of oxidizer and edible oil injections for treating chlorinated solvents in groundwater at this Site. Once the lateral and vertical extent of the chlorinated solvent plume has been delineated, it can be determined if a sufficient number of injection points were used and if oxidizers and edible oil injections are an effective remedial option for this Site.
- Contamination in groundwater has not been delineated horizontally or vertically. Ecology recommends installing additional groundwater monitoring wells, such as downgradient of MW-3, to delineate chlorinated solvent contamination in groundwater. Subsequent quarterly monitoring is recommended to determine seasonal influence on contaminant concentration in groundwater.
- Due to the dense nature of chlorinated solvents, it may be necessary to investigate to a greater depth to determine the vertical extent of contamination. Use Site geologic and hydrogeologic cross sections that display contaminant concentrations to illustrate the sufficiency of vertical exploration thus far of chlorinated solvents.
- A Terrestrial Ecological Evaluation (TEE) may be required unless it is determined the Site qualifies for an exclusion. The TEE decision-making process must be documented as per WAC 173-340-7490. A TEE process interactive user's guide can be found at: http://www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm

This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no

further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. **This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.**

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (425) 649-7097 or by e-mail at desc461@ecy.wa.gov.

Sincerely,

Diane Escobedo
Site Manager
Toxics Cleanup Program

Enclosures (1): A - Remedial Investigation Outline

cc: Erin Rothman, Sound Earth Strategies, Inc.
Sonia Fernandez, VCP Coordinator

Enclosure A

Remedial Investigation Outline

Remedial Investigation Outline

The following annotated outline is a suggested schematic for elements to be included in a Remedial Investigation report. It is not intended to replace MTCA's specific requirements as presented in 173-340-350(7) WAC.

The main purpose of the outline is to facilitate the preparation of a document that is clear, comprehensive, and to the point. A secondary, but important, purpose for this project is to make document preparation and review more efficient.

INTRODUCTION
(*concise, bulleted if possible*)

- Site name, VCP number, Name, address, and phone number of project consultant, Current owner/operator
- Purpose of document *(very brief restatement of what an RI is for, reference the WAC)*

SITE IDENTIFICATION AND DESCRIPTION
(*focus on defining the site in the context of its' location*)

- Site discovery and regulatory status (*describe how the site was identified and where it is in the MTCA process)*
- Site and property location/definition (*define actual MTCA site location relative to property or study area*)
- Neighborhood setting
- Physiographic setting/topography

Figure – Vicinity Map (*preferably with topography*)
Figure – Property/Site Map (*preferably with topography*)
Appendix – Legal description of property, present owner and operator, chronological listing of past owners and operators

PROPERTY DEVELOPMENT AND HISTORY
(*this section focuses on the built environment, both current and historical, and presents the sources of contamination and release mechanisms*)

- Past site uses and facilities
- Current site use and facilities
- Proposed or potential future site uses
- Zoning (*if appropriate)*
- Transportation/roads

- Utilities, water supply
- Potential sources of site contamination
- Potential sources of contamination from neighboring properties (*discuss nearby sources if known)*

Figure – Historical site features (*may be combined with Figure 2*)
Figure – Potential contaminant sources
Figure – Utilities (*may be combined with Figure 2*)
Table – Potential Contaminants

ENVIRONMENTAL INVESTIGATION/INTERIM ACTION SUMMARY

(*Concise summary presentation of the investigations that have been done at the site, along with prior remedial actions. Focused mostly on figures and tables. Details of and methods used in former investigations and remediation in appendices*)

- Constituents of Concern (*brief discussion about which specific compounds were chosen for analysis and why)*
- Soil
- Surface water
- Ground water
- Sediment
- Air/soil vapor
- Natural resources/wildlife
- Cultural history/archeology
- Interim actions (*brief intro to prior remediation activities*)

Figure – Soil investigation data points (*show potential source areas*)
Figure – Surface water/groundwater investigation data points (*show potential source areas*)
Figure – Air investigation data points (*show potential source areas*)
Figure – Prior remediation activities

Table – Exploration Summary
Table – Analytical Schedule per media (*include analytical methods and reporting limits, as possible)*

Appendix – Previous Investigations (*detailed discussion goes here)*
Appendix - Exploration and sampling methodology (*may combine with Previous Investigations)*
Appendix – Boring/ Well logs
Appendix - Prior Interim Actions

NATURAL CONDITIONS

- Geology
  (*focus on interpretation*)

  - Regional Setting (*brief*)
  - Property Geologic Conditions (*synthesis, not regurgitation of boring logs*)
  - Physical Properties (*unlikely to need this section, but in some cases may be useful to present data on soil adsorptive capacity, organic content, strength, etc.)*

  Figure – Plan view of geologic unit distribution (*if helpful*)
  Figure - Cross section A-A' (*show borings, wells, screened intervals, water levels*)
  Figure – Cross section B-B' (*if necessary*)

- Surface Water
  (*brief description of the surface water system*)

  - Property drainage
  - Area surface water/floodplain issues
  - Regulatory classifications, if any (*e.g surface water classification)*

  Figure – Surface water Conditions (*only if information not already in a prior figure*)

- Ground Water
  (*focus on interpretation*)

  - Occurrence (*aquifers, water levels, confinement, geometry, continuity, physical properties*)
  - Movement (*directions, gradient if important, seasonal fluctuations, tidal influence*)
  - Discharge
  - Recharge (*if significant for site*)
  - Regulatory classifications, if any (*e.g. sole source aquifer*)

  Figure – Cross section with ground water information (*if not already included above*)
  Figure – Water table/potentiometric surface maps (*for various seasons or tidal conditions, show surface water*)

  Appendix – Ground water elevation data (*a table)*

- Natural Resources and Ecological Receptors
  (*preparatory to a TEE*)

- Greenbelts and other natural habitat
- Wildlife
- Other Information required to conduct evaluations under -7491, -7492, or if necessary -7493

Figure – showing natural areas, as appropriate

CONTAMINANT OCCURRENCE AND MOVEMENT

(*very little text, mostly figures and tables, transport modeling is unlikely to be needed for service station sites but if it was, would likely go in this section, main point is to provide easy-to-understand figures showing the depth and breadth of contamination*)

- Waste Material (*sludges, fluids, stockpiles)*
- Soil
- Surface Water
- Ground Water
- Sediment
- Air/Soil Vapor

Figures – Cross sections showing soil contamination with depth
Figures – Plan views showing soil contamination across site (*relative to releases if known*)
Figures – Cross section showing ground water contamination with depth (*if appropriate*)
Figures – Plan views showing ground water contamination in each aquifer (*relative to soil contamination and P-head map*)
Figures – XY plots of specific contaminants with time (*as appropriate*)
Figures – Others as appropriate to show the distribution of surface water, ground water, or air data

Tables – All of the analytical data against final cleanup levels (*exceedances highlighted, no need to develop screening levels*)
Tables – Summary of exceedances (*if helpful*)

Appendix – QA report
Appendix – Analytical lab reports

CONCEPTUAL MODEL

(*putting the whole story together, graphic illustrations are best*)

- Contaminant release/fate and transport/potential or actual receptors
- Data gaps (*is anything missing)*

CLEANUP STANDARDS

(*developing appropriate cleanup standards based on receptors and pathways*)

- Soil
  - Reasonable maximum exposure
  - Cleanup levels protective of contact, ground water, inhalation, terrestrial species, surface water, sediment
  - Points of compliance
  - Regulatory classifications *(classification of soil as dangerous or solid waste)*
- Ground Water
  - Highest beneficial use/reasonable maximum exposure
  - Cleanup levels protective of potable use, inhalation, surface water, sediment
  - Points of compliance
- Other Media as appropriate
  - Cleanup levels protective of ....
  - Points of compliance

Table – Cleanup Levels (*all potentially applicable values with final selected cleanup level noted*)

AREAS REQUIRING CLEANUP

(*the final story detailing where the contamination exceeds an applicable cleanup standard, brief text, mostly tables, figures*)

- Constitutuents of Concern (*a brief summary of compounds that exceed cleanup levels or "indicator hazardous substances" under MTCA. For most service station sites, the COCs should be the same)*
- Soil – vertical and lateral
- Ground water – vertical and later
- Sediment –
- Surface Water
- Soil Vapor/air

Figures – Plan view and vertical sections of areas requiring cleanup

REFERENCES