



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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April 16, 2015

Mr. Miles Stover
Turnaround, Inc.
3415 A Street Northwest
Gig Harbor, WA 98335

Re: No Further Action at the following Site:

- **Site Name:** Georgia Pacific Corp Clear Lake
- **Site Address:** 1283 Highway 9, Clear Lake, WA 98235
- **Facility/Site No.:** 66783635
- **VCP Project No.:** NW2791
- **Cleanup Site ID No.:** 2366

Dear Mr. Stover:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Georgia Pacific Corp Clear Lake facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

NO. Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.



Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Chlordane into the soil and ground water

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note that a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcels associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Associated Earth Sciences, Inc., *Groundwater Monitoring Reports, Clear Lake Industrial Park, (aka Georgia Pacific Clear Lake Yard, VCP No. NW2791), 12785 State Route 9 and 12827 South Front Street, 12713 Sawyer Court, Clear Lake, Washington*, August 6, 2014, December 29, 2014 and January 5, 2015.
2. Associated Earth Sciences, Inc., *Remedial Investigation and Feasibility Study, Clear Lake Industrial Park Property, 12785 State Route 9 and 12827 South Front Street, 12713 Sawyer Court, Clear Lake, Washington*. April 4, 2014.
3. The Riley Group, Inc., *Supplemental Phase II Subsurface Investigation*, August 29, 2013.
4. The Riley Group, Inc., *Phase II Subsurface Investigation*, November 9, 2012.
5. The Riley Group, Inc., *Phase I Environmental Site Assessment*, August 3, 2012.
6. W.D. Purnell & Associates, Inc., *Response to Ecology Letter Dated 10/18/96*, April 15, 1997.
7. Bennett Engineering, LLC, *Addendum Report, Final Independent Remedial Action, Clear Lake yard, Clear lake Washington*, March 2003.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology

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(NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235 or by email at nwro_public_request@ecy.wa.gov.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **no further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A**.

Site characterization was accomplished by conducting a series of remedial investigation activities, including source removal cleanup actions, between 1994 and 2014. Site characterization included soil sampling and analysis from 31 soil borings, 11 of which were completed as ground water monitoring wells. Additional confirmation soil and ground water sampling was conducted in 2014.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

The Site qualifies for an exclusion from a terrestrial ecological evaluation (TEE) under WAC 173-340-7491(c)(ii), there is less than ¼ acre of contiguous undeveloped land on or within 500 feet of any area of the Site. In addition, a simplified TEE exposure analysis was ended per WAC 173-340-7492(2)(a); the total area of soil contamination at the Site was less than 350 square feet.

a. Cleanup levels.

Soil

As no MTCA Method A cleanup level is available for chlordane, the selected cleanup level for soil is the MTCA Method B direct contact soil carcinogenic cleanup level for chlordane which is 2.86 milligrams per kilogram (mg/kg). Ecology concurs with the selected soil cleanup standard. All chlordane

contaminated soil was removed from the Site.

Ground Water

The selected cleanup level for ground water is the state and federal Maximum Contaminant Level (MCL) for total chlordane which is 2 micrograms per liter ($\mu\text{g/L}$). The MTCA (173-340 WAC) states that if an MCL based on a 1×10^{-5} risk or better is considered protective and can be used as a cleanup level (even though it's higher than the Method B formula value). The Method B formula value of $0.25 \mu\text{g/L}$ is calculated with a 1×10^{-6} risk. At 1×10^{-5} , the risk value would be 10 times the formula value or $2.5 \mu\text{g/L}$. Therefore, the risk level of the MCL is $(0.2/0.025) \times 10^{-6} = 8 \times 10^{-6}$ (or 0.8×10^{-5}). This risk level is less than 1×10^{-5} and thus the MCL can be used as the cleanup level. Ecology concurs with the selected ground water cleanup standard.

b. Points of compliance.

Soil

The standard point of compliance for soil is throughout the Site.

Ground Water

The standard point of compliance for ground water is throughout the Site from the upper most level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA.

The selected cleanup action for the Site was soil excavation and off-Site permitted disposal. An estimated 300 tons of chlordane-contaminated soil were removed from the Site. This remediation constitutes a permanent action under MTCA.

4. Cleanup.

Ecology has determined the cleanup you performed meets the cleanup standards established for the Site.

An estimated 300 tons of contaminated soil were removed from the Property in 1995 and transported off-Site for permitted disposal. Confirmation soil samples were collected from the sidewalls and bottoms of the remedial excavations and analyzed for identified contaminants of concern. Contaminant concentration results of all of the confirmation soil samples were below the applicable MTCA soil cleanup levels.

A sufficient number of ground water monitoring wells were installed and appropriately located to characterize the ground water Site. The ground water cleanup level for chlordane was not exceeded in any of the ground water samples collected during four consecutive quarters of groundwater sampling conducted from February 2014 to November 2015.

Listing of the Site

Based on this opinion, Ecology will remove the Site from our Confirmed and Suspected Contaminated Sites List and Leaking Underground Storage Tank List.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

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3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#NW2791).

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me at (360) 715-5213.

Sincerely,



John Guenther, LHG
NWRO Toxics Cleanup Program

Enclosure: A – Description and Diagram of the Site

cc: Jon Sondergaard, Associated Earth Sciences, Inc.
 Dolores Mitchell, VCP Financial Manager (without enclosure), Ecology
 Sonia Fernandez, VCP Coordinator, Ecology

Enclosure A

Description and Diagram of the Site

This section provides Ecology's understanding and interpretation of Site conditions, and is the basis for the opinions expressed in the body of the letter.

Site Definition

The Site is defined by the nature and extent of chlordane into the soil and ground water at 12785 State Route 9, 12827 South Front Street and 12713 Sawyer Court in Clear Lake, Washington (Property).

Area/Property Description

The Property consists of six Skagit County tax parcels that total approximately 10 acres in size. Skagit County tax parcels P74826, P74823, P74820, P74833 and P23293 comprise the Clear Lake Industrial Park; parcel P23292 is a single residential lot situated immediately east of the industrial park. The Property is located in the Clear Lake District of Skagit County on the east side of State Route 9. The industrial park portion of the Property, which is about 6.5 acres in size, is at an elevation of approximately 46 feet above mean sea level. The industrial park includes a few single-story steel and wood warehouse and shop structures and is currently used for construction equipment maintenance and storage. The residential parcel, about 3.5 acres in size, is occupied by a single family residence. The Property is surrounded by a mix of commercial and residential development in a rural setting.

Property History and Current Use

Historical use of the Property included primarily commercial purposes related to forestry and various industrial uses dating back to as early as 1903. Georgia Pacific occupied the Property from the 1980s to 2000. Georgia Pacific's operating practices included the mixing and storage of chlordane pesticide in the storage building and application to tree seedlings in the greenhouse located on the Property. The Property is currently being used for construction equipment storage and maintenance.

Contaminant Sources and History

Previous environmental investigations indicated that chlordane pesticide mixing and use on the Property resulted in overspray and rinse water entering the drainage system (including dry wells). Other potential sources of contamination on the Property included various aboveground

storage tanks (ASTs) and underground storage tanks (1,000- to 10,000-gallon USTs), possible buried automobiles, and a former fuel storage building. A 2012 geophysical survey concluded that all of these former improvements have since been removed from the Property and subsequent environmental screening and sampling has addressed any potential releases. Environmental screening included sampling and analysis of TPH, VOCs, arsenic, cadmium, chromium, lead and mercury in soil and ground water. None of these contaminants were identified at concentrations above applicable cleanup levels.

Physiographic Setting

The Site is located within the Puget Sound Lowland Physiographic Province, a north-south trending structural and topographic depression which is bordered on its west side by the Olympic Mountains, and to the east by the Cascade Mountain foothills. The Puget Sound Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and non-glacial sediments.

Repeated advances and retreats of the continental glaciers that flowed through the area out of Canada more than 10,000 years ago created the low undulating plains that are characteristic of the Puget Sound Lowland. Current land surfaces reflect the most recent changes that are directly related to glacial events occurring between 13,000 and 20,000 years ago.

The Property is located at the base of the Cascade foothills near where the relatively narrow upper Skagit River Valley expands onto the more broad and flat-lying agricultural farmlands of the lower Skagit River Valley. Lakes and wetlands are scattered throughout the lower Skagit River Valley.

Ecological Setting

The Property is zoned for industrial use and is surrounded by a mix of commercial and residential land uses. The ecological setting is a mix of rural and natural attributes with commercial development to the north and west and residential development to the east and south. The Property is covered by compacted soil and gravel and surrounded by scattered patches of landscaped and natural vegetation.

Geology

The *Preliminary Geologic Map of Clear Lake NW Quadrangle, Skagit County, Washington* maps shallow soils beneath the Site as Skagit Valley Alluvium which is described as gravel and silt deposits sorted and stratified with clasts that are rounded to subrounded. The alluvium unit forms low terraces that stand 2 to 6 meters above the modern flood plain.

Boring logs completed as part of remedial investigation activities conducted on the Property confirmed the presence of these silt deposits with some sand and gravel to the maximum depth explored, approximately 20 feet below ground surface (bgs).

Ground Water

Ground water beneath the Property occurs as an unconfined aquifer within the Quaternary alluvium. Depth to ground water ranges from between 3 and 13 feet bgs. The ground water flow direction beneath the Property varies seasonally but is predominantly to the northeast.

Surface Water

Clear Lake, an approximately 223-acre freshwater lake, is located approximately 100 feet east and southeast of the Property. The Skagit River is located approximately 1.75 miles north of the Property. Stormwater infiltrates the Property's pervious gravel surfaces.

Water Use/Water Supply

Most of the Clear Lake District, including the subject Property, is supplied with potable water from the Skagit Public Utility District (PUD). The Skagit PUD gets its water from surface water including three tributaries to the Skagit River.

Release and Extent of Contamination – Soil

Site soils were most likely contaminated by the storage, use and improper disposal of chlordane when the Property was used for growing trees by the Georgia Pacific Corporation. Chlordane is a pesticide that was in common use during the 1940s, 50s and 60s.

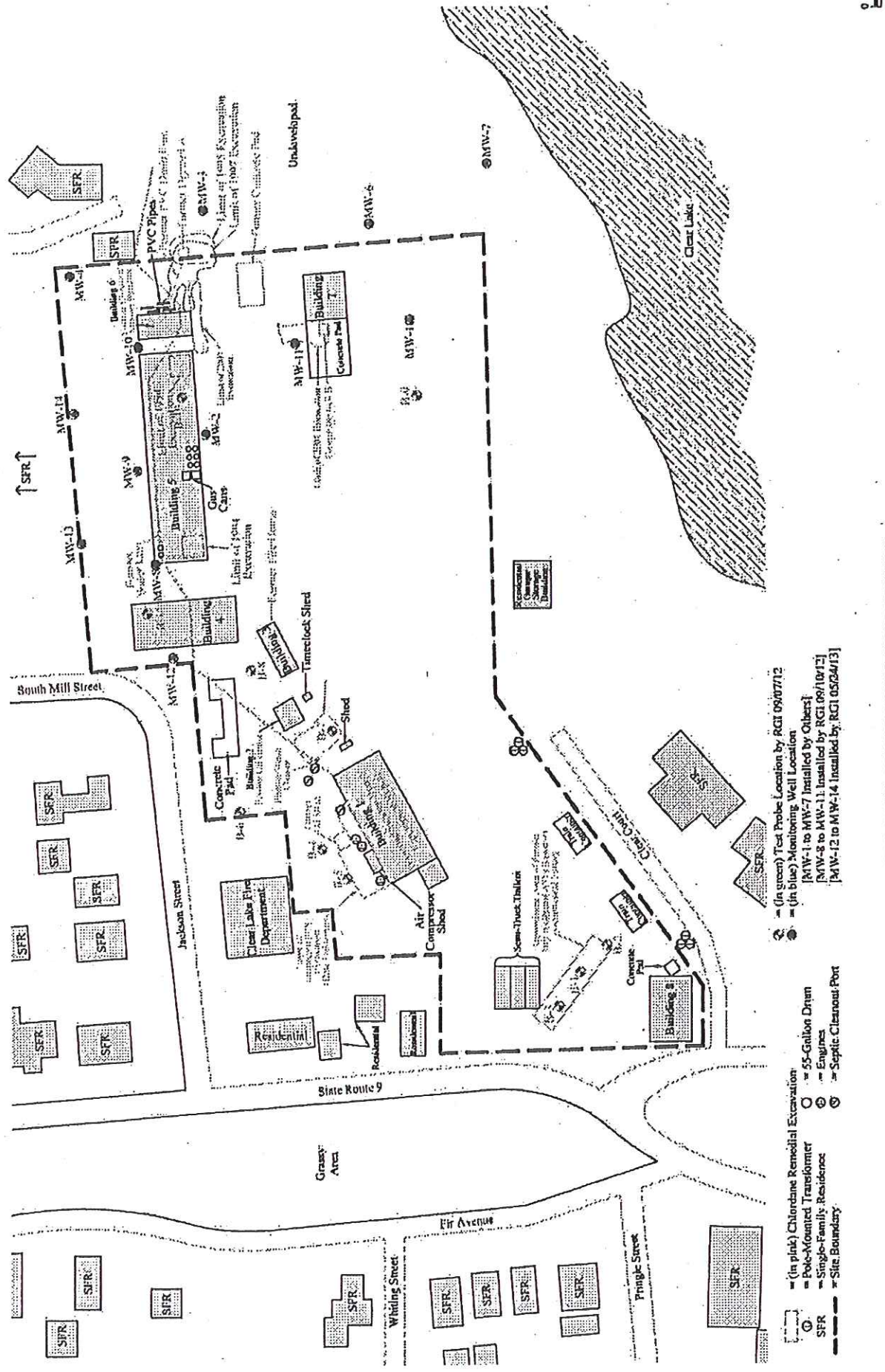
Release and Extent of Contamination – Ground Water

It is presumed that Site ground water was contaminated by chlordane that leached from the soil to the ground water. Ground water sampling has occurred at various intervals at the Site since 1995.

However, not all of the monitoring wells were sampled during each of these sampling events. Monitoring wells MW-1 and MW-3 have been sampled the most often since these two wells consistently had the highest chlordane concentrations. Ground water quality data collected during both the wet and dry seasons have historically been represented. The most elevated chlordane concentration detected in ground water was 36 µg/L in monitoring well MW-3 in 1995.

In addition to the ground water quality data collected since 1995, four consecutive quarters of ground water monitoring data was collected from nine monitoring wells during February, June, August and November, 2014. Based on the historic ground water sampling results, monitoring wells MW-6 and MW-7 were not included as part of the past four consecutive quarters of ground water monitoring. Chlordane concentrations did not exceed the State MCL of 2 micrograms per liter (µg/L) during these most recent four consecutive quarters of ground water monitoring.

Ground water monitoring wells should be properly decommissioned per 197-160-381 WAC.



NOTE: BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

- (In pink) Chloroform Remedial Excavation
- (In blue) Test Probe Location by RGI 09/07/12
- (In green) Monitoring Well Location
- [MW-1 to MW-7 Installed by Oibers]
- [MW-8 to MW-11 Installed by RGI 09/10/12]
- [MW-12 to MW-14 Installed by RGI 05/24/13]

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REFERENCE: THE RILEY GROUP

Associated Earth Sciences, Inc.

SITE PLAN
CLEAR LAKE INDUSTRIAL PARK
CLEAR LAKE, WASHINGTON



