

Timeline of Activities at the Bremerton MGP

Year	Action	Description
2010	Time Critical Removal Action (TCRA)	<p>Cascade issued Administrative Order for Pollution Incident (Order) by US Coast Guard (USCG) to implement response action at the Site under the oversight of USCG. Cascade developed Incident Action and TCRA Work Plan. The removal action satisfied the following objectives of the Incident Action and TCRA Work Plan:</p> <ul style="list-style-type: none"> • The pipe was located and traced to the shoreline. • The pipe was plugged as close as practicable to the shoreline, at the location specified in the Incident Action and TCRA Work Plan. • All pipe sections downgradient of the new plug were removed together with all overburden sediments. • All excavations were filled to grade with clean beach material. • The organoclay mat was placed over the area of impacted sediments specified in the Incident Action and TCRA Work Plan. <p>More details of activities can be found at https://response.epa.gov/bremertongasworks</p>
2011	Inspections & EPA Requests/Meetings	<p>To ensure that control measures on the beach have not changed weekly inspections of the beach were conducted until April 2011, followed by ongoing quarterly inspections of the beach. Cascade gathered and sent documents requested by EPA for the Bremerton Gas Works. Cascade developed comments and edits to the Agree Oder on Consent with EPA. EPA prosed placing the site on Nation Priorities List (NPL). Cascade developed and submitted comments on the proposed listing to correct items within the Hazard Ranking System Document Record.</p>
2012	Inspections & EPA Requests/Meetings	<p>EPA place the Bremerton Gasworks Site on the National Priorities List (NPL) (https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=1002907) Cascade continued to work with the EPA on the Draft Settlement Agreement and Order of Consent (AOC) and the Statement of Work (SOW).</p>
2013	<p>Time Critical Removal Action (TCRA)</p> <p>CNG & EPA sign AOC</p>	<p>In May, Cascade and EPA signed an Administrative Order on Consent (“AOC”), in which Cascade Natural Gas agreed to perform a removal assessment remedial investigation and feasibility study and any early actions identified during the removal assessment.</p> <p>On June 27, Cascade submitted the Final Bremerton Gasworks Removal Evaluation Work Plan (RE WP) to the EPA, EPA approved the plan on July 2, 2013.</p> <p>July, Cascade, with EPA oversight, sampled the beach sediment for PAHs and investigated the existing manholes and pipes leading from the Site. Work was done in accordance with the approve RE WP.</p> <p>July 25, 2013, the Cascade team meet with EPA to discuss the result of the beach sampling. The areas of concern were discussed in great length and options that would be protective until the RI/FS was final. 2013 TCRA actions were agreed to based on sample results and other site conditions.</p> <p>October, TCRA actions completed included:</p> <ul style="list-style-type: none"> • Removing solid hydrocarbon material identified in the western beach area

		<ul style="list-style-type: none"> • Installing an organoclay mat and cover over the hydrocarbon sheen in subsurface sediments in the western beach area • Plugging Manhole A and the sump drain from the tank containment area • Completing monitoring inspection to confirm the effectiveness of actions • Installing required signage
2014	Scoping Memorandum	<ul style="list-style-type: none"> • Beach inspection were completed quarterly to monitor performance of the 2010 and 2013 TCRA. • January, draft documents were prepared and submitted to EPA as a first set of deliverables to support the Draft Scoping Memorandum. • March, site catch basin was replace and connected to City storm drain as part of the 2013 TCRA. • Draft portions of the upcoming Scoping Memorandum and a preliminary investigation approach were submitted to EPA on 4/16/2014. A meeting between EPA and Cascade to discuss these elements was held on 4/21/2014. A preliminary description and rationale for the Initial Study Area was submitted to EPA on 4/30/3014. EPA provided comments on 5/20/2014. • Excess soil from the site catch basin replacement (part of the 2013 TCRA) was hauled off to Cemex for disposal on 4/3/2014. • The draft Removal Action Report was submitted to EPA on 4/28/2014. EPA comments were received on 4/28/2014. The final Removal Action Report was submitted to EPA on 5/14/2014. EPA approved the report in a letter dated May 29, 2014. • Monthly status calls were conducted with EPA. • The draft Scoping Memorandum and site database were submitted for EPA review on 8/2/14. • A public meeting was conducted on 9/9/14. • The former containment area on the site was inspected on 9/25/14, following a significant rain event on 9/24/14 (defined in the Removal Action Report as greater than 0.5-inches of rain in a 24-hour period), to confirm the effectiveness of the Removal Action at preventing water accumulation in the containment area. No standing water was observed in the tank containment area on 9/25/14. • Cascade received EPA's comments on the Draft Scoping Memorandum on 10/27/14. A call was conducted on 11/4/14 to discuss EPA's comments on the Draft Scoping Memorandum. • Cascade submitted a response to comments and a redline Draft Final Scoping Memorandum to EPA for review on 11/20/14. • In a letter dated December 9, 2014 Cascade requested an extension of the due date for submittal of the final scoping memorandum until 21 days after Cascade Receives EPA's comments on the Draft Final Scoping Memorandum. EPA approved the request in letter dated December 9, 2014.

		<ul style="list-style-type: none"> • Draft outlines for the Remedial Investigation/Feasibility Study (RI/FS) work Plan and Sampling and Analysis Plans for the marine and upland portions of the Site were submitted to EPA for review on 12/17/14.
2015	<p>Final Scoping Memorandum</p> <p>Draft Remedial Investigation and Feasibility Study Work Plan (RI/FS)</p>	<ul style="list-style-type: none"> • Monthly status calls were conducted with EPA throughout the year. An additional call was conducted on 2/10/15 to discuss elements of the Draft RI/FS Work Plan. • Cascade met with EPA on 1/23/15 to discuss elements of the Draft RI/FS Work Plan related to the risk assessment, and had a follow-up discussion in a conference call on 2/24/15. • Inspection of the beach to monitor performance of the 2010 and 2013 Time Critical Removal Actions was conducted quarterly during the year. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. • EPA provided Cascade with comments on the draft final Scoping Memorandum on 2/12/15. • The Final Scoping Memorandum was submitted to EPA on 3/5/15. • Cascade requested an extension on the due date for the Draft RI/FS Work Plan in a letter dated 2/23/15. EPA approved the request in a letter dated 2/24/2015. • EPA approved the Draft RI/FS Work Plan outline on 3/18/15. • The Draft RI/FS Work Plan was submitted to EPA on 4/17/2015. • A meeting with stakeholders to discuss the Draft RI/FS Work Plan was conducted on 6/2/15. • EPA and their consultant CH2MHill, met with Cascade and their consultants, Anchor QEA and Aspect Consulting, on 11/5/15 to provide CH2MHill with an overview of the project to date. The meeting included a site walk. • On 12/29/15, Cascade provided comments to the Washington Department of Health, with a copy to EPA, on its draft "Letter Health Consultation - Bremerton Gasworks Superfund Site: Time-Critical Removal Action of Sediments 2010 and 2013," dated April 27, 2015, which was received by Cascade on 12/2/2015.
2016	Draft RI/FS Work Plan	<ul style="list-style-type: none"> • Regular monthly status calls were conducted with EPA. • Inspection of the beach to monitor performance of the 2010 and 2013 Time Critical Removal Actions was conducted quarterly during the year. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. • On 2/1/16, Cascade received comments from EPA on the Draft Remedial Investigation/Feasibility Study (RI/FS) Work Plan. • On 2/8/16 and 2/16/16, Cascade participated in conference calls with EPA and their consultant CH2MHill to discuss the EPA comments on the Draft RI/FS Work Plan and to coordinate the time and agenda for a meeting for further discussion. • On 2/22/16, EPA and their consultant CH2MHill met with Cascade and their consultants, Anchor QEA and Aspect Consulting, to discuss EPA's comments on the Draft RI/FS Work Plan. During that meeting, EPA

		<p>suggested evaluating incremental sampling methodology (ISM) as an approach for incorporation into the scope of work for the RI/FS.</p> <ul style="list-style-type: none"> • On 3/1/16, EPA and their consultant CH2MHill met with Cascade to discuss the potential for integrating an ISM approach into the scope of work for the RI/FS. • On 3/22/16, Cascade facilitated a conference call with EPA and their consultant CH2MHill to further discuss integration of ISM into the scope of work for the RI/FS and the schedule for a future meeting. • Cascade requested a schedule extension for completion of the Final RI/FS Work Plan in a 3/22/16 letter, which was approved by EPA in a 3/25/16 letter, to allow for development of an ISM proposal describing its approach and rationale. Under the approved schedule extension, the Final RI/FS Work Plan must be submitted to EPA within 30 calendar days after Cascade receives EPA’s written comments on the final ISM proposal. • On 5/11/2016, EPA and their consultant CH2MHill met with Cascade and their consultants, Anchor QEA and Aspect Consulting, and representatives of the Suquamish Tribe, to discuss revisions to the Draft RI/FS Work Plan and the approaches to be incorporated into the draft final version of the document. • Key portions of the draft final RI/FS Work Plan, including text, figures and tables with significant revisions, and responses to EPA’s comments were submitted to EPA on 6/17/2016. • EPA provided comments on the upland investigation portion of the revised draft RI/FS Work Plan on 8/12/2016. On 8/18/2016, EPA and its consultant CH2M met with Cascade and its consultants, Anchor QEA and Aspect Consulting, to discuss these comments. • Draft meeting notes documenting the 8/18/2016 meeting was submitted to EPA for review on 8/23/2016. EPA provided comments on 8/31/2016 and the meeting notes were finalized and sent to EPA on 9/28/2016. • EPA provided comments on the marine investigation portion of the revised draft RI/FS Work Plan on 9/15/2016. On 9/30/2016, EPA and its consultant CH2M met with Cascade and its consultants, Anchor QEA and Aspect Consulting, and representatives of the Suquamish Tribe to discuss these comments. • A meeting was held on 12/19/2016 with attendees consisting of Cascade Natural Gas and its consultants, Aspect Consulting and Anchor QEA, and EPA and its consultant CH2M. The purpose of the meeting was to facilitate introductions and brief the new EPA project manager on the project. • EPA provided final comments on the draft RI/FS Work Plan on 12/30/2016.
2017	Final RI/FS Work Plan	<ul style="list-style-type: none"> • Regular monthly status calls were conducted with EPA.

RI/FS Data
Collection

- Inspection of the beach to monitor performance of the 2010 and 2013 Time Critical Removal Actions was conducted quarterly during the year. Based on the inspection, the TCRA's are performing as designed. No sheen was observed around the TCRA cap areas on the beach.
- The final draft of the RI/FS Work Plan was submitted electronically to EPA on 2/28/2017.
- Documents providing responses to EPA's collective comments on the draft RI/FS Work Plan (dated 6/17/2016) were submitted to EPA on 3/13/2017.
- Field coordination, planning, and project status calls with EPA and its consultant CH2M were conducted weekly during active field work between 7/1/2017 and 9/30/2017.
- The completed field activities for RI/FS data collection during 2017 consist of the following:
 - The geophysical survey of the Upland Area was conducted the week of 7/17/2017. The draft geophysical survey report was provided to EPA on 8/4/2017.
 - Surface sediment sampling in the Marine Area was conducted during the week of 7/17/2017.
 - The acoustic doppler current profile survey in the Marine Area was conducted on 7/23/2017.
 - The subsurface sediment core sampling in the Marine Area was conducted during the week of 7/31/2017.
 - The Source Characterization, including exploratory trenching, test pits, and borings, was conducted during the weeks of 8/7/2017 and 8/14/2017.
 - The second surface water sampling event was conducted on 9/14/17
 - The Preliminary Deep Borings and Wells portion of the Outside Source Areas Investigation was conducted during the week of 8/14/2017.
 - Excess soil generated during Source Characterization drilling and trenching was transported off-site for disposal on 9/20/2017. Waste profile and disposal site information was provided to EPA, and EPA certified that the disposal facility was acceptable to receive CERCLA waste, on 9/18/2017.
 - Portions of the Source Areas Investigation, consisting of the advancement of deep borings along transects to determine groundwater monitoring well locations and construction details, was conducted during the weeks of 9/18/2017 and 9/25/2017.
 - Surface water sampling was conducted on 11/1/2017.

		<ul style="list-style-type: none"> ○ A geotechnical field inspection to support drilling access to the shoreline was conducted on 11/16/2017. ○ Installation and development of the Source Areas Investigation monitoring wells during the Weeks of 11/27/2017, 12/13/2017 and 12/25/2017 ○ Excess soil generated during Source Areas Investigation drilling and well installation was transported off-site for disposal on 12/13/2017. ● Cascade and its consultants, Aspect Consulting and Anchor QEA, met with EPA, its consultant CH2M, and representatives of the Suquamish Tribe on 11/7/2017 to discuss the RI/FS data collected to date and the scope of work for planned RI/FS data collection activities. ● Based on the 11/7/2017 meeting, Anchor QEA produced a technical memorandum (final dated 11/19-17) for the submittal of archived samples, which EPA approved on 11/20/17. Samples BGW-ISA-SS101, BGW-ISA-SS109, and BGW-ISA-115 were submitted for polychlorinated biphenyl congeners and dioxins/furans. In addition, BGW-ISA-SS10 and BGW-SS13 were submitted for dioxins/furans testing. ● The draft Memorandum regarding <i>Bremerton Gas Works – Remedial Investigation/Feasibility Study Sample Triggers</i> for the Marine Area was submitted to EPA on 11/16/2017. EPA provided conditional approval of the memo, with changes, on 11/17/2017. The final memo, which was retitled at EPA’s request to <i>RI/FS Proposal for Dioxin/Furan and PCB Congener Analysis in Surface Sediment Archive Samples</i>, was submitted to EPA on 11/19/2017. ● The draft Memorandum regarding <i>Bremerton Gas Works – Proposed Source Investigation Monitoring Wells</i> was submitted to EPA on 11/16/2017. EPA granted conditional approval of the memo, with changes, on 11/17/2017 and the final memo was submitted to EPA on 11/22/2017.
2018	RI/FS Data Collection	<ul style="list-style-type: none"> ● Regular monthly status calls were conducted with EPA. ● Quarterly progress report No. 19 was submitted to EPA on January 14, 2018. ● Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 2/6/2018. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area.

Outline of Draft Risk
Assessment
Technical
Memorandum
(RATM)

Draft BGW-
Proposed Outside
Source Areas
Sampling Plan

- Engineered plan sheets, describing the grading, erosion control and stabilization measures to provide drill rig access to the northernmost portion of the Sesko Property for well installation, were provided to EPA on 2/12/2018.
- The draft outline for the *Risk Assessment Technical Memorandum* was submitted to EPA on 3/12/2018.
- The draft Memorandum regarding DRAFT *Bremerton Gas Works – Proposed Outside Source Areas Sampling Plan* for the Upland Area was submitted to EPA on 3/14/2018 and included pre-validated groundwater data from the January 2018 sampling event. EPA approved the groundwater sampling portion of the draft Memorandum on 3/23/2018.
- The Memorandum regarding RI/FS Proposal for Additional Surface Sediment Sampling *within the Initial Study Area* for the Marine Area was submitted to EPA on 3/19/2018. The memo was revised following the 3/21/2018 meeting and resubmitted to EPA on 3/28/2018. EPA approved the memo, with one addition pertaining to sampling for volatile organic compounds (VOCs) based on field screening, on 3/29/2018.
- Cascade and its consultants, Aspect Consulting and Anchor QEA, met with EPA, its consultant CH2M Jacobs, on 3/21/2018 to discuss the RI/FS data collected to date and the scope of work for additional RI/FS data collection activities.
- Cascade and its consultants, Aspect Consulting and Anchor QEA, met with EPA, its consultant CH2M Jacobs, and project stakeholders on 3/22/2018 to discuss the status of the RI and present the results of investigation activities completed to date.
- The completed field activities for RI/FS data collection during this reporting period consist of the following:
 - Installation of dedicated pumps and collection of groundwater samples from all existing monitoring wells between 1/15/2018 and 1/18/2018.
 - Samples of investigation-derived waste (IDW) liquid generated during RI activities, including well purge water and drilling decontamination water, were collected on 2/20/2018 to support waste profiling and disposal.
- Draft meeting notes documenting the 3/21/2018 meeting were submitted to EPA on 4/4/2018.

*BGW – Proposed
Outside Source
Areas Sampling Plan*

- Cascade and its consultants, Aspect Consulting and Anchor QEA, met with EPA, its consultant CH2M Jacobs on 5/21/2018 to discuss the RI/FS data collected to date, the scope of work for additional RI/FS data collection activities, and the potential for completing a removal action.
- Draft meeting notes documenting the 5/21/2018 meeting were submitted to EPA on 6/25/2018.
- Quarterly progress report No. 20 was submitted to EPA on April 15, 2018.
- Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 4/17/2018. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area.
- EPA provided comments on the draft outline for the *Risk Assessment Technical Memorandum* on 4/23/2018.
- The Memorandum regarding *Revised Bremerton Gas Works – Proposed Outside Source Areas Sampling Plan* for the Upland Area was submitted to EPA on 4/3/2018. In an email dated 5/22/2018, EPA directed Cascade to put on hold the planned portions of Shallow Soil Characterization that consist of incremental sampling methodology (ISM), as proposed in the 4/3/2018 Memorandum, pending further Source Area Investigation work.
- The draft Memorandum regarding *Supplemental Source Investigation and Initial Outside Source Area Sampling Plan* for the Upland Area was submitted to EPA on 6/13/2018. EPA approved the memo, with one modification to the surface soil characterization sampling approach, on 6/21/2018.
- The draft Memorandum regarding RI/FS Proposal for Additional Subsurface Sediment Sampling within the Initial Study Area for the Marine Area was submitted to EPA on 6/26/2018.
- The completed field activities for RI/FS data collection during this reporting period consist of the following:
 - Supplemental surface sediment samples were collected from the Marine Area on 4/19/2018.
 - Investigation-derived waste, including soil cuttings, drilling decontamination water and well purge water, generated during RI field activities in the first quarter of 2018 was transported off-site for disposal on 4/17/2018 and 4/18/2018.

- Installation and development of the Outside Source Areas Investigation cross- and upgradient groundwater monitoring wells was completed between 4/23/2018 and 4/30/2018.
- Grading work was completed on 5/1/2018 and 5/2/2018 to facilitate access by the drill rig to the northernmost portion of the Sesko Property for well installation. A composite soil sample from the soil stockpile generated by these grading activities was collected on 5/8/2018 to profile the soil for off-site disposal.
- Installation and development of the two groundwater monitoring wells at the northernmost point of the Ravine Fill Area was completed between 5/22/2018 and 5/24/2018.
- Installation of dedicated pumps in monitoring wells installed during the first half of 2018 and collection of groundwater samples from all existing monitoring wells was completed between 6/4/2018 and 6/6/2018.
- A samples of investigation-derived waste (IDW) soil generated during RI activities, was collected on 6/5/2018 to support waste profiling and disposal.
- Cascade and its consultants, Aspect Consulting and Anchor QEA, met with EPA and its consultant CH2M Jacobs on 9/5/2018 to discuss the results of investigation activities; present soil, groundwater, and sediment data to date; and determine next steps for the RI/FS process.
- A revised analytical approach for the September and December 2018 groundwater monitoring and sampling events was submitted to EPA by Aspect, on behalf of Cascade, and approved by EPA on 9/6/2018.
- Quarterly progress report No. 22 was submitted to EPA on 7/13/2018.
- Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 7/13/2018. Based on the inspection, the TCRAs are performing as designed. No sheen was observed

*Supplemental
Source Investigation
and Initial Outside
Source Area
Sampling Plan
Memo*

*RI/FS Proposal for
Additional
Subsurface
Sediment Sampling
within the Initial
Study Area Memo*

around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area.

- The final EPA-approved Memorandum regarding *Supplemental Source Investigation and Initial Outside Source Area Sampling Plan* for the Upland Area was submitted to EPA on 7/11/2018.
- The final EPA-approved Memorandum regarding *RI/FS Proposal for Additional Subsurface Sediment Sampling within the Initial Study Area* for the Marine Area was submitted to EPA on 7/9/2018 and approved on 7/9/2018.
- The step-out exploration approach for the area surrounding SB-45 was proposed by Aspect, on behalf of Cascade, and approved by EPA on 8/14/2018.
- Preliminary materials related to preparation of the *Risk Assessment Technical Memorandum* were provided to EPA on 9/14/2018 (tables and figures) and 9/18/18 (revised Table of Contents).
- Draft meeting notes documenting the 9/5/2018 meeting were submitted to EPA on 9/19/2018.
- The completed field activities for RI/FS data collection during this reporting period consist of the following:
 - Additional subsurface sediment samples were collected from borings in the upper intertidal area between the Ravine Fill Area and the 2010 TCRA cap between 7/11/2018 and 7/13/2018.
 - The borings described in the *Supplemental Source Investigation and Initial Outside Source Area Sampling Plan* were completed and soil samples collected as planned on 7/12/2018 and between 7/16/2018 and 7/20/2018. An additional boring to determine the southerly extent of source material was completed to the south of MW-14 on 7/12/2018.
 - The bluff sampling described in the *Supplemental Source Investigation and Initial Outside Source Area Sampling Plan* was completed and soil samples collected as planned on 7/24/2018.
 - Investigation-derived waste, including soil cuttings, drilling decontamination water and well purge water, generated during RI field activities in the second quarter of 2018 was transported off-site for disposal on 7/24/2018.

- Drilling, well installation, and development of the SB-45 area step-out borings and wells were completed and sampled as planned between 8/22/2018 and 8/24/2018.
- Signage to control public access was installed along the shoreline of the Sesko Property on 8/13/2018.
- Installation of dedicated pumps in monitoring wells MW-17 and MW-18 and collection of groundwater samples from all existing monitoring wells was completed between 9/11/2018 and 9/14/2018.
- A monthly project status call with EPA and its consultant Jacobs was conducted on 11/7/2018. During the 11/7/2018 call, EPA concurred with two proposed modifications to analytical testing, as follows:
 - Follow-up analysis will be completed on a subset of the shoreline bluff soil samples collected in July 2018, where relatively high concentrations of metals were detected, by the Toxicity Characteristic Leaching Procedure (TCLP) method.
 - Groundwater samples collected during the December 2018 sampling event will be analyzed for both free cyanide and weak acid dissociable cyanide.
- Cascade and its consultants, Aspect Consulting and Anchor QEA, met with EPA and its consultant Jacobs and the Suquamish Tribe on 10/3/2018, 10/30/2018 and 12/6/2018 to discuss the approach to preparing, and details of, the Risk Assessment Technical Memorandum.
- Quarterly progress report No. 22 was submitted to EPA on 10/15/2018.
- A memorandum regarding Solid Phase Micro Extraction Results for Sediment PAHs and Risk Application was submitted to EPA on 10/18/2018.
- Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 10/19/2018. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area.

		<ul style="list-style-type: none"> • EPA provided comments on the draft meeting notes documenting the 9/5/2018 meeting on 11/7/2018. • A memorandum regarding <i>Added and Modified Laboratory Method for Soil and Groundwater Sampling</i> was submitted to EPA on 12/5/2018. EPA provided comments on this memorandum on 12/18/2018. • The completed field activities for RI/FS data collection during this reporting period consist of the following: <ul style="list-style-type: none"> ○ Quarterly groundwater monitoring and sampling was conducted between 12/4/2018 and 12/7/2018.
2019	<p><i>Risk Assessment Technical Memorandum (RATM)</i></p> <p><i>Outline of Phase I Data Report</i></p>	<ul style="list-style-type: none"> • Regular monthly status calls were conducted with EPA. As agreed between Cascade and EPA, a monthly status call was not conducted in January. The monthly call for July was conducted early, on 6/19/2019. The December 2019 monthly call was replaced by a meeting on 12/4/2019. • Quarterly progress report No. 23 was submitted to EPA on 1/15/2019. • Meeting notes that summarized the three <i>Risk Assessment Technical Memorandum (RATM)</i> work group meetings were submitted to EPA on 1/17/2019. EPA provided comments on the notes on 2/14/2019. • Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 1/14/2019. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap area on the beach. No water accumulation was observed in the former containment area. • An annotated outline for the <i>Phase I Data Report</i> was submitted to EPA on 2/14/2019. EPA provided comments on the annotated outline on 3/5/2019. • Transportation and off-site disposal of IDW generated during the upland RI field activities during the second half of 2018 was completed on 2/27/2019.

<p><i>Phase 1 Data Report</i></p> <p><i>RATM</i></p>	<ul style="list-style-type: none"> • The response to the Section 104(e) request was submitted by to EPA by Veris Law Group, on behalf of Cascade, on 3/8/2019. • Quarterly progress report No. 24 was submitted to EPA on 4/15/2019. • The draft <i>Phase 1 Data Report</i> was submitted to EPA on 5/2/2019. • The draft <i>Risk Assessment Technical Memorandum</i> was submitted to EPA on 5/2/2019.
<p><i>RI/FS Work plan Addendum</i></p>	<ul style="list-style-type: none"> • EPA provided comments on the draft <i>Phase 1 Data Report</i> and the draft <i>Risk Assessment Technical Memorandum (RATM)</i> on 6/13/2019. • The draft <i>RI/FS Work Plan Addendum</i> was submitted to EPA on 5/20/2019. EPA provided comments on the draft <i>RI/FS Work Plan Addendum</i> on 7/9/2019 and 9/4/2019. • Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 4/12/2019. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area. The contaminated sediments notification sign on the east side of the 2010 TCRA cap had broken off at the ground surface and was lying on the beach. The sign was repaired and replaced on 4/23/2019. Minor erosion caused by the City of Bremerton outfall pipe abutting the 2010 TRCA cap was observed but, was determined to have no impact on the stability of the cap.
<p><i>RI/FS Work plan Addendum</i></p>	<ul style="list-style-type: none"> • Quarterly Progress Report No. 25 was submitted to EPA on 7/15/2019. • A call with EPA and its consultant Jacobs to discuss comments related to solid phase micro extraction results presentation in draft Appendix H of Phase 1 Data Report and draft <i>RI/FS Work Plan Addendum</i> was conducted on 8/19/2019.

<p>RI/FS Data Collection</p>	<ul style="list-style-type: none"> • The revised <i>RI/FS Work Plan Addendum</i> and a Response to Comments were submitted to EPA on 9/17/2019. • Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 7/2/2019. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area. • Field activities for RI/FS data collection completed consist of the following: <ul style="list-style-type: none"> ○ Sediment and tissue sample acquisition was conducted from July 20, 2019 and were completed on August 2, 2019. ○ Groundwater monitoring and sampling was completed between 9/18/2019 and 9/20/2019. ○ The tidal study commenced on 9/23/2019.
<p><i>RI/FS Work Plan Addendum</i></p>	<ul style="list-style-type: none"> • The December 2019 monthly call was replaced by a meeting on 12/4/2019. • The final <i>RI/FS Work Plan Addendum</i> and the Response to Comments to address EPA’s comments on the draft <i>RI/FS Work Plan Addendum</i> was submitted to EPA on 10/30/2019.
<p><i>RATM</i></p>	<ul style="list-style-type: none"> • The Response to Comments documents to address EPA’s comments on the draft <i>Phase 1 Data Report</i> and draft <i>Risk Assessment Technical Memorandum</i> were submitted to EPA on 11/20/2019. • Preliminary data for work conducted in accordance with the final <i>RI/FS Work Plan Addendum</i> (referred to as the Phase 2 data) was provided to EPA on 12/3/2019. • A meeting with EPA, its consultant Jacobs, and the Suquamish Tribe, was conducted on 12/4/2019 to present preliminary Phase 2 data, discuss EPA’s comments on the draft <i>Phase 1 Data Report</i> and draft <i>Risk Assessment Technical Memorandum</i>, and discuss the project schedule for 2020. • Conference calls with EPA, its consultant Jacobs, and the Suquamish Tribe, to discuss bioassay results and next steps were conducted on 12/9/2019 and 12/16/2019. • Inspection of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) was conducted on 10/9/2019. Based on the inspection, the TCRAs are performing as designed. No sheen was observed

	<p>RI/FS Data Collection</p>	<p>around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area.</p> <ul style="list-style-type: none"> • Field activities for RI/FS data collection completed during <ul style="list-style-type: none"> ○ The tidal study, which had commenced on 9/23/2019, continued through 10/7/2019. ○ Aquifer testing was conducted on 10/8/2019 and 10/9/2019. ○ The vapor intrusion assessment, including exterior soil gas sampling and sub-slab soil gas sampling, was conducted between 10/21/2019 and 10/31/2019. ○ Groundwater monitoring and sampling was conducted between 12/18/2019 and 12/20/2019. ○ Bioaccessibility surface sediment grabs were collected on 10/29/2019 and submitted for limited testing. Microscopy was initiated in December 2019. ○ Bioavailability tests were initiated on 9/20/2019 and terminated on 11/4/2019. Samples were shipped to the lab for testing.
<p>2020</p>		<ul style="list-style-type: none"> • Regular monthly status calls were conducted with EPA according to the requirements of the AOC. Starting in March a representative of the Suquamish Tribe participated in monthly calls. • Inspection of the beach to monitor performance of the 2010 and 2013 Time Critical Removal Actions was conducted quarterly during the year. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area. • Quarterly Progress Reports No. 27 were submitted to EPA on 1/15/2020, 4/9/2020, 7/15/2020 and 10/15/2020. • Draft notes documenting the 12/4/2019 meeting with EPA were submitted to EPA on 1/22/2020. EPA provided comments on the meeting notes on 2/5/2020 and a revised draft was submitted to EPA on 3/10/2020. • A revised Health and Safety Plan to address COVID-19 during groundwater sampling activities was submitted to EPA on 6/8/2020

Marine SQAPP Addendum	<ul style="list-style-type: none"> • Investigation-derived waste, generated during RI activities performed in late 2019 and the first half of 2020, was transported off-site for disposal on 9/22/2020. • Replacement and repair of the erosion control measures on the ravine slope was conducted on 11/6/2020 in preparation for the 2020-2021 wet season. Follow-up site inspections were conducted on 11/17/2020 and 12/23/2020 and indicated that the erosion control measures were performing as intended to minimize erosion of the ravine slope. • The second Marine SQAPP Addendum, covering proposed chemical and benthic toxicity testing, was submitted to EPA on 1/22/2020 and EPA provided comments on 2/5/2020. The Addendum was revised and resubmitted to EPA on 2/10/2020 and approved by EPA on 2/13/2020.
RATM	<ul style="list-style-type: none"> • The revised draft of the Risk Assessment Technical Memorandum (RATM) and a revised Response to Comments document was submitted to EPA on 2/3/2020. EPA provided additional comments on the draft RATM on 2/28/2020. • A revised draft of the Risk Assessment Technical Memorandum (RATM) and a revised Response to Comments document was submitted to EPA on 5/6/2020. EPA approved the RATM on 6/3/2020.
RI/FS Data Collection	<ul style="list-style-type: none"> • Field activities for RI/FS data collection completed during 2020 consist of the following: <ul style="list-style-type: none"> ○ After consultation with EPA, monitoring well MW-104-83.5 was redeveloped on 2/10/2020, following the receipt of anomalous metals results for the groundwater sample collected as part of quarterly groundwater monitoring and sampling in December 2019. The well was subsequently resampled on 2/18/2020. ○ After consultation with EPA, the monitoring well casings for wells MW-9 and MW-104-83.5 were raised and reconstructed in aboveground completions to facilitate sampling during wet seasons, when water historically ponded over the top of the flush-mount well monuments. ○ The regular quarterly groundwater monitoring and sampling event was conducted on 3/9/2020, 3/10/2020, 6/10/2020, 6/11/2020, between 8/17/2020 and 8/19/2020

<p>Anthropogenic Background (AB)</p>	<ul style="list-style-type: none"> ○ Surface sediment grab field work was completed in accordance with the second Marine SQAPP Addendum. Samples were submitted for immediate chemical and physical testing to determine which should be submitted for bioassay testing ● Pre-validated bulk surface sediment data was submitted to EPA on 4/6/2020, along with proposed samples to be submitted for bioassay testing. EPA reviewed the data and information and, with one modification, approved the proposal on 4/7/2020. ● The draft memorandum regarding <i>Ex Situ</i> Solid-Phase Microextraction Testing Results was submitted to EPA on 5/15/2020. EPA provided comments on the memorandum on 6/9/2020. ● A draft Data Quality Objective (DQO) table for evaluating anthropogenic background at the Site was submitted to EPA on 5/14/2020. EPA provided comments on the DQO table on 5/28/2020 and a revised version of the table was submitted to EPA on 6/19/2020. ● EPA provided comments on the revised draft Data Quality Objective (DQO) table for evaluating anthropogenic background at the Site (submitted on 6/19/2020) on 7/8/2020. ● A memo regarding Third Marine Sampling and Quality Assurance Project Plan Addendum for Chemical Testing, describing collecting and testing of sediment samples to evaluation background PAH concentrations, was submitted to EPA on 7/23/2020. EPA approved the addendum, with one requested modification, on 8/5/2020. ● Preliminary results from bulk sediment sampling, conducted in August 2020 to evaluate anthropogenic concentrations of PAHs, were submitted to EPA on 11/16/2020. A call with EPA and its consultant Jacobs was conducted on 11/16/2020 to discuss the preliminary results.
<p>Phase 1 Data Rpt</p>	<ul style="list-style-type: none"> ● A revised draft of the memorandum regarding Sediment Stability Evaluation, which was originally titled Sediment Stability and Resuspension Potential Evaluation and provided as Appendix E in the draft Phase 1 Data Report, was submitted to EPA on 5/18/2020. Accompanying the memo was a revised Response to Comments document, addressing EPAs comments on Appendix E. EPA provided comments on the revised draft of the memorandum on 6/9/2020.

<p>RI Data Report</p>	<ul style="list-style-type: none"> • EPA approved the Phase 1 Data Report on 9/1/2020 • The draft Remedial Investigation (RI) Data Report was submitted to EPA on 7/14/2020. EPA provided comments on the draft RI Data Report on 8/5/2020. • The revised draft Remedial Investigation (RI) Data Report was submitted to EPA on 11/6/2020, except for Appendix H, the memo documenting Ex Situ Solid-Phase Microextraction Testing Results for polycyclic aromatic hydrocarbons (PAHs), which was submitted to EPA on 11/9/2020. EPA provided comments on the revised draft RI Data Report on 12/7/2020.
<p>PAH Bioaccessibility Evaluation</p>	<ul style="list-style-type: none"> • The draft PAH Bioaccessibility Evaluation memorandum and draft PAH Sediment Bioavailability and Bioaccumulation in Clam and Polychaete Tissue: Preliminary Results and Discussion memo were submitted to EPA on 7/14/2020. • Virtual meetings were conducted on 8/12/2020, 9/8/2020, and 9/29/2020 to discuss bioavailability and bioaccessibility and included participation by Cascade Natural Gas and their consultants, Aspect Consulting and Anchor QEA; EPA and their consultants, Jacobs; and the Suquamish Tribe. The collaborative bioavailability evaluation progressed toward the determination of a site-specific biota sediment accumulation factor to be finalized in the RI.
<p>Groundwater Potability Evaluation</p>	<ul style="list-style-type: none"> • The draft Groundwater Potability Evaluation Approach memo and draft Approach to Determine Background Metals Concentrations in Groundwater memo were submitted to EPA on 9/8/2020. EPA provided comments on these two memos on 9/21/2020.
<p>Baseline Human Health & Ecological Risk Assessment Rpt</p>	<ul style="list-style-type: none"> • The draft Baseline Human Health and Ecological Risk Assessment Reports were submitted to EPA on 10/30/2020. EPA provided comments on the Baseline Human Health Risk Assessment Report on 12/23/2020.
<p>RI Report</p>	

		<ul style="list-style-type: none"> • An annotated outline of the Remedial Investigation Report was submitted to EPA for review on 12/17/2020.
2021	<p>Baseline Human Health & Ecological Risk Assessment Reports</p> <p>Remedial Investigation Report</p>	<ul style="list-style-type: none"> • Regular monthly status calls were conducted with EPA according to the requirements of the AOC and included a representative of the Suquamish Tribe. The September and December 2021 calls were not held at the request and/or agreement of EPA. • Inspection of the beach to monitor performance of the 2010 and 2013 Time Critical Removal Actions was conducted quarterly during the year. Based on the inspection, the TCRA's are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area. • Quarterly Progress Reports were submitted to EPA on 1/14/2021, 4/15/2021, 7/13/2021, and 1/13/2021. • An updated project schedule was submitted to EPA on 6/11/2021. • An excel flat file of all data collected to date as part of the remedial investigation was distributed to NOAA and the Suquamish Tribe, at their request, on 6/15/2021. • EPA provided comments on the draft Baseline Ecological Risk Assessment Report on 1/4/2021. A conference call to discuss connects on both draft baseline risk assessment reports was conducted in 1/21/2021. • EPA provided comments on the annotated outline of the Remedial Investigation Report on 1/11/2021. • The draft memorandum regarding Bremerton Gas Works – Preliminary Remediation Goals for the Remedial Investigation Report was submitted to EPA on 10/8/2021. EPA provided comments on the memo on 11/9/2021 and a call with EPA and its consultant Jacobs was conducted on 11/16/2021 to discuss the comments.

<p>Background Metals in Groundwater Evaluation</p>	<ul style="list-style-type: none"> • The draft Evaluation of Background Metals Concentrations in Groundwater memo was submitted to EPA on 2/1/2021. EPA provided comments on the draft memo on 3/16/2021. The revised memo was submitted to EPA on 5/14/2021, along with a response to EPA's comments on the draft memo. EPA provided additional comments on 5/21/2021, which were addressed in the final document, submitted to EPA on 6/2/2021. EPA approved the revised memo on 7/28/2021.
<p>Anthropogenic Background (AB)</p>	<ul style="list-style-type: none"> • The draft Anthropogenic Background Study Results and Location Selection memo was submitted to EPA on 1/14/2021. EPA provided initial comments on the memo on 2/1/2021. Supplemental information was submitted on 2/12/2021, 2/22/2021, and 2/24/2021. • Conference calls with EPA, its consultant Jacobs, and a representative of the Suquamish Tribe were conducted to discuss the anthropogenic background evaluation on 2/3/2021, 2/22/2021, 3/3/2021, and 4/27/2021. • The draft memorandum regarding Bremerton Gas Works Superfund Site: Anthropogenic Background Study Results was submitted to EPA on 10/22/2021 (Draft AB Memo).
<p>RI Data Report</p>	<ul style="list-style-type: none"> • A memorandum regarding Bremerton Gas Works – Anthropogenic Background Outlier Data Evaluation and Discussion of Upper Bounds for Establishing Background Levels, prepared by EPA consultant SRC, was received on 12/16/2021, in response to the Draft AB Memo.
<p>Groundwater Potability Evaluation</p>	<ul style="list-style-type: none"> • Responses to EPA comments on the revised draft RI Data Report were submitted on 1/29/2021 and approved by EPA on 2/5/2021. The final RI Data Report was submitted to EPA on 2/22/2021. • The draft Groundwater Potability Evaluation memo was submitted to EPA on 3/2/2021. EPA provided comments on the draft memo on 3/17/2021. The revised memo was submitted to EPA on 5/14/2021, along with a response to EPA's comments on the draft memo. EPA provided additional comments on 5/21/2021, which addressed in the final document, submitted to EPA on 5/28/2021. EPA approved the revised memo on 7/28/2021.

<p>Anthropogenic/Site Specific Background</p>	<ul style="list-style-type: none"> • The response to EPA comments on the draft memorandum regarding Bremerton Gas Works – Preliminary Remediation Goals for the Remedial Investigation Report was submitted to EPA on 1/25/2022. EPA approved the response on 1/28/2022, with one caveat to be addressed in the final memo. • A memorandum regarding Bremerton Gas Works – Anthropogenic Background Upper Tolerance Limit for Establishing Background Levels, prepared by EPA consultant SRC, was received by the CNG team on 3/2/2022.
<p>Groundwater Memo</p>	<ul style="list-style-type: none"> • The final memorandum regarding Bremerton Gas Works Superfund Site: Anthropogenic Background Study Results was submitted to EPA on 3/18/2022. • EPA provided comments on the final memorandum regarding Bremerton Gas Works Superfund Site: Anthropogenic Background Study Results on 4/13/2022. • The revised Site-Specific Background Memorandum (previously the Anthropogenic Background Study Results), along with the Response to EPA Comments, was submitted to EPA on 7/11/2022. • EPA provided comments from the Washington State Department of Ecology on the revised Site Specific Background Memorandum (previously the Anthropogenic Background Study Results) on 10/14/2022.
<p>ARARs</p>	<ul style="list-style-type: none"> • The draft memorandum regarding Groundwater Characteristics and Groundwater Contaminant Fate and Transport at the Bremerton Gas Works Superfund Site was submitted to EPA on 3/30/2022. • EPA commented on the draft memorandum regarding Groundwater Characteristics and Groundwater Contaminant Fate and Transport at the Bremerton Gas works Superfund Site on 4/15/2022.
<p>Draft RI</p>	<ul style="list-style-type: none"> • A project milestone meeting to discuss project status and ARARs was held on 5/2/2022. The meeting included EPA and its consultant Jacobs, Cascade Natural Gas and their consultants Aspect Consulting and Anchor QEA, representatives of the Suquamish Tribe, and representatives of the Washington State Department of Ecology.

		<ul style="list-style-type: none"> • A request to extend the AOC deadline for the draft RI Report, due to ongoing EPA review of the Site-Specific Background Memorandum, was submitted to EPA on 7/28/2022. EPA approved the request, with a revised due date of 12/19/2022 for the draft RI Report, on 7/29/2022. • The draft RI Report was submitted to EPA on 11/18/2022. The draft RI Report includes revised drafts of the Baseline Human Health and Ecological Risk Assessments as appendices and those documents were submitted to EPA on 11/18/2022 with the draft RI Report.
2023		<ul style="list-style-type: none"> • Quarterly Progress Reports were submitted on 01/17/2023, 04/14/2023, 07/13/2023, 10/14/2023. • Regular monthly status calls were conducted with EPA according to the requirements of the AOC and included a representative of the Suquamish Tribe and Washington Ecology. The January through March calls were cancelled at the agreement of the EPA and Cascade Natural Gas. The April and December monthly call was canceled at the request of the EPA.
	Site Inspections	<ul style="list-style-type: none"> • Inspections of the beach and the former containment area on the Sesko Property to monitor performance of the 2010 and 2013 Time Critical Removal Actions (TCRAs) were conducted on 01/27/2023, 04/21/2023, 07/31/2023, and 10/25/2023. Based on the inspection, the TCRAs are performing as designed. No sheen was observed around the TCRA cap areas on the beach. No water accumulation was observed in the former containment area.
	Alternatives Development Memorandum	<ul style="list-style-type: none"> • The annotated outline of the Draft Alternatives Development Memorandum (ADM), including initial drafts of technology screening tables, was submitted to EPA on 8/1/2023. EPA provided comments on the annotated outline and tables on 8/25/2023. Revised versions of the Remedial Action Objectives (RAOs) from the annotated outline and technology screening tables were submitted to EPA on 9/27/2023.
	RI Report	<ul style="list-style-type: none"> • On 3/7 2023, EPA provided comments on the draft RI Report that were provided by the Washington State Department of Ecology via a letter to EPA dated 2/24/2023. • EPA provided their comments on the draft RI Report on 3/10/2023. • On 3/20/2023, a meeting was attended by EPA, its consultant Jacobs, Ecology, and Cascade Natural Gas, and its consultants Anchor QEA and Aspect Consulting, to discuss comments on the draft RI Report.

		<ul style="list-style-type: none"> • On 4/26/2023, Cascade Natural Gas provided responses to EPA’s 3/10/2023 comments on the draft RI Report. EPA provided a responsiveness review and additional requested revisions to the draft RI Report on 6/21/2023. • On 5/12/2023, Cascade Natural Gas provided preliminary responses to EPA on comments on the draft RI Report that were provided by Ecology; a call to discuss the comments responses was held on 5/31/2023 and included EPA, Jacobs, Cascade Natural Gas, Aspect, and Anchor QEA. • A revised version of the Sediment PAH Bioavailability and Bioaccumulation in Clam and Polychaete Tissue Evaluation (frequently referred to as the Bioaccumulation Memo), initially provided to EPA as Attachment B of the Baseline Human Health Risk Assessment, Appendix P of the Draft RI Report, which was submitted to EPA on 11/18/2022, was submitted to EPA on 9/29/2023. • EPA provided comments on the revised Sediment PAH Bioavailability and Bioaccumulation in Clam and Polychaete Tissue Evaluation (frequently referred to as the Bioaccumulation Memo) on 10/20/2023. • A project meeting was held on 10/23/2023 to discuss the remedial investigation findings, risk assessment reports, and remedial action objectives. Attendees consisted of EPA, Jacobs, Cascade Natural Gas, Aspect, Anchor, Ecology, and the Suquamish Tribe. Draft meeting notes were submitted to EPA on 11/15/2023, returned with EPA comments on 11/22/2023, and submitted as a revised draft on 11/29/2023. • EPA provided the memo regarding Bremerton Gas Works - Statistical Evaluation of the Impact of removing Sampling Locations within 250 feet of Outfalls on Background Evaluation, prepared by SRC, on 12/15/2023.
	<p>National Remedy Review Board (NRRB)</p>	<ul style="list-style-type: none"> • A meeting with EPA’s National Remedy Review Board (NRRB) was held on 10/16/2023 to review the project. Representatives of Cascade Natural Gas, Aspect and Anchor, provided a 30-minute project presentation during the meeting. The rest of the meeting was attended by representatives of EPA and Ecology but was not open to Cascade Natural Gas.

- Note Cascade was often assisted with the above list of activities with the help of third parties.
- **EPA Fees**- all fees assessed to Cascade Natural Gas from the Environmental Protection Agency costs in accordance with the Agreed Order of Consent.
- **Interim Remediation** – all third-party costs for investigative and remedial work.
- **Legal** – all third party legal costs.
- **Insurance Proceeds** – insurance checks paid to Cascade Natural Gas from insurance carriers for reimbursement of deferred costs deemed defense costs by the insurance carriers.