

August 20, 2019

Mr. Ed Ralston Program Manager – Remediation Management Phillips 66 Company 76 Broadway Sacramento, CA, 95818

RE: Remediation System Decommissioning Phillips 66 Facility No. 255353 (AOC #1396) 600 Westlake Ave North Seattle, Washington ATC Project No. 2076000073 Washington Department of Ecology Facility ID 46445373 Washington Department of Ecology VCP #NW1714

Dear Mr. Ralston:

ATC Group Services LLC (ATC) is pleased to submit this letter report to Phillips 66 Company (Phillips 66) for the above referenced facility (Site) documenting the above ground remediation system component decommissioning activities that were completed in April 2019.

The AS/SVE system consisted of two blowers capable of extracting soil vapors from a total of 36 vertical wells (19 in Mercer Street, 17 in Terry Avenue) and 16 horizontal wells (7 in Valley Street, 9 in Westlake Avenue). The AS system was capable of supplying compressed air to a total of 62 air sparge wells (27 in Mercer Street, 14 in Valley Street, 21 in Westlake Avenue). The SVE blowers discharged vapors to an off-gas treatment system that uses granular activated carbon (GAC) to reduce air emissions to permitted levels (under Puget Sound Clean Air Agency [PSSCA] permit Registration No. 29548). Recovered water from the SVE moisture separators was also treated with GAC before discharging to the King County sewer system (under Discharge Authorization No. 4262-01, expiration: 6/30/2018).

The total petroleum hydrocarbon (TPH) mass recovered to date by this system is 3,127 lbs. The SVE/AS system was most recently in operation in late 2018 in an effort to mitigate potential rebounding vapor concentrations. Due to diminished returns, the AS/SVE system has recovered the majority of mass possible.

The site is shown relative to surrounding physical features on **Figure 1**. The layout of the site, including the former remediation system location, is shown on **Figure 2**. The layout of the remediation system equipment is shown on **Figure 3**. Photographs documenting various aspects of the remediation system decommissioning activities are shown on the photo log presented in **Attachment A**.



BACKGROUND

Multiple investigations/remedial actions have been conducted at the property between 1980 and 2018. A summary of the former investigative and exploration activities, based on ATC's review of historical reports, is presented below.

In May 1980, Unocal discovered that approximately 80,000 gallons of supreme leaded gasoline was released from a product line south of the western pump islands at the Westlake 76 Station to the subsurface over a four-month period. In response to the release the underground storage tanks (USTs) and product lines were replaced. Two recovery trenches and numerous recovery wells installed at the Property removed a total of approximately 41,900 gallons of liquid phase hydrocarbons (LPH) between June 1980 and October 1992.

In 1988, an initial SVE system was installed utilizing the then existing recovery wells and trenches. Approximately 4,262 pounds of gasoline was recovered by the SVE system between June 1998 and August 1990, when the system was shut down due to decreasing extracted vapor concentrations. In February 1990, five USTs were removed from the former Unocal service station on the City Investors property located at the southeast corner of Westlake Avenue North and Valley Street. The USTs ranged from 550 gallons to 5,000 gallons in capacity and were previously used to store used motor oil and gasoline. Approximately 800 cubic yards of petroleum contaminated soil was excavated during removal of the USTs.

Between January 1991 and July 1993, approximately 465 gallons of LPH was recovered during periodic manual/passive LPH removal efforts. The initial SVE system continued to operate through May 1995.

In May 2001, a gasoline product line was ruptured during the removal of waste oil and heating oil USTs at the Westlake 76 Station. An estimated 600 gallons of supreme unleaded gasoline was released. Approximately 500 gallons of product was immediately removed from the excavation utilizing a vacuum truck. Throughout the year, vacuum trucks and hand bailing were used for fluid recovery from adjacent monitoring wells. Approximately 4 gallons of LPH was manually recovered. Approximately 12,100 gallons of impacted groundwater was removed by vacuum truck.

In 2003, a new AS/SVE system was installed at the Westlake 76 Station that included an AS/SVE trench, SVE wells, and several deep AS wells. The system became operational in August 2003. Approximately 1,410 tons of petroleum impacted soil was removed and transported for treatment during the installation of the remediation system trenches and wells.

Further investigations conducted in 2004 and 2005 indicated petroleum impacts remained in soil and groundwater in various areas of the Site. In addition to residual impacts from the 1980 release on the Westlake 76 Station, these investigations indicated the presence of petroleum products released from past operations on the City Investors property, including the McKale's/Union 76-branded gasoline service station and the former Brace Lumber Mill and Denny's restaurant. Additional investigation also indicated that petroleum products were released during past operations of service station and/or fuel storage facilities formerly located on neighboring properties, including the former Rosen property located at 961-965 Mercer Street, south of the former Conoco Phillips (COP) property. Releases of petroleum products on and from these properties and potentially other sources had impacted the City street and utility ROWs surrounding Block #77.



Between July 2006 and April 2007, pursuant to the April 2007 Settlement Agreement between COP and the City, COP implemented the first phase of the Westlake/Mercer Cleanup Project (herein referred to as Phase I). Phase I was performed as an independent remedial action and designed and completed on an expedited basis, as required to meet the City's timeline for construction of the South Lake Union Streetcar line and to avoid disruption of the Streetcar line due to remedial action at the Site. The Phase I remedial activities included; 1) installation of steel shoring, excavation and off-Site disposal of petroleum-impacted soil from the eastern lanes of Westlake Avenue North, and installation of AS/SVE wells and associated conveyance piping back to the P66 property boundary and connection to the then existing above ground AS/SVE system; 2) installation of SVE and enhanced fluid recovery (EFR) wells in Terry Avenue North and installation of associated conveyance piping back to the P66 property and connection to the then existing above ground AS/SVE system; 3) soil and groundwater sampling and analysis; and 4) backfilling and surface restoration. A total of approximately 16,172 tons of soil was excavated from the Westlake and Terry Avenue North ROWs, between Mercer and Valley Streets. Influent vapor samples indicated that the petroleum hydrocarbon impact was highest in those SVE wells completed in Terry Avenue North. Information regarding the Phase I cleanup project is provided in URS Corporation's Phase I Close-Out Report, prepared in 2007.

Between November 2007 and August 2008, biweekly enhanced fluid recovery was performed utilizing the recovery wells in Terry Avenue North. A total of 28,142 gallons of impacted groundwater was removed from the wells during this time. Cumulative petroleum hydrocarbon removal from September 2003 through March 2008 was approximately 1,940 pounds. Total LPH recovered from June 1980 through the end of the third quarter 2008 was approximately 43,632 gallons. Information regarding the recovery of petroleum impacted fluids and vapor between November 2007 and August 2008 is provided in Delta's On-Site Environmental Assessment – Horizontal and Vertical Delineation report prepared in 2005.

In September 2008, the Westlake 76 Station was demolished, all above-ground structures were removed, and all of the existing conveyance piping for the remediation wells were cut and capped in their respective ROWs to facilitate Phase II of the Mercer Corridor expansion project (MCP) excavation activities (herein referred to as Phase II).

Between November 2008 and June 2009, Phase II of the MCP was implemented, whereas City Block #77 (with the exception of the southeast corner) was excavated to depths up to 25 feet bgs. A soil/cement/bentonite (SCB) gravity wall was installed along the south, east, and north boundaries of City Block #77 (**Figure 2**). The SCB gravity wall, in conjunction with the previously installed sheet pile wall along the west property boundary, provided shoring for Phase II excavation activities and continues to serve as a hydraulic barrier. Backfill and surface restoration activities were completed in July 2009. A total of approximately 54,450 tons of soil was excavated from the Site during the Phase II excavation activities and transported off-Site for disposal. Information regarding the Phase II Remedial Activities is provided in URS Corporations Phase II Soil Sampling Report, prepared in 2009.

Confirmation soil sampling was conducted during the Phase II excavation activities to document conditions at the base of the excavation and to assess whether additional excavation was required to achieve cleanup levels or other project requirements. A total of 244 samples were collected from 65 sampling cells. On a cell by cell basis, P66 evaluated the data and assessed whether or not Site conditions and/or project objectives required additional excavation. Cells in the southeast



corner of the excavation extended to 15 feet bgs, and the remaining excavation continued downward until residual concentrations were below Ecology's MTCA Method A Cleanup Levels.

Soils encountered during the Phase I and Phase II excavation activities generally consisted of sandy fill down to depths of at least 5 feet bgs. Fill between 5 feet to 25 feet bgs consisted of highly variable compositions of silty sand, sandy silt, sand, silt to silty clay, clayey silt, sand with clay, sandy gravel, and intermittent thin layers of peat/clay. The fill material also includes variable proportions of wood or wood chips/wood debris, and sawdust, as thick as 5 to 11 feet.

As part of the MCP, numerous SVE and AS wells were installed in Terry Avenue North, Mercer Street, Valley Street, and Westlake Avenue North. In July 2013, numerous remediation wells were installed in the Valley Street ROW under the oversight of SDOT as part of the MCP. Between August and November 2013, all of the remediation wells/conveyance piping located in the Mercer and Valley Street ROWs and the Westlake and Terry Avenue ROWs were connected to a new above ground AS/SVE treatment system currently located on the southeast portion of the block.

Historical remedial actions performed during the MCP construction included removal of petroleum hydrocarbon impacted soil within the P66 designated Area of Mercer and Valley Streets and Westlake and Terry Avenues North. Soil removal actions were completed during installation and/or upgrades of various subsurface utilities, including electrical and transmission duct banks and vaults, water, storm, and sanitary sewer systems.

Additionally, numerous AS/SVE remediation wells and associated conveyance piping (installed within excavated trenches) were completed in the P66 designated Area of Mercer and Valley Streets prior to the MCP construction. P66 also excavated soil along Terry Avenue during the MCP construction in order to install conveyance piping connected to the AS/SVE remediation wells installed in Valley Street.

REMEDIATION SYSTEM DECOMMISSIONING ACTIVITIES

Prior to system decommissioning activities, ATC prepared a project-specific health and safety plan (HASP) identifying potential physical and chemical hazards associated with the proposed field activities, and specified personal protective equipment and safety monitoring requirements. The HASP included a Phillips 66, project specific Safe Work Plan (SWP). The HASP was made available on-site during the field activities.

On April 15, 2019 system decommissioning activities commenced. Clearcreek Contractors Inc (Clearcreek), of Marysville, WA was subcontracted directly by ATC to perform the decommissioning work. Emerald Services (Emerald), under the supervision of Clearcreek used vacuum truck equipment to clean out residual water from the system equalization tank, knockout tanks, and liquid carbon treatment vessels. Emerald also used the vacuum truck equipment to clean out a purge water containment drum generated from site groundwater monitoring activities. Following completion of the vacuum truck cleaning work, Emerald gauged the volume of water recovered in the vacuum truck tank using a dip stick and tank chart. Emerald reported that approximately 371 gallons of water had been recovered in the truck tank. Emerald hauled the wastewater from the site and disposed of it at an approved P66 disposal facility as described below.



Following Emerald's activities, SHJ Electric Company, Inc. (SHJ), under the supervision of Clearcreek, de-energized the main breaker to the system (located at the south end of the remediation compound) and disconnected power to the breaker panel. SHJ then verified that power to the system control panel was inactive and all system components were de-energized.

ATC subsequently observed Clearcreek complete the following remediation system decommissioning activities from April 15-16, 2019: Disconnected connections to and between the two liquid and six vapor phase granular activated carbon (GAC) vessels and removed the vessels from the site. Removed the air sparge and SVE manifolds and cut all manifold piping flush with the surrounding site grade. Removed all hoses, conveyance piping, conduits and unistrut members on and around the secondary containment slab. Removed compound fence and bollards from the perimeter of the remediation compound. Loaded and hauled off the equipment skids and control panel cabinet. Cut off bolts protruding from the secondary containment slab flush with surrounding slab surface and removed any remnant pieces of unistrut from the slab. Grouted all air sparge and SVE manifold piping stubs at ground surface grade. Grouted subsurface water conveyance piping at ground surface (piping connection to catch basin in system compound). Performed a general cleanup of residual debris from the former system area. Photographs of the system prior to, during and after decommissioning are provided in **Attachment A** – Remediation System Decommissioning Photographic Log.

WASTE DISPOSAL

Both the wastewater removed by Emerald and the GAC removed from the liquid and vapor phase carbon treatment vessels were sampled for waste disposal profiling purposes prior to commencing system decommissioning activities. Wastewater was hauled from the site by Emerald and disposed of at a CleanHarbors facility located at 1500 Airport Way South, Seattle, WA. The GAC vessels were hauled from the site by Clearcreek to the Cadman Inc. facility located at 6300 Glenwood Avenue East, Everett, WA. The vessels were subsequently emptied of the GAC contents and disposal of the GAC was then managed by Cadman Inc. The emptied GAC vessels were reclaimed by Clearcreek for future re-use. Waste disposal documentation including laboratory analytical reports and waste disposal manifests are provided in **Attachment B**.

With the exception of system components viable for reuse (carbon treatment vessels, air sparge and SVE equipment skids, control panel cabinet and equalization tank), the majority of the system components/materials were hauled from the site as non-hazardous construction debris by Clearcreek. Clearcreek transported the debris back their facility in Marysville, Washington, where it was placed in their construction debris dumpster. The dumpster is managed by Waste Management, and the contents are emptied on a weekly basis for disposal at a Waste Management facility.

We appreciate the opportunity to be of service in this matter. If you have questions regarding this Post Remedial Conditions Work Plan, please contact Elisabeth Silver at (206) 781-1449.





Sincerely,

ATC Group Services LLC

Laurence Brown, L.G. Project Geologist

Elisabeth Silver, L.G. Senior Project Manager

Enc: Figure 1 – Vicinity Map Figure 2 – Site Layout Diagram Figure 3 – Remediation System Layout

> Attachment A – Remediation System Decommissioning Photographic Cogeolo Attachment B – Waste Disposal Documentation

Elisabeth S. Silver

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FIGURES





SEATTLE, WA







ATTACHMENT A



Photograph 1: View to the northeast – Former remediation system compound prior to removal.



Photograph 2: View to the north – Former remediation system compound prior to removal.



Photograph 3: View to the east - Electrician performing power disconnect at main system breaker.



Photograph 4: View to the north – Removal of system fencing and conveyance piping.



Photograph 5: View to the east - Removal of SVE manifolds.



Photograph 6: View to the northeast – Removal of air sparge manifolds.



Photograph 7: View to the northeast – Removal of bollard posts.



Photograph 8: View to the southwest - Carbon vessels loaded onto trailer for removal from site.



Photograph 9: View to the southeast - System equipment being loaded onto trailer for removal from site.



Photograph 10: View to the south – Loading system materials to truck for off site disposal.



Photograph 11: View to the northeast – Former system compound area following completion of system removal.



Photograph 12: View to the south – Former system compound area following completion of system removal.



Photograph 13: View to the east - Grout sealed manifold piping.





ATTACHMENT B



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Certificate of Disposal / Treatment - Storage and Transfer

Manifested To Site:	EMR - Airport Way Facility	
	1500 Airport Way South	
	Seattle, WA 98134	
EPA ID/Prov ID:	WAD058367152	

Generator ID	Manifest No.	Generation Date	Received Date
PH26545	83910	4/15/2019	4/15/2019

The above described waste, received at the Clean Harbors facility listed above pursuant to the manifest(s) listed above, has/will be treated and/or disposed of by Clean Harbors, or another licensed facility approved by Clean Harbors, in accordance with applicable federal, state and provincial laws and regulations. Any waste received by Clean Harbors and subsequently shipped to another licensed facility has been or shall be identified as being generated by Clean Harbors in accordance with 40CFR 264.71(c).

For waste imported/exported to/from Canada the waste has/will be disposed or recycled according to the Canadian export and import of hazardous waste or hazardous recyclable material regulation as published in the Canadian Gazette Part II, vol 139, No 11, SOR/2005-149 May 17, 2005

Under civil and criminal penalties of law for the making of submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Signed:

Paul A. mello

Date: 5/17/2019

Title: Director Facility Applications



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