STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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November 8, 2021

Perry Pineda
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810-1039

RE: Opinion on Proposed Remedial Action for the following Hazardous Waste Site:

- **Site Name:** Shell 120819
- **Property Address:** 1935 North Northgate Way, Seattle 98113
- **Facility/Site No.:** 67477173
- **Cleanup Site No.:** 11686
- **VCP Project No.:** NW2515

Dear Perry Pineda:

Thank you for submitting documents regarding your proposed remedial action for the Shell 120819 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.

Issue Presented and Opinion

Ecology has determined that, upon completion of your proposed cleanup, no further remedial action (NFA) will likely be 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 release(s):

- Total Petroleum Hydrocarbons-Gasoline Range (TPH-Gx) into Soil & Groundwater.
- Benzene, Toluene, Ethyl-benzene, & Total-Xylenes (BTEX) into Soil & Groundwater.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.
Please note, multiple Sites can affect a parcel of real property. At this time, we have no information that other Sites affect the parcel associated with this Site.

Basis for the Opinion

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

- GHD, *Cleanup Action Report (CAR)-Shell Branded Wholesale Facility, 1935 North Northgate Way, Seattle, Washington*. September 30, 2021.

These documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235 or sending an email to 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, upon completion of your proposed cleanup, *no further remedial action* will likely be 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.

Ecology has determined your characterization of the Site is sufficient to establish Cleanup Standards for the Site, and to select a final cleanup action for the Site. The Site is described above and in detail in Enclosure A.

The following characterization activities have commenced on the Site to date, (conducted by GHD, Sound Earth Strategies, Inc. [SES], & others):

Characterization Activities:

- November 2002, KHM Environmental Management installed three monitoring wells (MWs) on the northern and eastern areas of the Shell Parcel (MW-1, -2, &-3).
- In May 2008, URS Corporation conducted a Phase II Environmental Site Assessment (PHII) on the Shell Parcel. URS advanced seven soil borings (B-1 to -7) and collected soil & groundwater samples.
- In 2011, Conestoga, Rovers, & Associated (CRA) installed two additional MWs west of the existing fuel dispensers on the Shell Parcel.
- In November 2013, CRA installed an additional to soil borings (SB-1 & -2) and two MWs (MW-6 & -7).
- In March 2014, Earth Solutions NW, LLC performed a Limited PHII on the Swiss Property, including the advancement of three soil borings (B-1 to B-3) along the northern perimeter of the Swiss Property.
- In June 2014, CRA advanced an additional two MWs along the southern Shell Parcel boundary. An additional soil boring SB-3 was advanced immediately to the north of the waste oil UST.
- In October 2014, CRA installed an additional four MWs (MW-10 to MW-13) on both the Swiss Property and Shell Parcel.
- Between mid-2015 & early-2016, Sound Earth Solutions, Inc. (SES) advanced three additional MWs (MW-14 to MW-16) and seven test pits (TP-1 to TP-7), located throughout the Swiss Property.
- From August to September 2015, GHD advanced four soil borings (SB-4 to SB-7) and three MWs (MW-9R, MW-17, & MW-18), on both the Shell Parcel and the Swiss Property. In addition, GHD installed a vapor probe (VP-1) on the Swiss Property in the immediate vicinity of MW-14.
- From October 2016 to June 2017, the Swiss parcel was developed with the existing hotel. SES excavated and disposed approximately 10,500-pounds of PCS. SES also conducted de-watering during construction activities from March 2017 to May 2018, collecting approximately 9-million gallons of groundwater. Additionally, SES et.al. installed a vertical groundwater barrier along the northeastern & eastern boundaries as well as the excavation bottom, to prevent recontamination of the Swiss property during development. SES also installed a vapor barrier along the walls and bottom of the excavation.
- From June 2018 to April 2020, GHD operated a duel-phase extraction (DPE) system on the Shell parcel to address groundwater

contamination. The DPE reportedly extracted approximately 7-million gallons of groundwater, 2,000-pounds of vapor-phase hydrocarbons and 19-pounds of dissolved phase TPH.

- To date, GHD conducted six of eight groundwater sampling events to assess potential rebound following DPE shutdown in April 2020, demonstrating that the groundwater contamination is decreasing or stable.

GHD & SES et.al. completed characterization activities on the source property (Shell Parcel) and on the Swiss Property. However, it is anticipated that soil and/or groundwater contamination has extended to the east under the Meridian Avenue North ROW; (SES, May & Aug. 2017). GHD will provide notification to the City of Seattle regarding the potential for contamination to reside underneath Meridian Avenue.

In summary, GHD adequately characterized the extent of soil and groundwater impacts. Residual PCS has been accurately delineated and is deemed inaccessible due to the presence of the Shell service station and associated improvements. As such, the Site will achieve Cleanup Standards under MTCA upon the completion, submittal, & recording of an Environmental Covenant for the property, as well as completion of two additional quarterly monitoring events, further demonstrating that groundwater contamination is stable or decreasing.

2. Establishment of Cleanup Standards.

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

Cleanup Levels:

For soil and groundwater, GHD used MTCA Method A CULs[1] for unrestricted land use (BTEX, TPH-Gx).

Points of Compliance:

The following applicable POCs are used at this Site:

- Soil-Direct Contact: Based on human exposure via direct contact, the point of compliance is: *"…throughout the Site from ground surface to 15-feet below the ground surface.*"
- Soil-Leaching: Based on the protection of groundwater, "…*the point of compliance is throughout the Site*."
- Groundwater: Standard points of compliance are established under

[1] Model Toxics Control Act Regulation and Stature (WAC 173-340-900) Tables 720-1 & 740-1.

WAC 173-340-720(8) as: *"…throughout the site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.*"

- Soil Vapor: Cleanup levels established under WAC173-340-750(6) "…*shall be attained in the ambient air throughout the Site."*

3. Selection of Cleanup Action.

Ecology has determined the cleanup action you proposed for the Site meet the substantive requirements of MTCA.

GHD proposed sampling groundwater from select MWs for two additional quarters, totaling eight consecutive quarters.

To address residual PCS and groundwater, GHD proposed drafting, submitting, & recording an Environmental Covenant to restrict access to the residual PCS and groundwater. Upon completion, the Site will qualify for an NFA determination.

Along with the Environmental Covenant, GHD will supplement with a groundwater compliance monitoring plan, contingency plan, and a cap inspection checklist (GHD, September 2021).

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 proposed will be substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. Opinion is limited to proposed cleanup.

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Site upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

4. State is immune from liability.

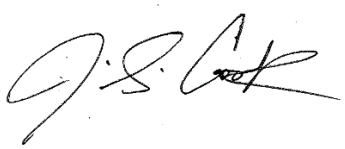
The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

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, please contact me by phone at (360) 407-6834 or e-mail at Jason.cook@ecy.wa.gov.

Sincerely,



J.G. Cook, LG
Headquarters - Toxics Cleanup Program

JGC: AF

Enclosure

cc: Jaquelin England, GHD
Sandra Caldwell, Ecology
Sonia Fernandez, Ecology
Mike Shaljian, Ecology

Enclosure

Description and Diagrams of the Site

Site Description

Site

The Site comprises two King County Tax Parcels and potentially a City of Seattle ROW along Meridian Avenue North. Enclosure A depicts the general location of the Site and the Property within the Site (Swiss Property).

The source parcel (Shell Parcel) is located at 10745 Meridian Avenue North, Seattle, Washington, Tax Parcel no. 4358700232, totaling 0.40 acre, and is currently improved with 1,789 square-foot, single story commercial structure. The source parcel is currently occupied by a Shell Oil service station and is additionally improved with an open-air canopy, three automobile service bays, two pump islands, and six USTs & associated ancillary piping. Reportedly, five of the six above-referenced USTs are currently in-use (GHD, Feb. 2016). Three of the existing USTs contain unleaded gasoline and one UST contains diesel fuel. Each of the fuel-dispensing USTs are 10,000-gallons in-size. The remaining two USTs contain waste oil and heating oil, both of which are 550-gallons in-size. The UST containing heating oil is reportedly not in use at this time.

The additional parcel (Swiss Property) is currently improved with a five-story, 78,848 square-foot hotel structure with underground parking, and is located at 10733 Meridian Avenue North, Seattle, Washington, Tax Parcel no. 4358700230, totaling 0.67 acre. The hotel was constructed in 2019.

The Source Parcel is hydrologically up-gradient with respect to the Swiss Property.

Site History and Current Use

The Source Parcel is currently owned by Agabi II, Inc., and is used as a Shell Oil service station. The Source Parcel was initially improved in 1961 with a Texaco-branded service station. The Texaco service station contained six USTs, two dispenser islands, and a service station building with three service bays. With the exception of the commercial service station building, the USTs, pump islands and associated ancillary piping were removed in 1986. The Site was acquired by Shell Oil in 1998. Agabi II, Inc. acquired the property from Shell in 2009
(GHD, February 2016). The Source Parcel was unimproved prior to the late-1950s to early-1960s.

The Swiss Property is currently owned by Swiss Hotel 110, LLC, and is improved with a five-story hotel with subsurface parking. The Swiss Property was initially developed with a single-story commercial structure, occupied by a restaurant and associated parking & landscaping in 1977. Prior to the mid-1970s, the Swiss Property was unimproved (SES, May 2017). By 2015, the aforementioned restaurant building was demolished.

Site Vicinity

The Site is located in a mixed-use residential and commercial setting. The Site is bordered by Meridian Way N. along the eastern perimeter, Northgate Way N. defines the northern and western perimeters, and the southern perimeter of the Site is bordered by mixed use commercial/residential properties.

Across Meridian Avenue North and North Northgate Way, the Site is bounded by commercial (office) buildings to the east, multi-family residential buildings to the west, an office building to the north, and businesses, including a Chevron service station, to the northeast (GHD, Feb 12, 2016).

Soils and Geology

The Site is located in the Puget Lowland Physiographic Province between the Cascade Mountain Range to the east and the Olympic Mountains to the west. The Site is sloping to the west and has an elevation difference of approximately 10-feet between the eastern and western portions of the Site.

The Site and much of the Puget Sound Region is underlain by alluvial Quaternary sediments deposited during multiple glacial episodes. The sediments consist of interlayered alluvial clays, silts, sands, & gravels. These alluvial sediments are typically situated over glacial till, primarily comprised of consolidated silts, sands & gravels.

On-Site soils are described as a 4 to 12-foot thick loose to medium-dense fill material, consisting silty-sands with trace gravel, underlain by weathered glacial till to approximately 25-feet below ground surface (bgs). This surface layer is collectively referenced as weathered till (GHD, 2016a). The weathered till is underlain by a layer of fine-grained unweathered glacial till containing clays, silts, and fine-grained sands to a depth of 30-35 feet below the ground surface (bgs). A layer of coarser sediments comprising of well- and poorly-graded sands, as well as silty-sands underlies the aforementioned fine-grained glacial till, from approximately 30-60 feet bgs. This layer is also described as a till (GHD, 2016a). The deepest sediments encountered during Site exploration at 65-feet bgs, consist of dense silts and clays beneath the tills.

Numerous sand lenses (SES August 2017) extend southward from the Shell Parcel onto the Swiss Property. The sand lenses traverse the dense till and are typically found between 17 to 19-feet bgs on the north-central portion of the Swiss Property. The sand lenses dip southward and are encountered at approximately 28-feet bgs in the central portion of the Swiss Property (SES May, 2017).

Groundwater

The on-Site groundwater flow direction is to the south-southeast (GHD, 2016a).

Groundwater on the Shell Parcel was historically observed between 24 and 29-feet bgs in the western portion, to 25 to 36-feet bgs in the southern portion of the Shell Property. In addition, a discontinuous perched groundwater is encountered at approximately 8-17 feet bgs. The perched groundwater appears to be confined to the eastern side of the Site in the vicinity of MW-1 & MW-2, and extends southward onto the Swiss Property.

Groundwater on the Swiss Property is between 32 to 36-feet bgs in the north & central portions, to 30 to 32-feet bgs in the southern portion, and between 15 to 17-feet bgs in the eastern area of the Swiss Property.

Groundwater underlying the Site is generally partitioned into two water-bearing zones. The aforementioned shallow, discontinuous, perched groundwater zone is located on the eastern portions of the Shell Parcel, and extends southward onto the northeast and north-central portions of the Swiss Property. Thickness of this deeper zone is between 11 to 25-feet bgs (SES, May 2017).

A deeper, continuous water-bearing zone underlies the perched water-bearing zone in the advance glacial outwash sands. Thickness of this deeper zone is approximately 30-feet.

No active groundwater extraction wells are reported to occur within 0.5-mile radius from the Site (GHD, 2016a). The nearest groundwater abstraction wells are four wells located within the Evergreen Washelli Memorial Park cemetery approximately 0.53 miles northwest and up-gradient from the Site.

Surface Water

The nearest surface water body is Haller Lake approximately 0.75-miles north of the Site. To the south, the nearest surface water body is Green Lake located approximately 1.6 miles from the Site. Lake Washington is situated about 2.8 miles east of the Site. Puget Sound is located approximately 2.3 miles to the west of the Site.

Storm/Waste Water

Storm water is conveyed through a series of exterior on-Site catch basins on the Shell Parcel. It is unknown if storm water is treated on-Site with structural and/or treatment Best Management Practices (BMPs), prior to discharge to the Seattle municipal separate storm sewer system (MS4).

Site Characterization (Source of Contamination & Contamination Extent)

A petroleum release was reported to Ecology on June 16, 2008. The Site was entered into the Ecology Environmental Response Tracking System (ERTS) and received ERTS identification no. 606551 and Leaking Underground Storage Tank (LUST) identification no. 6560. On October 10, 2011, the Site entered the Ecology Voluntary Cleanup Program (VCP) and received VCP identification no. NW2515. The Site is currently proceeding with the cleanup process under the auspices of the VCP program requirements.

Below is a brief history and summary of previous investigations on the Site, including both the Shell Parcel & the Swiss Property.

In November 2002, KHM Environmental Management installed three MWs in the northern and eastern portions of the Shell Parcel. The MWs were advanced as part of Shell's voluntary monitoring initiative, to sample groundwater at existing retail facilities that are in close proximity to public water supply wells. Soil was not collected. Groundwater samples did not exhibit CoCs in excess of their respective MTCA A CULs.

In May 2008, URS Corporation conducted a PHII. URS advanced seven soil borings (B-1 to B-7) adjacent to the UST tank nest and dispenser islands. URS collected one soil sample and a grab groundwater sample from each boring. TPH-Gx, ethyl-benzene and total-xylenes were detected in soil collected from B-2. All other soil and groundwater samples submitted for analysis did not exhibit CoC concentrations in excess of their respective MTCA Method A CULs.

In 2011, Conestoga-Rovers & Associates (CRA) installed two additional MWs on the western portion of the Shell Parcel, west of the existing dispenser islands. TPH-Dx, TPH-Gx, benzene and total-xylenes were detected above their respective MTCA Method A CULs inn groundwater collected from MW-4. Soil collected during MW advancement exhibited CoC concentrations below their respective MTCA Method A CULs, with the exception of total-xylenes collected at 20-feet bgs from MW-4.

In November 2013, CRA advanced an additional two borings (SB-1 & -2), and two MWs (MW-6 & -7), along the northern and western areas of the Shell Parcel, respectively (GHD, Feb. 2016). Concentrations of TPH-Gx & total-xylenes exceeded their respective MTCA Method A soil CULs. Groundwater collected form the new and existing MWs exhibited CoC concentrations above their respective MTCA Method A CULs. Groundwater collected from MW-4 & MW-5 exhibited TPH-Gx, -Dx, -HO, & benzene concentrations in excess of their respective MTCA Method A CULs for groundwater.

In March 2014, Earth Solutions NW, LLC (Earth Solutions) performed a limited PHII on the Swiss Property (SES, May 2017). The PHII included advancing three soil borings (B-1 to B-3), along the northern perimeter of the Swiss Property. Groundwater collected and submitted for analysis exhibited TPH-Gx & BTEX concentrations above their respective MTCA Method A CULs in B-1 & -3, suggesting that CoCs had migrated onto the Swiss Property.

In June 2014, CRA advanced an additional two MWs (MW-8 & -9) along the southern Shell Parcel boundary, and advanced an additional soil boring to the north of the former waste oil UST (GHD, Feb. 2016). TPH-Gx above the MTCA Method A CULs was detected in soil samples collected from SB-3, MW-8, & -9. Benzene in soil was additionally detected at MW-8 & -9. Concentrations of TPH-Gx, -Dx, benzene, ethyl-benzene, and total-xylenes were detected in groundwater collected from MW-8.
In October 2014, CRA installed an additional four MWs (MW-10, -11, -12, & -13). MW-11 to -13 were installed on the Swiss Property and MW-10 was installed on the Shell Parcel. TPH-Gx & benzene were detected above the MTCA Method A CULs in groundwater collected from MW-10 & -12. Soil collected from MW-10 also exhibited CoC concentrations above the respective MTCA Method A CULs (GHD Feb. 2016).

Between mid-2015 to early-2016, SES advanced three additional MWs (MW-14, -15, & 16) and seven soil borings (B-1 to -3, & SB-5 to -7). In addition, SES excavated a total of seven test pits (TP-1 to -7). SES located the MWs on the southern and central areas of the Swiss Property.
During test pit excavation on September 22, 2016, SES discovered an area of anthropogenic fill in the vicinity of TP-7. This area exhibited TPH-Gx & -HO in excess of MTCA Method A CULs.

During subsequent groundwater monitoring events, MW-14 repeatedly exhibited LNAPL or separate-phase hydrocarbons on the Swiss Property. LNAPL thickness ranged between 3.42 to 4.64-feet in MW-14 during subsequent sampling events. A sampling event in June 2016, exhibited a LNAPL thickness of 5.36-feet in MW-14 (SES, May 2017). The LNAPL detected in MW-14, likely originated from the vicinity of MW-4 on the Shell Parcel, where LNAPL has also been detected. The LNAPL is postulated to have migrated via the aforementioned highly-permeable sand lenses (SES, May & August 2017) from the Shell Parcel onto the Swiss Property.

In August 2015, GHD supervised the removal of LNAPL from MW-14. A vacuum truck was utilized to remove the LNAPL (GHD, Feb. 2016). A total of 64-gallons were recovered from MW-14. The LNAPL thickness decreased to 0.28-feet after the vacuum event, but rebounded to 1.42-feet by September 2015 (SES, May 2017). In June 2016, MW-14 was decommissioned in preparation for the Swiss Property redevelopment. SES measured the LNAPL thickness at 5.36-feet at the time of decommissioning (SES, May 2017).

From August to September 2015, GHD advanced a total of four soil borings (SB-4 to -7), three MWs (MW-9R, -17, & -18), on both the Shell Parcel and Swiss Property. In addition, GHD advanced a vapor probe (VP-1) on the Swiss Property (GHD, Feb. 2016). Soil samples collected from VP-1, MW-17, SB-5, SB-7, & MW-18 exhibited soil CoCs exceeding their respective MTCA Method A CULs (GHD, Feb. 2016). Groundwater collected from MW-18 & -9R contained CoC concentrations above the MTCA Method A CULs. Soil vapor collected from VP-1 exhibited aliphatic air-phase hydrocarbons and n-hexane in excess of their respective MTCA Method B screening levels for soil gas/vapor (SES, May 2017).

The release allegedly originated from a UST fueling distribution system on the Shell Parcel, in the immediate vicinity of the pump islands and MW-4, along the west side of the Shell property (SES, May 2017) & (GHD, July 2016). The Site has been characterized to the north, south, and west of the alleged source. Impacted groundwater may have migrated further down-gradient to the southeast, past groundwater monitoring well MW-12 and possibly past the eastern Swiss Property boundary, and onto the Meridian Avenue North ROW.

Remedial Activities/Interim Actions

The following section describes the remedial and interim actions taken conducted to date.

In August 2015, GHD conducted an interim action, which entailed the removal of approximately 64-gallons of LNAPL from MW-14.

Between October 2016 and June 2017, SES performed PCS removal activities on the Swiss Property. Excavation activities included the installation of soil nail shoring along the Swiss Property perimeter, with an added vertical element along the eastern and northern perimeters. The added vertical element to the shoring wall was deemed necessary to facilitate the removal of PCS at and below the lower water-bearing unit. Soil samples collected from the shoring wall piles along the eastern perimeter of the Swiss Property indicated PCS in excess of MTCA Method A CULs extended beyond the eastern property boundary and likely underneath the Meridian Avenue North ROW (SES, May & Aug. 2017). SES observed PCS from approximately 21 to 40-feet bgs along the northern and eastern Swiss Property boundaries.

In addition, SES over-excavated PCS in the vicinity of MW-14, where LNAPL was previously discovered during characterization and monitoring activities. Confirmation soil samples indicated CoC concentrations below their respective MTCA Method A CULs.

SES indicated that approximately 10,497-tons of PCS have been removed from the Swiss Property excavation (SES, Aug. 2017). Confirmation samples indicated that all PCS was removed from the Swiss Property excavation (SES, Aug. 2017).

During remedial excavation activities on the Swiss Property, SES, et. al. designed and implemented a de-watering system to facilitate the completion of the shoring wall and excavation and provide hydraulic control from the up-gradient Shell Property. The temporary hydraulic control was also designed with the intention of preventing recontamination of the Swiss Property from the up-gradient release originating from the Shell Parcel. SES advanced a total of 45 well points along the northern and eastern property boundaries to facilitate de-watering and prevent re-contamination. The de-watering system was designed to result in a decrease of the static water level by 1 to 2-feet below the final vertical extent of the shoring wall. A Construction Stormwater Discharge Permit was acquired to enable on-Site treatment and subsequent discharge to the MS4. As of July 5, 2017, SES estimated that 9,000,000-gallons were pumped & treated from the Swiss Property (GHD, Sept. 2021).

From March to April 2016, GHD completed engineering pilot tests and aquafer tests to facilitate the design and implementation of the permanent de-watering, dual-phase extraction (DPE) system on the Shell Parcel. The above-referenced tests determined the designed DPE system would provide hydraulic control and prevent re-contamination of the adjoining, down-gradient Swiss Property (SES, May & August 2017); (GHD, Feb. 2016 & July 2016). The DPE system is anticipated to be operational in November 2017 (GHD, 2016).

From October to November 2016, SES subsequently excavated the PCS discovered in the vicinity of TP-7 from approximately 9 to 13-feet bgs. SES removed approximately 307-tons of PCS and disposed of off-Site. All soil conformational samples exhibited CoC detections below laboratory MRLs or below their respective CULs. Groundwater was reportedly not encountered during excavation activities.

From June 2018 to April 2020, GHD operated and maintained a DPE system, which reportedly removed approximately 19-pounds of dissolved phase TPH-Gx, seven million gallons of groundwater, & 2,000-pounds of vapor-phase hydrocarbons (GHD, Sept. 2021).

To date, GHD completed six quarterly groundwater sampling to determine the effectiveness of the DPE. GHD proposes to complete two additional quarterly groundwater sampling rounds. Recent data suggest groundwater contamination is decreasing or stable.

Following the completion of the final quarterly sampling events, GHD proposes placing an Environmental Covenant, restricting use or access to residual PCS and groundwater beneath the Site (GHD, Sept. 2021).