MEMORANDUM

To: Dale Myers
Toxics Cleanup Program Site Manager, NW Region
Washington State Department of Ecology

Date: December 16, 2015

Project: 0714.03.01 Task 2a

From: Yen-Vy Van, LHG Justin L. Clary, PE

RE: Proposed relocation and replacement monitoring wells
Former Truck City Truck Stop Site, Mount Vernon, Washington
Ecology Facility Site No. 2673, Cleanup Site No. 5176

The purpose of this memorandum is to provide justification to the Washington State Department of Ecology (Ecology) for relocation and replacement of five groundwater monitoring wells (TC-1 through TC-5) and installation of an additional groundwater monitoring well (TC-7) at the former Truck City Truck Stop site, located at 3216 Old Highway 99 South, Mount Vernon, Washington (the Site). The Site is also identified as Ecology Facility Site No. 2673, Cleanup Site No. 5176.

The groundwater compliance monitoring well network for the Site was comprised of six wells, TC-1 through TC-6. Of these wells, TC-3 through TC-5 were decommissioned by removal during expansion of the remedial action completed at the Site in August – October 2015. Figure 1 presents the layout of the Site, the estimated extent of the remedial action, and locations of wells TC-1 through TC-6 (as originally installed in accordance with Ecology's concurrence per the Public Review Remedial Investigation/Feasibility Study, dated November 11, 2014). Since installation of wells TC-1 through TC-6, the footprint of the proposed Skagit County Jail and associated stormwater retention pond has been finalized; Figure 2 presents the location of these structures relative to existing site features.

Maul Foster & Alongi, Inc. (MFA) proposes well replacement as follows:

1. Decommission TC-1 and replace it with a well (TC-1R) to the east of its current location due to the current location being located near the top of the proposed retention pond slope and is projected to be in the pathway of a maintenance road to be constructed in this area. Replacement well TC-1R will be adjacent to the proposed jail building footprint and within vicinity of the former well TC-1. Figure 3 presents the proposed locations of all replacement wells, including TC-1R. The estimated extent of the dissolved phase gasoline petroleum hydrocarbons plume and seasonal groundwater flow directions are shown in

Figure 4. Hydrogeologically, TC-1R will serve the same functions for groundwater quality assessment as TC-1.

2. Decommission TC-2 and replace it with a well (TC-2R) to the west of its current location due to the current location being located on the slope of the proposed retention pond. Groundwater quality of previous impacted areas to the north and east will be monitored downgradient at TC-2R. Well TC-2R will also monitor Site conditions near the western and southwestern property boundary.

3. Well TC-3 was decommissioned and removed during the remedial action. MFA proposes installing well TC-3R to the north-northeast of the former TC-3, adjacent to the former gasoline pump island and within proximity of the higher elevated detections of gasoline-range total petroleum hydrocarbons (TPH) exhibited in this area. Figure 5 presents elevated detections of gasoline-range and diesel-range TPH and benzene exhibited at selected monitoring wells during the groundwater monitoring event conducted as part of the remedial investigation phase at the Site. The data, collected in July 2014 and shown in Figure 5, are the most recent indication of groundwater quality at the Site. Relocation from the original location of TC-3 is necessary as it would be located at the bottom of the proposed retention pond (refer to Figure 3).

4. Well TC-4 was decommissioned and removed during the remedial action. MFA proposes installing well TC-4R to the west-northwest of the former TC-4. TC-4R and TC-2R will serve as inferred downgradient wells for the historical fuel operations at the Site, and TC-4R will provide data necessary to monitor the western property boundary.

5. Well TC-5 was decommissioned and removed during the remedial action. MFA proposes installing well TC-5R to the west of the former TC-5. TC-5R will serve as a groundwater quality monitoring point inferred downgradient to the west-southwest of the former septic tank that stored waste oil, and also inferred downgradient of the primary area where leaking fuel product lines were encountered during the remedial action at the southwestern corner of the former convenience store. Due to the footprint of the proposed jail building, TC-5R cannot be installed at or near the former location of TC-5. Additionally, concerns were raised by Skagit County Sheriff Department regarding security access issues and safety concerns for conducting well installation activities and quarterly groundwater monitoring if a well were installed within the jail building. The County also plans on installing a vapor barrier below the building and has expressed concerns that drilling activities would result in puncture of and reducing the effectiveness of the vapor barrier.

6. Installation of Well TC-7, adjacent north of the former fuel containing underground storage tanks, is recommended to provide groundwater quality assessment in this area.

Attachments:
- Figure 1 – Site Overview - Remedial Action
- Figure 2 – Proposed Skagit County Jail – Features & Extent of Remedial Action
- Figure 3 – Proposed Replacement Monitoring Wells Locations
- Figure 4 – Estimated Extent of Groundwater Plume
- Figure 5 – Groundwater Analytical Results – July 2014

cc: Marc Estvold, Skagit County
Roger Howard, Skagit County
Dan Fitting, Skagit County

Figure 1
Site Overview - Remedial Action

Former Truck City Site
Mount Vernon, Washington

MFA Investigation

- Monitoring Well
- Decommissioned/ Removed Monitoring Well
- Historical Monitoring Well
- Estimated Remedial Action Extent, 2015
- UST
- Parcel Boundary
- Catch Basin

Notes:
1. Site features were digitized from figures prepared by Materials Testing & Consulting, Inc., Associated Environmental Group, LLC, and Applied Geotechnology, Inc.
2. The locations of all features are approximate.

0 20 40
Feet

Source: Aerial photograph (2010) obtained from Esri ArcGIS Online; parcels obtained from Skagit County.

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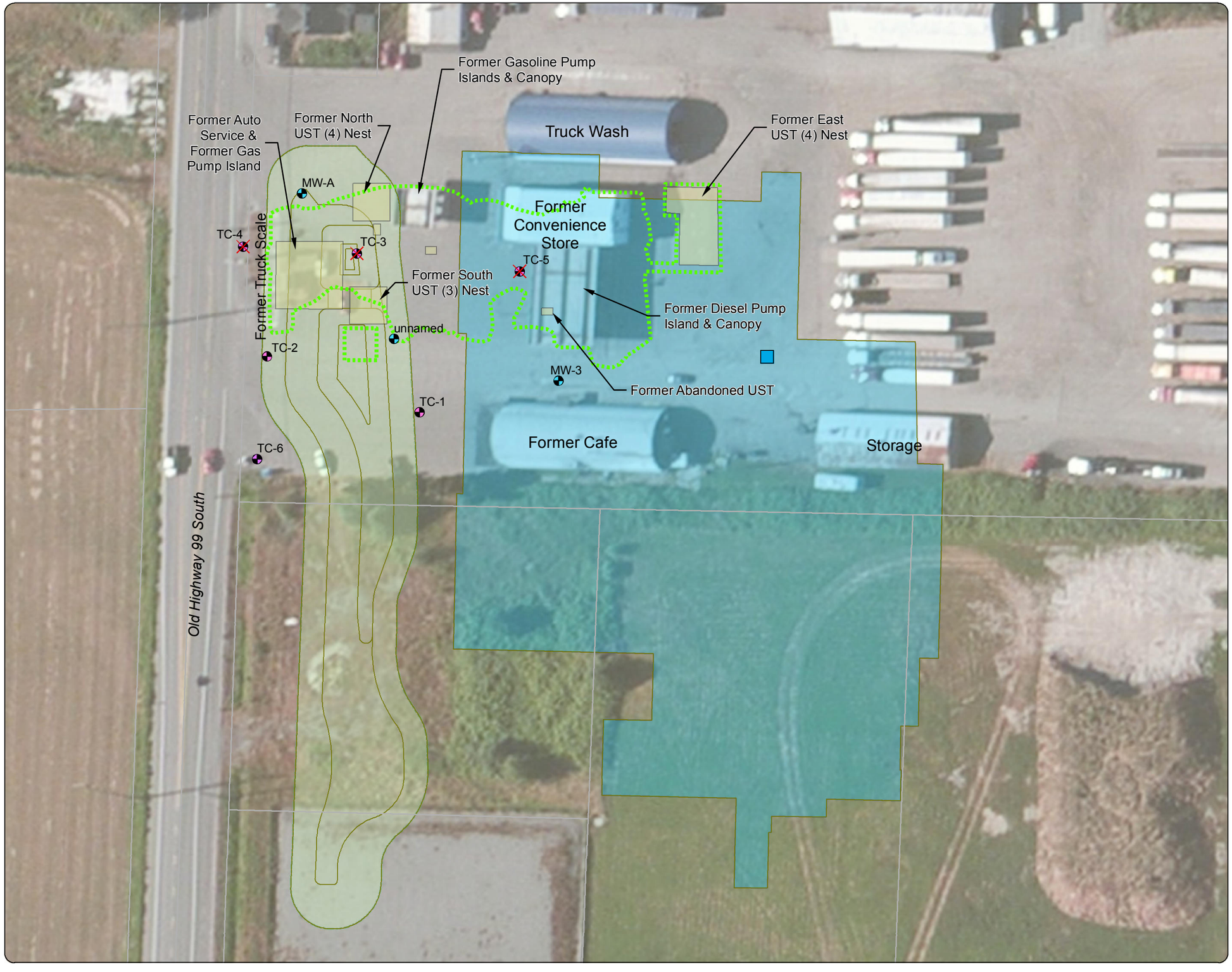
Produced By: jmiller
Project: 0714.02

Figure 2
Proposed Skagit County Jail - Features and Extent of Remedial Action

Former Truck City Site
Mount Vernon, Washington



- UST
- Parcel Boundary
- Catch Basin
- Proposed Jail Building Footprint
- Proposed Retention Pond

MFA Investigation

- Monitoring Well
- Decommissioned/ Removed Monitoring Well
- Historic Monitoring Well
- Estimated Remedial Action Extent, 2015

Notes:
1. Site features were digitized from figures prepared by Materials Testing & Consulting, Inc., Associated Environmental Group, LLC, and Applied Geotechnology, Inc.
2. The locations of all features are approximate.
3. Retention Pond and Building Footprint from DLR Group.

0 30 60
Feet

Source: Aerial photograph (2010) obtained from Esri ArcGIS Online; parcels obtained from Skagit County.

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Figure 3
Proposed Replacement Monitoring Wells Locations

Former Truck City Site
Mount Vernon, Washington

Proposed Jail Building Footprint

Proposed Retention Pond

Estimated Remedial Action Extent, 2015

MFA Investigation

Existing Monitoring Well

Decommissioned/ Removed Monitoring Well

Proposed Replacement Monitoring Wells

Notes:
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2. The locations of all features are approximate.

0 20 40
Feet

Source: Aerial photograph (2010) obtained from Esri ArcGIS Online; parcels obtained from Skagit County.

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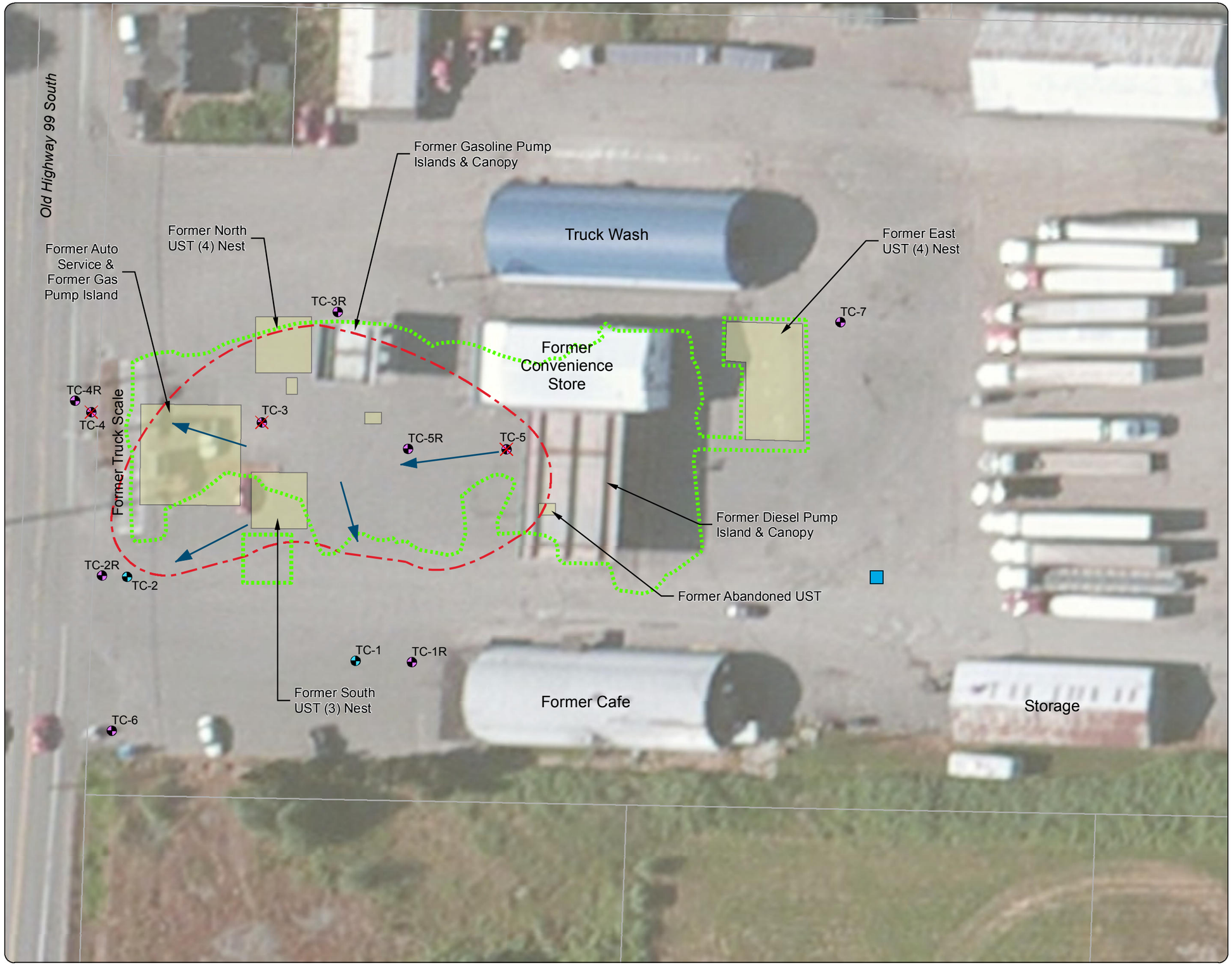
Produced By: jmiller
Project: 0714.02

Figure 4
Estimated Extent of Groundwater Plume

Former Truck City Site
Mount Vernon, Washington



MFA Investigation

- Monitoring Well
- Decommissioned/ Removed Monitoring Well
- Proposed To Be Decommissioned By Removal
- Seasonal Groundwater Flow Directions
- Estimated Remedial Action Extent, 2015
- Estimated Extent Of Groundwater Contamination
- UST
- Parcel Boundary
- Catch Basin

Notes:
1. Site features were digitized from figures prepared by Materials Testing & Consulting, Inc., Associated Environmental Group, LLC, and Applied Geotechnology, Inc.
2. The locations of all features are approximate.

0 20 40
Feet

Source: Aerial photograph (2010) obtained from Esri ArcGIS Online; parcels obtained from Skagit County.

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Produced By: jmiller
Project: 0714.02

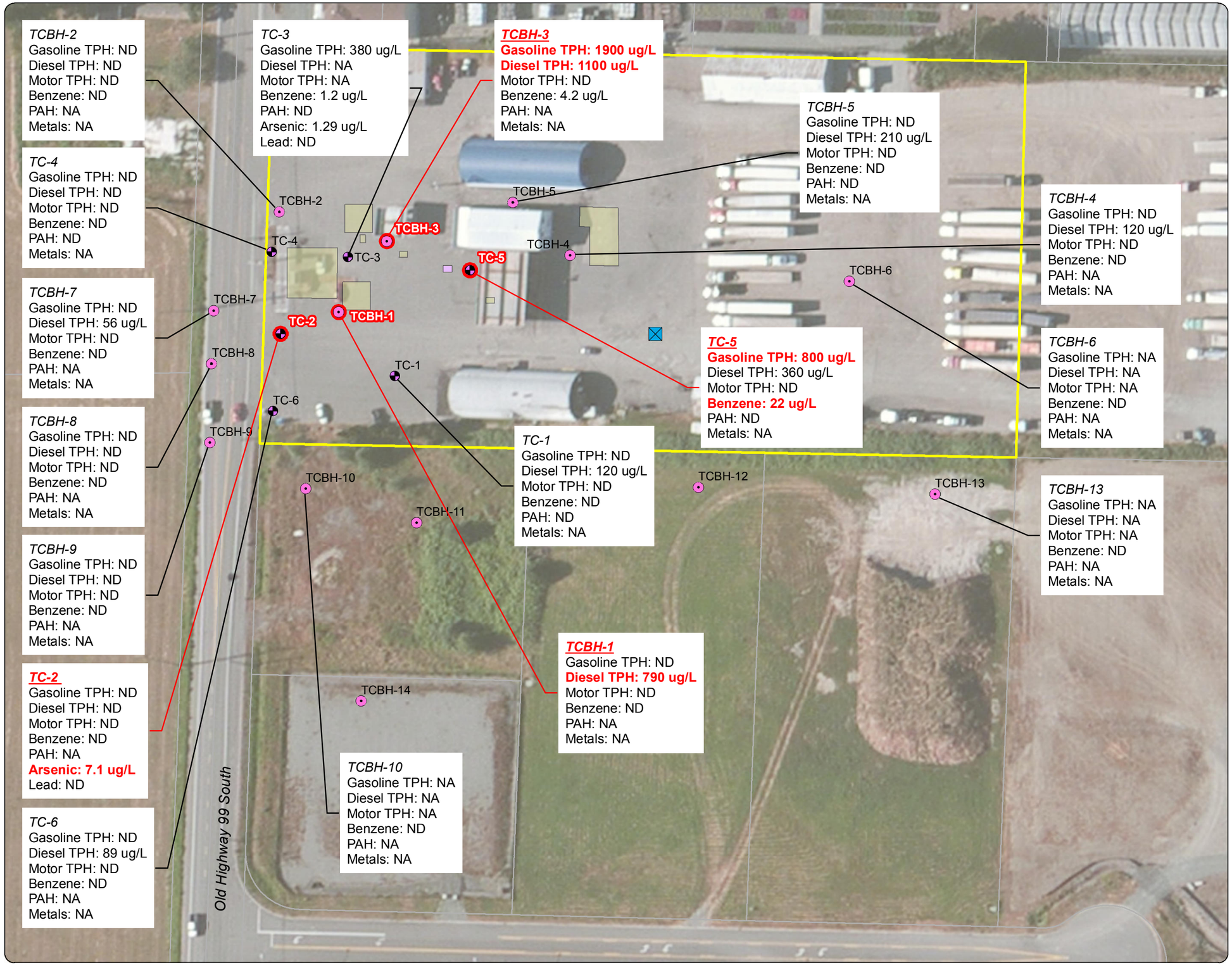

Figure 5
Groundwater Analytical Results - July 2014

Truck City Site
Mount Vernon, Washington

Legend

MFA Investigation

- Boring
- Monitoring Well
- Catch Basin
- USTs
- Septic System
- Site Boundary
- Parcel Boundary

Notes:

Analysis Results:
NA = Not Analyzed.
ND = Not Detected.
PAH = Polycyclic Aromatic Hydrocarbons.
TPH = Total Petroleum Hydrocarbons.
ug/L = Micrograms per Liter.

Results above Model Toxics Control Act (MCTA) Method A cleanup level are shown in **bold red**.

Refer to Table 2, Summary of Groundwater Analytical Results, for a complete summary of laboratory results.

Site features were digitized from figures prepared by Materials Testing & Consulting, Inc., Associated Environmental Group, LLC, and Applied Geotechnology, Inc. Utilities and well positions imported from survey by Pacific Geomatic Services in July 2014.
The locations of digitized features are approximate.

Aerial Imagery Date: 2010

0 25 50
Feet

Source: Aerial photograph obtained from Esri ArcGIS Online; parcels obtained from Skagit County; well and utility positions from Pacific Geomatic Services, July 2014

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