AMENDED SITE MANAGEMENT PLAN
FORMER PEPSI BOTTLING & DISTRIBUTION FACILITY
1715 WASHINGTON BOULEVARD
OGDEN, UTAH
KLEINFELDER PROJECT NO. 20183051.001A

June 14, 2019

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FORMER PEPSI BOTTLING & DISTRIBUTION FACILITY
1715 WASHINGTON BOULEVARD
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1 SUMMARY

This Site Management Plan (SMP) has been amended from the original version prepared in 2003 to reflect current Site conditions and present the remediation and monitoring tasks conducted since preparation of the original SMP.

The former Pepsi Bottling Plant property is located at 1715 Washington Boulevard in Ogden, Utah (referred herein as the Site) and was owned by the Larsen Family until 1990. The Pepsi facility formerly housed a warehouse building and two small sheds. Part of the main warehouse building was occupied by a vehicle maintenance shop. This maintenance shop had a 300-gallon waste oil tank that was in use prior to 1990.

In 1990, Admiral Beverage purchased the property from the Larsen Family. In the process of buying the property, Admiral Beverage identified this waste oil tank as a potential environmental concern. Subsequent investigations indicated that this waste oil tank had released chlorinated solvents, primarily tetrachloroethene (PCE) and trichloroethene (TCE), to the shallow groundwater. The Larsen Family Trust retained all responsibility for the waste oil tank when the property was purchased by Admiral Beverage and continues to take responsibility for the environmental issues associated with the tank.

Over the past 29 years, the Larsen Family Trust has evaluated the magnitude and extent of contamination, cleaned it up to the extent feasible with a high-capacity pump-and-treat system, and monitored the Site to document post-cleanup attenuation. Residual concentrations of PCE have dropped to 21 micrograms per liter (µg/l) or less in all wells and residual TCE concentrations have dropped to 3 µg/l or less. In comparison, the EPA maximum contaminant level (MCL) for drinking water is 5 µg/l. A human health risk assessment conducted in 2001 demonstrated that the release no longer posed an unacceptable risk to human health under current land use conditions. Additionally, no ecological risks are posed by the Site.

In 2018, at the request of Utah Division of Waste Management and Radiation Control (DWMRC), the Site's PCE concentration attenuation rate constant was calculated to estimate the time remaining until PCE concentrations in groundwater at the Site reach the MCL. The

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results of the calculations were that the estimated time to for PCE in groundwater to attenuate to 5 µg/l is approximately 18 years from now, in the year 2037.

Based on the health risk assessment findings that no risks are posed by current land use conditions and contaminant exposure pathways, and the slow rate of attenuation towards 2037, the DWMRC has concurred that further groundwater monitoring is not warranted and has terminated the groundwater monitoring requirement of the 2003 SMP. Additionally, the DWMRC requires the prohibition on the use of Site groundwater for culinary, bathing or irrigations purposes, which is added to this Site management plan. Therefore, this Site management plan has been prepared to outline land use restrictions required for Site closure.

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2 SITE BACKGROUND AND HISTORY

The Pepsi Bottling and Distribution Facility was formerly located at 1715 Washington Boulevard in Ogden, Utah (Figure 1). The Site is bound by Washington Boulevard to the east, Parry Street to the south, 17th South Street to the north, and residential properties to the west. The Pepsi buildings have since been removed and the property is now occupied by the Mister Car Wash on the north portion and Advanced Auto Parts on the south portion (Figure 2). The surrounding area includes commercial properties along Washington Boulevard to the east and south, and primarily residential properties to the north and west.

The Pepsi Bottling and Distribution Facility formerly consisted of one large warehouse building, two small storage sheds, and associated parking and loading areas. The warehouse was demolished in late 2013 or early 2014. The storage sheds were demolished as of January 2018. The maintenance shop formerly occupied a portion of the south side of the former warehouse. A 300-gallon waste oil underground storage tank (UST) was used in the maintenance shop prior to 1990. Upon closure, the UST was identified as having released solvents to the Site subsurface.

The Site was owned by the Larsen Family until 1990, at which time, Admiral Beverage purchased the property. The waste oil UST was identified as a potential environmental concern during Site investigation activities conducted prior to the property sale. Larsen Family Trust retained responsibility for the waste oil UST and the associated environmental impacts. Over the past 29 years, the Larsen Family Trust has evaluated the magnitude and extent of contamination, cleaned it up to the extent feasible with a high-capacity pump-and-treat system, and monitored the Site to document post-cleanup attenuation. Figure 3 depicts the former Pepsi Bottling Plant layout and the location of current and former monitoring wells installed for Site remediation and monitoring.

A chronology of work performed at the Site over the past 28 years is presented below.

<u>1990</u> A pre-sale assessment of the Site identified a waste oil tank at the Site. Admiral Beverage retained Sargent, Hauskins & Beckwith to install monitoring wells MW-2 through 7 at the Site. Sampling these wells indicated that volatile organic compounds (VOCs) were present in Site groundwater.

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1991 In December 1990/January 1991, one 300-gallon waste oil UST was removed from the bottling plant by CTC-Geotek and closure waste oil and soil samples were collected and analyzed. Sampling the tank contents indicated that the tank contained VOCs, although closure soil samples from below the tank did not find residual VOCs in the soil.

On July 2, 1991, the Utah Solid and Hazardous Waste Control Board (now referred to as the DWMRC) issued a Stipulated Consent Agreement for the Site that specified that the Larsen Family would assess and clean up the Site to protect human health.

1992 The Site Assessment Report was completed and submitted on February 5, 1992, by Kleinfelder. Nine new wells (MW-8 through MW-16) were installed and sampled to evaluate the extent of VOCs in groundwater. The Site Assessment Report indicated that the primary VOCs at the Site were tetrachloroethene (PCE) and trichloroethene (TCE). The highest concentrations were detected under the southwest corner of the warehouse, and the plume extended westward along Parry Street past the westernmost well (MW-13).

Subsequent meetings were held with the Division of Solid and Hazardous Waste (DWMRC) and the Larsen Family suggested implementing interim remedial measures to reduce VOC concentrations in the identified “hot spot” of PCE, centered on the southwest corner of the building, and to slow the migration of impacted groundwater from the Site. Due to Site access restrictions, one extraction well (EW-1) was installed across Parry Street, south of the identified “hot spot” in July 1992, and a 100-gpm groundwater pump-and-treat system was installed and started up on December 4, 1992. Three additional monitoring wells were also installed (MW-17 through MW-19) to assess the effects of the remedial system and better evaluate the downgradient edges of the plume.

1993 DWMRC requested more information on the configuration of the underlying clay layer. Three additional “deep” wells (MW-20 through MW-22) were installed to locate the depth of the clay at about 30 feet. The Additional Site Assessment Report was submitted on August 13, documenting the depth/continuity of underlying clay layer.

1994 A soil gas assessment of Site, followed by confirmation drilling and soil sampling, indicates that there are no ongoing soil sources of VOCs at the Site.

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1996 The pump-and-treat system was shut off in April after treating 80 million gallons of groundwater, removing 345 pounds of PCE. The system was shut down because contaminant concentrations had dropped significantly, and the resulting recoveries were negligible. DWMRC requested that the area by the two storage sheds be assessed, and MW-23 and MW-24 were subsequently installed.

1997 Kleinfelder recommended closure based on low remaining levels of PCE, technical impracticability of removing PCE to lower concentrations, precedents for higher cleanup levels in California and Wyoming, and current toxicology studies.

1999 Groundwater was sampled and analyzed in October to verify ongoing degradation.

2001 Kleinfelder submitted a Human Health Risk Assessment evaluating actual land use conditions and exposure pathways. Risk assessment indicates no significant risk to human health.

2002 Kleinfelder submitted response to DWMRC comments on health risk assessment.

2003 Sampled groundwater in January to verify ongoing degradation. Submitted response to additional DWMRC comments on health risk assessment and current groundwater monitoring report. DWMRC indicates approval of calculated health risks, and approval of variance from preparing ecological risk assessment.

2004 Kleinfelder decommissioned the remediation system and abandoned wells EW-1, MW-2, MW-3, MW-4, MW-6 through MW-9, MW-12, and KMW-14 through KMW-20.

2005 Groundwater was sampled and analyzed in May 2005 to verify degradation of VOC concentrations in groundwater. A Land Use Monitoring Report was submitted to the DWMRC to verify a lack of changes that could potentially alter the outcome of the 2003 human health risk assessment.

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2008 Groundwater was sampled and analyzed in November and December 2008 to assess VOC concentrations in the groundwater. Additional land use monitoring was conducted by Kleinfelder in November 2008 to verify a lack of changes that could potentially alter the outcome of the 2003 risk assessment. A report detailing the findings of the land use monitoring was submitted to the DWMRC in April 2009.

2015 Groundwater was sampled and analyzed in June 2015 to assess VOC concentrations in the groundwater.

2018 Groundwater from the Site's remaining two monitoring wells was sampled and analyzed in January 2018 to assess VOC concentrations in the groundwater.

2018 Calculation of the natural attenuation rate constant for groundwater contaminants was performed and submitted to the DWMRC in April 2018. The results of the calculations are that the estimated time to for PCE to attenuate to the MCL of 5 µg/l is no longer than 40.5 years from the calculation start date of January 1997, or approximately 18 years from now in the year 2037.

2019 This Site Management Plan is updated to reflect the current Site conditions in support of discontinuing groundwater monitoring.

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3 PROPOSED SITE MANAGEMENT ACTIVITIES

3.1 GOAL OF SITE MANAGEMENT

At this time, residual concentrations of PCE and TCE at the Site have dropped to concentrations near and below the MCL (respectively) and do not pose a threat to human health and the environment under current land use conditions. The attenuation of residual concentrations to reach the MCL has been projected to end in 2037. The DWMRC has concurred that additional groundwater monitoring is not required and terminated the groundwater monitoring requirement of the SMP.

However, since the residual concentrations of PCE are not at levels to achieve a risk-based closure under the criteria of Utah Administrative Code Rule R315-101-6(2), the DWMRC requires the addition of a prohibition on the use of Site groundwater for culinary, bathing or irrigation purposes. Therefore, this Site management plan has been modified to remove the groundwater monitoring requirement and revise the Activity and Use Limitations to restrict groundwater use.

The SMP is comprised of the following elements: abandon remaining monitoring wells and outline Activity and Use Limitations.

3.2 SITE RESTORATION

The following restoration activities were included in the original SMP and have now been completed:

- Remove the pump-and-treat system equipment, including the shallow-tray stripper, electrical and sewer hook-ups, and equipment shed.

- Properly abandon the groundwater extraction well (EW-1) by grouting it with bentonite cement to 2 feet below grade and removing all surface casing down to 2 feet below grade.

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- Properly abandon all monitoring wells no longer needed to document PCE/TCE degradation. This will reduce risk of introducing contaminants from ground surface. Remove 15 wells (MW-2, -3, -4, -6 through –9, -12, -14 through –20), as shown on Figure 3. [Wells MW–10 and MW–11 were lost previously]. Each well will be abandoned by grouting it with bentonite cement to 2 feet below grade and removing all surface casing down to 2 feet below grade.

- Inspect/upgrade surface seals on select wells proposed for Site management monitoring. Upgrade wells MW-5, MW-22, MW-23, MW-24, MW-13, and MW-21.

In 2019 only two monitoring wells, KMW-21 and KMW-22 remain in the vicinity; both of which are located on public roadways (Parry Street) south of the Site. The remaining wells will be properly abandoned by grouting them with bentonite cement to 2 feet below grade and removing all surface casing down to 2 feet below grade. Wells MW-5, MW-23, MW-24 and MW-13 were previously abandoned by new property owners.

3.3 ACTIVITY AND USE LIMITATIONS

Currently, land use in the area occupied by the residual PCE plume is primarily residential (See Figure 2). Homes are a mixture of small slab-on-grade houses and houses with basements. None of the homes in the area have water wells. All domestic and irrigation water is supplied by Ogden City. Based on this land use, no unacceptable human health risks exist as a result of the residual PCE and TCE concentrations.

To verify that human health continues to be protected, DWMRC requires the addition of a prohibition on the use of Site groundwater for culinary, bathing or irrigation purposes. The DWMRC will contact the current owner of the property to request concurrence to establish an environmental covenant (EC) on the property. If an agreement on an EC cannot be reached with the property owner, the DWMRC will prepare a memo to the Site file that details the type of information that an EC would contain so that future potential owners of the property are aware of the groundwater status and use limitations.

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4 CLOSURE CRITERIA

4.1 CURRENT REGULATORY REQUIREMENT

The Utah Administrative Code Section R315-101-6(2) currently does not allow a risk-based closure under actual, or foreseeable future, land use conditions. Instead, the Site groundwater contaminants must be below their respective EPA MCLs. The current TCE concentrations detected at the Site are below the MCL, however the PCE concentration detected is above the MCL.

4.2 PROPOSED CLOSURE CRITERIA

Based on the current standards for closure, the Site closure will be obtained by implementation of an EC on the property that prohibits the use of Site groundwater for culinary, bathing or irrigation purposes. Should an EC not be agreed to by the property owner, the DWMRC will prepare a memo to the Site file that details the information that would be included in an EC in order for potential future owners of the property to be aware of the groundwater status and use limitations.

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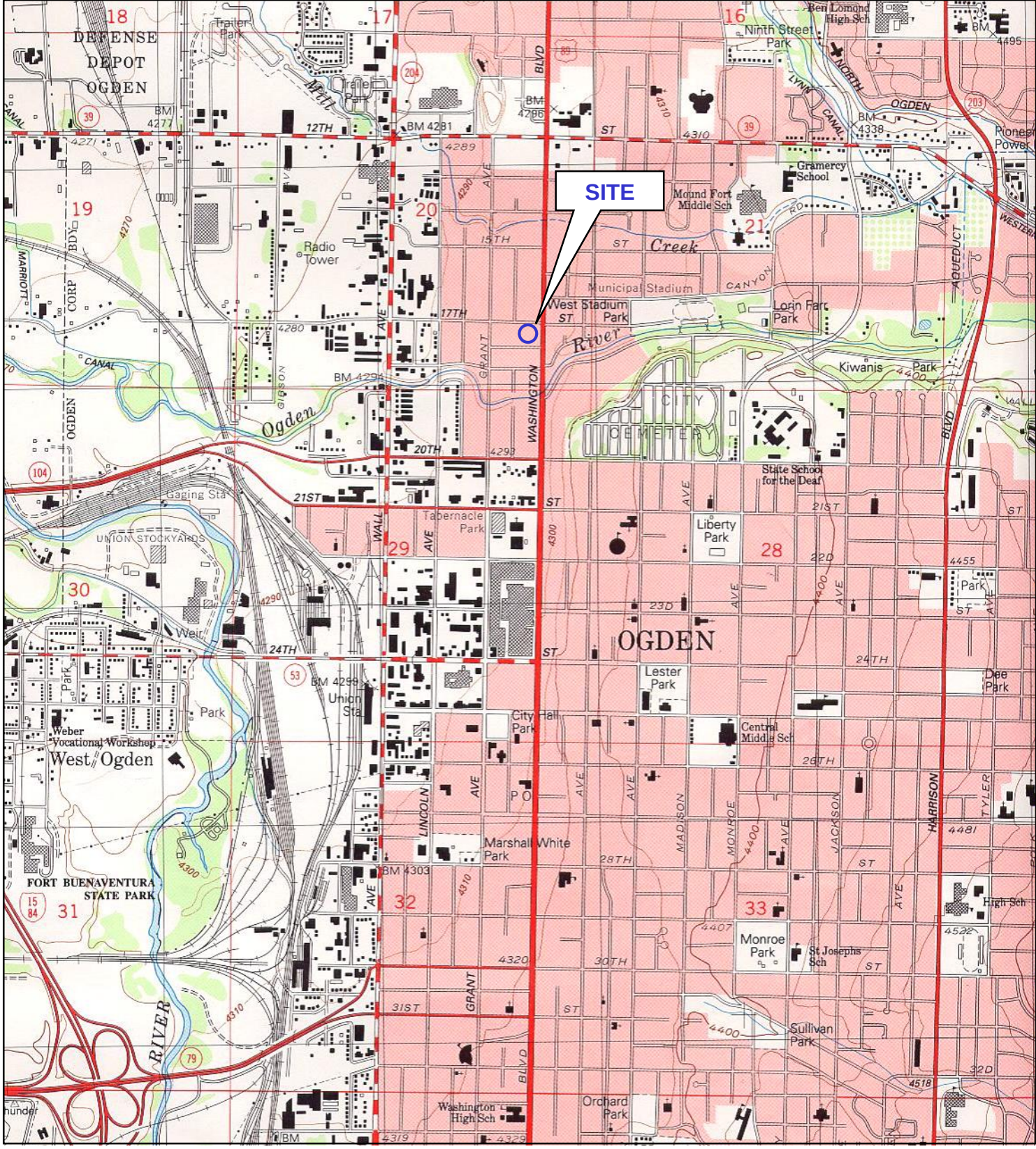
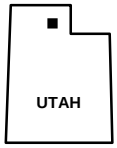
Figures



0' 1000' 2000'

SCALE 1:24,000
1" = 2000'
CONTOUR INTERVAL 40 FEET
SUPPLEMENTAL CONTOUR INTERVAL 10 FEET

BASE MAP:
OGDEN, UTAH
U.S.G.S. 7.5 MINUTE QUADRANGLE
PHOTOREVISED 1992



QUADRANGLE LOCATION

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Pepsi Distributing Facility
1715 Washington Boulevard
Ogden, Utah

SITE VICINITY MAP

FIGURE

1

0 50 100 Feet

Locations are Approximate

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EXPLANATION

- Approximate Monitoring Well Location
- Approximate Groundwater Gradient - 2015

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SALT LAKE CITY, UT

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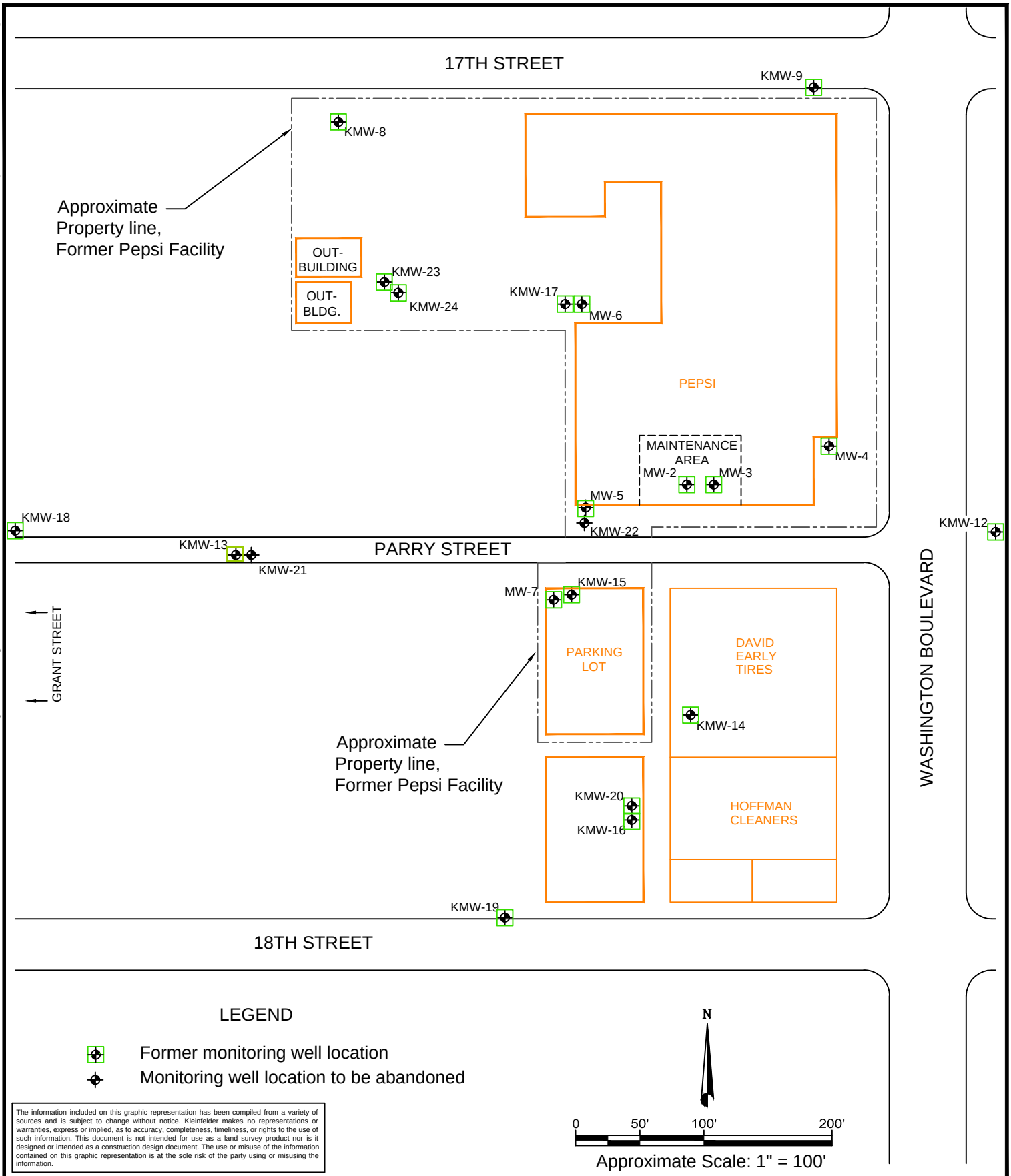
SITE PLAN AND VICINITY LAND USE

PEPSI DISTRIBUTING FACILITY
1715 WASHINGTON BOULEVARD
OGDEN, UTAH

FIGURE

2



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FILE NAME:	Figure3.dwg

FORMER WELL LOCATIONS AND WELLS TO BE ABANDONED

PEPSI DISTRIBUTING FACILITY
1715 WASHINGTON BOULEVARD
OGDEN, UTAH

FIGURE
3

PLOTTED: 21 May 2019, 11:04am, KHagan
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SALT LAKE CITY, UT