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July 2, 2018
Revised: July 16, 2018

Arizona Department of Environmental Quality
Remedial Projects Section, Voluntary Remediation Program
1110 West Washington Street, 6th Floor
Phoenix, Arizona 85007-2935

Attn: Ms. Joey Pace, Project Manager

Re: Groundwater No Further Action Request — Job No. 2179JZ187
Layton Farms Underground Fuel Tank Remediation
NEC of Queen Creek Road and Lindsay Road
Gilbert, Arizona
Site Code: 507525-00

Dear Ms. Pace:

On May 22, 2018, Arizona Department of Environmental Quality (ADEQ) issued a letter to LH-EH Layton Lakes Estates, LLC (LH-EH) entitled *Proceed with Request for No Further Action in Groundwater, Layton Lakes Underground Fuel Tank Remediation, Queen Creek Road and Lindsay Road, Gilbert, AZ, VRP Site Code: 507525-00.* ADEQ's letter authorized LH-EH to proceed with preparing and submitting a request for No Further Action (NFA) determination for groundwater in an NFA Report for the Layton Lakes Underground Fuel Tank (UFT) Remediation Voluntary Remediation Program (VRP) site. At the request of LH-EH, Western Technologies Inc. (WT) has prepared this letter report requesting a NFA determination for groundwater.

The NFA is requested for the following constituents:

1,1,1-trichloroethane	carbon tetrachloride	styrene
1,1,2-trichloroethane	cis-1,2-dichloroethylene	tetrachloroethylene
1,1-dichloroethylene	dichloromethane	toluene
1,2,4-trichlorobenzene	1,2-dibromoethane (EDB)	total xylenes
1,2-dichloroethane	ethylbenzene	trans-1,2-dichloroethylene
1,2-dichloropropane	methyl tertiary butyl ether	trichloroethylene
benzene	o-dichlorobenzene (1,2-dichlorobenzene)	trihalomethanes (total)
monocholorobenzene	para-dichlorobenzene (1,4-dichlorobenzene)	vinyl chloride

Of the above constituents, during post remediation groundwater sampling and testing events, benzene was the only constituent that was reported as detected at concentrations exceeding a respective ADEQ Aquifer Water Quality Standard or ADEQ Guidance Level.

The attached Figures 1 and 2 in Appendix A show the Site location and the proposed NFA boundaries.

Remediation efforts performed to promote restoration of groundwater quality at the Site included:

- Removal, investigation, and closure of two 1,000-gallon UFTs located on the Site was performed in 2003. The results of these services were presented in a report by Geotechnical and Environmental Consultants, Inc. (GEC) titled *UFT Closure Site Assessment Report, Underground Fuel Tank Removal, Layton Farms, NEC of Queen Creek Road and Lindsay Road, Gilbert, Arizona*, dated March 12, 2003.
- In January 2004, GEC began the design and installation of vapor extraction (VE) and air sparge (AS) systems at the Site. Oxygen release compound (ORC) socks were also installed in Monitoring Wells MW-1, MW-2, MW-3, and MW-4, and were eventually also placed in Monitoring Well MW-7. On April 29, 2004, GEC began operation of the VE system. After free product in MW-1 was reduced to less than 0.5 inch in thickness, GEC began operation of the AS system on July 23, 2004, in an effort to remediate the impacted groundwater.
- Site characterization activities conducted through December 2005 were presented in a GEC report titled *Site Characterization Report, Layton Lakes Estates Underground Fuel Tanks, NEC of Lindsay Road and Queen Creek Road, Gilbert, Arizona* (SCR) (GEC Project No. 03-0014M.R01), dated May 12, 2006.
- Remediation design and implementation activities were presented in a GEC report titled *Corrective Action Plan, Layton Lakes Estates, NE of Lindsay Road and Queen Creek Road, Gilbert, Arizona* (CAP) (GEC Project No. 03-0014M.CAP.R02), dated August 16, 2006.
- In January 2007, monitoring of the remediation system indicated a significant drop in soil vapor concentrations at the Site; consequently, a confirmation test boring (TB-109) was drilled at the Site in accordance with the CAP. BTEX constituents were not detected at concentrations exceeding the remediation goals established by the CAP in the soil samples obtained from TB-109. The results of this sampling and testing were submitted to ADEQ in a report titled *Confirmation Soil Sampling and Testing, Layton Lakes Estates, NEC of Lindsay Road and Queen Creek Road, Gilbert, Arizona* (GEC Project No. 03-0014M.R03), dated April 10, 2007. Upon completion of the public notice period, GEC requested that ADEQ issue a NFA letter for soils at the Site. In January 2008, ADEQ granted the NFA determination for the soils at the Site.
- An ozone injection system was added to the groundwater remediation system and was started on April 25, 2007. The ozone system was discontinued on August 1, 2008, and the AS system was restarted.
- On March 14, 2012, WT performed a surfactant injection event to augment the groundwater remediation in progress at the Site. Prior to conducting the injection, WT submitted the outline of the injection plan to ADEQ in a letter dated December 22, 2011. This modification to the remedial approach was reviewed and approved by ADEQ, as documented in a January 9, 2012 e-mail to WT from Tina LePage. WT also registered the injection work with the U.S. Environmental Protection Agency (EPA) Underground Injection Control Section. On April 23, 2012, WT sent EPA a notice/summary of the completed injection event.
- WT shut down the AS remediation system on November 17, 2016 and removed the ORC from the groundwater monitoring wells.

The following describes the above-referenced remediation systems:

VE System: The VE equipment selected for the on-site remedial program was a trailer-mounted VE and thermo catalytic oxidizer system (VAC-25) manufactured by ThermTech, Inc. of Kingwood, Texas. The VE system operated on 240-volt, single-phase electrical service panel and 5 pounds per square inch (psi) propane. The system used a 5-horsepower regenerative blower which was capable of drawing a vacuum of up to 80-inches-of-water at a maximum flow rate of approximately 250 cubic feet per minute (cfm). The system was connected to seven 4-inch diameter VE wells (VE-1 through VE-7) and Monitoring Well MW-1 and Pilot Test Piezometer Well MW-6.

AS System: The pilot testing indicated that an air flow of 10 to 15 cfm at 8 to 14 psi into the AS wells would result in a radius of influence of about 40 to 80 feet. At maximum deployment, six 1.5-horsepower GAST air compressors operated on 230-volt electric power. The AS system was designed to operate with an air flow rate of up to 30 to 40 cfm at no more than 60 psi. The actual range of operation has typically been around 30 to 36 cfm and 8 to 22 psi. Air Sparge Wells AS-1 through AS-11 were installed to a depth of approximately 80 feet bgs. AS-10 was installed with air sparge points at approximately 74 feet and 64 feet bgs. Well AS-7 was installed at an angle of approximately 35° to the vertical.

Ozone Injection System: The ozone injection system consisted of a 104 grams per hour (5.47 pounds per day) Corona Discharge Ozone Generator designed to deliver 90 pecent oxygen purity at 48 standard cubic feet per hour. The ozone generation system was connected to the AS wells AS-1, AS-2, AS-7, AS-8, AS-9, AS-10A, AS-10B, and AS-11; and to diffusion ports installed into the water column of Monitoring Wells MW1, MW-6, and MW-7.

Direct Ventilation Blower: Following the operation of the VE unit, a direct ventilation blower was used to reduce the potential for accumulation of the air sparged vapors in subsurface soils. This blower drew primarily from Monitoring Well MW-1. During operation of the ozone injection system, the direct ventilation unit was connected to and drew from Monitoring Well MW-6.

ORC Treatment: Generally, five 2-inch diameter by 12-inch long ORC "socks" were installed in deployment cages in the upper 7 feet of Monitoring Wells MW-1, MW-2, MW-3, MW-4, and MW-7 from 2004 through 2016. Replenishment with fresh ORC was generally conducted every 3 to 6 months.

Institutional and engineering controls have not been employed for remediation of this Site.

Five post-remediation rebound monitoring events were completed in 2017 the results of which were previously submitted to ADEQ in WT's report titled *Groundwater Monitoring, March 2017 through December 2017, Layton Farms UFT Remediation, NEC of Queen Creek Road and Lindsay Road, Gilbert, Arizona, VRP Site Code: 507525-00*, dated April 16, 2018. No additional post remediation monitoring events are proposed.

Pursuant to A.R.S. §49-181(F), the following public notifications have been made for this project:

Beginning in May 2006, after the project was accepted by the VRP, a sign was posted and maintained in view of the public on the remediation compound at the Site. The sign identified the project, the project location, the source of the release, chemicals of concern, purpose, status as a VRP site, and contact information with ADEQ and GEC-SA&B (the project environmental consultant at the time). Revisions to this signage have been posted during the project to identify changes in contact information.

LH-EH provided general public notice of the request for NFA determination for soil by advertisement in the East Valley Tribune on May 14 and 21, 2007.

A draft of the proposed public notice for the groundwater NFA is presented in Appendix B. We anticipate publishing this notice in the East Valley Tribune in approximately mid-July 2018.

Permits held for the remediation project have included:

ADEQ Air Quality Control General Permit; Soil Vapor Extraction Units Operating Within Arizona; Portable Soil Vapor Extraction Units; General Permit #1001621/40692;
US EPA Region 9 Underground Injection Control Registration (for surfactant injection) – Notice made February 3, 2012.

Western Technologies Inc. appreciates working with you on this project. Should you have any questions regarding this submittal, please contact me at (602) 437-3737.

Sincerely,
WESTERN TECHNOLOGIES INC.

Registered Geologist
CERTIFICATE NO.
29826
STEVEN C.
KAMINSKI
Date Signed July 16, 2018
ARIZONA, U.S.A.

Expires 12-31-2019

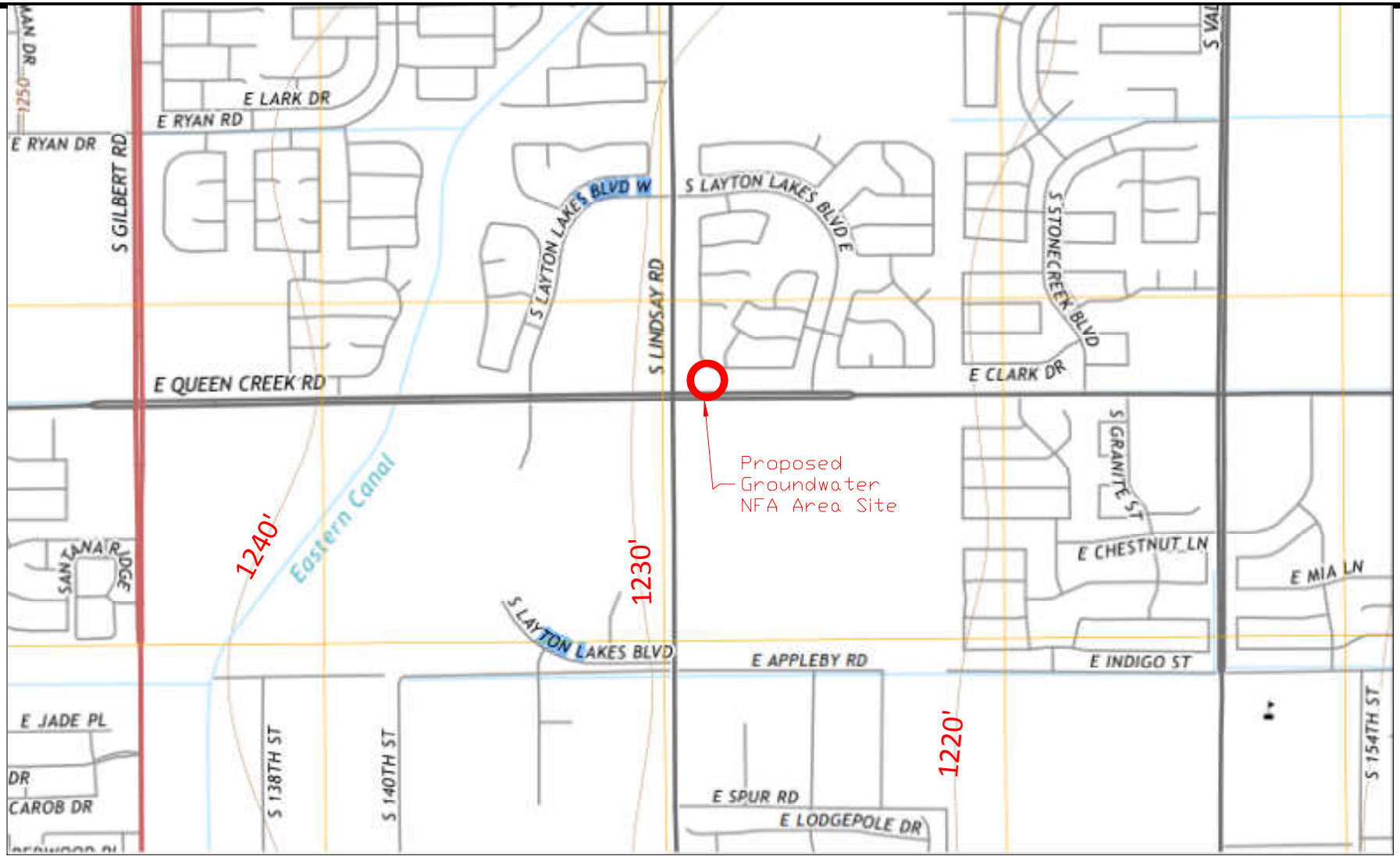
Steven C. Kaminski, R.G.

Attachments

Copies to: Addressee (1 electronic);
Lennar Layton L.L.C. (1 electronic)

APPENDIX A

FIGURES



Base Map: 2014 USGS Chandler, AZ 7.5 Minute Topographic Series Map

NORTH

APPROXIMATE
SCALE: 1" = 1,500'

0 750 1,500

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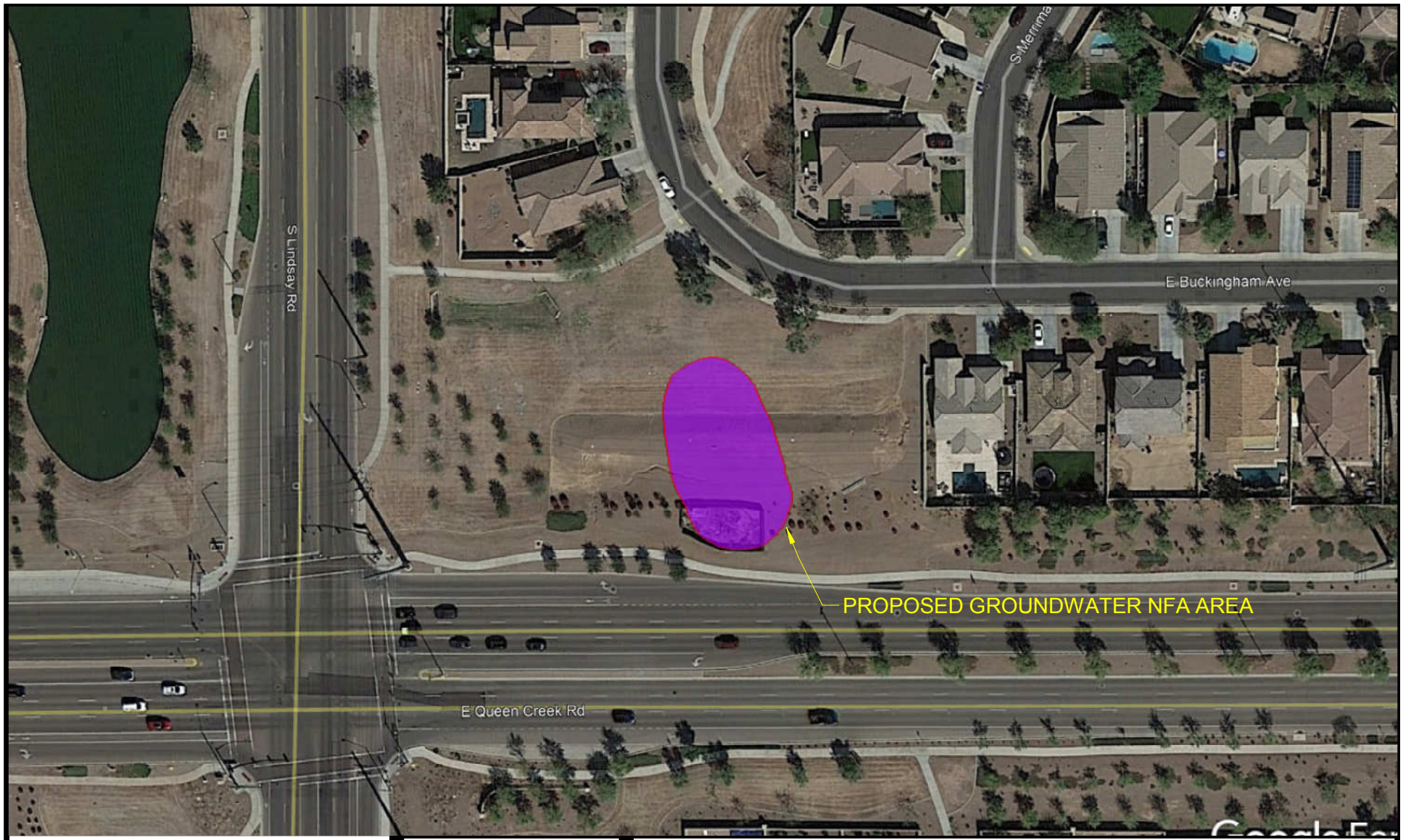
FIGURE 1. **SITE LOCATION MAP**
LAYTON FARMS UNDERGROUND FUEL TANKS REMEDIATION
LH-EH Layton Lakes Estates
NEC of Queen Creek and Lindsay Road
Gilbert, Arizona

WT Job No. 2179JZ187



NORTH

APPROXIMATE
SCALE: 1" = 100'

0 50 100

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FIGURE 2. **PROPOSED GROUNDWATER NFA AREA**
LAYTON FARMS UNDERGROUND FUEL TANKS REMEDIATION
LH-EH Layton Lakes Estates
NEC of Queen Creek and Lindsay Road
Gilbert, Arizona

WT Job No. 2179JZ187

APPENDIX B

DRAFT PUBLIC NOTICE

NOTICE OF 30-DAY PUBLIC COMMENT PERIOD
LAYTON LAKES UNDERGROUND FUEL TANK REMEDIATION
VOLUNTARY REMEDIATION PROGRAM SITE
REQUEST FOR NO FURTHER ACTION DETERMINATION

LH-EH Layton Lakes Estates has submitted a request for a No Further Action (NFA) determination to the Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) for the Layton Lakes Underground Fuel Tank Remediation VRP site. The NFA requests risk-based closure for groundwater and was submitted in accordance with Arizona Revised Statutes § 49-181.

The Layton Lakes Underground Fuel Tank Remediation VRP site consists of a portion of a common area tract (landscaping and retention basin) area with the Layton Lakes Community Development located northeast of Queen Creek and Lindsay Roads in Gilbert, Arizona. Contaminants of concern at the site are volatile organic compounds associated with former underground farm fuel tanks associated with a previous farm staging area.

The NFA Report is available online at: http://azdeq.gov/notices, and at the ADEQ Records Center, 1110 W. Washington St., Phoenix, AZ (602) 771-4380, or (800) 234-5677, ext. 602-771-4380; please call for hours of operation and to schedule an appointment.

PARTIES WISHING TO SUBMIT WRITTEN COMMENTS regarding the NFA request for the Layton Lakes Underground Fuel Tank Remediation VRP site may do so to ADEQ, Attention: Joey Pace, Voluntary Remediation Program, 1110 W. Washington St., Phoenix, AZ 85007 or Pace.Joey@azdeq.gov; or Attention: Steve Kaminski, Western Technologies Inc., 3737 East Broadway Rd., Phoenix, AZ 85040 or s.kaminski@wt-us.com and reference this listing. **Comments must be postmarked or received by ADEQ or Western Technologies, Inc. by [day of week] [date], [year].**

ADEQ will take reasonable measures to provide access to department services to individuals with limited ability to speak, write, or understand English and/or to those with disabilities. Requests for language interpretation services or for disability accommodations must be made at least 48 hours in advance by contacting: 7-1-1 for TDD; (602) 771-2215 for Disability Accessibility; or Ian Bingham, Title VI Nondiscrimination Coordinator at (602) 771-4322 or idb@azdeq.gov.

ADEQ tomará medidas razonables para proveer acceso a los servicios del departamento para personas con capacidad limitada para hablar, escribir o entender Inglés y / o para las personas con discapacidad. Las solicitudes de servicios de interpretación del lenguaje o de alojamiento de discapacidad deben hacerse por lo menos 48 horas de antelación poniéndose en contacto con Ian Bingham, Title VI Nondiscrimination Coordinator al (602) 771-4322 o idb@azdeq.gov.

Dated this [date] day of [month], [year].