

## PROPOSED LEAKING UST (LUST) CASE CLOSURE

The Arizona Department of Environmental Quality (ADEQ) is considering closure of the following leaking underground storage tank (LUST) cases:

**LUST Case File #: 0915.01**  
**Facility ID # 0-005123**  
**Yuma County**

**Express Stop #505 (former Short Stop #505)**  
**1600 South Avenue B**  
**Yuma, Arizona 85364**

The Arizona Revised Statutes (A.R.S.) §49-1005(E) and Arizona Administrative Code (A.A.C.) R18-12-263.04 allow case closure of LUST sites with groundwater contamination above the Arizona Aquifer Water Quality Standards (AWQS) or Tier 1 Standards if certain site specific conditions are met. For the above-referenced LUST site, ADEQ has considered the following:

1. Characterization of the groundwater plume,
2. Removal or control of the source of contamination,
3. Groundwater plume stability,
4. Natural Attenuation,
5. Threatened or impacted drinking water wells,
6. Other exposure pathways,
7. Requirements of A.R.S. §49-1005(D) and (E), and
8. Other information that is pertinent to the LUST case closure approval.

This LUST release was confirmed in October 1989 for the east 10K gallon gasoline UST. Corrective action began after this LUST release was confirmed. The site was characterized in 2001. This LUST release was originally closed in 2008 based on groundwater concentrations of BTEX only. The existing MTBE was not considered in the LUST closure evaluation. The Tier 1 Standard for MTBE was established in 2002.

In November 2015, ten soil borings and five temporary wells were installed as part of a Phase II ESA for a property ownership transfer. Temporary well #3 (TW-3) had a screen placed between 5.5 and 15.5 feet. MTBE was discovered in the groundwater at 386 µg/L. The other temporary wells had MTBE contamination, but the contamination was well below the Tier 1 Standard. The data was evaluated and it was determined that the contamination was not from a new release, but from LUST release 0915.01. LUST release 0915.01 was reopened in April 2016.

The groundwater contaminant plume of release related compounds was reduced by free product removal, groundwater pumping, air sparge/soil vapor extraction and air sparge alone. MTBE concentrations exceeded the Tier 1 Standard of 94 micrograms per liter (µg/L) in on-site monitor well MW-3(see table below), but the concentration is remaining stable since the well was abandoned in 2008. MW-3 is located at, or very near, the source of release number 0915.01. The site continues to operate as a gasoline service station.

Based on a records search there are no surface water, agricultural, or ecological receptors within one quarter mile of the site. There are no active drinking water wells within one quarter mile of the site based on information found at the Arizona Department of Water Resources (ADWR) imaged records. There are 4 exempt wells reported by ADWR within ¼ mile of the site. Three of the wells were installed for a residential property in 1982. The property was leveled in 2009 and is now zoned commercial and is a vacant lot. The fourth well is for a residential rental property located ¼ mile to the west of the site, but the well is not used for potable water. The historic general direction of groundwater flow beneath the site is to the northwest.

The contamination found in TW-3 was also evaluated for ingestion and inhalation exposure risk. Dermal contact was not evaluated, since ingestion is the greater exposure risk. The inhalation evaluation shows that the concentration of MTBE in TW-3 gives an ELCR of  $10^{-7}$  and an HI of less than 1. This demonstrates acceptable risk. If residential parameters are used for ingestion of groundwater, the result is  $10^{-3}$  which is acceptable based on the SFO being  $10^{-3}$  for true ingestion of MTBE in a potable water source (which TW-3 is not).

Site specific information concerning this closure is available for review during normal business hours at the <http://www.azdeq.gov/function/assistance/records.html>, 1110 W. Washington St., Suite 140, Phoenix, AZ 85007. ADEQ welcomes comments on the proposed LUST case closure. Please call the Records Center at 602-771-4380 to schedule an appointment. A 30-day public comment period is in effect commencing **April 25, 2016** and ending **May 25, 2016**. Comments should be submitted in writing to the Arizona Department of Environmental Quality, Waste Programs Division, Attention: Debi Goodwin, 1110 W. Washington Street, Phoenix, AZ 85007.

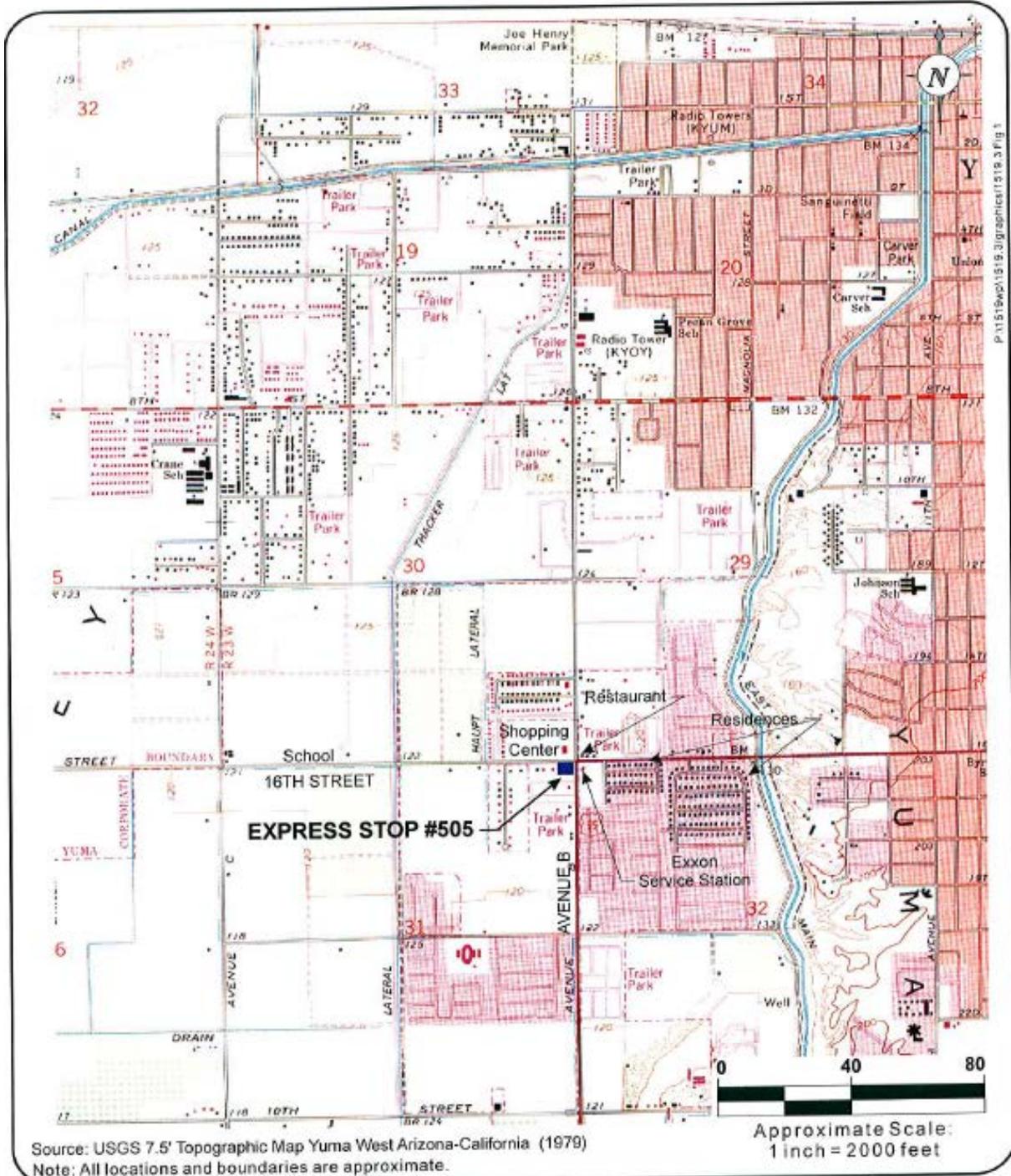
If sufficient public interest is demonstrated during the public comment period, ADEQ will announce and hold a public meeting. ADEQ will respond to written comments following the public comment period. For more information on this notice, please contact Debi Goodwin at 602-771-4453 or 800- 234-5677 ext. 771-4453 or at [dg1@azdeq.gov](mailto:dg1@azdeq.gov).

Copies of the cited statutes and rules can be found at: <http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=49>, and [http://www.azsos.gov/public\\_services/Title\\_18/18-12.htm](http://www.azsos.gov/public_services/Title_18/18-12.htm)

Historic groundwater concentrations (µg/L) in MW-3 for MTBE

TW-3 11/2015	386
MW-3 abandoned in 11/2008	-----
10/2007	480
4/2007 (post remediation)	230
10/2006	3,000
7/2006	3,000
4/2006	2,200
1/2006	3,200
10/2005	5,200
2004	5,300
2001	7,500
2000	1,300





VICINITY MAP

Express Stop #505  
1600 South Avenue B  
Yuma, Arizona 85364

Project #1519.4

FIGURE  
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**ADEQ**  **Memorandum**  
Arizona Department  
of Environmental Quality

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**Date:** April 15, 2016

**To:** Jason Kocer, Manager  
Site Investigation and Remediation Unit

**From:** Debi Goodwin, UST Risk Assessor  
State Lead Unit

**Subject:** May 12, 2008 LUST Closure Review  
Express Stop #505  
Facility No. 0-005123 LUST No. 0915.01, 0915.02

October 2, 1989 LUST release for the 10K gasoline UST (East) (0915.01)  
May 24, 1990 LUST release for the Northern gasoline dispenser island (0915.02)

1989- Seven groundwater wells installed due to release 0915.01. Samples analyzed by EPA Method 8020/8015. (No MTBE analysis).

1991-1996- Groundwater analyzed for VOCs by EPA Method 502.2 (No MTBE analysis).

1999- Groundwater data indicates MTBE concentrations in MW-2, 3, 4, 6, and 7 ranging from 250 µg/l in MW-7 to 6100 µg/L in MW-4. 1999- SCR work prompted ADEQ to assign a second release number (0915.02). Express Stop was informed that MTBE and naphthalene need to be investigated in both soil and groundwater.

1999- ADEQ informed Express Stop that ADEQ does not enforce the remediation of MTBE (Rogler/Lewandowsky). "Just monitor it due to high levels in groundwater."

2001- ADEQ informed Express Stop that if the MTBE concentrations were over the HBGL, then no closure. (Rogler/Engstrom).

**August 2002-** MTBE Tier 1 Standard of 94 µg/L published in Appendix Q of the Release Reporting and Corrective Action Guidance.

2005- Groundwater samples analyzed for VOCs by EPA Method 8260B. MTBE exceeds the Tier1 Standard- the maximum concentration is 2,200 µg/L in MW-3.

2006- ADEQ requested a Site Status Update, and wanted groundwater samples for BTEX, MTBE. (Huq/Johnson).

2008- CACR submitted to ADEQ- Lynn Rogler. The CACR stated the remedial level for MTBE was 94 µg/L., and ADEQ had closed several sites with MTBE in groundwater over this standard. Table 3 shows historic groundwater monitoring results. MTBE remained over the Tier 1 Standard in 2007 in MW-2 and MW-3. The last sampling event MTBE was over standard in MW-3 (480 µg/L).

**February 2008-** R18-12-263.04 (alternate groundwater closure) was implemented.

**May 2008-** ADEQ approved the LUST closure citing no release-regulated compounds of concern over applicable AWQS. (Huq/Johnson).

**November 2008-** All monitoring wells abandoned.

**2015-** Groundwater samples collected from a split spoon sampler shows MTBE over the Tier 1 Standard at location TW-3 (386 µg/L). MTBE was detected in the other five samples, but well below the Tier 1 Standard. This location is outside of the present UST basin and is close to MW-3.

The MTBE present is likely associated with release 0915.01. If we reopen release 0915.01, it could be closed under R18-12-263.04.

R18-12-263.04 allows for closure by Tier 2 or Tier 3 OR by complying with the criteria listed in (B)

Tier 3 information:

There are no drinking water wells impacted or threatened. There are 4 exempt wells reported by ADWR within ¼ mile of the site. Three of the wells were installed for a residential property (1411 Avenue B) in 1982- the property was leveled in 2009 and is now zoned commercial and is a vacant lot. The fourth well is for a residential rental property located ¼ mile to the west of the site at 1601 S. Arcadia Lane. The home has City water.

If an ultra-conservative approach is taken and the contamination found in TW-3 can be evaluated for ingestion (no dermal contact since it is the lesser important pathway according to ATSDR), and inhalation. The inhalation evaluation shows that the concentration of MTBE in TW-3 gives an ELCR of  $10^{-7}$  and an HI of less than 1. This demonstrates acceptable risk. If residential parameters are used for ingestion of groundwater, the result is  $10^{-3}$  which is acceptable based on the SFO being  $10^{-3}$  for true ingestion of MTBE in a potable water source.

Rule criteria:

- Groundwater was characterized.
- Source was controlled by removing free product, groundwater pump and treat, and SVE/AS together and then just AS.
- The contaminant plume is stable- it is limited to the area around the former UST basin.
- Plume has been attenuating based on CoC concentrations.
- There are no threatened or impacted drinking water wells.
- Other exposure pathways. The property is currently a service station, and any possible exposure would be from existing site operations, not the contaminated groundwater. See Tier 3 information above.

Historic groundwater concentrations ( $\mu\text{g/L}$ ) in MW-3 for MTBE

TW-3 grab sample 11/2015	386
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4/2007 (post remediation)	230
10/2006	3,000
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2000	1,300

Although the groundwater data is old, there is clearly a downward trend of concentration between pre and post remediation up to well abandonment. The grab sample from TW-3 is in the same range as the samples collected from MW-3 in 2007.