



December 13, 2017

Reference No. 11119425

Mr. John Patricki
Project Manager
ADEQ Voluntary Sites Unit
1110 West Washington Street, 4415 B2
Phoenix, Arizona 85007

Dear Mr. Patricki:

**Re: Updated Request for Conditional No Further Action (NFA) Determination
Historic SP Bunker C Fuel Vault
Southeast Corner of North Central Avenue & Railroad Street
Bowie, Arizona
ADEQ SITE ID: 512794-00**

GHD Services Inc. (GHD), on behalf of Union Pacific Railroad (UPRR), is submitting this Request for a Conditional No Further Action (NFA) determination for soil as requested by the Arizona Department of Environmental Quality (ADEQ). This is a follow-up to an ADEQ letter dated September 28, 2017, approving a GHD report dated January 5 2017. GHD's report dated January 5, 2017 summarized events related to the remediation of historic Bunker C oil (former locomotive fuel oil used in the late 19th and early 20th century – prior to diesel fuel) impacts to soil associated with historic structures, some containing residual Bunker C oil. The GHD report (2017) documented the removal of a wooden oil sump with an approximately 42,000-gallon capacity, associated product piping, and approximately 3,000 tons of Bunker C oil-impacted soil associated with these structures. The area of work conducted during the course of this investigation coincided with a portion of property delineated in a November 20, 2006 Declaration of Environmental Use Restriction (DEUR) that was submitted to the Cochise County Recorder. This letter addresses the seven elements of Arizona Revised Statutes (ARS) §49-181 (A) as requested, as well as the remaining comments made in ADEQ's September 28, 2017 review letter and December 1, 2017 email ADEQ's comments are presented in ***bold and italics***, and GHD's responses, on behalf of UPRR, are presented in regular text.

- 1. A summary that adequately addresses the seven requirements listed in A.R.S. § 49-181(A). All seven requirements must be addressed in writing. If a component is not applicable to the Site, please state "not applicable" for that statutory requirement.***

Response:

Requirement 1 - A description of the specific contaminants for which a No Further Action determination is being sought.

Regulated constituents of Bunker C fuel oil components including:

- Volatile organic compounds (VOCs) such as:
 - 1,2,4-Trimethylbenzene



- 1,3,5-Trimethylbenzene
- 2-Phenylbutane (sec-Butylbenzene)
- Acetone
- Bromomethane (Methyl bromide)
- Cymene (p-Isopropyltoluene)
- Ethylbenzene
- Isopropyl benzene
- Methylene chloride
- Naphthalene
- N-Butylbenzene
- N-Propylbenzene
- Tert-Butylbenzene
- Toluene
- Total Xylenes
- Polynuclear Aromatic Hydrocarbons (PAHs) including:
 - Acenaphthene
 - Acenaphthylene
 - Anthracene
 - Benzo(a)anthracene
 - Benzo(a)pyrene
 - Benzo(b)fluoranthene
 - Benzo(k)fluoranthene
 - Chrysene
 - Dibenz(a,h)anthracene
 - Fluoranthene
 - Fluorene
 - Indeno(1,2,3-cd)pyrene
 - Naphthalene
 - Pyrene



Requirement 2 - A description of the actions taken to achieve remediation levels or controls determined in accordance with §49-175(B).

As discussed in the GHD 2017 report,

“GHD, in coordination with H2O Environmental (H2O) (UPRR direct bill contractor), uncovered and removed a wooden oil sump with an approximately 42,000-gallon capacity, associated product piping, and approximately 3,000 tons of Bunker C oil-impacted soil associated with these structures. Soils excavated during remedial activities were stockpiled temporarily onsite and disposed of off-site by Chemical Transport, Inc. (CTI), at Waste Management’s Marana Landfill.

A total of 62 confirmation soil samples were collected throughout the course of the project. Thirty-two of these soil samples were collected from the former sump excavation. Two soil samples were collected from the historic piping trenches. Twenty-six confirmation soil samples were collected from four soil borings around the perimeter and in the middle of the former sump excavation. The soil analytical results were initially compared to the State of Arizona soil remediation levels for residential land use (rSRLs) (Arizona Administrative Code [A.A.C.] R18-7).” (GHD, 2017).

Of these soil samples, three contained concentrations that exceeded the rSRL for benzo(a) pyrene, and one contained an estimated concentration that exceeded the SRL for 1,2,3-Trichloropropane (TCP). The one sample was the detected and estimated value of TCP. It was not detected in the former sump excavation (source area) and is not likely a site contaminant of concern (COC).

All excavations and confirmation soil sampling were contained within the area delineated in a 2006 DEUR (ERM, 2006). The 2006 DEUR was prepared to address the presence of residual semi-VOCs (SVOCs) and total petroleum hydrocarbons (TPH) within site soils. The area delineated as part of this DEUR with respect to remedial excavations is shown in **Figure 2**.

Remedial Action

See above.

Requirement 3 - A description of any soil, water, or soil and water treatment systems used as part of the remediation.

Not applicable (N/A)

Requirement 4 - Whenever institutional or engineering controls are placed on the site:

UPRR owns the property in question where the release occurred. This allows them to restrict activities on the property. The UPRR plans to continue to use the property in its current industrial role as a UPRR Right of way. No new **institutional controls** are proposed for the UPRR Property as the existing DEUR is in place to ensure future protectiveness of public health and environment.



Requirement 5 - If post-remediation monitoring is proposed, a description of the type of monitoring, monitoring locations, contaminants to be monitored, monitoring frequency, and sampling procedures.

No post-remediation monitoring is proposed for the UPRR Property.

Requirement 6 - A description of community involvement activities undertaken to meet the requirements of §49-176.

A public notice describing completion of remediation/no further action request will be placed in the Arizona Range Newspaper for a 45-day public comment period (a copy is attached).

Requirement 7 - A list of permits under this title obtained for the remedial action or held by the applicant pertaining to the site.

N/A

- 2. A general site location map underlain by a topographic base layer.**

Response:

A site location map is included as **Figure 1**.

- 3. A scaled map of the NFA boundary area (clearly defined and labeled). The NFA will only be applicable for the Site and for no other portion of the property.**

Response:

A Site Plan that depicts the area to be covered by this Conditional NFA for soil is provided as attached **Figure 2**.

- 4. A table of the contaminants for which the conditional NFA is sought. As we discussed benzo[a]pyrene appears to be the contaminant of concern.**

Response:

A summary table of the Regulated constituents of Bunker C fuel oil components included for this Conditional NFA for soil is included as **Table 1**.

- 5. A draft NFA Public Notice and the name of the newspaper where the notice will be published.**

Response:

A public notice describing completion of remediation/no further action request will be placed in the Arizona Range Newspaper for a 45-day public comment period (a copy is attached)

Please contact me at (602) 216-7200 or Ms. Melissa Schop of UPRR at (602) 322-2505, if you have questions or would like additional Information.



Sincerely,

GHD

A handwritten signature in blue ink, appearing to read 'Manfred Plaschke', with a long horizontal flourish extending to the right.

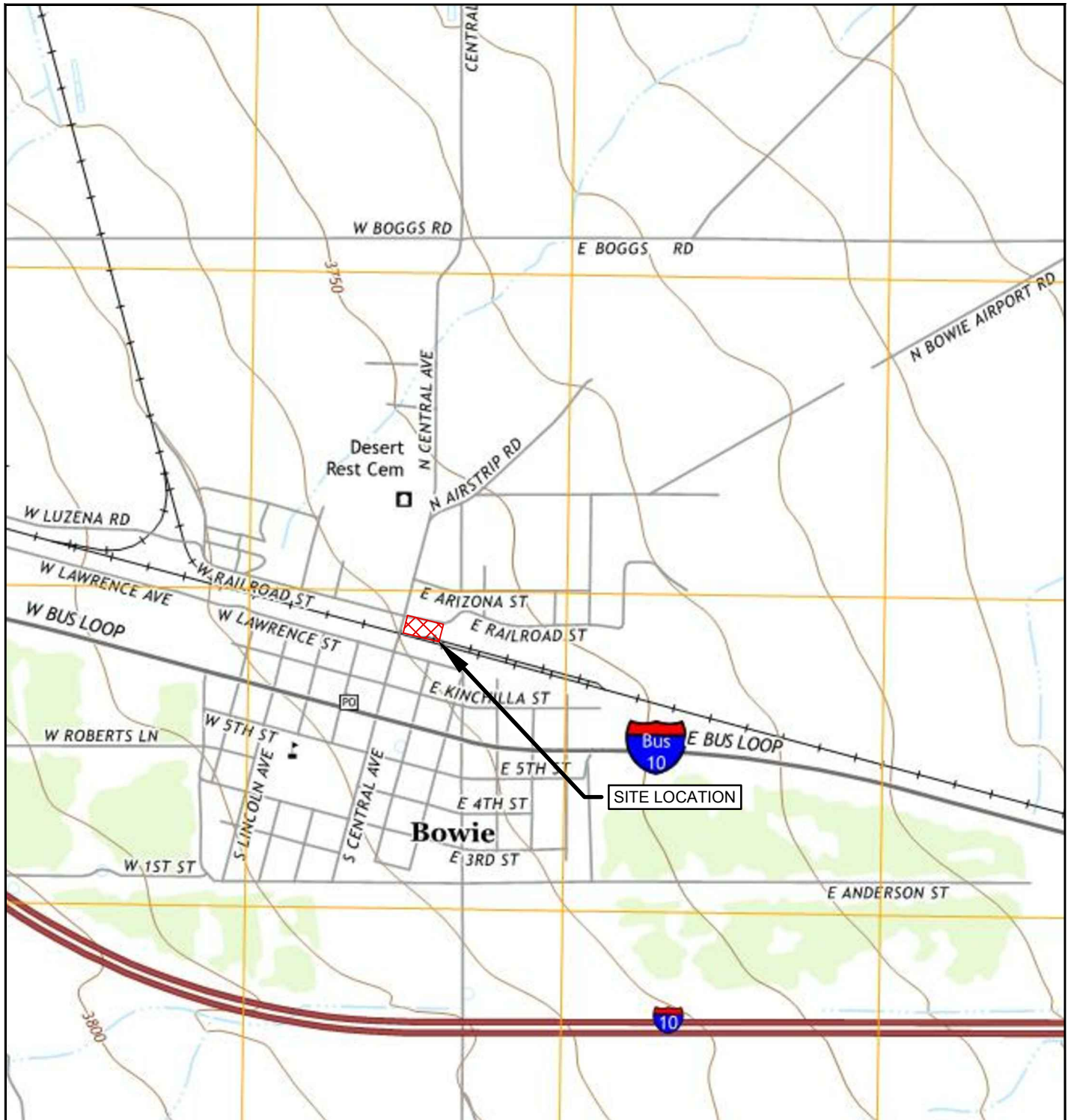
Manfred Plaschke, R.G.

KL/MP/trc/Patr-002 Rev1

Encl.

cc: Melissa Schop, UPRR

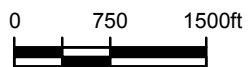
Figures



LEGEND

SITE 

TP, BOWIE, 2014, 7.5 M- MINUTE



UPRR HISTORIC SP BUNKER FUEL VAULTS
 BOWIE, ARIZONA
 SUMMARY OF REMEDIAL EXCAVATION REPORT

11119425
 Oct 31, 2017

SITE LOCATION MAP

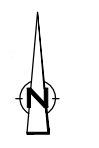
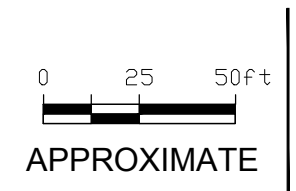
FIGURE 1



LEGEND:

SOIL BORING

CONFIRMATION SOIL SAMPLE



UPRR HISTORIC SP BUNKER FUEL VAULTS
 BOWIE, ARIZONA
 DEPICTING LIMITS OF NO FURTHER ACTION

SITE PLAN

11119425
 Dec 13, 2017

FIGURE 2

Table

Table 1

**Regulated Constituents of Bunker C Fuel Oil Encountered During Remedial Excavations
UPRR Historic SP Bunker Fuel Vaults
Bowie, Arizona**

Volatile Organic Compounds (VOCs)	Polynuclear Aromatic Hydrocarbons (PAHs)
1,2,4-Trimethylbenzene	Acenaphthene
1,3,5-Trimethylbenzene	Acenaphthylene
2-Phenylbutane (sec-Butylbenzene)	Anthracene
Acetone	Benzo(a)anthracene
Bromomethane (Methyl bromide)	Benzo(a)pyrene
Cymene (p-Isopropyltoluene)	Benzo(b)fluoranthene
Ethylbenzene	Benzo(k)fluoranthene
Isopropyl benzene	Chrysene
Methylene chloride	Dibenz(a,h)anthracene
Naphthalene	Fluoranthene
N-Butylbenzene	Fluorene
N-Propylbenzene	Indeno(1,2,3-cd)pyrene
tert-Butylbenzene	Naphthalene
Toluene	Pyrene
Xylenes (total)	

Attachment

NOTICE OF 45-DAY PUBLIC COMMENT PERIOD
Historic SP Bunker C Fuel Vault, Bowie, Arizona
VOLUNTARY REMEDIATION PROGRAM SITE
REQUEST FOR CONDITIONAL NO FURTHER ACTION DETERMINATION

UPRR has submitted a request for a Conditional No Further Action (CNFA) determination for to the Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) for the Historic SP Bunker C Fuel Vault VRP site. The CNFA requests closure for soil by using an Institutional Control Declaration of Environmental Use Restriction (DEUR). The CNFA was submitted in accordance with Arizona Revised Statutes § 49-181.

The Historic SP Bunker C Fuel Vault VRP site consists of a former UPRR fueling facility and equipment staging area is located in Bowie, Arizona. The Institutional Control will restrict the property to non-residential use. Contaminants of concern at the site are chemical constituents of Bunker C oil including: volatile organic compounds (VOCs) such as 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 2-Phenylbutane (sec-Butylbenzene), Acetone, Bromomethane (Methyl bromide), Cymene (p-Isopropyltoluene), Ethylbenzene, Isopropyl benzene, Methylene chloride, Naphthalene, N-Butylbenzene, N-Propylbenzene, tert-Butylbenzene, Toluene, and Total Xylenes; and Polynuclear Aromatic Hydrocarbons (PAHs) including Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Pyrene which have been detected historically in soil at the site.

The CNFA Report and the VRP file are available for review at the ADEQ Records Center, 1110 W. Washington St., Phoenix, (602) 771-4380, or (800) 234-5677, ext. 6027714380; please call for hours of operation and to schedule an appointment.

PARTIES WISHING TO SUBMIT WRITTEN COMMENTS regarding the CNFA request for the Historic SP Bunker C Fuel Vault VRP site may do so to ADEQ, Attention: John Patricki, Voluntary Remediation Program, 1110 W. Washington St., Phoenix, AZ 85007 or Patricki.John@azdeq.gov; or Union Pacific Railroad, Attn: Ms. Melissa Schop, 631 South 7th Street, Phoenix, AZ 85034; or Manfred Plaschke, GHD Services Inc., 4747 North 22nd Street, Suite 200, Phoenix, AZ 85016 and reference this listing. **Comments must be postmarked or received by ADEQ, UPRR, or GHD by January 29, 2018.**

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 13th day of December, 2017