

OFFUTT AIR FORCE BASE

PUBLIC NOTICE – ANNUAL UPDATE OF OFF-SITE GROUNDWATER IMPACT AT BUILDING 301

The Offutt Air Force Base (OAFB) Environmental Restoration Program (ERP) has been monitoring the groundwater both on and off the base for many years in connection with ERP site Building 301, also referred to as OT018 (**Figure 1**). This public notice is to advise OAFB's neighbors of actual and potential impacts to off-base groundwater associated with OT018. The purpose of groundwater sampling at OT018 is to monitor plume changes as well as concentration changes of identified contaminants of concern (COCs) to ensure human health and the environment are protected.

OAFB is located just south of Bellevue, Nebraska. In 1987, the U.S. Environmental Protection Agency (EPA) issued a federal Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management permit to OAFB that allowed the Base to operate a hazardous waste storage facility at OT018. Under the permit, environmental contamination is investigated and cleaned up. Contamination in the form of chlorinated solvents including trichloroethene (TCE) and vinyl chloride (VC) have been found in soil and groundwater at OT018, which have been associated with releases of solvents at the Martin Bomber Plant (Building 301) where maintenance operations took place during the 1940s to 1960s. The RCRA permit has been re-issued several times, most recently in 2010, and remains in effect for 10 years.



RCRA PART II PERMIT REQUIREMENTS

- EPA requires OAFB's RCRA permit to include a remedy for OT018 that focuses on treating contamination to protect human health and the environment by facilitating the natural decrease of contamination in groundwater. The remedy consists of several components:
 - **Groundwater Treatment Zones** consisting of barriers and injections of vegetable oil and organisms to facilitate the natural decrease of the contamination at key areas within the groundwater plumes.
 - **Monitored Natural Attenuation (MNA)** is used as a remedial action to monitor the remaining contamination in groundwater until EPA's Maximum Contaminant Levels (MCLs) for drinking water are met.
 - **Administrative Land Use Controls (LUCs)** are used to prevent unacceptable human exposure to TCE and VC in groundwater and are accomplished off-base by the following:
 - *Off Base within Easement Boundaries:* 1) Construction Control – The U.S. Air Force controls construction within and 1,000 feet northwest of the runway clear-zone area. These control measures also prevent installation of domestic water wells. 2) Notification of Contamination – OAFB sends a notification (this public notice) to off-base private landowners describing the location and toxicity of contaminants that are present. 3) OAFB conducts annual inspections and records reviews to verify that no domestic wells have been installed within the off-Base plume footprint.

Chemicals in Groundwater at OT018

- **COCs:** TCE and VC.
- **COC Concentrations:** TCE and VC are above their EPA MCLs of 5 micrograms per liter (ug/L) and 2 ug/L, for drinking water within the OT018 groundwater plumes (see **Figure 1**). The EPA MCLs listed are designated for drinking water.

- **Location of COCs:** Contaminants are found in groundwater extending from within OAFB boundary off base beyond Fort Crook Road, west of the base. See attached **Figure 1**.
- **TCE** (depicted in **red** on **Figure 1**) extends beyond Fort Crook Road and is currently **above** the EPA MCL for drinking water of 5 ug/L in temporary off-base direct push well location B301-GS252 (located west of Fort Crook Road).
- **VC** (depicted in **green** on **Figure 1**) is confined to the east side of Fort Crook Road and is currently **below** the EPA MCL for drinking water of 2 ug/L in all off-base monitoring wells near OT018.
- **Effects of Exposure to COCs:** Potential long-term effects of drinking TCE- or VC-impacted groundwater above the MCLs could include central nervous system depression, liver and kidney effects, cancer, and birth defects. **(Note: There are currently no users of this groundwater)**

LUC Review Results: A search of the Nebraska Department of Natural Resources well registry found no groundwater production wells used for drinking water within OT018. Also, a review of the Sarpy County Plan: A Comprehensive Development Plan for Sarpy County, Nebraska, found no new planned developments within OT018.

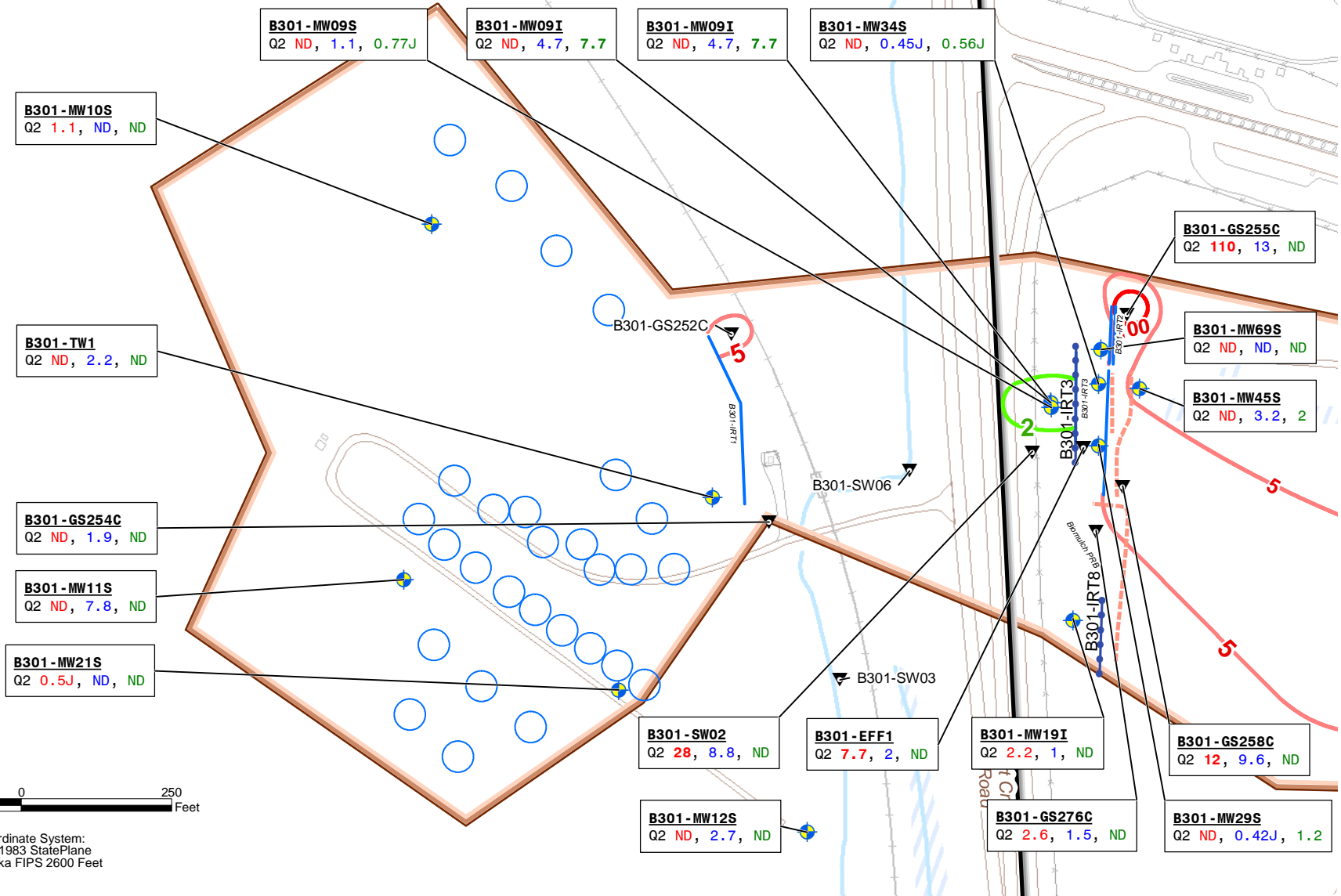
Plume Status and Ongoing Remedial Activities: Over 25,000 gallons of emulsified vegetable oil (EVO) injections were completed at three on base zones in October 2014.

Semiannual groundwater monitoring will be conducted at OT018 in 2017. The analytical data will be used to evaluate the effectiveness of EVO injections, and the continued natural decrease of groundwater contaminants. Additional EVO injections may be necessary in the future.

Please do not hesitate to call the OAFB contact below if you have questions or concerns.

Ms. Melissa Milner, Restoration Program Manager, Offutt AFB, 402-232-2560;

melissa.milner.1@us.af.mil – If there is community interest in re-establishing the Restoration Advisory Board (RAB), a group of community members discussing ongoing environmental cleanup efforts at OT018 and other sites listed in OAFB's RCRA permit via periodic public meetings, please send an email expressing your interest.



Coordinate System:
NAD 1983 StatePlane
Nebraska FIPS 2600 Feet

- Monitoring Well Sampled in 2016
- Direct Push Location Sampled in 2016
- IRT Zone (Installed Fall 2006/2008)
- Biomulch PRB (Installed 1999, 2001)
- ZVI PRB (Installed Fall 2003)
- IRT Zone (Installed Fall 2009)
- IRT Zone (Installed Fall 2006/2008)
- 2014 IRT Injection Location
- Offutt AFB Boundary
- OT018 Boundary
- Building
- Fence
- Railroad
- Road
- Creek/Ditch
- Wetland

- Notes:
- Results are from 2016 sampling event and are in micrograms per liter (ug/L).
 - Red** contours and results for TCE
 - Blue** contours and results for cis-1,2-DCE
 - Green** contours and results for Vinyl Chloride.
 - Bold** results exceed screening levels.

Screening Levels (ug/L)	
TCE	5
cis-1,2-DCE	70
Vinyl Chloride	2

- Abbreviations:
- cis-1,2-DCE cis-1,2-dichloroethene
 - I Intermediate
 - IRT In situ reductive treatment
 - J Estimated result due to QC anomaly
 - NA Not analyzed
 - ND Not detected
 - QC Quality control
 - S Shallow
 - SI Shallow intermediate
 - TCE Trichloroethene
 - ug/L Microgram per liter
 - ZVI PRB Zero-valent iron permeable reactive barrier



FIGURE NUMBER
1

U.S. AIR FORCE
CIVIL ENGINEER CENTER

**Impacted Groundwater
OT018
Offutt Air Force Base, NE
and Surrounding Area
2016**

ARGO/LRS JV



Off-Base Property Owners
Offutt AFB ERP

ERP Site	Parcel ID	Property Address	Owner Name	Historic Plume	Current Plume (2015)	OAFB Runway Easement
OT018	10464751	Bellevue	City of Bellevue c/o Sabrina Ohnmacht, City Clerk City of Bellevue c/o Planning Department	N	N	N
OT018	010458573; 011592343; 010768335; 011040467	Fort Crook Road	D&J Schram Family Farms LLC	Y, part; Y; Y, part; Y, part	N; Y, part; Y, part; N	117E, 106E-2, 106E-3; 117E; 100E, 113E, 117E; 117E
OT018	CA3400006		Northern Natural Gas Company	Y	Y	117E
OT018	010464573; 011586559; 010768327; 010768343	Bellevue	USA	Y; Y; Y; Y	N; N; N; N	N; N; N; N
OT018	All OT018 off-Base parcels		Sarpy County Planning Department			