Semi-Annual Public Meeting

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21 October 21

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Semi-Annual Public Meeting

Outline

- Overview – Corrective Action Complete Proposal (CAC-P) Public Meeting
- Explosive Ordnance Disposal (EOD) Hill (CG-570) – Perchlorate Groundwater Contamination
- Manzano Base Groundwater (MBG) Site (CG-105)

Purpose of Meeting

Purposes of this meeting and presentation are to:

- Explain how the Class III permit modification process works and explain the New Mexico Environment Department's oversight of the process.
- Briefly explain the Kirtland Air Force Base (AFB) RCRA Permit and the Corrective Action Module of the permit.
- Inform the public where they can go to review all the available information submitted with the CAC-P.
- Explain how the public can participate in this process and provide written comments.
- Answer any questions related to this permit modification process.

THE RCRA PROCESS

- RCRA was enacted in 1976 and is the principal regulation governing the management and disposal of solid waste, hazardous waste and the corrective actions for historic and current potential sources of environmental impairment due to hazardous waste materials at commercial and government facilities such as Kirtland AFB.
- At Kirtland AFB, RCRA compliance including corrective action is administered by the New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB).
- Kirtland AFB is classified as a hazardous waste facility under RCRA and the New Mexico Hazardous Waste Act and as such requires a permit. The Corrective Action Module (Part 6) of the permit directs the clean-up process.
- Permit No. NM9570024423
  - Originally issued in 2010
  - Subsequent NFA/CAC table updates up through 2018

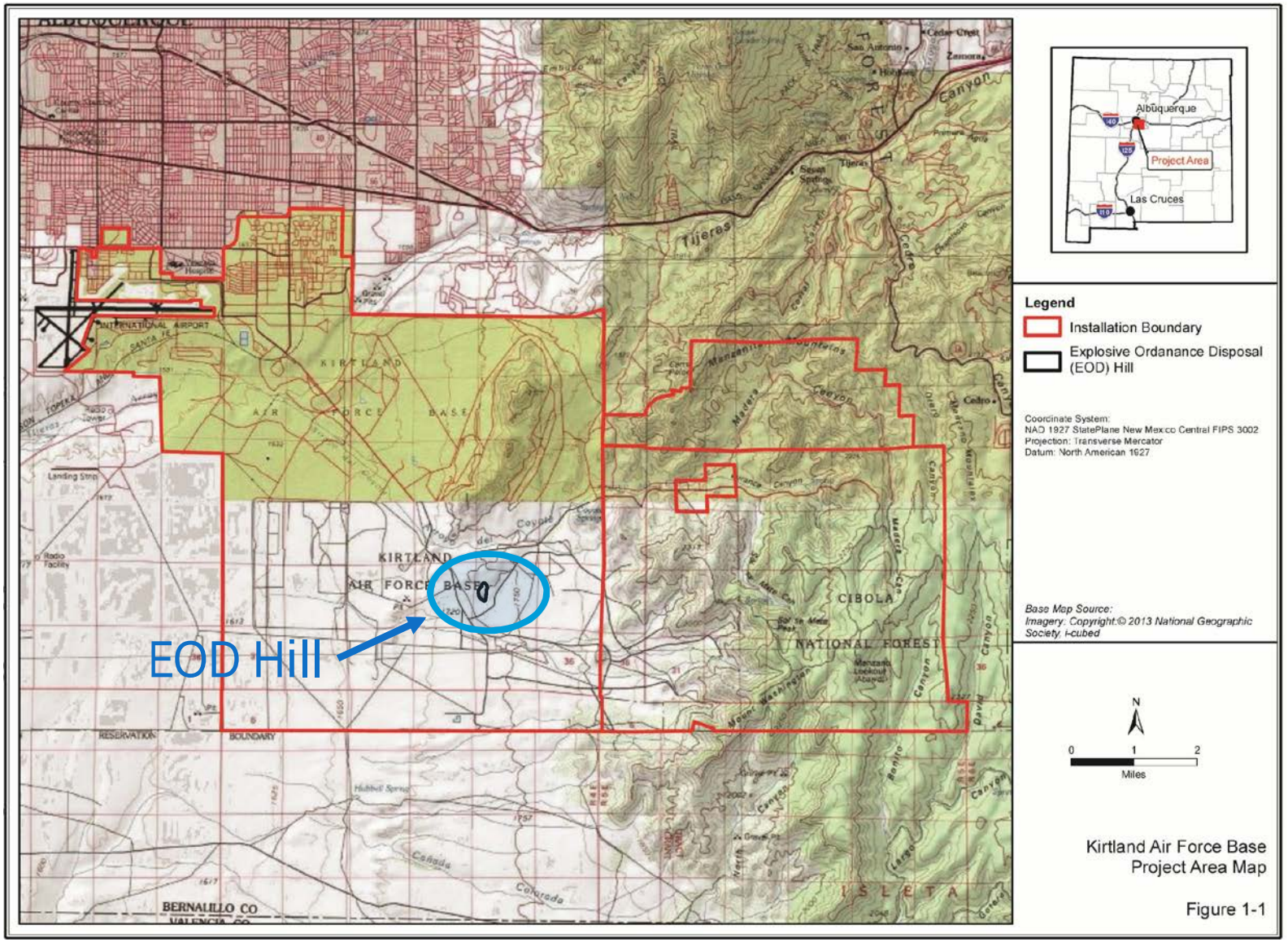
Class III Permit Modification Process

- A Class III permit modification has been proposed because Kirtland AFB has requested and received "Corrective Action Complete" status for two (2) sites listed as Areas of Concern (AOCs) under Permit Table I-3 Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) Requiring Corrective Action. These 2 sites have been characterized, investigated and/or risks have been mitigated or demonstrated to not present an unacceptable risk to human health or the environment.

- The Public Notice for the CAC-P was published in the Albuquerque Journal on October 6, 2021.

- When granted by the regulatory agency, a Class III modification will result in moving the 2 sites from Table I-3 to Table K-1 SWMUs and AOCs for which Corrective Action is Complete without Controls (Granted No Further Action Status).

Explosive Ordnance Disposal (EOD) Hill (CG-570)



EOD Hill (CG-570)

Site Background

- CG-570 is located on a 50 ft high limestone ridge approximately 1 mile west of Kirtland AFB's former EOD Range
- The CG-570 well (also referred to as the EOD-borehole, or EOD-BH) a 214 ft borehole was installed by Sandia National Laboratory (SNL) in the early 1970s in support of down-hole geophysical measurements
- Additional small blast craters or mining prospect test pits (c1940s) present at CG-570
- There are no structures present at Site CG-570
- Perchlorate initially detected in a groundwater sample from EOD-BH in 2001

EOD Hill (CG-570)

Investigation History

- Historical groundwater samples evaluated for Volatile Organic Compounds (VOCs), metals, radionuclides, cyanide, phenols, herbicides and pesticides, and general anion/alkalinity chemistry
- Perchlorate (ClO_4^-) was established as the only Contaminant of Concern in groundwater
- Perchlorate is an oxidizing agent, primarily used in propellants for rockets or fireworks
- Colorless solid that is soluble in water
- Naturally occurring from certain geological source materials
- Source of perchlorate in groundwater from EOD-BH is uncertain

EOD Hill (CG-570)

Sampling History - Groundwater

- Ten groundwater samples collected (by SNL, KAFB, and/or DOE) and analyzed for perchlorate between 2001 and 2011
- Results varied from Non Detect (at 0.94 µg/L detection limit) in 2001 to 4,300 µg/L in 2004, with a value of 22 µg/L in 2011
- There is no established EPA MCL. Listed as a NMWQCC toxic pollutant.
- 2006 - EPA established a Drinking Water Exposure Limit of 24.5 µg/L
- 2008 - EPA updated with an Interim Drinking Water Health Advisory level of 15 µg/L
- 2012 - NMED published Tap Water screening value of 25.6 µg/L
- 2014 - NMED updated Tap Water screening value to 13.8 µg/L, which remains the current value

EOD Hill (CG-570)

Groundwater – Extended Purge Sampling (Dec 2014, Dec 2016)

- Samples collected during purge cycles of borehole volumes
- Dec 2014 perchlorate declined from 27.4 µg/L (initial sample) to 7.7 µg/L after 8 borehole volumes purged
- Dec 2016 perchlorate levels were below the NMED screening value (13.8 µg/L) for all samples, ranging from 7.0 µg/L (initial sample) to 8.7 µg/L in sample after 6 borehole volumes were purged

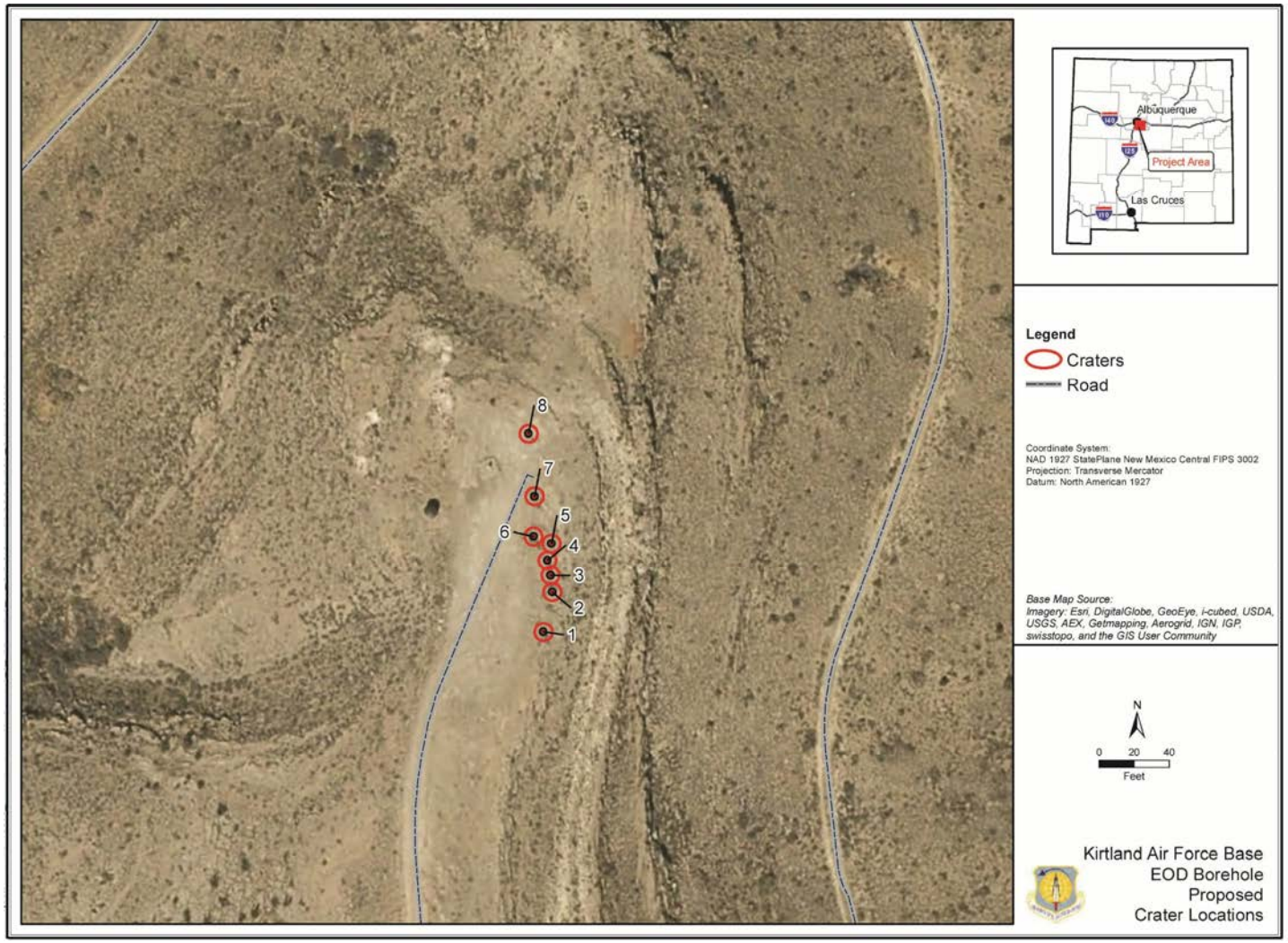
EOD Hill (CG-570)

Sampling History – Soils

- Surficial soil samples collected (1 composite from each crater) from low points within each crater (12 samples total)
- Samples analyzed in approved laboratory for perchlorate and high explosives (nitroaromatics)
- Maximum detected perchlorate concentration was 4.43 µg/kg (compared to NMED residential soil screening level of 54,800 µg/kg)
- No other analytes were detected in the soil samples

EOD Hill (CG-570)

Soil Sampling, 2016



EOD Hill (CG-570)

Final RCRA Facility Investigation (RFI) Report—September 2017

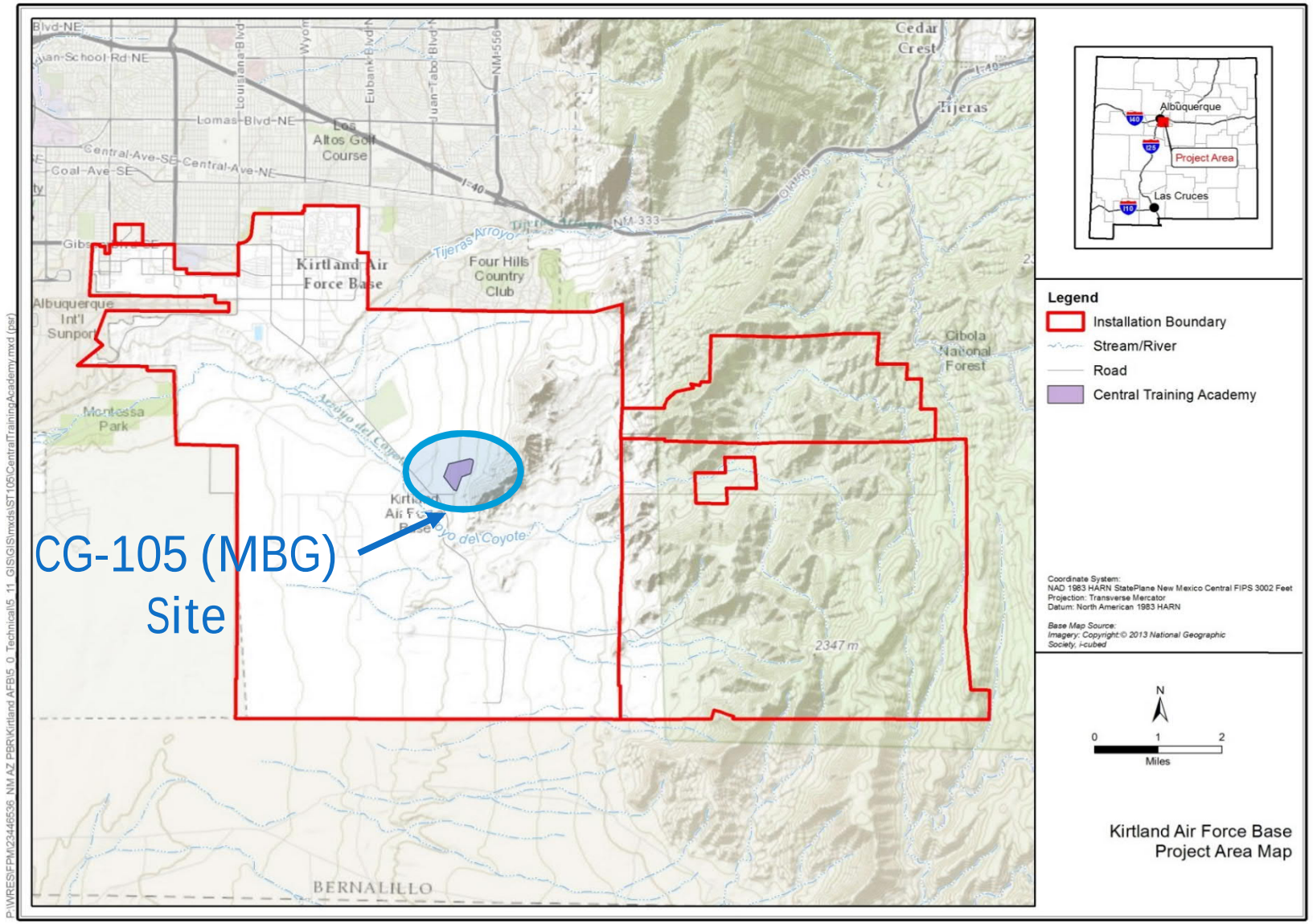
- Reported that all soil concentrations were below NMED Residential Soil Screening Levels
- Reported on historical perchlorate concentrations and 'extended purge' testing results in 2014 through 2016
- Based on sampling results, formation groundwater is well below NMED Tap Water screening levels (13.8 µg/L) and EPA's 2008 Interim Drinking Water Health Advisory Level (15 µg/L)

EOD Hill (CG-570)

Path Forward

- Currently in 60-day public comment period for Permit Modification Request, ending on 5 December 2021.
- NMED will publish responses to public comments and make a determination of Administrative Completeness of CAC-P.
- NMED will publish Statement of Basis with a Draft Class 3 Permit Modification and then allow for an additional public comment period.
- NMED will issue the Class 3 Permit Modification with updated Kirtland AFB permit Tables I-3 and K-1.

Manzano Base Groundwater (MBG) (CG-105)



Manzano Base Groundwater (CG-105)

Site Background

- CG-105 (Site) is located in the south-central portion of Kirtland AFB in the foothills of the Manzano Mountains at the Central Training Academy
- The Site was formerly part of the ST-105 TCE and Nitrate Contaminated Groundwater Site, listed in the original (1990) permit as a "Non-RCRA Unit"
- Kirtland AFB petitioned for NFA for SWMU 6-29 (Manzano Landfill [LF-20]) in 2004. NMED approved the NFA petition but required further evaluation of trichloroethylene (TCE) detected (below standards) in groundwater.
- Groundwater sampling initiated in 2006 Voluntary Corrective Measure Sampling Plan
- The Site is listed in the current (2010) RCRA Permit under "Section 6.4.1.3 Areas with Groundwater Contamination" as the "Manzano Base Groundwater – TCE"

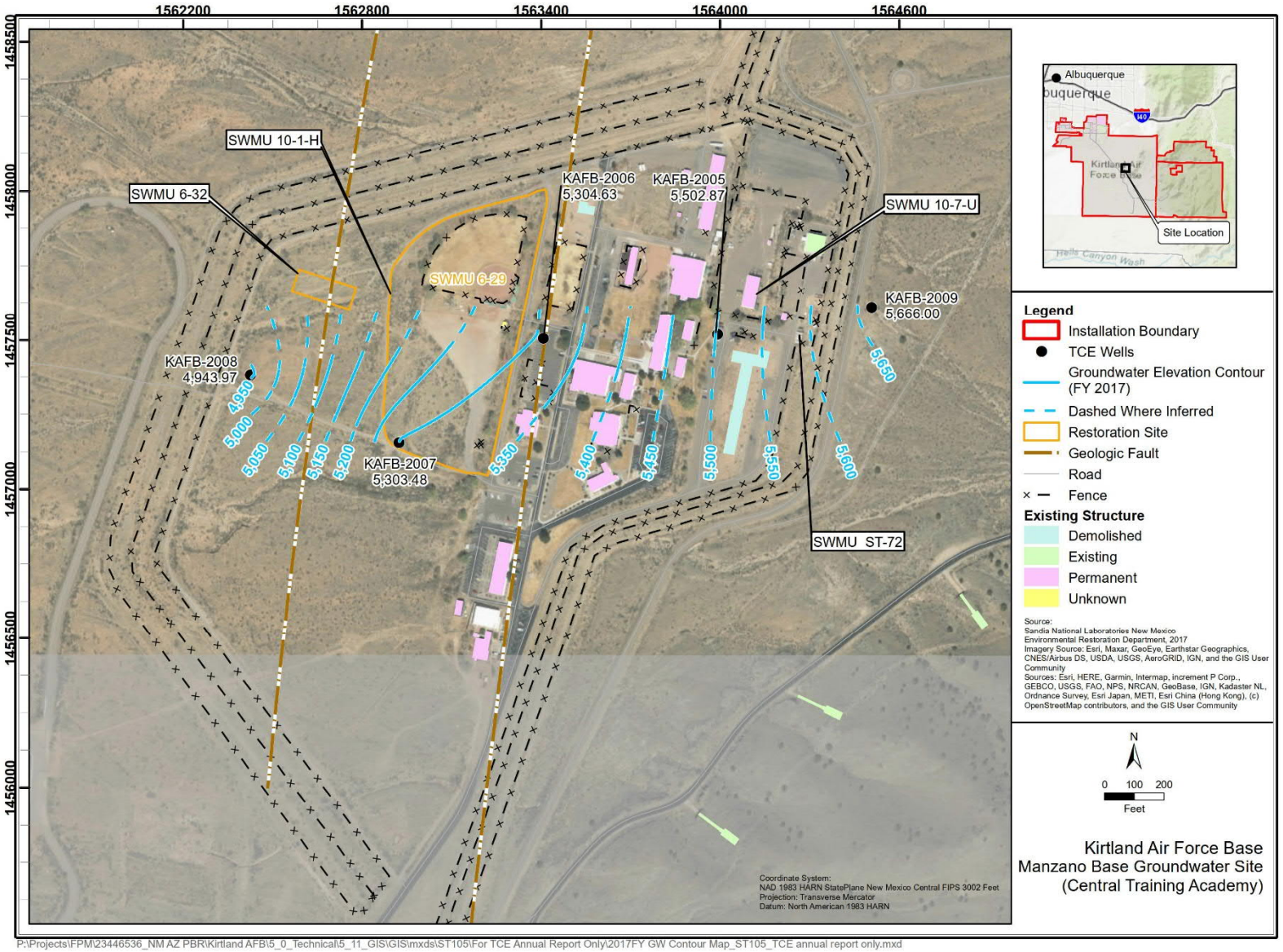
Manzano Base Groundwater (CG-105)

Site Background (cont.)

- The Central Training Academy included five other SWMUs/AOCs (all were approved for CAC without Controls [Table K-1]):
  - SWMU ST-72 (Manzano Garage Oil/Water Separator),
  - SWMU 6-29 (Manzano Landfill-20),
  - SWMU 6-32 (former Manzano Fire Training Area [FT-14]),
  - SWMU 10-1-H (Manzano Sanitary Sewer [ST-327]), and
  - SWMU 10-7-U (Building 30142, Oil Water Separator [ST-264]) areas

- Groundwater occurs largely in fractured bedrock with a steep gradient across the site (flowing east to west)
- Five groundwater monitoring wells associated with the Site
- Depth to groundwater varies greatly at the Site: 74 feet in the eastern side to 597 feet on the western side
- There are no water supply wells located in the area

Manzano Base Groundwater (CG-105)



Manzano Base Groundwater (CG-105)

Investigation History

- Groundwater sampling at the Site included analysis for VOCs, anions and field parameters since 2006 (wells KAFB-2008 and -2009 installed in 2010)
- Source of TCE in groundwater likely originated from SWMU ST-72 (former garage oil-water separator)
- VOCs were present in soils at SWMU ST-72 and also detected in monitoring wells
- Contaminated soil at SWMU ST-72 was excavated during a 1999 Interim Corrective Measure, removing the source for future groundwater contamination

Manzano Base Groundwater (CG-105)

Sampling History - Groundwater

- TCE has been detected in three of the five monitoring wells (KAFB-2005, -2006, and -2007)
- NMWQCC standard and MCL for TCE is 5 µg/L
- Well KAFB-2005 has always been non-detect or low detections (below 1 µg/L)
- Well KAFB-2006 has been non-detect for TCE since 2012. Highest detected value was 1.3 µg/L in 2006
- Well KAFB-2007 has had TCE concentrations ranging from 2.5 µg/L to 1.7 µg/L. The most recent sample in 2017 had the lowest TCE concentration (1.7 µg/L) since sampling began in 2006
- Wells KAFB-2008 and -2009 installed in 2010. All results have been non-detect for TCE from both wells.

Manzano Base Groundwater (CG-105)

Final ST-105 Fiscal Year 2017 Trichloroethylene Impacted Groundwater Monitoring Report (July 2017)

- TCE was not detected in any wells at concentrations above NMWQCC standards or EPA MCLs since 2004 when NMED requested additional investigation of TCE in groundwater
- Recommended that groundwater monitoring of the MBG wells be discontinued and the Site be considered Corrective Action Complete without Controls, and moved to Permit Table K-1
- NMED issued letter (3 Nov 2017) approving the LTM report and discontinuation of groundwater monitoring

Manzano Base Groundwater (CG-105)

Path Forward

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- NMED will issue the Class 3 Permit Modification with updated Kirtland AFB permit Tables I-3 and K-1.

CAC-P Public Comments/Questions

Please Direct Questions or Comments to:

Agency Contact: Mr. Ricardo Maestas, Hazardous Waste Bureau Acting Chief

New Mexico Environment Department

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Questions

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