



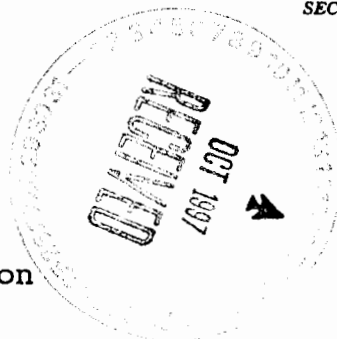
State of New Mexico
ENVIRONMENT DEPARTMENT
Underground Storage Tank Bureau

Harold Runnels Building
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Santa Fe, New Mexico 87502
(505) 827-0188
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Site No
Jury 03 -
B...

MARK E. WEIDLER
SECRETARY

GARY E. JOHNSON
GOVERNOR



October 8, 1997

Major David L. Martin, USAF, BSC
Director of Environmental Management Division
377 ABW/EMC
2000 Wyoming Blvd. SE, Suite D-3
Kirtland AFB, New Mexico 87117-5659

RE: Approval of Variance and Request for No Further Action (NFA)
at the Kirtland Air Force Base (KAFB) UST 64/65 Site, East of
Building 1016, Kirtland Air Force Base, New Mexico

Facility #: 5630065

Dear Major Martin:

The New Mexico Environment Department (Department) approves the requests for variance submitted by you in correspondence dated June 2, 1995 and August 22, 1997, for the above-referenced facility. Approval of these requests for variance allows KAFB to forego full adherence to the site investigation requirements outlined in the New Mexico Underground Storage Tank Regulations (NMUSTR) 20 NMAC 5.1205.C.(1).(c). Specifically, approval of this request allows a variance from the requirement to advance at least four additional soil borings to determine the horizontal extent of soil contamination.

The Department concurs that this variance to the requirements of NMUSTR 20 NMAC 5.C.(1).(c) will protect health, public welfare, and the environment to a degree that is equal to or greater than that which is provided by the regulations for the following reasons:

- Vertical extent of soil contamination has been determined to be less than 65 feet below ground surface (bgs). No highly contaminated soils as defined in NMUSTR 20 NMAC 5.1201.G were observed during the removal and ensuing on-site investigation. The product released was JP4 jet fuel. The contamination did not terminate in low hydraulic conductivity strata.
- The depth to ground water is indicated to be greater than 350 feet bgs based on a well record search conducted by your consultant CH2MHILL.

KAFB1890



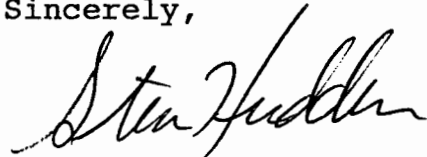
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- The vertical separation between soil contamination and regional ground water minimizes the potential for downward migration of soil contamination to impact ground water.
- The relative mobility of JP4 jet fuel is less than that of gasoline, further minimizing potential to impact ground water.

Therefore, the Department is not requiring additional horizontal extent soil borings at this time. Additionally, the Department does not require any other additional work at this site, however, reserves the right to require future work, including but not limited to additional soil borings, should information become available which indicates that a threat to public health of the environment exists.

Thank you for your cooperation in this matter. Should you have any questions, please contact the project manager, Norman Pricer, at (505) 841-9189.

Sincerely,



Steve Huddleson, R.G., C.P.G.
Manager
Remedial Action Program

cc: Patrick Montano, KAFB EMD
Mark Weidler, NMED Secretary
Peter Maggiore, Director, EPD
J. David Duran, Chief, USTB
Norman L. Pricer, Project Manager, NMED USTB District I
Patrick deGruyter, Geologist, NMED USTB District 1
L William Bartels, Acting Manager, NMED District I Office

NMED UST Bureau
Site Summary

PM: Norman L. Pricer, District I

Date Completed: June 5, 1997

Site Name/FAC #: KAFB Tank 64/65 Facility #563065

Site Address: Kirtland Air Force Base (KAFB)
East of Bldg. 1016
Albuquerque, New Mexico 87117

Responsible Party: DOD - USAF
Kirtland Air Force Base
2000 Wyoming Blvd. SE
Albuquerque, New Mexico 87117

Investigation and Reclamation Consultant:
CH2M HILL
6001 Indian School Road NE
Albuquerque, New Mexico
Phone: 884-5600

Priority and Ranking: Third Priority, Not Ranked

Receptors and hazards: This site is located on Department of Defense-United States Air Force property (Kirtland Air Force Base) situated south of Central Avenue on Wyoming Boulevard Southeast, in the west portion of KAFB, east of building 1016 in Albuquerque, New Mexico. There are no private residences in the immediate vicinity. The nearest surface water course is the Tijeras Canyon Arroyo, which lies approximately two and one-half miles to the northeast. The nearest water well to the subject site is KAFB #14 production well, which is crossgradient, approximately 300 feet west of the previous tank farm area. Depth to ground water is estimated to be approximately 350 feet bgs. Hydraulic conductivity within the area is estimated to be from 2 to 171 ft/day (Sandia National Laboratory Site-Wide studies). Also, KAFB #2 water well is located approximately 4,200 feet southeast of the referenced site, with a static water level of 403 feet.

Origin or cause of contamination: JP4 jet fuel was encountered here during underground storage tank removal operations on March 14, 1996 of two 3K tanks. The cause of contamination is unknown, but most likely is resulting from spill and overflow. Analytical results for the soil samples collected from the east side of the excavation, below Tank 64, and samples collected from the west side of the excavation, below Tank 65, were reported at 781 parts per million (ppm) and 4,610 ppm total petroleum hydrocarbons (TPH), respectively, using EPA Method 8015. In response to the New Mexico

Environmental Department's (Department) letter dated July 3, 1996, KAFB submitted additional information on the vertical determination of contamination below the previously excavated site. The total depth of contamination is less than 65 feet bgs. The analytical results for the samples collected from 40 feet to 60 feet bgs ranged from 110 ppm (collected from 40 to 41.5 feet) to 1,400 ppm (collected from 55 to 56.5 feet). No free product or highly saturated soils were measured at this facility. No low hydraulic conductivity strata were encountered.

Hydrogeologic setting:

1. Ground water description: The depth to ground water below the subject site is estimated to be between 350 to 403 feet bgs occurring within the Upper Santa Fe sediments and is generally thought to be unconfined in the upper portion of the aquifer. This area is within the HR1 saturated zone setting as defined by Sandia National Laboratory studies. Hydrogeologic characterization in this portion of KAFB is complicated by the presence of numerous production wells. Uniform ground water conditions in this region probably do not exist. Local cones of depression associated with ground water withdrawal have altered the ground water flow direction in the vicinity of the well fields.

The gradient is generally to the northwest at this site. The production well that is closest to UST's 64/65 is KAFB #14, which is crossgradient, approximately 300 feet west of the site. Hydraulic conductivity within the area is estimated to be from 2 to 171 ft/day (Sandia National Laboratory Site-Wide studies).

2. Description of vadose zone sediments:

The referenced site is underlain by unconsolidated alluvial sediments that are predominantly silty sand to very fine-grained sand with intermittent sandy gravel. No borehole penetrated into the Santa Fe Group sediments that underlie this area.

Describe vadose zone contamination:

1. Estimated volume of vadose zone contamination in cubic yards: Unknown, a variance from the NMUSTR Section 1205.C.1 was granted by the Department on July 18, 1995 for completion of the On-Site Investigation (OSI) with the following provisions:

A. One soil boring in the zone of greatest contamination will be adequate to complete the OSI at sites where ground water is separated from the vertical extent of soil contamination by greater than 50 feet, and low hydraulic conductivity strata are not encountered.

B. At sites where low hydraulic conductivity strata are encountered within 50 feet of soil contamination exceeding state standards, a variance to NMUSTR Section 1205.C.1 will not be granted. Low hydraulic conductivity strata are those clay-rich units with a hydraulic conductivity value of less than 1×10^{-4} meters/day.

C. Ground water depths will be determined from existing ground water data listed in publication RCRA RFI Investigation, Stage 2A, Vol I, Tech Report, 12-93, as well as from other sources, including but not limited to data published in previous underground storage tank OSI reports.

Maximum extent and thickness of phase separated product in monitoring wells: None, ground water not impacted.

Describe dissolved phase contamination: N/A

1. Linear dimensions in feet of dissolved phase contaminant benzene plume in ground water: 1) >10 PPB. 2) >100 PPB. 3) >1000 PPB. N/A

2. Compare maximum and current extent of plume and indicate whether it is stable, expanding or contracting: N/A

Does GW/soil contamination extend beyond site property? Although, horizontal soil contamination was not delineated, it is very unlikely that it would migrate off KAFB in view of the subsurface sediments. The vertical separation between soil contamination and regional ground water minimizes the potential for downward migration of soil contamination to impact ground water, also, the relative mobility of JP4 jet fuel is less than that of gasoline, further minimizing potential to impact ground water.

Name nearby sites with similar hydrogeological setting: SANL TA-3/6630-1, SANL TA-3/6720-1

Describe reclamation efforts at the site to date: None, natural attenuation.

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KAFB Tank 64/65
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Describe reclamation methods that have proven successful in similar setting: Natural Attenuation, SVES

Describe unusual site conditions or characteristics that could influence decision on reclamation system or operations: None

Guidance sought from District I Team: In lieu of the depth to ground water, minimum amount of soil contamination, and the type of fuel lost, grant NFA status?

Team decision/guidance/recommendations: Information presented looks okay for a no further action status. Get second variance request, just for this site and forward to Steve Huddleson for final decision.