



KAFB 05
DEPARTMENT OF THE AIR FORCE

377th Civil Engineer Division (AFMC)
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RETURN RECEIPT REQUESTED



MEMORANDUM FOR MR. WILLIAM C. OLSON, CHIEF
GROUNDWATER QUALITY BUREAU (GWQB)
NEW MEXICO ENVIRONMENT DEPARTMENT (NMED)
PO BOX 26110
SANTA FE NM 87502

FROM: 377 MSG/CEVR
2050 Wyoming Blvd, S.E.
Building 20685, Suite 118
Kirtland AFB, NM 87117-5270

SUBJECT: Notification of Groundwater Contamination from the Fuel Release Site, Bulk Fuels Facility, Kirtland AFB

1. The Environmental Management (EM) Branch at Kirtland AFB is submitting this memorandum to notify you that detections of fuel related constituents (minimal concentrations) have been detected in the groundwater between the subject site and the Veterans Administration (VA) Hospital. Our proposed corrective action is outlined in Section 4.
2. Fuel related hydrocarbon constituents in the form of Total Petroleum Hydrocarbon (TPH) as Gasoline Range Organics (GRO) have been detected in groundwater monitor well KAFB-1062, which is located on KAFB, half way between the subject site and the VA Hospital. The monitor well serves as a "sentry well" to monitor for the potential downgradient migration of any contamination from our site towards the VA Hospital.
3. GRO has been detected during the Apr, Jul and Oct 04 and Jan 05 sampling events at 0.04J mg/l, 0.05J/0.03J (duplicate) mg/l, <0.05/0.03J (duplicate) mg/l, and 0.04J/0.04J mg/l, respectively. The "J" designation represents an "estimated" value; the detected concentrations are above the method detection limit but below the reporting limit, indicating that the compound has been identified, but not in quantifiable concentrations. Concentrations of constituents detected in the groundwater are compared to the New Mexico Water Quality Control Commission (WQCC) regulations. TPH as GRO in groundwater does not have a WQCC or Environmental Protection Agency (EPA) Maximum Concentration Limit (MCL). Individual analytes that comprise TPH-GRO, such as benzene, toluene, ethyl benzene and xylene, which do have regulatory MCLs for groundwater have not been detected in KAFB-1062.
4. Because of this detection, we are proposing to install another groundwater monitor well halfway between KAFB-1062 and the VA Hospital. This well would also serve as an additional "sentry well" to monitor for further migration of fuel related constituents toward the VA Hospital. This monitor well is scheduled to be installed this summer. Groundwater monitoring at

KAFB2836

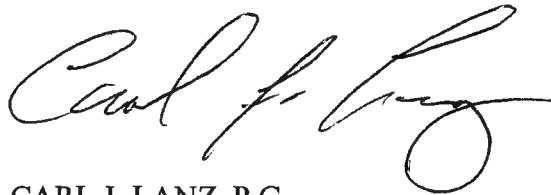


this well will be initiated at the following quarterly monitoring event (Jul or Sep 05) and continue on a quarterly basis in conjunction with quarterly monitoring of the other three existing groundwater monitoring wells.

5. The proposed Soil Vapor Extraction (SVE) system has been installed to remediate the soil and groundwater contamination beneath the site. The SVE system was designed to prevent further migration of vapor contamination from the soil to the groundwater, the source of the groundwater contamination. Removal of the source will initiate degradation of the groundwater plume beneath and downgradient from the site by natural attenuation. To date, approximately 60,000 gallons of fuel have been removed from the subsurface soils beneath the site, substantiating removal of the fuel contamination.

6. This information has been discussed with Mr. Baird Swanson of your staff.

7. Please contact Mr. Mark Holmes at 505-846-9005, if you have any questions on this matter.



CARL J. LANZ, P.G.
Chief, Restoration Section

Attachments:

Analytical Results for monitor well KAFB-1062

cc:

NMED-GWQB (Mr. Swanson), w atch
NMED-HWB (Mr. Kieling), w atch
NMED-HWB KAFB (Mr. McDonald), w atch
EPA Region 6 (Ms. King,) w atch
HQ AFMC/CEVC (Mr. Fort), wo atch
VA Hospital (Mr. Kleiman), wo atch
VA Hospital (Mr. Riechter), wo atch
VA Hospital (Mr. Plumley), wo atch
AFCEE (Mr. Hatfield) wo atch
CH2MHILL (Mr. Minchak), wo atch
377 MSG/CEVC (Mr. Montano), wo atch
Admin. Record, TVI, Montoya Campus
File

Table 4. Groundwater Analytical Results Summary, Monitoring Wells 106-1, KAFB 106-2, and KAFB 106-3
Bulk Fuels Facility, Kirtland AFB, New Mexico

Chemical Class & Analytical Method	Analyte	NMED Approved Background ^a	EPA MCLs ^b	Well KAFB 106-1						Well KAFB 106-2						Well KAFB 106-3							
				1/28/2004	4/23/2004	4/23/2004	7/21/2004	10/12/2004	1/25/2005	1/28/2004	4/23/2004	7/21/2004	7/21/2004	10/12/2004	10/12/2004	1/25/2005	1/25/2005	1/28/2004	1/28/2004	4/23/2004	7/21/2004	10/12/2004	1/25/2005
				Q104	Q204	DUP Q204	Q304	Q404	Q105	Q104	Q204	Q304	DUP Q304	Q404	DUP Q404	Q105	DUP Q105	Q104	DUP Q104	Q204	Q304	Q404	Q105
Anions (mg/L)	Fluoride	NA	1.6 *	0.45	0.54	0.43	---	---	---	0.6	0.45	---	---	---	---	---	0.32	0.34	0.31	---	---	---	
	Chloride	NA	250 (s)	8.3	11	8.8	9.1	9.3	8.8	12	12	12	12	12	12	12	100	110	110	100	110	110	
	Bromide	NA	NA	---	<0.10	<0.10	---	---	---	---	<0.10	---	---	---	---	---	---	---	1.9	---	---	---	
	Orthophosphate (as P)	NA	NA	<0.50	<0.5	<0.5	<0.5	<0.5 H	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5 H	<0.5 H	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5 H	
	Nitrite (as N)	NO3/NO2 4.0	1.0	<0.1	0.44	<0.1	---	---	---	<0.1	<0.10	---	---	---	---	---	<0.1	<0.1	<0.1	---	---	---	
	Nitrate (as N)	NO3/NO2 4.0	10.0	0.10	<0.1	0.13	0.083	<0.10	0.067	0.30	0.34	0.31	0.28	0.33	0.4	0.43	0.43	3.6	3.6	3.7	3.4	3.5	3.5
	Sulfate	NA	250 (s)	30	30	30	31	30	30	35	35	36	36	34	34	35	35	110	120	120	140	130	130
Alkalinity mg/L CaCO3	Total Alkalinity (as CaCO3)	NA	NA	---	---	---	130	150	150	---	---	120	120	120	120	110	120	---	---	---	80	80	82
	Carbonate CO3 ²⁻ (as CaCO3)	NA	NA	---	---	---	<2.0	8.0	<4.0	---	---	<2.0	<2.0	<4.0	<4.0	<4.0	---	---	---	<2.0	<4.0	<4.0	
	Bicarbonate HCO3 ⁻ (as CaCO3)	NA	NA	---	---	---	130	140	150	---	---	120	120	120	120	110	120	---	---	---	80	80	82
TPH (mg/L)	DRO	NA	NA	<0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.5	<0.5	<0.20	<0.20	<0.20	<0.20	
	MRO	NA	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	
	GRO	NA	NA	0.068	0.047	0.047	0.24	0.27	0.13	<0.05	0.047	0.057	0.037	<0.05	0.037	0.047	0.047	<0.05	<0.05	<0.05	<0.05	<0.05	
VOCs (µg/L) method 8260 (except EDB - method 504.1)	Benzene	NA	5	3.2	6.5	6.2	<1.0	0.47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Toluene	NA	750 *	1.3	4.1	4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Ethylbenzene	NA	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Methyl tert-butyl ether (MTBE)	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	1,2,4-Trimethylbenzene	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	1,3,5-Trimethylbenzene	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	1,2-Dichloroethane (EDC)	NA	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	1,2-Dibromoethane (EDB) ^c	NA	0.05	0.049	0.086	0.083	0.029	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	Naphthalene	NA	30 *	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
	1-Methylnaphthalene	NA	30 *	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	
	2-Methylnaphthalene	NA	30 *	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	
	Acetone	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
	Bromobenzene	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Bromochloromethane	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Bromodichloromethane	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Bromoform	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Bromomethane	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
	2-Butanone	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
	Carbon disulfide	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
	Carbon tetrachloride	NA	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Chlorobenzene	NA	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Chloroethane	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
	Chloroform	NA	100 *	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.57	0.57	<1.0	<1.0	<1.0	<1.0	<1.0	
	Chloromethane	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	2-Chlorotoluene	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	4-Chlorotoluene	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	cis-1,2-Dichloroethene	NA	70	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	cis-1,3-Dichloropropene	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	1,2-Dibromo-3-chloropropane	NA	0.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
	Dibromochloromethane	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	Dibromomethane	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
	1,2-Dichlorobenzene	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	

