

**Administrative Record**

FORT WINGATE DEPOT ACTIVITY, GALLUP, NEW MEXICO

**Document No. 95-10**

*First Quarterly Report on Ground Water  
Monitoring at UST Bldg. 6 Area,  
Fort Wingate Depot Activity,  
New Mexico*

U.S. Army Corps of Engineers, Albuquerque District

November 1995



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INQUIRIES REGARDING THIS DOCUMENT AND/OR THE ADMINISTRATIVE RECORD FOR  
FORT WINGATE DEPOT ACTIVITY SHOULD BE MADE TO:  
COMMANDER, TOOELE ARMY DEPOT, TOOELE, UTAH 84074



DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 1580  
ALBUQUERQUE, NEW MEXICO 87103-1580  
FAX (505) 766-2770

REPLY TO  
ATTENTION OF:

November 13, 1995

Engineering and Planning Division  
Planning Branch

Mr. Ray Montes  
New Mexico Environment Department  
Underground Storage Tank Bureau  
Post Office Box 26110  
Santa Fe, New Mexico 87502

Dear Mr. Montes:

Enclosed please find the first Quarterly Sampling Report for the Fort Wingate Depot Activity, Building 6 UST Area. This report is submitted in compliance with the UST Bureau's request for two years of continuous quarterly sampling of the impacted aquifer, by your letter dated April 18, 1995, from Mr. Bill Skinner.

If you have any questions, or need further information concerning this report, please contact the Technical Manager for this project, Ms. Susan Gant, at (505) 766-1363.

Sincerely,

A handwritten signature in cursive script that reads "G. Gamel".

Gary L. Gamel, P.E.  
Chief, Engineering and Planning Division

Enclosures

Copy Furnished:

Commander, Tooele Army Depot  
ATTN: Mr. Larry Fisher  
Tooele, Utah 84074

**1st QUARTERLY REPORT**  
**on**  
**Groundwater Monitoring at UST Bldg. 6 Area**  
**Fort Wingate Army Depot Activity, New Mexico**

**1.0 Background.** Fort Wingate Depot Activity (FWDA) is a federally owned and operated facility under the United States Army command and occupies 22,812 acres of land in McKinley County, New Mexico. FWDA was closed in January of 1993 and is currently managed by Tooele Army Depot in Tooele, Utah. During the week of 18-22 January 1993, six underground storage tanks (USTs) were removed from the vehicle service and maintenance area at FWDA. A fuel release was discovered during tank removal, presumably from holes in the bottom of several of the tanks or associated piping. This spill was discovered on 19 January and reported to the New Mexico Environment Department (NMED), UST Bureau.

The U.S. Army Corps of Engineers, Albuquerque District (USACE-SWA), performed an on-site investigation to address soil and groundwater contamination at the site and to provide reclamation/remediation alternatives, as necessary. Personnel from USACE-SWA, HTRW Section made a brief inspection of the site during a field reconnaissance trip on 8 February 1993. A strong petroleum odor was detected at the site and several gallons of liquid were observed in a test pit adjacent to the UST excavation area. A determination of the nature of this liquid was not made at the time, however, no surface sheen was reported.

An On-Site Investigation was begun in May of 1993. Petroleum constituent data was collected from sixteen soil borings advanced to an average depth of sixty feet. Headspace readings on a PID were collected at five foot intervals to guide the collection of soil samples in the contaminated and uncontaminated zones. Based on the laboratory and field results from the sixteen soil borings completed at the site in May of 1993, the vertical extent of the contamination appeared to be limited by a continuous clay layer occurring at about 40 feet in depth. The horizontal extent of the contamination appeared to be limited to within 250 feet downgradient of the former underground storage tanks. These results were submitted to the NMED in June of 1993. After reviewing these results, the NMED requested in January of 1994, that the investigation be expanded to better define the vertical and horizontal extent of the contamination and to determine if fuel products have significantly contaminated the shallow alluvial aquifer.

In October and November of 1994, six soil borings to a depth of 60 feet were drilled, and 3 monitoring wells to an average depth of 57 feet were installed at the UST site. Laboratory analysis of water from one of these wells, MW-20, located south and west of the UST removal area indicated benzene contamination at 110  $\mu\text{g/l}$ , well above the State action level of 10  $\mu\text{g/l}$  for benzene in groundwater. All three wells were resampled in December of 1994 and again, laboratory analysis indicated that the same well was still contaminated with benzene, but at a lower level of 59  $\mu\text{g/l}$ . A soil gas survey was conducted in the UST area in March of 1995 to better define the location of the benzene contamination around MW-20; however, benzene was not found in the soils or water

at a depth of 35 to 50 feet in that area. The three wells were resampled during the soil gas survey and laboratory analysis indicated that the benzene level in MW-20 had fallen to 4.4  $\mu\text{g/l}$ . With the apparent steady decline in the benzene levels, the Albuquerque District approached the NMED to suspend the investigation and any further requirements to install additional monitoring wells at this site. The NMED agreed that installation of additional monitoring wells was not indicated at that time, however, a two-year quarterly ground water monitoring program was required to provide data for this site to ensure that shallow ground water quality has not been compromised. A work plan for the eight quarters of monitoring was submitted by USACE to the NMED and was approved on 13 June 1995.

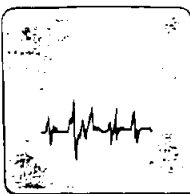
**2.0 1st Quarter Water Sampling.** Mr. Stephen Mooty and Mr. Brian Lucero, of USACE-SWA, completed water sampling at MW-18, MW-20 and MW-22 on 18-20 July 1995, in accordance with the approved Work Plan. Water levels were recorded prior to and following sampling. The wells have not been surveyed at this time. Reported water levels are measured from the top of the PVC casing and have been adjusted for relative depth from a fixed vertical point using a level. An ES-60 sampling pump was used to purge the wells and was decontaminated prior to and following the purging of each well. Disposable polyethylene bailers were used to draw the samples from the wells, the samples were decanted into laboratory certified containers, chilled to 4°C, and delivered to the laboratory on 20 July 1995. A tabular summary of well purging data is provided in Table 1.

**TABLE 1**

WELL NO.	Depth of Well (ft bgs)	Pre-Purge Water Level (ft bgs)	Pumping Rate (gpm)	Purged Volume (gal)	Post-Sample Water Level (ft bgs)
MW-18S	37	0	0	0	0
MW-18D	57	43.90	0.68	10	0.10
MW-20	57	44.96	0.68	38	0.10
MW-22S	43	41.77	<0.5	4	0.10
MW-22D	59	41.82	1.2	45	39.78

**3. Analytical Results.** Six water samples, two equipment rinsate samples and a trip blank were analyzed for total petroleum hydrocarbons (TPH) and BTEX, using EPA methods 8015M and 8020, respectively. Toluene was detected at low levels in MW-22D and MW-18. Light fraction hydrocarbons (gasoline) were detected at MW-18 and in the post-purge equipment rinsate. Laboratory results have been included in Appendix A.

**APPENDIX A**  
**Laboratory Results**



# ASSAIGAI ANALYTICAL LABORATORIES

7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259

3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:

November 6, 1995 14:26

## CERTIFICATE OF ANALYSIS RESULTS BY SAMPLE

SENT US ARMY CORP OF ENGINEERS  
TO: ALBUQUERQUE DISTRICT  
P.O. BOX 1580  
ABQ., NM 87103  
ATTN: SUSAN GANT

WORKORDER # : 9507163  
WORK ID : FT. WINGATE  
CLIENT CODE : USA01  
DATE RECEIVED : 07/20/95

Page: 1

Lab ID: 9507163-01A

Sample ID: FT WINGATE/RINSATE

Collected: 07/17/95 15:10:00

Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE	BATCH_ID
					ANAL	
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C11_C12	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C21_C22	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C25_C26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
EST > 26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
HCs GAS/CAL DHS 8015M						
HCs (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Toluene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/24/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193

Lab ID: 9507163-02A

Sample ID: MW-20

Collected: 07/18/95 12:10:00

Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE	BATCH_ID
					ANAL	
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C11_C12	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C21_C22	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014



Lab ID: 9507163-02A  
Sample ID: MW-20

Collected: 07/18/95 12:10:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C25_C26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
EST > 26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
HCS GAS/CAL DHS 8015M						
HCS (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Toluene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/24/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193

Lab ID: 9507163-03A  
Sample ID: MW-22/SHALLOW

Collected: 07/19/95 11:30:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C11_C12	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C21_C22	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C25_C26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
EST > 26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
HCS GAS/CAL DHS 8015M						
HCS (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Toluene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/24/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193

Lab ID: 9507163-04A  
Sample ID: MW-22/DEEP

Collected: 07/19/95 11:35:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014

Lab ID: 9507163-04A  
Sample ID: MW-22/DEEP

Collected: 07/19/95 11:35:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C11_C12	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C21_C22	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
C25_C26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
EST > 26	ND	mg/L	2.0	1.0	08/02/95	WTPHS-014
HCs GAS/CAL DHS 8015M						
HCs (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Toluene	2.2	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/25/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193

Lab ID: 9507163-04B  
Sample ID: MW-22/DEEP

Collected: 07/19/95 11:35:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C11_C12	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C21_C22	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C25_C26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
EST > 26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
HCs GAS/CAL DHS 8015M						
HCs (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Toluene	2.1	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/25/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193



Lab ID: 9507163-04C  
Sample ID: MW-22/DEEP

Collected: 07/19/95 11:35:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C11_C12	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C21_C22	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C25_C26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
EST. >26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
HCs GAS/CAL DHS 8015M						
HCs (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Toluene	2.2	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/25/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193

Lab ID: 9507163-05A  
Sample ID: FT WINGATE

Collected: 07/19/95 14:24:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Toluene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/25/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193

Lab ID: 9507163-06A  
Sample ID: MW-18

Collected: 07/19/95 14:30:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C11_C12	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014

Lab ID: 9507163-06A  
Sample ID: MW-18

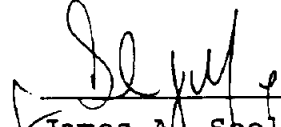
Collected: 07/19/95 14:30:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C21_C22	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C25_C26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
EST. > 26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
HCS GAS/CAL DHS 8015M						
HCS (Gasoline by Headspace)	0.14	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Toluene	8.5	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/24/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193

Lab ID: 9507163-07A  
Sample ID: FT.WINGATE/RINSATE

Collected: 07/20/95 09:20:00  
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID						
C7_C8	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C9_C10	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C11_C12	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C13_C14	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C15_C16	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C17_C18	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C19_C20	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C21_C22	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C23_C24	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
C25_C26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
EST. > 26	ND	mg/L	2.0	1.0	08/03/95	WTPHS-014
HCS GAS/CAL DHS 8015M						
HCS (Gasoline by Headspace)	0.052	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Toluene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Chlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
Ethylbenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
P-&m-xylene	ND	ug/L	2.0	1.0	07/24/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,3-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193



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James A. Seely  
Operations Manager

## WORKORDER COMMENTS

DATE : 11/06/95  
WORKORDER:

### DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

- ND = Analyte "not detected" in analysis at the sample specific detection limit.
- D\_F = Sample "dilution factor"
- NT = Analyte "not tested" per client request.
- B = Analyte was also detected in laboratory method QC blank.
- E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
- LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D\_F) to obtain the sample specific Detection Limit.

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### REPORT COMMENTS

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ASSAIGAI  
ANALYTICAL  
LABORATORIES

7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259

3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

W.O. # 95-07-163

## QA/QC SUMMARY REPORT

CLIENT: USA CORP OF ENGINEERS, ALBUQUERQUE DISTRICT

PROJECT NAME: FORT WINGATE

SAMPLING LOCATION: FT. WINGATE - RINSATE / MW-18 / MW-20 /  
MW-22 SHALLOW / MW-22 DEEP

SAMPLE COLLECTION DATE: 07/17 - 20/95



## QC NARRATIVE FOR 95-07-163

### GENERAL

Assagai Analytical Laboratories (AAL) received seven (7) water samples on 07/20/95 from Army Corp Engineers for a standard turn-around-time of ten (10) working days. The samples were received on ice and in good condition. The samples were entered into AAL's LIMS systems as workorder #95-07-163. The analyses requested were Luft Gasoline, Volatiles and Hydrocarbon Scan.

### INITIAL/CONTINUING CALIBRATION (ICV & CCV)

The initial calibrations met all QA/QC criteria for analytes of interest in the analyses requested. All continuing calibrations associated with the analyses were within AAL's QC limits.

### LABORATORY METHOD BLANK

The Laboratory Method Blanks (LMB) associated with the analyses were free of target analytes.

### LABORATORY CONTROL SAMPLE AND DUPLICATE

The Laboratory Control Sample and Duplicate (LCS/LCSD) associated with the analyses requested were within AAL's QC limits. The acceptable spike recoveries and RPDs verify method precision and accuracy.

### MATRIX SPIKE AND DUPLICATE

The Matrix Spike and Duplicate (MS/MSD) recoveries and RPDs associated with the analyses requested were within AAL's QC limits.

### SURROGATE

The Surrogate recoveries associated with the analyses requested were within AAL's QC limits.







**QC SUMMARY**

Method	8020
Batch ID	WGCVOA-193
Date Analyzed	07/24-25/95
Matrix	Water

NCR No.	N/A
MS/MSD Sample ID	7149-1B
Concentration Units	µg/L

ANALYTE	LCS/LCSD						
	Spiked Amount	Sample Amount	LCS Amount	LCSD Amount	LCS % Rec.	LCSD % Rec.	RPD

Benzene	25	N/A	26.26	26.90	105	108	2
Toluene	25	N/A	26.29	26.88	105	108	2
Chlorobenzene	25	N/A	26.10	26.15	104	105	< 1

ANALYTE	MS/MSD						
	Spiked Amount	Sample Amount	MS Amount	MSD Amount	MS % Rec.	MSD % Rec.	RPD

Benzene	25	ND	25.83	26.99	103	108	4
Toluene	25	ND	25.71	26.58	103	106	3
Chlorobenzene	25	ND	25.22	26.15	101	105	4

COMMENTS
WORKORDERS INCLUDED IN BATCH: 95-07-149, 163

QC LIMITS	
Water	
% Rec.	RPD

Benzene	75 - 125	20
Toluene	75 - 125	20
Chlorobenzene	75 - 125	20

QCWGCVOA.193 (L101)











ASSAIGAI  
ANALYTICAL  
LABORATORIES

# Chain of Custody Record

7300 JEFFERSON, N.E.  
ALBUQUERQUE, NEW MEXICO 87109  
(505) 345-8964

3332 WEDGEWOOD  
EL PASO, TEXAS 79925  
(915) 593-6000

1910 N. BIG SPRING  
MIDLAND, TEXAS 79705  
(915) 570-1116

Lab job no.: 7163 Date \_\_\_\_\_  
Page \_\_\_\_\_ of \_\_\_\_\_

Client Albuquerque District, USA COE  
Address P.O. Box 1580  
City / State / Zip Albuquerque, NM 87103  
Project Name / Number Ft. Wingate  
Contract / Purchase Order / Quote \_\_\_\_\_

Project Manager / Contact Susan Grant (7166-1009)  
Telephone No. (505) 766-1363  
Fax No. (505) 766-8133  
Samplers: (Signature) [Signature]  
Brian Lucero

MELOQUIADES LANIS  
6411 LOCAL UNO  
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

AAL FRACTION NUMBER	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation		No. of Containers	Analysis Required				Remarks
						Temp.	Chemical						
01A	Ft Wingate / rinse	17 July	1510	wtr	40 ml. vial	4°C	HCL	2	X	X	X		
2A	MW-20	18 July	1210	wtr	40 ml. vial	4°C	HCL	2	X	X	X		
3A	MW-22 / shallow	19 July	1150	wtr	40 ml. vial	4°C	HCL	2	X	X	X		
4A	MW-22 / Deep	19 July	1155	wtr	40 ml. vial	4°C	HCL	2	X	X	X		
4B	MW-22 / Deep	19 July	1155	wtr	40 ml. vial	4°C	HCL	2	X	X	X		Q.A sample
4C	MW-22 / Deep	19 July	1155	wtr	40 ml. vial	4°C	HCL	2	X	X	X		Q.C sample
5A	Ft Wingate	19 July	1429	wtr	40 ml. vial	4°C	HCL	1					trip blank
6A	MW-18	19 July	1450	wtr	40 ml. vial	4°C	HCL	2	X	X	X		
7A	Ft. Wingate / rinse	20 July	0920	wtr	40 ml. vial	4°C	HCL	2	X	X	X		rinsate (final)

Relinquished by: Brian Lucero  
Signature \_\_\_\_\_  
Printed BRIAN LUCERO  
Company USA COE  
Reason 1720 Analysis

Date 7/20/95  
Time 9:55

Received by: Mary Black  
Signature \_\_\_\_\_  
Printed MARY BLACK  
Company AAL  
Reason \_\_\_\_\_

Relinquished by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Printed \_\_\_\_\_  
Company \_\_\_\_\_  
Reason \_\_\_\_\_

Date \_\_\_\_\_  
Received by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Printed \_\_\_\_\_  
Company \_\_\_\_\_  
Reason \_\_\_\_\_

Method of Shipment: \_\_\_\_\_  
Shipment No. \_\_\_\_\_  
Special Instructions: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- After analysis, samples are to be:
- Disposed of (additional fee)
  - Stored (30 days max)
  - Stored over 30 days (additional fee)
  - Returned to customer