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





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,

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

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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 μ g/l, well above the State action level of 10μ 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 μ 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 μ 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

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

ABQ., NM 8/10.

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 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
C1Ī 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 AROMATIĆS/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

rest / 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
C1 <u>T</u> _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 AROMATIĆS/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
CIT CI2	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	0.1	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 AROMATIĆS/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

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID C7_C8 C9_C10	ND ND	mg/L mg/L	2.0 2.0	1.0 1.0	08/02/95 08/02/95	WTPHS-014 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		•			00.02,35	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
HCs (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATIĆS/SW846 8020A			0.000	1.0	07723773	WEI 10-19
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

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		<u>_</u>	
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
C1T_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		J				
HCs (Gasoline by Headspace)	ND	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATIĆS/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		- 4.				
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
CIĪ 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		J				
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

	<u> </u>					
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 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 ug/L	2.0	1.0	07/25/95	WGCVOA-193
	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
O-xylene	ND	ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,3-dichlorobenzene		ug/L	1.0	1.0	07/25/95	WGCVOA-193
1,4-dichlorobenzene	ND	ug/L				
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

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID C7 C8 C9 C10 C1I C12 C13 C14 C15 C16 C17 C18 C19 C20	ND ND ND ND ND ND ND	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	1.0 1.0 1.0 1.0 1.0 1.0	08/03/95 08/03/95 08/03/95 08/03/95 08/03/95 08/03/95	WTPHS-014 WTPHS-014 WTPHS-014 WTPHS-014 WTPHS-014 WTPHS-014 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					00,05,75	W1111B-01+
HCs (Gasoline by Headspace)	0.14	mg/L	0.050	1.0	07/25/95	WLFTG-19
VOA AROMATIĆS/SW846 8020A		.	*****		01125755	W 21 1G-19
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 WGCVOA-193
1,2-dichlorobenzene	ND	ug/L	1.0	1.0	07/24/95	WGCVOA-193 WGCVOA-193

Lab ID: 9507163-07A

Sample ID: FT. WINGATE/RINSATE

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

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
HC SCAN W/CC ID/GC-FID		<u>-</u>				
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
C1T 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
ICs GAS/CAL DHS 8015M		J				., 11115 011
HCs (Gasoline by Headspace)	0.052	mg/L	0.050	1.0	07/25/95	WLFTG-19
OA AROMATIČS/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

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"

 \overline{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.

REPORT COMMENTS



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, ALBUQUERUE 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

Assaigai 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	LUFT GAS
Batch ID	WLFTG19
Date Analyzed	07/24 - 26/95
Matrix	Water

NCR No.	N/A
MS/MSD Sample ID	7163-7A
Concentration Units	PPM

ANALYTE				LCS/LCSD)		
	Spiked Amount	Sample Amount	LCS Amount	LCSD Amount	LCS % Rec.	LCSD % Rec.	RPD
Unleaded Gas 7/24	0.420	ND	0.414	0.394	98	94	5
Unleaded Gas 7/25		ND	0.412	N/A	98	N/A	N/A

ANALYTE				MS/MSD			
	Spiked Amount	Sample Amount	MS Amount	MSD Amount	MS % Rec.	MSD % Rec.	RPD
Unleaded Gas 7/26	0.420	0.052	0.378	0.381	78	78	< 1

COMMENTS	
7163	

	QC LIMIT	S	QC LIMIT	S
	Soil		Water	
	% Rec.	RPD	% Rec.	RPD
Unleaded Gas	60 - 140	20	75 - 125	20

QCWLFG.019(L-106)

ANALYTICAL RESULTS SUMMARY CALIF LUFT (MOD-8015) (Water Matrix)

Laboratory Job Number 95-07-163

Laboratory Sample No.	BLANK			T	1
Client Sample No.	N/A	 -		 -	
Date Analyzed	07/25/95				
Dilution Factor	1.0				
File Name	3048			 	
Batch ID	WLFTG-019	 		 	<u> </u>
Analyst	NO			 	

Detection Limit

COMPOUND NAME	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Unleaded Gas	ND				3,	(119/2)	0.05

COMMENTS			
COMMENTS	 		
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ARSWLFTG.019 (L101)

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
	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

20141451150		
COMMENTS		
WORKORDERS INC	UDED IN BATCH: 95-07-149, 16	33

QC LIMITS	3
Water	
% Rec.	RPD

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

QCWGCVOA.193 (L101)

SURROGATE RESULTS SUMMARY

Method

EPA 8020 SOIL/WATER

			
Lab Sample #	Matrix	S1 %R	S2 %R
LMB	WATER	100	101
LCS	WATER	99	100
LCSD	WATER	100	101
7149-1B MS	WATER	100	101
7149-1B MSD	WATER	100	102
7149-1B	WATER	97	99
7149-2B	WATER	99	99
7163-1A	WATER	99	99
7163-2A	WATER	101	100
7163-3A	WATER	103	100
7163-4A	WATER	99	100
7163-5A	WATER	100	100
7163-6A	WATER	100	100
7163-7A	WATER	100	99
7163-4B	WATER	98	98
7163-4C	WATER	98	100

	Surrogate
S1	4-Bromofluorobenzene
S2	a,a,a-TFT

SRSWGCVO.193 (L101)

Analyzed ID	Date	Batch
	Analyzed	ID .

, 	
07/24-25/95	WGCVOA-193

Soil

QC LI	MITS
60 -	140
60 -	140

Water

QC LIMITS
75 - 125
75 - 125

ANALYTICAL RESULTS SUMMARY Halogenated Volatile Organic Compounds EPA Method 8020 (Water Matrix)

Laboratory Job Number	95-07-163
Edboratory Cob Italiacot	100 07 700

Laboratory Sample No.	BLANK		
Client Sample No.	N/A		
Date Analyzed	07/24/95		
Dilution Factor	1.0		
File Name	4VL2446.D		
Batch ID	WGCVOA-193		
Analyst	LT		

Detection Limit

COMPOUND NAME	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(μg/L)
Benzene	ND						1.0
Toluene	ND						1.0
Chlorobenzene	ND						1.0
Ethylbenzene	ND						1.0
p & m-Xylene	ND						2.0
o-Xylene	ND						1.0
1,3-Dichlorobenzene	ND						1.0
1.4-Dichlorobenzene	ND						1.0
1,2-Dichlorobenzene	ND						1.0

COMMENTS				
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ARSWGCVO.193 (L101)

QC SUMMARY

Method	TPHS
Batch ID	WTPHS-014
Date Analyzed	08/02-03/95
Matrix	Water

NCR No.	N/A
MS/MSD Sample ID	7163-1A
Concentration Units	PPM (mg/L)

ANALYTE		LCS/LCSD							
	Spiked Amount	Sample Amount	LCS Amount	LCSD Amount	LCS % Rec.	LCSD % Rec.	RPD		
C8	25.00	ND	24.10	22.77	96	91	6		
C10	25.00	ND	24.83	22.66	99	91	9		
C12	25.00	ND	25.14	22.80	100	91	10		
C14	25.00	ND	25.23	23.22	101	93	8		
C16	25.00	ND	25.01	23.81	100	95	<u>5</u>		
C18	25.00	ND	24.82	24.22	99	97	2		
C20	25.00	ND	24.72	24.29	99	97	<u>-</u>		
C22	25.00	ND	24.52	23.87	98	95			
C24	25.00	ND	25.61	25.05	102	100			
026	25.00	ND	23.60	23.07	94	92	2		

ANALYTE				MS/MSD			
	Spiked Amount	Sample Amount	MS Amount	MSD Amount	MS % Rec.	MSD % Rec.	RPD
C8	25.00	ND	21.50	25.37	86	101	16
C10	25.00	ND	21.07	25.54	84	102	19
C12	25.00	ND	21.20	25.55	85	102	19
C14	25.00	ND	21.66	25.61	87	102	17
C16	25.00	ND	22.45	25.62	90	102	13
C18	25.00	ND	23.61	25.71	94	103	8
C20	25.00	ND	24.43	25.58	98	102	4
C22	25.00	ND	25.00	25.08	100	100	< 1
C24	25.00	ND	27.59	26.31	110	105	5
C26	25.00	ND	24.64	24.19	98	97	2

	QC LIMIT	S
	Water	<u> </u>
	% Rec.	RPD
C8	75 - 125	20
C10	75 - 125	20
C12	75 - 125	20
C14	75 - 125	20
C16	75 - 125	20
C18	75 - 125	20
C20	75 - 125	20
C22	75 - 125	20
C24	75 - 125	20
C26	75 - 125	20

COMMENTS/WOs INCLUDED IN BATCH
95-04-163

QCWTPHS.014 (L101)

ANALYTICAL RESULTS SUMMARY HYDROCARBON SCAN with CARBON CHAIN ID (Water Matrix)

Laboratory Job Number 95-07-163

Laboratory Sample No.	BLANK	 		
Client Sample No.	N/A	 		
Date Analyzed	08/02/95			
Dilution Factor	1.0			
File Name	3132			
Batch ID	WTPHS-014		L	
Analyst	DH			 <u> </u>

Detection Limit

COMPOUND NAME	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
C8	ND						2.0
C9 C10	ND						2.0
C11 C12	ND						2.0
C13 C14	ND						2.0
C15 C16	ND						2.0
C17 C18	ND	<u> </u>					2.0
C19 C20	ND						2.0
C21 C22	ND						2.0
C23 C24	ND						2.0
C25 C26	ND						2.0
est. > C26	ND						2.0

COMMENTS	

ARSWTPHS.014 (L101)

ASSAIGAI ANALYTICAL

Chain of Custody Record

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

3332 WEDGEWOOD

1910 N. BIG SPRING

LABORATORIES,				l Pageot								EL PASO, TEXAS 79925 (915) 593-6000					MIDLAND, TEXAS 79705 (915) 570-1116					
CHIENT Albuquerque District, USACOE					Project Manager / Contact San Court (1766-100								MELQUIADES QLANIS 6411 LOCAL UNO CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320									
Address Fic. Rock 1560				Telephone No. (405) 166 1363								Analysis Required										
City/State/Zip Alburyerque, NM 87103																						
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UBA	1/W-22/ Deep	Juny	1150	1/1	40 m/s vier	1/2	1116	2	X	X	X	_	_	 	-							
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GAGIN	MW-18-8	17 Valy	1450		40 m/ vial		1166	1	x				 				11/2	6/24,	<u> </u>			
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