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NAS FORT WORTH
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LETTER REGARDING SITE CLOSURE REQUEST FORM FOR NO FURTHER ACTION AT AREA OF CONCERN 1 NAS FORT WORTH TX
11/29/1999
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

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File: 17G
P.W.

NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 493

File: P.W. 17A-57

493

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

29 November, 1999

MEMORANDUM FOR: DENNIS ROGERS(TNRCC)

FROM: HQ AFCEE/ERD
3207 North Road
Brooks AFB, TX 78235

SUBJECT: SITE CLOSURE REQUEST FOR FORMER BASE SERVICE STATION AND BASE GAS STATION (AREA OF CONCERN 1), LPST ID NO. 104524, NAS FORT WORTH JRB, TEXAS FACILITY ID NO. 009696.

Dear Mr. Rogers,

Enclosed is a revised copy of the completed TNRCC Site Closure Request Form (TNRCC-0028) that has been completed in response to the 16 Sep and 21 Oct 97 letters from the TNRCC/Petroleum Storage Tank (PST) division regarding no further action required for this site. These letters have been provided as enclosures to this report. Per TNRCC recommendations, four quarterly groundwater sampling events were conducted from October 1997 through July 1998 to verify contaminant plume stability and two surface water samples were collected and analyzed from the West Fork of the Trinity River. The data suggests that there is no surface water impact from the site and overall contaminant plume stability does exist at AOC 1. Since the requirements set forth in the 16 Sep 97 letter have been satisfied, AFCEE is requesting no further action for AOC 1 at NAS FW JRB.

AFCEE appreciates the opportunity to assist the TNRCC in completing remedial and closure activities at the base. Should you have any comments about these materials, please contact me at (210)536-5290.

Sincerely,

Don Ficklen
Remedial Project Manager
NAS Fort Worth JRB

Printed on Recycled Paper

cc:

Mr. Michael Dodyk
AFCEE/ERD
Bldg. 1619, 1st Floor
NAS JRB FT WORTH, TX 76127

Mr. Ray S. Risner
TNRCC
MC-127
P.O. Box 13087
Austin, TX 78711-3087

Mr. Tim Sewell
TNRCC Region 4
1101 E. Arkansas Lane
Arlington, TX 76010-6499

Mr. Gary W. Miller
UPEPA
6PD-NB
1445 Ross Ave
Dallas, TX 75202-2733

Amy Hardberger
UNITEC
P.O. Box 35344
Brooks AFB, TX 78235-5344

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION
CORRESPONDENCE IDENTIFICATION SHEET

Date: November 24, 1999
Site Name: Former Base Gas Station and Base Service Station
Site Address: Building 1518 and Building 1268
NAS Fort Worth JRB, Texas

LPST ID No.: 104524
Facility ID No.: 0009696

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS

- ☐ Initial Abatement (1)
- ☐ Tank Removal (2)
- ☐ Excavation (3)
- ☐ Waste Treatment (4)
- ☐ Site Assessment (5)
- ☐ Aquifer Testing (6)
- ☐ VES/Sparge Testing (7)
- ☐ Qtrly. GW Monitoring (8)
- ☐ CAP Prep. (9)
- ☐ GW Extrac./Treatment (10)
- ☐ Soil Vapor Extrac. (11)
- ☐ Operation & Main. (12)
- ☐ Site Closure (13)
- ☐ Plan A Risk Ass. (14)
- ☐ Plan B Risk Ass. (15)
- ☐ Semi-annual GW Mon. (16)*
- ☐ Annual GW Mon. (18)
- ☐ Product Recovery (19)
- ☐ Other proposal _____

REPORTING FORMS

- ☐ Assessment Report Form (TNRCC-0562)
- ☐ LPST Case Questionnaire
- ☐ Product Recovery Report Form (TNRCC-0016)
- ☐ Release Report Form (TNRCC-0621)
- ☒ Site Closure Request Form (TNRCC-0028)
- ☐ Monitoring Event Summary and Status Report (TNRCC-0013)
- ☐ Final Site Closure Report Form (TNRCC-0038)
- ☐ Priority 4 LPST Case Closure Request Form (TNRCC-0461)
- ☐ Other form _____

REPORTS

- ☐ Tank Closure/Removal
- ☐ Plan A Risk Assessment
- ☐ Annual Groundwater Monitoring
- ☐ O&M/Performance Mon.
- ☐ Plan B Risk Assessment
- ☐ CAP Installation/Modification
- ☐ Property Divestiture/Phase I ESA
- ☐ Corrective Action Plan (CAP)
- ☐ Aquifer/Pilot Test Results

MISCELLANEOUS

- ☐ Off-site access assistance
- ☐ Deadline Extension Request
- ☐ Tank tightness test results
- ☐ Request for State-Lead
- ☐ Request for LPST Waste Code
- ☐ Class V Reinjection Request
- ☐ Notice to Owner/Operator for CAS Services
- ☐ Petroleum-Substance Waste Manifest
- ☐ Notice of Continuation of Groundwater Monitoring
- ☐ Underground Storage Tank Registration Form
- ☐ Notice of Continuation of Operation and Maintenance
- ☐ Aboveground Storage Tank Registration Form
- ☐ Other (anything that does not fit into one of the categories above) _____

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? ☐ Yes ☐ No

If yes, what work?_____

HydroGeoLogic, Inc.	RCAS00700	6/11/2000
(Registered Corrective Action Specialist)	(RCAS Reg. No.)	(Expiration date)

(Signature) (Date) 11/23/99

703/478-5186	703/471-4180
(Telephone #)	(Fax #)

Mr. Brad Nielsen	CAPM01291	2/10/2000
(Project Manager)	(CAPM Reg. No.)	(Expiration date)

(Signature) (Date) 11/23/99

512/336-1170	512/336-0178
(Telephone #)	(Fax #)

By signature below, I certify that documents checked above are included.

Mr. Don Ficklen	HQ-AFCEE/ERD
(Name of Responsible Party Contact)	(Company)

(Signature) (Date) 29 NOV 99

210/536-5290	210/536-9026
(Telephone #)	(Fax #)

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION

LPST SITE CLOSURE REQUEST FORM

This form is to be used to request closure for Leaking Petroleum Storage Tank (LPST) cases. The soil and groundwater cleanup goals must be met prior to submitting this form. These cleanup goals should be derived from either:

- the TWC *Guidance Manual for LPST Cleanups in Texas*, January 1990 **so long as these goals were achieved prior to November 8, 1995**, or
- the TNRCC *Risk-Based Corrective Action for Leaking Storage Tank Sites* document, January 1994 (RG-36).

Submission of this Site Closure Request constitutes certification by the Responsible Party, Corrective Action Specialist (CAS), and Corrective Action Project Manager (CAPM) that all necessary corrective actions have been completed and final closure of the subject site is appropriate at this time. By signing this Site Closure Request, the Responsible Party, CAS, and CAPM acknowledges that no further corrective actions, with the exception of activities subsequently approved by the TNRCC, will be eligible for reimbursement after the RP's signature date. Although costs for activities such as groundwater monitoring or remediation system operation and maintenance may have been approved for an annual period, these activities should cease upon submission of the Site Closure Request as these activities will not be considered eligible for reimbursement beyond the date of the Site Closure Request. Additionally, any costs relating to site assessment or other corrective action activities will not be eligible for reimbursement if the activities are conducted after the date of the Site Closure Request, unless specifically approved by the TNRCC. If, upon review by the TNRCC, the TNRCC concurs that the site meets the conditions for final closure, the costs for closure activities necessary to restore the site to its original condition will be reviewed and approved as appropriate. If the TNRCC determines that the site does not meet the conditions for final closure, the TNRCC will request a workplan and cost proposal for the next appropriate corrective action activity necessary to proceed towards final closure unless appropriate activities have previously been approved. The only type of proposal that should be attached to the Site Closure Request is for site closure costs. Any proposals attached to the Site Closure Request for activities other than site closure will not be processed and will be withdrawn from consideration.

If any of the following apply, the site is not ready for closure and this form should not be submitted:

- **The appropriate LPST cleanup goals have not been met (a proposal for the next appropriate step should be submitted instead);**
- **Phase-separated hydrocarbons (>0.1 feet) currently exist at the site;**
- **The contaminant plume is increasing in size; or**
- **All wastes and other material generated from the site have not been properly disposed;**

Do not use this form:

- **if the release was not from a regulated underground or aboveground storage tank;**
- **for tank removal-from-service activities not associated with an LPST site (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format);**
- **for situations where the second set of confirmation samples collected during tank removal-from-service activities confirms suitability for closure (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format); or**
- **for shutdown of remediation systems or for plugging of monitor wells when site closure is not yet appropriate.**

If asked to initiate additional activities, submit a workplan and preapproval request for those activities on sites eligible for reimbursement. Please review the document entitled *Preapproval for Corrective Action Activities* (RG-111) for procedures on preapproval requests and the other PST guidance pamphlets and rules for additional information on LPST sites.

Complete all blanks and check "yes" or "no" for all inquiries. **IF A COMPLETED *ASSESSMENT REPORT FORM* (TNRCC-0562) WAS PREVIOUSLY SUBMITTED, YOU DO NOT NEED TO ANSWER THE QUESTIONS WITHIN THE DARK OUTLINED AREAS UNLESS THE INFORMATION HAS CHANGED.** If the question is not applicable to this site, indicate with N/A. If the answer to the question is unknown, please indicate. If space for supplemental information is needed, insert numbered footnote and provide brief supporting discussion in Section VI, Justification for Closure.

SITE CLOSURE REQUEST FORM

I. GENERAL INFORMATION

LPST ID No.: 104524 Facility ID No.: 009696

Responsible Party: Mr. Don Ficklen, HQ-AFCEE/ERD

Responsible Party Address: 3207 North Road City: Brooks AFB State: TX Zip: 73235

Facility Name: AOC 1 - Former Base Gas Station and Base Service Station, NAS Fort Worth JRB

Facility Street Address: Bldg. 1518 and Bldg. 1268

Facility City: NAS Fort Worth JRB County: Tarrant

What is the current use of site? (indicate all that apply):
☐ Residence[1] ☐ School or Day Care center ☐ Commercial/Industrial[1] ☐ Recreational ☐ Agricultural

What is the anticipated future use of the site? (indicate all that apply):
☐ Residence[1] ☐ School or Day Care center ☐ Commercial/Industrial[1] ☐ Recreational ☐ Agricultural

Adjacent property use (indicate all that apply):
☐ Residence[1] ☐ School or Day Care Center ☐ Commercial/Industrial[1] ☐ Recreational ☐ Agricultural

Distance to nearest off-site residence from property line: _____ feet in _____ direction.

Distance to nearest school or day care center from property line: _____ feet in _____ direction.

II. CLOSURE SCREENING INFORMATION

Based on the *Limited Site Assessment Report* form or the Risk-Based *Assessment Report Form* (TNRCC-0562), the site is currently a **Priority** 3.2 site. If the site priority has changed, list the other priorities that previously pertained to this site: _____

☒ Yes ☐ No — Have non-aqueous phase liquids (NAPL) ever been present at this site (including tankpit observation wells)? If yes, is NAPL present now (thickness ≥0.1 feet)? ☐ Yes ☒ No Current thickness: 0 ft. If NAPL is currently present, stop here and do not submit this form for case closure. Initiate or continue activities necessary for the removal of all recoverable NAPL at the site.

☒ Yes ☐ No — Were all soils, recovered contaminated groundwater, and any phase-separated hydrocarbons properly disposed of, treated, recycled or reused in accordance with TNRCC requirements? If No, stop here and do not submit this form. Provide a proposal (if the site is eligible for reimbursement) to properly dispose or otherwise manage the wastes/materials or, if the site is not eligible for reimbursement, provide documentation of proper disposition of the wastes.

☒ Yes ☐ No — Do contaminant concentrations show a consistent decreasing or low static trend? If No, is the contaminant plume increasing in size? ☐ Yes ☐ No If Yes, stop here, do not submit this form, and initiate activities to control plume migration.

[1] See definition in 30 TAC 334.202

III. RELEASE ABATEMENT/REMEDIATION

Date Release Discovered: _____

Substance(s) released: (check all that apply) ☐ Gasoline ☐ Alcohol-blended fuel (Type and percentage of alcohol: _____)
☐ Diesel ☐ Used Oil ☐ Jet Fuel (type: _____) ☐ Aviation Gasoline ☐ Other: (be specific) _____

Source of Release (specify all that apply):
☐ Spills/overfills ☐ Piping leaks ☐ Dispenser leaks ☐ Tank corrosion ☐ Other: _____

☐ Yes ☐ No Has a receptor survey been conducted?
☐ Yes ☐ No Has a water well inventory been conducted?

☐ Yes ☒ No Have vapor impacts to buildings or utility lines ever been associated with this release? If Yes, specify the measures taken to abate the impact and indicate the latest date that an impact was noted:

☐ Yes ☒ No Have subsurface utilities ever been affected with NAPL or vapors by this release? If Yes, indicate the latest date that an impact was noted: _____

If not already provided in *Release Determination Report Form* (TNRCC-0621), or if the information has changed since submittal of the *Release Determination Report*, indicate number of tanks currently and formerly located at this site (attach pages as necessary):

	Type (UST/AST)	Product Type	Size (approx. gal)	Date Removed from Service
Former:	AST	diesel	12,000	2/94
	AST	unleaded gasoline	12,000	2/94
	AST	unleaded gasoline	6,000	2/94
	AST	regular gasoline	(3)12,000	2/94
Former:	UST	unleaded gasoline	10,000 gal	5/93
	UST	unleaded gasoline	10,000 gal	5/93
	UST	unleaded gasoline	10,000 gal	5/93
	UST	unleaded gasoline	10,000 gal	5/93

☒ Yes ☐ No If the tanks were permanently removed from service, were native soil samples collected from beneath the tanks and the entire length of the piping? If No, explain why not:

☐ Yes ☒ No Was a new UST system installed? If Yes, indicate the date, number of tanks and their contents:

☐ Yes ☒ No Are there any open excavations at the site? If Yes, state size, location, purpose, and status for each of the excavations: _____

Type(s) of soil remediation and time periods the remediation method was operational (indicate all that apply):
☐ Excavation _____ to _____ (dates), and
- ☐ Aboveground Bioremediation/Aeration _____ to _____ (dates), or
- ☐ Thermal Treatment _____ to _____ (dates), or
- ☐ Disposal _____ to _____ (dates).

☐ Soil Vapor Extraction _____ to _____ (dates).
☐ In-Situ Bioremediation _____ to _____ (dates).
☒ None

III. RELEASE ABATEMENT/REMEDIATION (Continued)

Type(s) of groundwater remediation and time periods the remediation method was operational (indicate all that apply):

☐ Groundwater Pump and Treat _____ to _____ (dates)
☐ Air Sparging/SVE _____ to _____ (dates)
☐ In-Situ Bioremediation _____ to _____ (dates)
☐ Other:_____ _____ to _____ (dates)
☒ None

☒ Yes ☐ No Were copies of all receipts and manifests to document disposition of all wastes submitted to the TNRCC? If No, attach copies to this form.

Measured total volume of NAPL recovered: 0 gallons.

Estimated total volume of soil treated/removed: 0 cubic yards (exclude soil cuttings removed from borings).

Estimated total volume of groundwater treated/removed: NA gallons (if known).

Estimated pounds of hydrocarbons removed or treated from soil (if known): NA

Estimated pounds of hydrocarbons removed or treated from groundwater (if known): NA

Estimated percent of total contaminants removed or treated (if known): NA

IV. SOIL DATA VALIDATION

Are there now affected surface soils (contamination exceeding health-based target concentrations) present within 2 feet below the ground surface? ☐ Yes ☐ No ☒ Unknown

Type of surface cover over affected surface soil area:

☐ Paved [☐ Asphalt or ☐ Concrete] Percent of affected soils covered? _____ ☐ Unpaved

☒ Other: grass covered area

Is there public access to the uncovered affected surface soil area? ☒ Yes ☐ No

Total number of borings: 15 (including those completed as monitor wells)

☒ Yes ☐ No Was the vertical and horizontal extent of soil impacts defined (to the more stringent of health-based target or groundwater protective soil concentrations horizontally and to groundwater or nondetect vertically) by the borings?

☐ Yes ☒ No Are shallow (0-15 feet below ground surface) soils affected (contaminant levels exceed health-based target concentrations) on adjacent properties (including right-of-way properties).

☒ Yes ☐ No Were all soil sample collection, handling, transport, and analytical procedures conducted in accordance with TNRCC and EPA requirements? If No, provide justification:_____

MAXIMUM SOIL CONCENTRATION LEVELS

Soil Contaminants	Sample Date	Sample Location	Depth (in feet below ground surface)	Analytical Method	Maximum Concentration * (mg/kg)	Target Cleanup Goals** (Indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene						
Toluene						
Ethylbenzene						
Total Xylenes						
Total BTEX						
TPH						
Other _____						
Other						

* Enter maximum soil analytical results for soils remaining beneath the site (take into account all available data, including information obtained during the release determination (tank removal from service, minimal site assessment, etc)).

** If Plan A cleanup goals were used, provide the potential groundwater beneficial use category and a justification of how it was determined in Section VI.
1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

V. GROUNDWATER DATA VALIDATION 493 10

Is groundwater at the site impacted? ☒ Yes ☐ No

Did the assessment document that groundwater was not impacted? ☐ Yes ☒ No If No or unsure, provide justification for not determining whether there is a groundwater impact: Five groundwater samples were collected in 12/93, and fifteen groundwater samples were collected in 1/94, showing groundwater was impacted by petroleum hydrocarbons. The groundwater was monitored on a quarterly basis for one year (October 97 through July 98) during which time the BTEX contamination has stabilized. As per TNRCC correspondence dated October 21, 1997, once the site showed stabilization or a contaminant decrease, the site would be recommended for closure.

Total number of monitoring wells installed: 19 Number of monitor wells remaining at the site: 19
Will any of the remaining wells be used in the future? ☒Yes ☐ No If Yes, specify exactly which well(s) will be used: BGSMW03, BGSMW05, BGSMW06, BSS-B, MW-10, SAV-2
If No, they must be plugged in accordance with 30 TAC Chapter 338 **after** obtaining approval for site closure. **Do not** plug the wells until you receive concurrence on site closure. Costs of well plugging may be allowable for reimbursement if all eligibility requirements are met and if the wells were installed under the direction of the TNRCC specifically to address the confirmed release at the site. Provide a proposal with this form (if the site is eligible for reimbursement) for costs of the well plugging.

Measured total dissolved solids (TDS) concentration in groundwater: _____ mg/l. From which monitor well(s) was/were the sample(s) collected? _____

Measured groundwater yield at the site: _____ gallons/day (as determined from well adequately screened in the impacted aquifer). ☐ Not determined.

Measured groundwater depth at the site ranges between _____ and _____ feet below the top of well casing.

Time period of groundwater monitoring at the site (dates): 12/93 to 7/99.

Total number of groundwater monitoring events: 7.

What type of aquifer is impacted? (unconfined, confined, semi-confined): unconfined.

Distance from maximum plume concentration point to nearest existing downgradient well location (not monitor well): 2,500 ft. in East direction (Input "> 0.5 mile" if there is no well within 0.5 mile downgradient)

Are any water supply wells impacted or immediately threatened? ☐ Yes ☒ No
If Yes, specify type of well: ☐ Drinking water ☐ Non-drinking water

Are there any existing water wells located within the area of impacted groundwater? ☐ Yes ☒ No
If Yes, specify type of well: ☐ Drinking water ☐ Non-drinking water

Has surface water been affected? ☒ Yes ☐ No

Will the groundwater contaminants likely discharge to a surface water body? ☒ Yes ☐ No

What is the potential impact of affected groundwater discharge on surface water?
☐ Current impact ☒ Discharges within 500 ft. ☐ Discharges within 500 to 0.25 miles
☐ No potential impact

☒ Yes ☐ No Were groundwater sample collection, handling, transport, and analytical procedures conducted and documented in accordance with TNRCC requirements? If no, provide justification: _____

V. GROUNDWATER DATA VALIDATION (Continued)

☒ Yes ☐ No Is the extent of groundwater contamination defined (to MCL concentrations)? If No, provide justification for not defining the plume:

☒ Yes ☐ No Have groundwater impacts from this release been detected on adjacent properties? If No, is off-site migration probable? ☐ Yes ☐ No Is there documentation that off-site migration has **not** occurred (sample results from off-site sampling point)? ☐ Yes ☐ No

☐ Yes ☒ No Was the static groundwater level above the top of the well screen in any monitor wells during any of the last 4 monitoring events? If Yes, provide a statement of validity regarding these samples:

☐ Yes ☒ No Have groundwater samples from all monitor wells met the target cleanup goals for the last four consecutive sampling events?

MAXIMUM GROUNDWATER CONCENTRATIONS

Groundwater Contaminants	Sample Date	Sample Location	Laboratory Method	Maximum Concentration* (mg/l)	Target Cleanup Goals** *(indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)*
Benzene	1/26/98	MW-10	SW8020	4.9	0.0294 (1994, Plan A)
Toluene	1/23/98	BSS-B	SW8020	11	7.3
Ethylbenzene	4/20/98	MW-10	SW8020	5.3	3.65
Total Xylenes	1/23/98	MW-10	SW8020	14	73.0
Total BTEX	1/23/98	MW-10	SW8020	31.4	NA
TPH					
Other MTBE	4/20/98	MW-10	SW8020	0.49	NA
Other					

* Enter maximum groundwater analytical results from the most recent 12 months of monitoring.

** 1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

VI. JUSTIFICATION FOR CLOSURE

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Please provide a brief summary supporting this request for site closure, including footnoted discussions for the above entries as necessary. **Include discussions providing necessary justifications for any site conditions which deviate from the specific requirements of TNRCC rules and policies, including the document *Risk-Based Corrective Action for Leaking Storage Tank Sites*.** Provide documentation to justify case closure, including information which addresses the potential for future exposure, the existence of impervious cover or other actions which may prevent exposure or limit infiltration, the absence of receptors, etc.

In accordance with the corrective action plan for the Base Service Station and Base Gas Station, and TNRCC comments, quarterly groundwater monitoring for a period of 1 year has been completed. Six monitoring wells have been sampled on a quarterly basis from October 1997 through July 1998. A seventh well was sampled during October 1997 and in October 1999. In addition, two surface water samples were collected from the West Fork of the Trinity River in September 1997. A summary of the groundwater analytical results have been provided as Table 1, and eight figures have been included as Attachment 1 in order to depict site-specific information. Figure 1 illustrates the locations of the Base Service Station and Base Gas Station. Figures 2 and 3 illustrate the former UST/AST layouts including piping. Figure 4 illustrates utility line locations in the vicinity of each site. Generalized groundwater flow in the vicinity of these sites is depicted in Figure 5. The locations of monitoring wells sampled either for the Site Assessment activities or as part of the Long Term Monitoring Plan and surface water sampling locations are presented in Figure 6. Figures 7 and 8 illustrate the benzene and total BTEX concentrations, respectively, for the quarterly monitoring events of this reporting period.

The monitoring well data for this reporting period reveals overall steady state conditions for concentrations of benzene and total BTEX in groundwater. Although five of the wells show steady or decreasing total BTEX concentrations, one well (BGSMW03) shows a slight increase in total BTEX concentration. However, the total BTEX concentrations in the monitoring wells surrounding this well have decreased to not detected, which suggests a stabilizing contaminant plume. Monitoring well data from MW-10, located along the Base boundary near the Trinity River, reveals a steady but slow decrease in BTEX contamination. As demonstrated through quarterly monitoring of groundwater, the concentrations of benzene and total BTEX have shown the contaminant plumes to be at a steady state or declining. Groundwater analytical data for the reporting period is presented as Attachment 2.

Surface water samples were collected from the West Fork of the Trinity River in September of 1997 and analyzed for BTEX, MTBE, total Lead and PAH's. The upgradient surface water sample contained trace amounts of benzene, and MTBE while the sample collected nearest the release showed results of non-detect. Surface water analytical data for the September 1997 event is presented as Attachment 3.

VII. REPORT PREPARATION

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Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Project Manager: Mr. Brad Nielsen CAPM No.: CAPM01291 Expiration date: 2/10/2000

Company: HydroGeoLogic, Inc.

Address: 13740 Research Blvd., Unit N-5 City: Austin State: TX Zip: 78750

Telephone No.: 512/336-1170 Fax No.: 512/336-0178

Signature: Date: 11/23/99

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Corrective Action Specialist: Mr. Brad Nielsen CAS No.: RCAS00700 Expiration date: 6/11/2000

Company: HydroGeoLogic, Inc.

Address: 1155 Herndon Parkway, Suite 900 City: Herndon State: VA Zip: 20170

Telephone No.: 703/478-5186 Fax No.: 703/471-4180

Signature: Date: 11/23/99

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter.
I certify that the site has met all requirements for closure and that closure is appropriate.

Name of Responsible Party contact: Mr. Don Ficklen, HQ-AFCEE/ERD

Telephone No.: 210/536-5290 Fax No.: 210/536-9026

Signature: Don Ficklen Date: 29 NOV 99

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS FORM IF NOT PREVIOUSLY SUBMITTED:

- A site map illustrating the locations of the entire UST and/or AST system (including piping, dispensers, observation wells, etc.), all soil borings and monitoring wells and all other sampling points, subsurface utilities, and surface water within 500 feet.
- A copy of the latest groundwater gradient map (if monitor wells were completed).
- Summary tables of all soil, groundwater and surface water analytical results, including samples collected from any tank removal from service activities, tank system repair activities, and those collected from borings and monitor wells. The tables must clearly identify the sample number, date of collection, sampling locations, depths (if applicable), and analytical results.
- Copies of any manifests or other waste receipts, and any other documents necessary for case closure.

TABLES

Table 1
Analytical Results for Sampling by Method SW8020A at AOC 1
(Base Gas Station/Base Service Station)

Well	Analyte	October 1997		January 1998		April 1998		July 1998		July 1999	
		Result[1]	Qualifier[2]	Result[1]	Qualifier[2]	Result[1]	Qualifier[2]	Result[1]	Qualifier[2]	Result[1]	Qualifier[2]
BGSMW03	Benzene	1,000		1,400		1,300		1,800		NA	
	Toluene	10	F	26	F	12		18		NA	
	Ethylbenzene	25		38	F	16		47		NA	
	Xylenes (total)	51		75	F	93		98		NA	
	Methyl tert-butyl ether	8.6	F	ND		18	J	32	J	NA	
BGSMW05	Toluene	0.52	F	ND		ND		ND		NA	
	Xylenes (total)	1.0	F	ND		ND		ND		NA	
	Methyl tert-butyl ether	ND		ND		3.6	J	2.4	J	NA	
BGSMW06	Benzene	0.65	F	ND		ND		ND			
	Toluene	2.1		ND		ND		0.56	J	NA	
	Ethylbenzene	1.1	F	ND		ND		ND			
	Xylenes (total)	3.3		ND		ND		1.2	J	NA	
BSS-B	Toluene	9,100		7,600		11,000		6,600		NA	
	Ethylbenzene	1,800		1,700		2,100		2,700		NA	
	Xylenes (total)	9,400	J	12,000		13,000		11,000		NA	
MW-10	Benzene	2,600	J	4,900		4,300		3,200		NA	
	Toluene	7,300		7,300		4,800		2,000		NA	
	Ethylbenzene	4,900		5,200		5,300		5,000		NA	
	Xylenes (total)	13,000	J	14,000		12,000		11,000		NA	
	Methyl tert-butyl ether	380	J	400	F	490	J	330	J	NA	
SAV-2[3]	Benzene	3,000		2,300		2,300		2,900		NA	
	Toluene	160		140	J	120	F	110	J	NA	
	Ethylbenzene	1,700		1,500		1,200		1,800		NA	
	Xylenes (total)	2,900	J	2,900		2,100		3,100		NA	
	Methyl tert-butyl ether	300		310		280	J	320		NA	
	1,4-Dichlorobenzene	NA		18	F	NA		NA		NA	
MW-8	Benzene	ND		NA		NA		NA		NA	
	Toluene	ND		NA		NA		NA		NA	

Table 1 (continued)
Analytical Results for Sampling by Method SW8020A at AOC 1
(Base Gas Station/Base Service Station)

Well	Analyte	October 1997		January 1998		April 1998		July 1998		July 1999	
		Result[1]	Qualifier[2]	Result[1]	Qualifier[2]	Result[1]	Qualifier[2]	Result[1]	Qualifier[2]	Result[1]	Qualifier[2]
	Ethylbenzene	ND		NA		NA		NA		NA	
	Xylenes (total)	ND		NA		NA		NA		NA	
	Methyl tert-butyl ether	NA		NA		NA		NA		NA	
MW-9	Benzene	ND		NA		NA		NA		NA	
	Toluene	ND		NA		NA		NA		NA	
	Ethylbenzene	ND		NA		NA		NA		NA	
	Xylenes (total)	ND		NA		NA		NA		NA	
	Methyl tert-butyl ether	NA		NA		NA		NA		NA	
MW-11	Benzene	ND		NA		NA		NA		ND	
	Toluene	0.3		NA		NA		NA		ND	
	Ethylbenzene	ND		NA		NA		NA		ND	
	Xylenes (total)	ND		NA		NA		NA		ND	
	Methyl tert-butyl ether	NA		NA		NA		NA		ND	

Notes:

1 Concentrations are reported in micrograms per liter (μg/L).

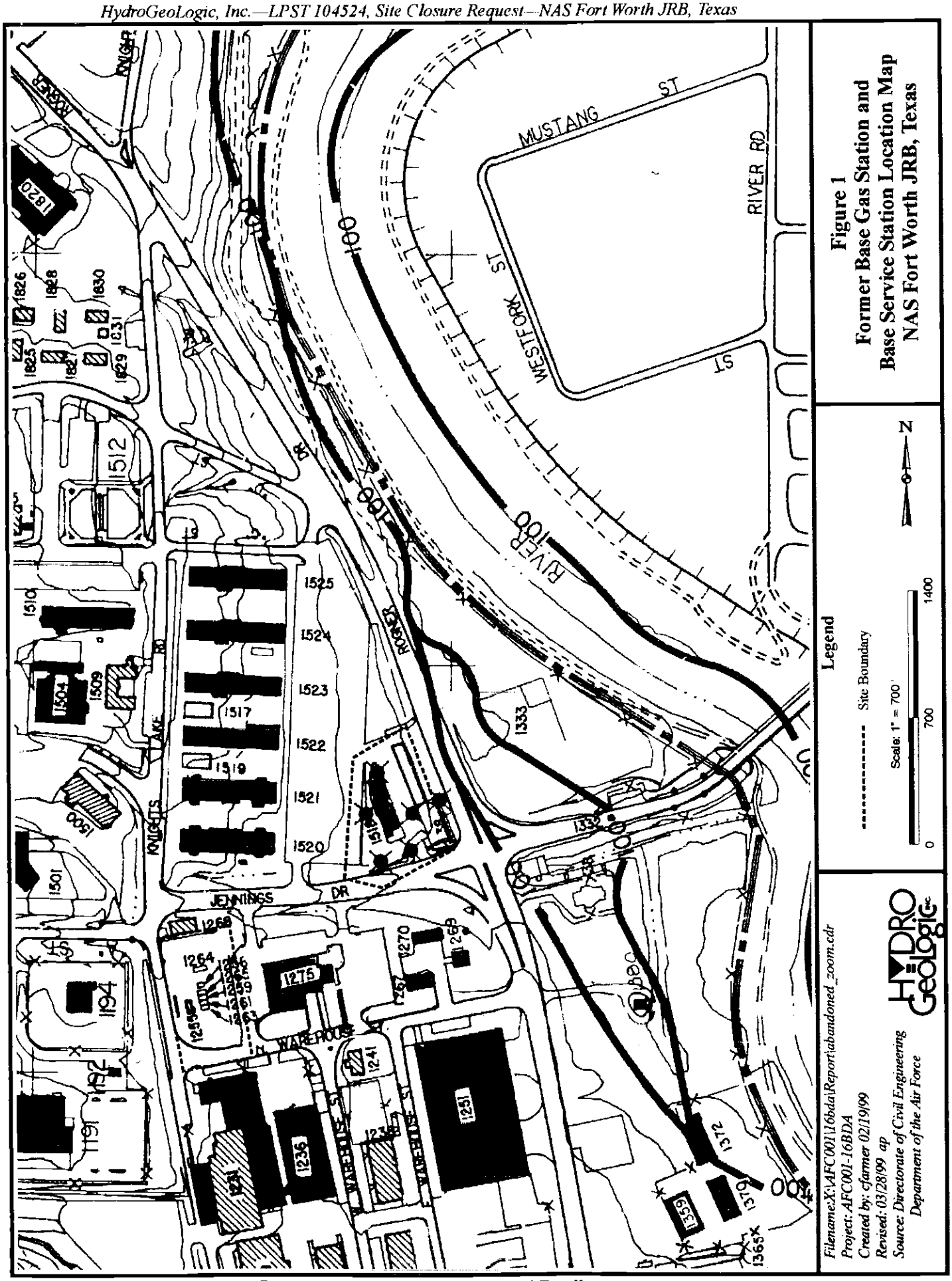
2 The "F" qualifier indicates that the analyte was positively identified, but that the associated numerical value is below the practical quantitation limit (PQL). The "J" qualifier indicates that the analyte was positively identified, but the quantification is an estimation.

3 This well was mislabeled as monitoring well MW-1 during the October 1997 and January 1998 sampling events.

Additional analytical results for soil samples, the above wells, and additional monitoring wells (MW-1, MW-2, MW-3, MW-5, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, and BSS-A) sampled before 1997 are contained or referenced in the Assessment Report Form submitted to the TNRCC by IT Corp., dated December 13, 1997.

NA = not analyzed
ND = not detected

ATTACHMENT 1
FIGURES


MUSTANG ST
RIVER RD
WESTFORK ST
RIVER RD
ROGERS DR
KNIGHTS RD
JENNINGS DR
WAREHOUSE ST
1820
1826
1828
1830
1831
1829
1825
1512
1510
1504
1509
1500
1501
1525
1524
1523
1517
1522
1519
1521
1520
1518
1333
1332
1275
1270
1268
1264
1259
1261
1263
1241
1236
1238
1231
1372
1359
1365
Legend
Site Boundary
Scale: 1" = 700'
0
700
1400
N
Figure 1
Former Base Gas Station and
Base Service Station Location Map
NAS Fort Worth JRB, Texas
Filename:X:\AFC001\16bda\Report\abandoned_zoom.cdr
Project: AFC001-16BDA
Created by: cfarmer 02/19/99
Revised: 03/28/99 ap
Source: Directorate of Civil Engineering
Department of the Air Force
HydroGeoLogic

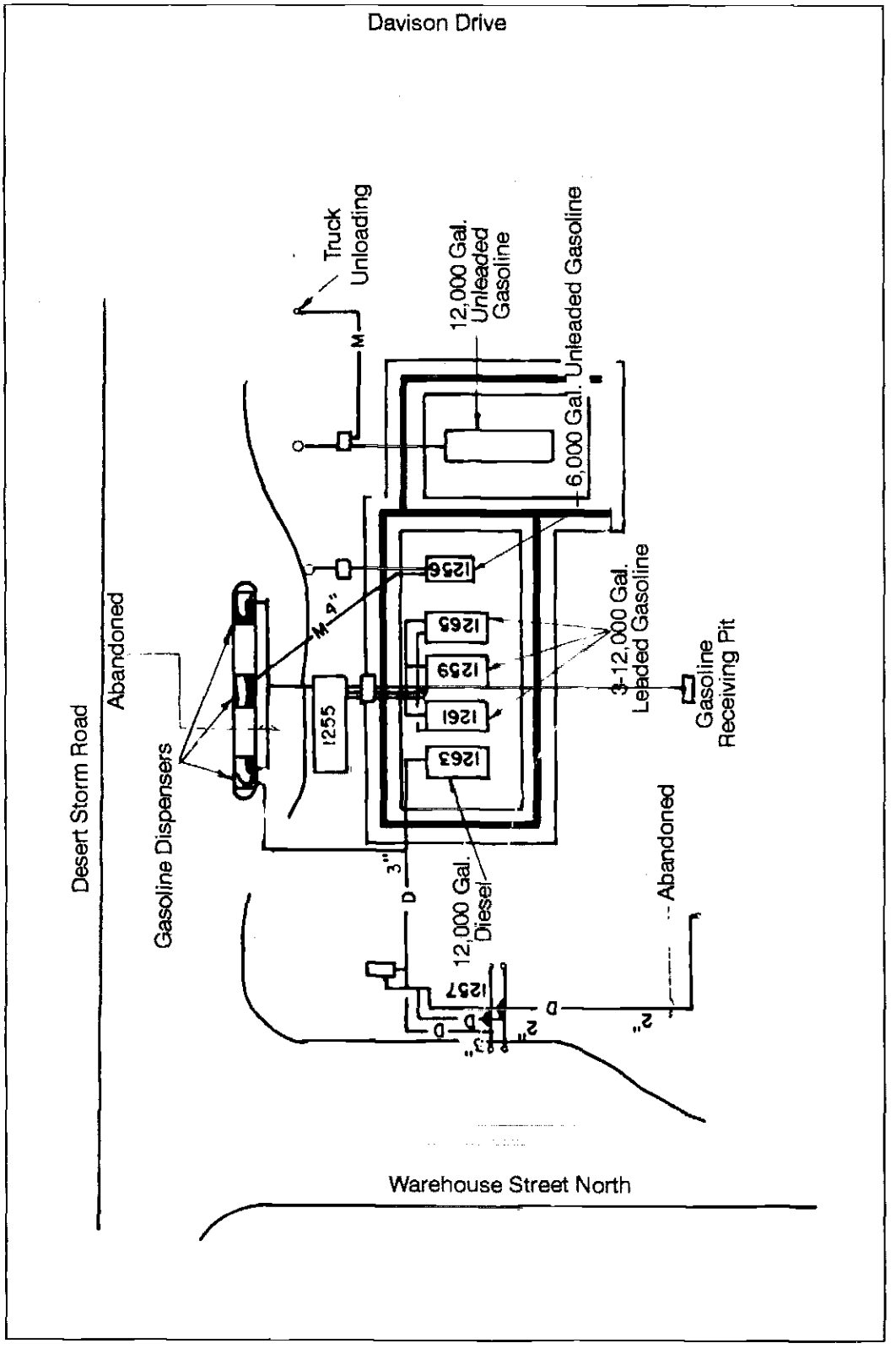


Figure 2
Aboveground Storage Tank Piping Layout
Former Base Gas Station
NAS Fort Worth JRB, Texas

Legend

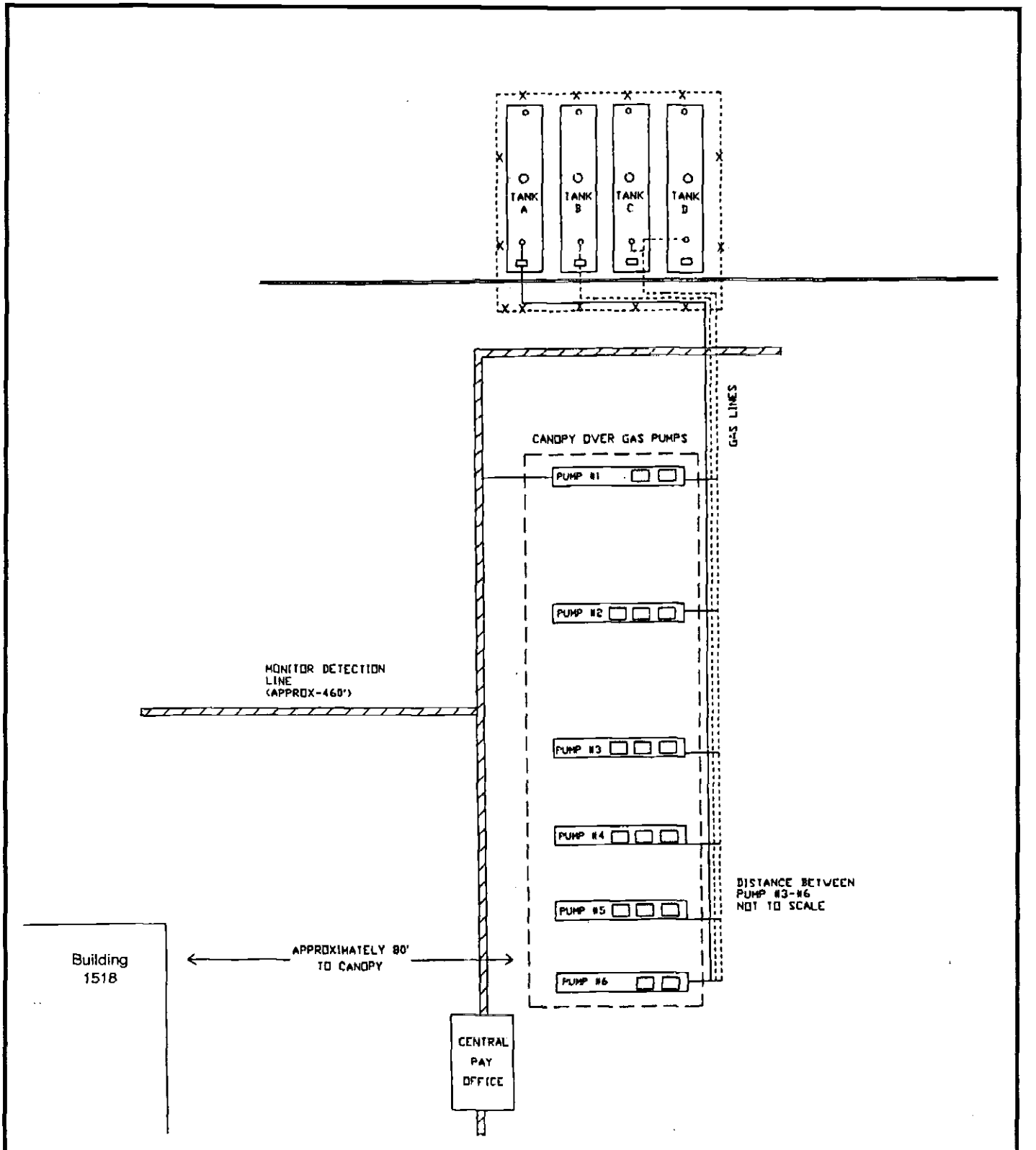
Scale: 1" = 50'

0 50 100

N

Filename X:\AFC001\16bda\Report\1255_diesel.cdr
Project: AVC001-16BDA
Created by: cfarmer 02/18/99
Revised: 03/29/99 ap
Source: Directorate of Civil Engineering
Department of the Air Force

HYDRO GeoLogic



Filename: X:AFC001\16dba\Report\1518_samp_loc.cdr
Project: AFC001-16DBA
Created: cfarmer 11/19/98
Revised: 03/29/99 ap
Source: WC Environmental Group

HYDRO GeoLogic INC.

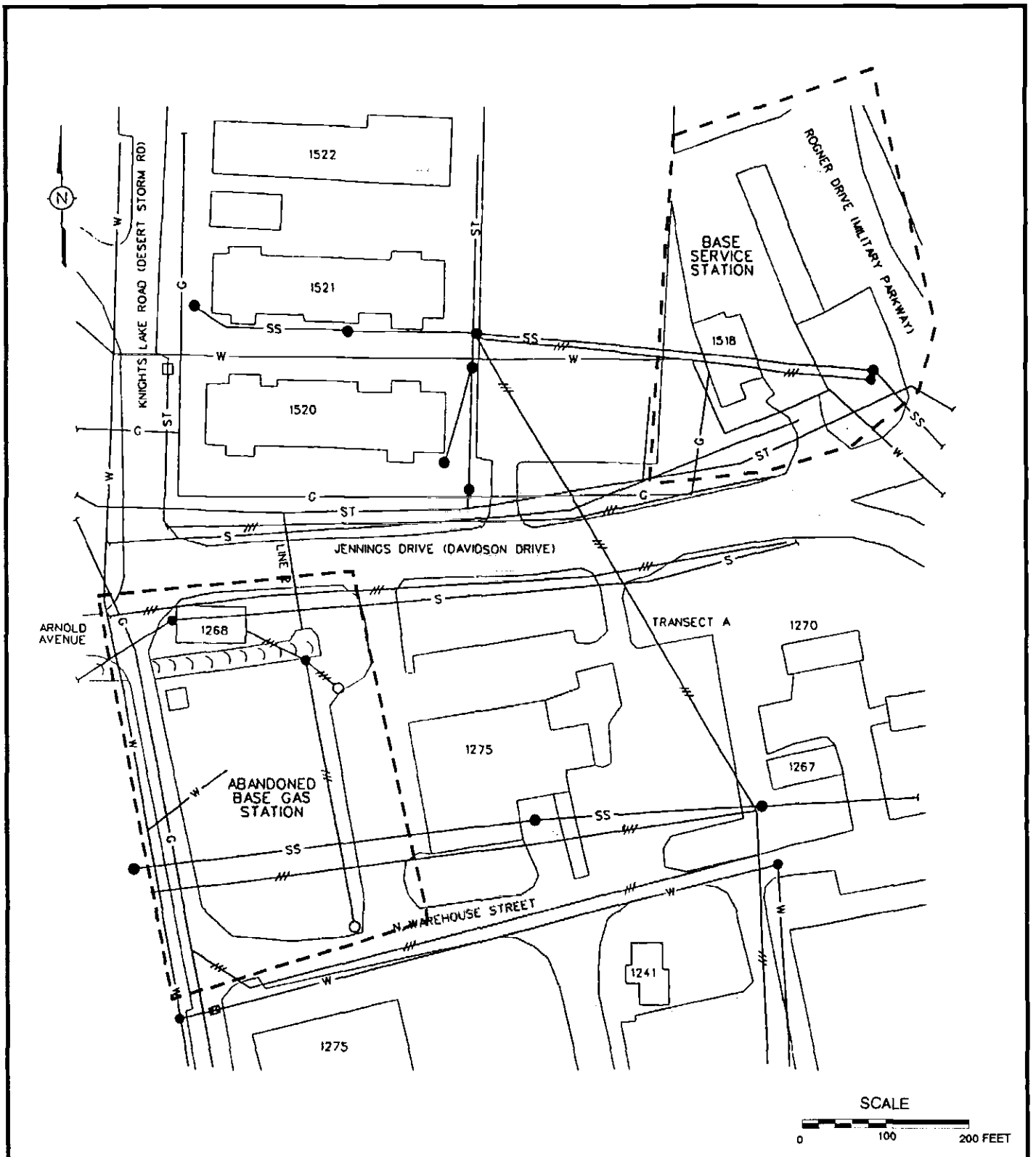
Legend

--x---x---x-- Extent of Excavation

Figure not drawn to scale

N

Figure 3
Underground Storage Tank Piping Layout, Building 1518, Base Service Station
NAS Fort Worth JRB, Texas



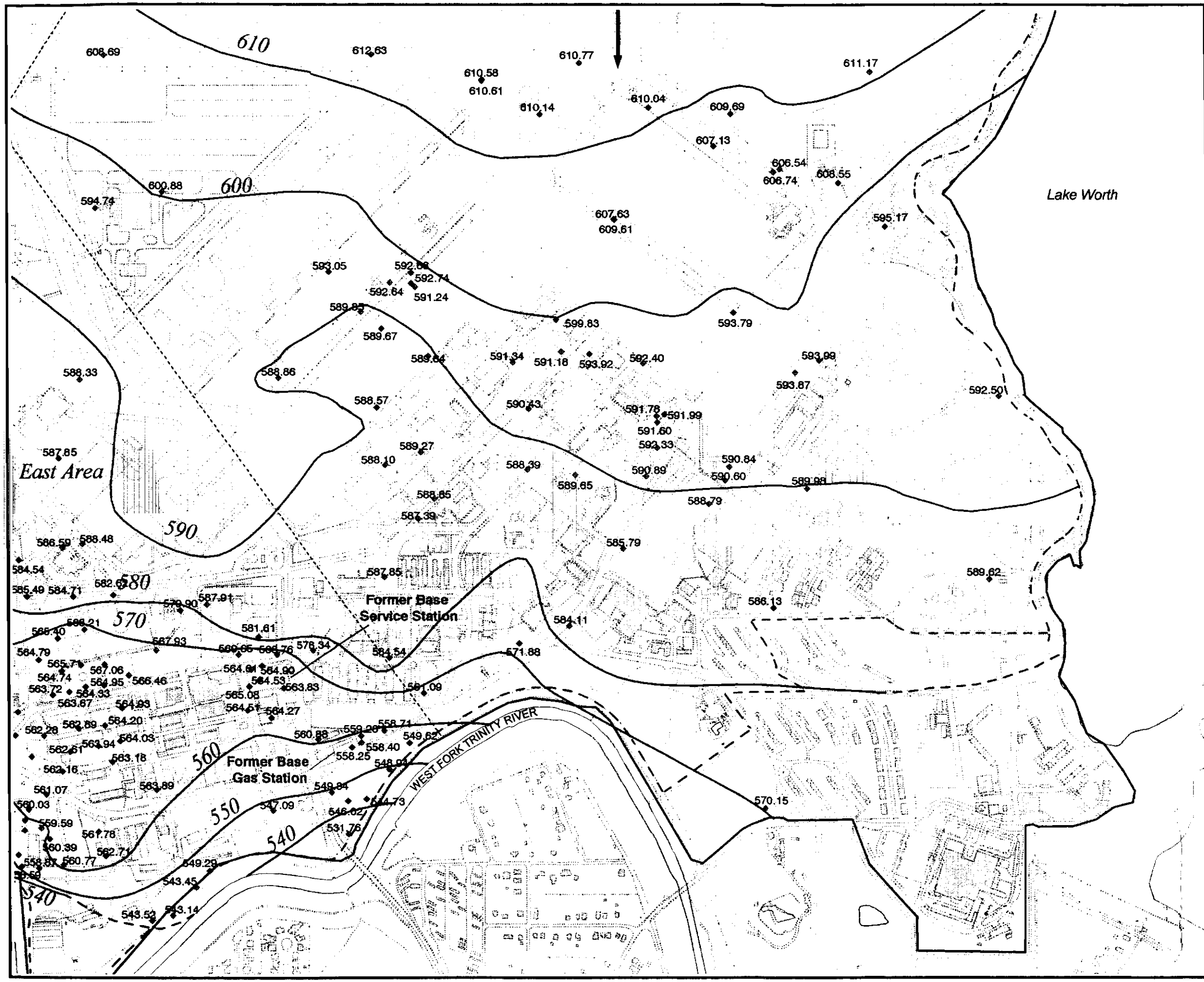
Filename: X:AFC001\16bda\Report \1518_utility_line.cdr
Project: AFC001-16BDA
Created: cfarmer 02/22/99
Revised: 03/29/99 ap
Source: Comprehensive Plan, Composite Utility System, Carswell AFB, G-11: Sheet 15 of 22 (30 Oct 89 update)

HYDRO GeoLogic

Legend

— W —	Water	○	Manhole
— G —	Gas	●	Power Pole
— S —	UG Elec. Line	⊠	Water Valve
— SS —	Sanitary Sewer	— — —	Site Boundry
— ST —	Storm Drain		
— /// —	Power Line (OH)		

Figure 4
Utility Line Layout
Former Base Gas Station and Base Service Station
NAS Fort Worth JRB, Texas



HydroGeoLogic, Inc.—LPST 104524, Site Closure Request
NAS Fort Worth JRB, Texas

Figure 5

Basewide Water Level Elevations NAS Fort Worth JRB July 1998

Air Force Center For Environmental Excellence
Brooks AFB, Texas

Legend

- - - - NAS Fort Worth JRB (Carswell Field)

——— Former Carswell Air Force Base

600 Groundwater Elevation Contour (Feet Above Mean Sea Level)

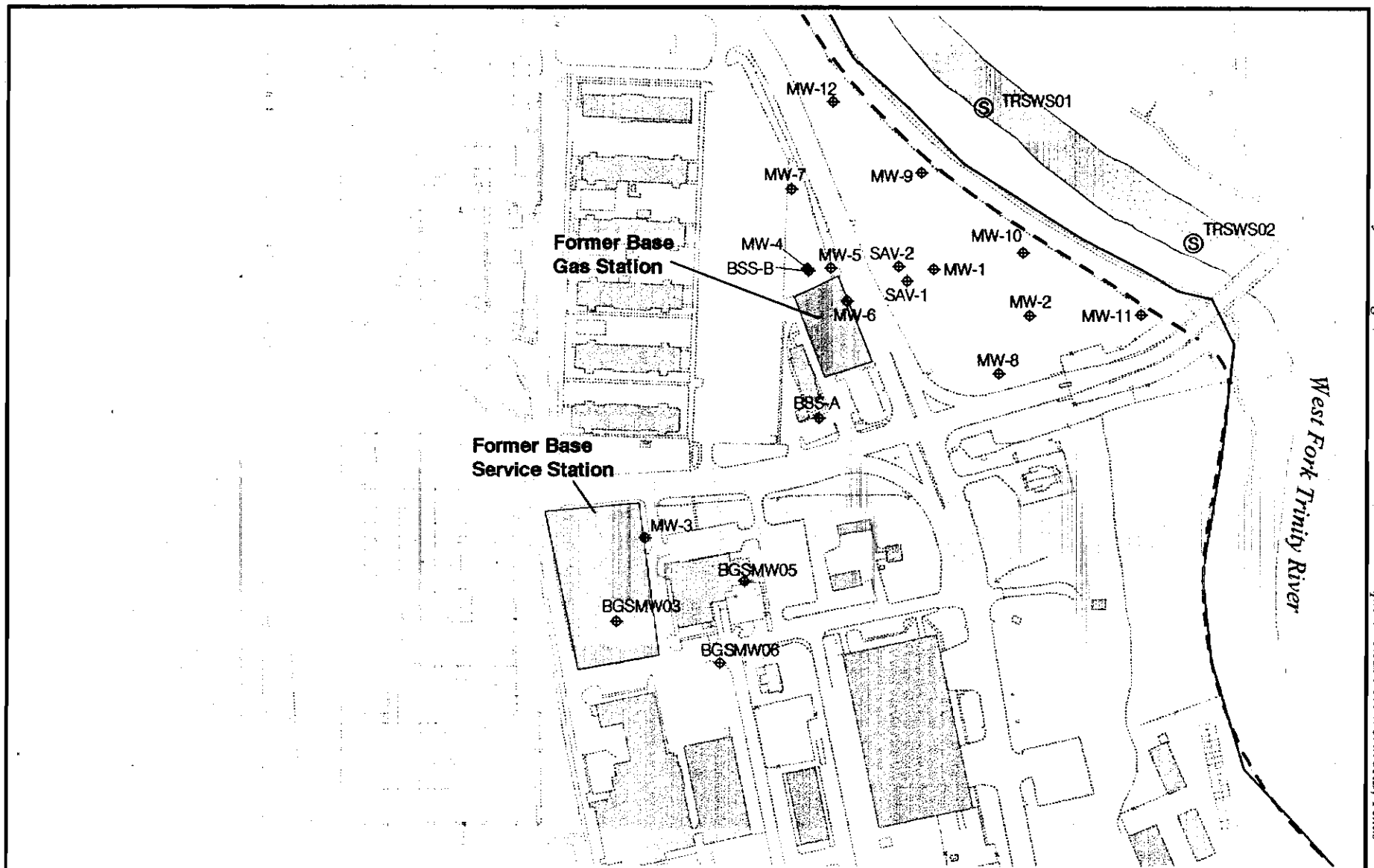
——→ Generalized Groundwater Flow

N

0 350 700 1400
SCALE IN FEET

HYDRO GeoLogic INC.

Filename: AFC001/15IDCA/Presentation/FIG2.apr
Project: AFC001-16BDA
Created: 10/09/98 nzehms
Revised: 04/08/99 ap
Map Source: HydroGeoLogic, Inc GIS Database



Filename: X:\AFC001\071B Report\AOC_1-wells.apr
Project: AFC001-16BDA
Created: cfarmer 02/22/99
Revised: 11/22/99 jb
Source: HGL ArcView Database

HYDRO GeoLogic

Legend

⊕ Wells Sampled under the Abandoned Service Station/Base Gas Station Site Assessment and/or Basewide Long Term Monitoring Program

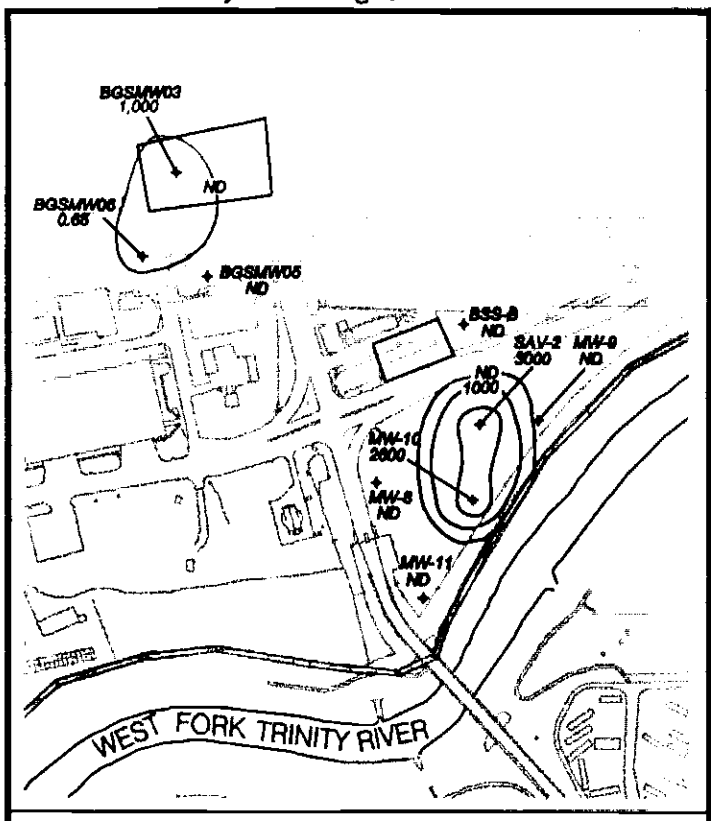
Ⓢ Surface Water Sample Location (9/23/97)

Former UST and AST Locations

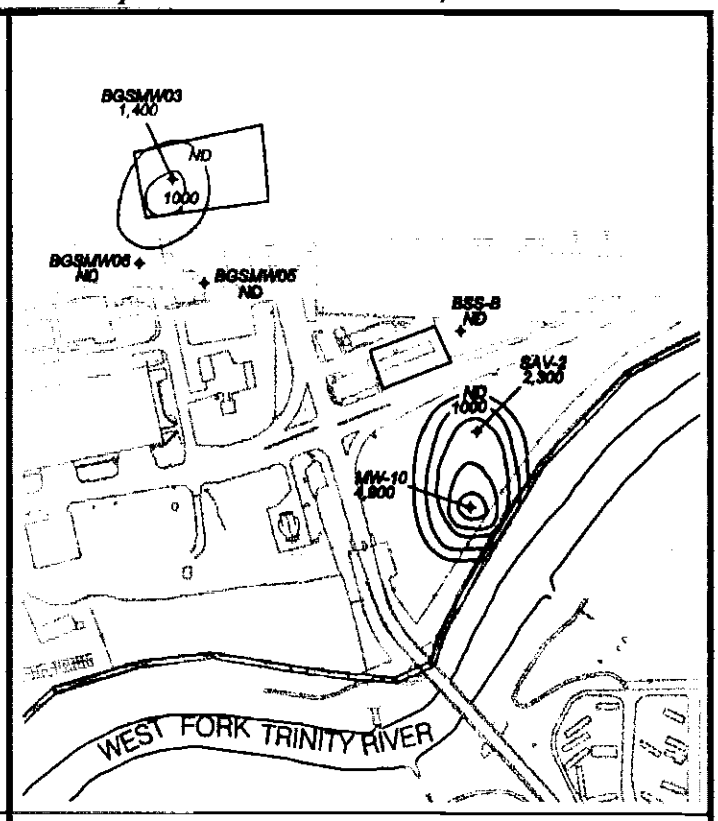
N

100 0 100 200 Feet

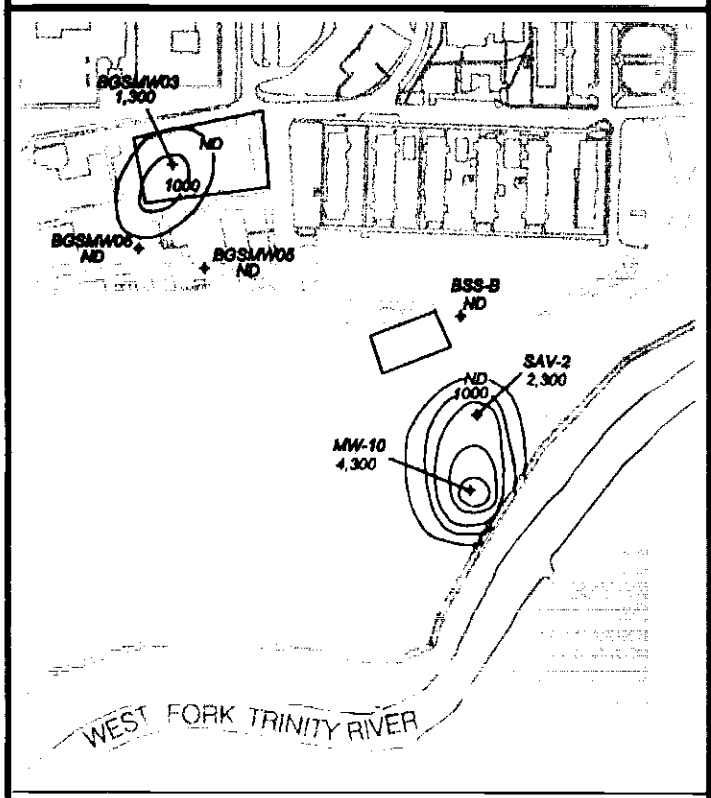
Figure 6
Monitoring Well and
Surface Water Sample Locations
NAS Fort Worth JRB, Texas



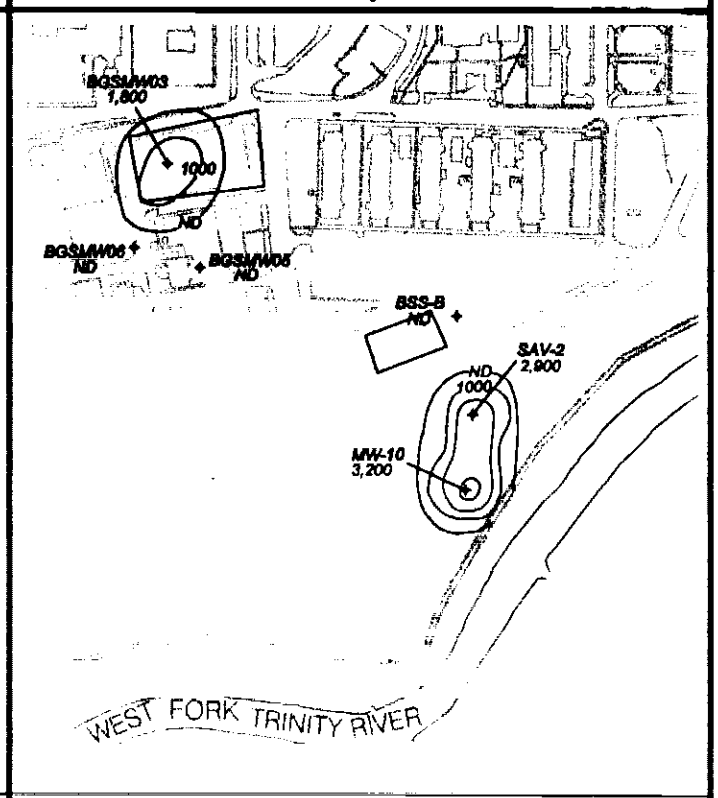
October 1997



January 1998



April 1998



July 1998

Filename: X:/Afc001/16bda/Report/benzene.dwg
Project: AFC001-16BDA
Created: 03/30/99 jbelcher
Revised: 11/23/99 ap
Source: Jacobs, 1996

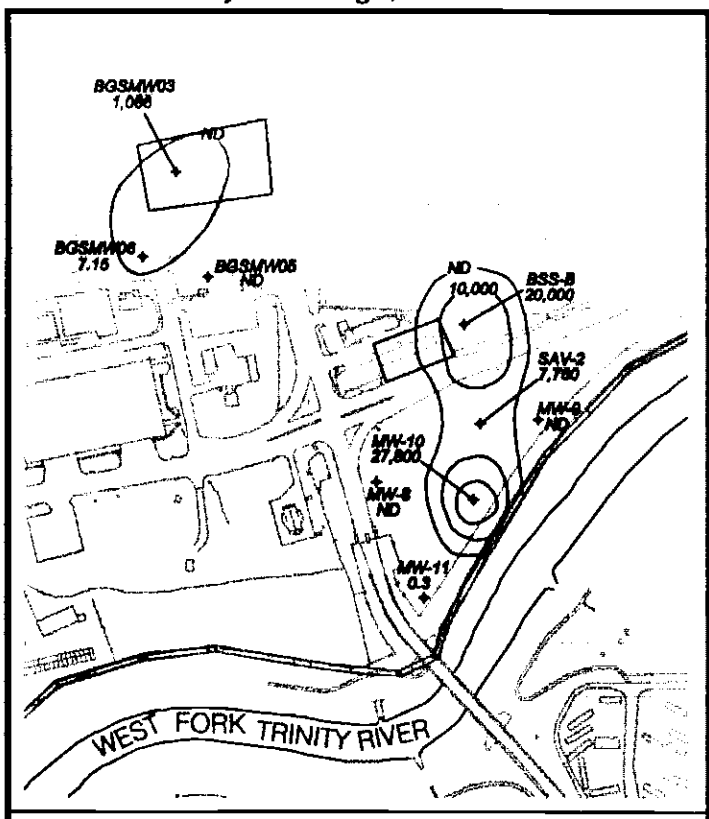
HYDRO GeoLogic

Legend

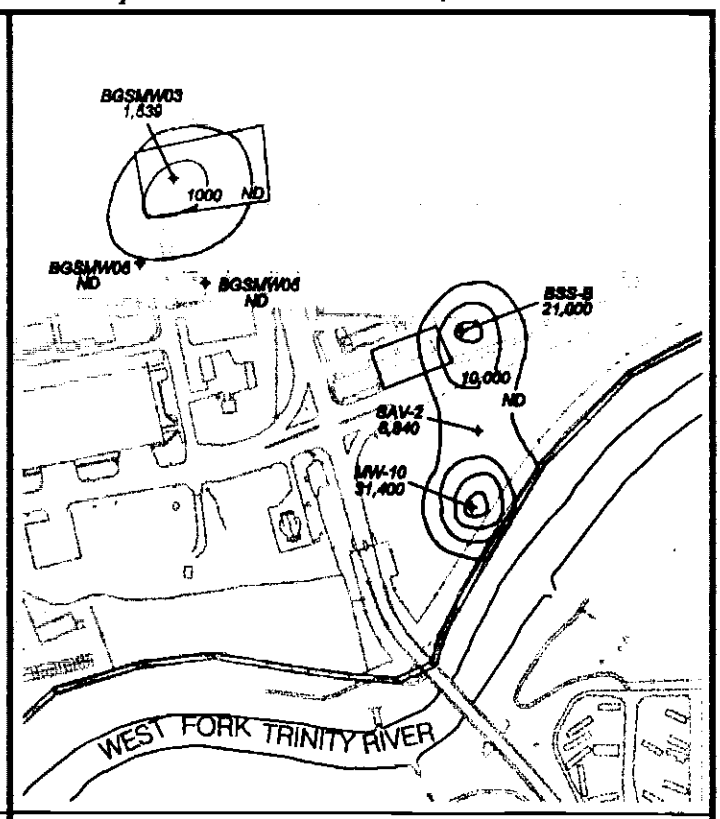
7,760	Benzene in µg/L
ND	Not Detected
✦	Monitoring Well
——	Isoconcentration Boundary

Scale in Feet 0 125 250

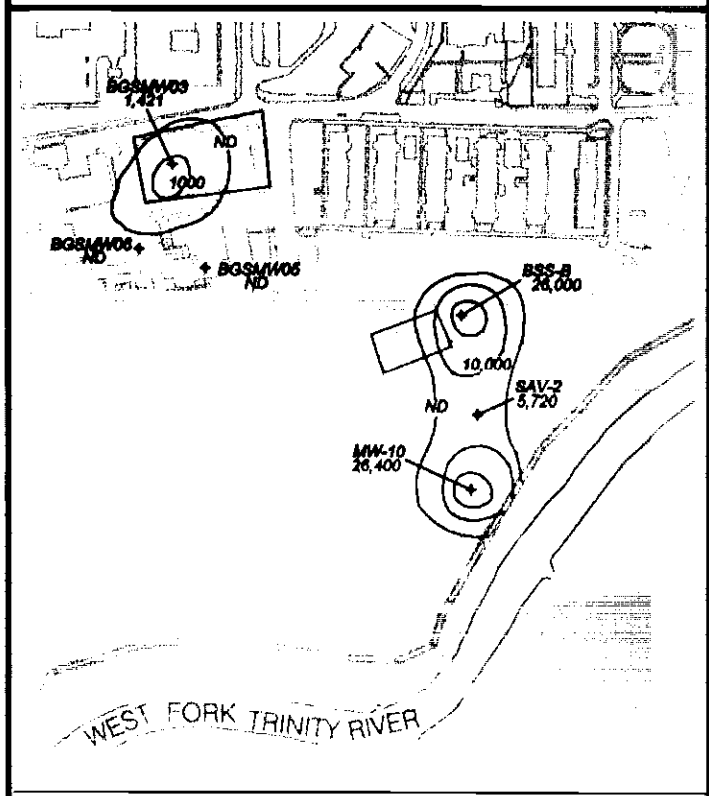
Figure 7
October 1997 through July 1998
Benzene Plume Map
NAS Fort Worth JRB, TX



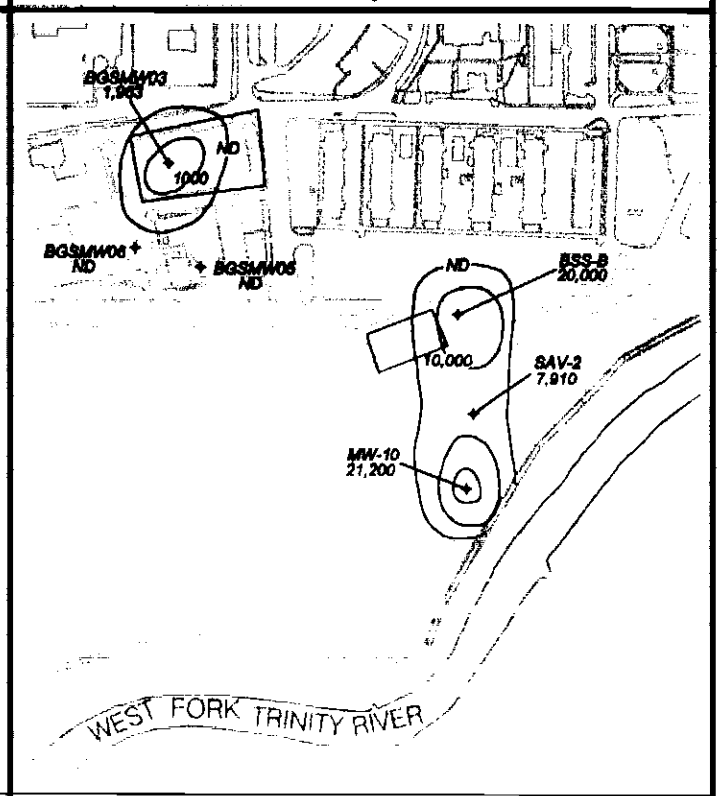
October 1997



January 1998



April 1998



July 1998

Filename: X:/Afc001/16bda/Report/total_btex.dwg
Project: AFC001-16BDA
Created: 03/30/99 jbelcher
Revised: 11/23/99 jb
Source: Jacobs, 1996

HYDRO GeoLogic

Legend

7,760	Total BTEX in µg/L
ND	Not Detected
✦	Monitoring Well
——	Isoconcentration Boundary

Scale In Feet 0 125 250

Figure 8
October 1997 through July 1998
Total BTEX Plume Map
NAS Fort Worth JRB, TX

ATTACHMENT 2
GROUNDWATER ANALYTICAL RESULTS

HYDROGEOLOGIC, INC.

Lab Name: QUANTERRA

SDG Number: 13

Matrix: (soil/water) WG
Method: SW846 8020A
Volatile Organics (8020A)

Lab Sample ID: B7J250110 003

Sample WT/Vol: 0.5 / mL
Work Order: CDLWA101
Dilution factor: 10

Date Received: 10/25/97
Date Extracted: 10/31/97
Date Analyzed: 10/31/97

QC Batch: 7308212

Client Sample Id: BGSMW03WG02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
1634-04-4	Methyl tert-butyl ether	8.6	F

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
4-Bromochlorobenzene	86	(46 - 136)
Bromofluorobenzene	87	(48 - 138)
Fluorobenzene	84	(44 - 165)

Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: BGSMW05WG02

GC Volatiles

Lot-Sample #...:	B7J280118-007	**Work Order #...:**	CDN53101	**Matrix.....:**	WG
Date Sampled...:	10/27/97 16:40	**Date Received..:**	10/28/97 10:00	**MS Run #.....:**	
Prep Date.....:	11/03/97	**Analysis Date..:**	11/03/97		
Prep Batch #...:	7309222	**Analysis Time..:**	20:22		
Dilution Factor:	1	**Initial Wgt/Vol:**	5 mL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V2A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	2.0	ug/L	SW846 8020A
Ethylbenzene	ND	2.0	ug/L	SW846 8020A
Toluene	**0.52 F**	**2.0**	**ug/L**	**SW846 8020A**
Xylenes (total)	**1.0 F**	**2.0**	**ug/L**	**SW846 8020A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	82	(46 - 136)
Bromofluorobenzene	85	(48 - 138)
Fluorobenzene	82	(44 - 165)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

F The analyte was identified but the value was below the RL and above the MDL.

Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: BGSMW05WG02

GC Volatiles

Lot-Sample #...:	B7J280118-007	**Work Order #...:**	CDN53201	**Matrix.....:**	WG
Date Sampled...:	10/27/97 16:40	**Date Received..:**	10/28/97 10:00	**MS Run #.....:**	
Prep Date.....:	11/05/97	**Analysis Date..:**	11/05/97		
Prep Batch #...:	7309225	**Analysis Time..:**	21:14		
Dilution Factor:	1	**Initial Wgt/Vol:**	5 mL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V3A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methyl tert-butyl ether	ND	2.0	ug/L	SW846 8020A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	106	(46 - 136)
Bromofluorobenzene	102	(48 - 138)
Fluorobenzene	95	(44 - 165)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: BGSMW06WG02

GC Volatiles

Lot-Sample #...:	B7J310120-004	**Work Order #...:**	CDQ6M101	**Matrix.....:**	WG
Date Sampled...:	10/30/97 10:30	**Date Received..:**	10/31/97 09:30	**MS Run #.....:**	
Prep Date.....:	11/05/97	**Analysis Date..:**	11/05/97		
Prep Batch #...:	7310177	**Analysis Time..:**	18:27		
Dilution Factor:	1	**Initial Wgt/Vol:**	5 mL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V3A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	**0.65 F**	**2.0**	**ug/L**	**SW846 8020A**
Ethylbenzene	**1.1 F**	**2.0**	**ug/L**	**SW846 8020A**
Toluene	**2.1**	**2.0**	**ug/L**	**SW846 8020A**
Methyl tert-butyl ether	ND	2.0	ug/L	SW846 8020A
Xylenes (total)	**3.3**	**2.0**	**ug/L**	**SW846 8020A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	112	(46 - 136)
Bromofluorobenzene	105	(48 - 138)
Fluorobenzene	92	(44 - 165)

NOTE(S):

F The analyte was identified but the value was below the RL and above the MDL.

ND = The analyte was analyzed for but not detected at or above the MDL.

Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: BSS-BWG02

GC Volatiles

Lot-Sample #...:	B7J280118-005	**Work Order #...:**	CDN50107	**Matrix.....:**	WG
Date Sampled...:	10/27/97 11:15	**Date Received..:**	10/28/97 10:00	**MS Run #.....:**	
Prep Date.....:	11/03/97	**Analysis Date..:**	11/03/97		
Prep Batch #...:	7309222	**Analysis Time..:**	19:27		
Dilution Factor:	100	**Initial Wgt/Vol:**	50 uL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V2A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	200	ug/L	SW846 8020A
Ethylbenzene	**1800**	**200**	**ug/L**	**SW846 8020A**
Toluene	**9100**	**200**	**ug/L**	**SW846 8020A**
Xylenes (total)	**9400**	**200**	**ug/L**	**SW846 8020A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	87	(46 - 136)
Bromofluorobenzene	88	(48 - 138)
Fluorobenzene	79	(44 - 165)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: BSS-BWG02

GC Volatiles

Lot-Sample #...:	B7J280118-005	**Work Order #...:**	CDN50207	**Matrix.....:**	WG
Date Sampled...:	10/27/97 11:15	**Date Received..:**	10/28/97 10:00	**MS Run #.....:**	
Prep Date.....:	11/05/97	**Analysis Date..:**	11/05/97		
Prep Batch #...:	7309225	**Analysis Time..:**	20:32		
Dilution Factor:	100	**Initial Wgt/Vol:**	50 uL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V3A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methyl tert-butyl ether	ND	200	ug/L	SW846 8020A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	104	(46 - 136)
Bromofluorobenzene	102	(48 - 138)
Fluorobenzene	100	(44 - 165)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-1WG02

GC Volatiles

Lot-Sample #...:	B7J310120-002	**Work Order #...:**	CDQ6J107	**Matrix.....:**	WG
Date Sampled...:	10/30/97 09:40	**Date Received..:**	10/31/97 09:30	**MS Run #.....:**	
Prep Date.....:	11/08/97	**Analysis Date..:**	11/08/97		
Prep Batch #...:	7317239	**Analysis Time..:**	04:02		
Dilution Factor:	20	**Initial Wgt/Vol:**	0.25 mL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V3A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	**3000**	**40**	**ug/L**	**SW846 8020A**
Ethylbenzene	**1700**	**40**	**ug/L**	**SW846 8020A**
Toluene	**160**	**40**	**ug/L**	**SW846 8020A**
Methyl tert-butyl ether	**300**	**40**	**ug/L**	**SW846 8020A**
Xylenes (total)	**2900**	**40**	**ug/L**	**SW846 8020A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	96	(46 - 136)
Bromofluorobenzene	103	(48 - 138)
Fluorobenzene	116	(44 - 165)

Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-8WG02

GC Volatiles

Lot-Sample #...:	B7J220109-004	**Work Order #...:**	CDJD4108	**Matrix.....:**	WG
Date Sampled...:	10/21/97 16:25	**Date Received..:**	10/22/97 09:30	**MS Run #.....:**	
Prep Date.....:	10/28/97	**Analysis Date..:**	10/28/97		
Prep Batch #...:	7307238	**Analysis Time..:**	19:42		
Dilution Factor:	1	**Initial Wgt/Vol:**	5 mL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V6A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	2.0	ug/L	SW846 8020A
Ethylbenzene	ND	2.0	ug/L	SW846 8020A
Toluene	ND	2.0	ug/L	SW846 8020A
Xylenes (total)	ND	2.0	ug/L	SW846 8020A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	95	(46 - 136)
Bromofluorobenzene	86	(48 - 138)
Fluorobenzene	119	(44 - 165)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: BGSMW03WG02

GC Volatiles

Lot-Sample #...:	B7J250110-003	**Work Order #...:**	CDLWA101	**Matrix.....:**	WG
Date Sampled...:	10/24/97 09:15	**Date Received..:**	10/25/97 09:45	**MS Run #.....:**	
Prep Date.....:	10/31/97	**Analysis Date..:**	10/31/97		
Prep Batch #...:	7308212	**Analysis Time..:**	17:15		
Dilution Factor:	10	**Initial Wgt/Vol:**	0.5 mL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V2A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methyl tert-butyl ether	**8.6 F**	**20**	**ug/L**	**SW846 8020A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	86	(46 - 136)
Bromofluorobenzene	87	(48 - 138)
Fluorobenzene	84	(44 - 165)

NOTE(S):

F The analyte was identified but the value was below the RL and above the MDL.

Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-9WG02

GC/MS Volatiles

Lot-Sample #...: B7J210119-006 **Work Order #...:** CDHNX206 **Matrix.....:** WG
Date Sampled...: 10/20/97 **Date Received..:** 10/21/97 **MS Run #.....:**
Prep Date.....: 10/31/97 **Analysis Date..:** 11/01/97
Prep Batch #...: 7309270 **Analysis Time..:** 01:53
Dilution Factor: 1 **Initial Wgt/Vol:** 25 mL **Final Wgt/Vol..:** 25 mL
Analyst ID.....: 001696 **Instrument ID..:** VO4

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	0.80	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	0.40	ug/L	SW846 8260A
1,1-Dichloroethene	ND	1.2	ug/L	SW846 8260A
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260A
1,2,3-Trichlorobenzene	ND	0.30	ug/L	SW846 8260A
1,2,3-Trichloropropane	ND	3.2	ug/L	SW846 8260A
1,2,4-Trichlorobenzene	ND	0.40	ug/L	SW846 8260A
1,2,4-Trimethylbenzene	ND	1.3	ug/L	SW846 8260A
1,2-Dichloroethane	ND	0.60	ug/L	SW846 8260A
1,2-Dichlorobenzene	ND	0.30	ug/L	SW846 8260A
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.6	ug/L	SW846 8260A
1,2-Dichloropropane	ND	0.40	ug/L	SW846 8260A
1,2-Dibromoethane (EDB)	ND	0.60	ug/L	SW846 8260A
1,3,5-Trimethylbenzene	ND	0.50	ug/L	SW846 8260A
1,3-Dichlorobenzene	ND	1.2	ug/L	SW846 8260A
1,3-Dichloropropane	ND	0.40	ug/L	SW846 8260A
1,4-Dichlorobenzene	ND	0.30	ug/L	SW846 8260A
1-Chlorohexane	ND	0.50	ug/L	SW846 8260A
2,2-Dichloropropane	ND	3.5	ug/L	SW846 8260A
2-Chlorotoluene	ND	0.40	ug/L	SW846 8260A
4-Chlorotoluene	ND	0.60	ug/L	SW846 8260A
Benzene	ND	0.40	ug/L	SW846 8260A
Bromobenzene	ND	0.30	ug/L	SW846 8260A
Bromochloromethane	ND	0.40	ug/L	SW846 8260A
Bromodichloromethane	ND	0.80	ug/L	SW846 8260A
Bromoform	ND	1.2	ug/L	SW846 8260A
Bromomethane	ND	1.1	ug/L	SW846 8260A
Carbon tetrachloride	ND	2.1	ug/L	SW846 8260A
Chlorobenzene	ND	0.40	ug/L	SW846 8260A
Chloroethane	ND	1.0	ug/L	SW846 8260A
Chloroform	ND	0.30	ug/L	SW846 8260A
Chloromethane	ND	1.3	ug/L	SW846 8260A
cis-1,2-Dichloroethene	ND	1.2	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A

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Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-9WG02

GC/MS Volatiles

Lot-Sample #...: B7J210119-006 Work Order #...: CDHNX206 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Dibromochloromethane	ND	0.50	ug/L	SW846 8260A
Dibromomethane	ND	2.4	ug/L	SW846 8260A
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260A
Ethylbenzene	ND	0.60	ug/L	SW846 8260A
Hexachlorobutadiene	ND	1.1	ug/L	SW846 8260A
Isopropylbenzene	ND	0.50	ug/L	SW846 8260A
m-Xylene & p-Xylene	ND	0.50	ug/L	SW846 8260A
Methylene chloride	ND	0.30	ug/L	SW846 8260A
n-Butylbenzene	ND	1.1	ug/L	SW846 8260A
n-Propylbenzene	ND	0.40	ug/L	SW846 8260A
Naphthalene	ND	0.40	ug/L	SW846 8260A
o-Xylene	ND	1.1	ug/L	SW846 8260A
p-Isopropyltoluene	ND	1.2	ug/L	SW846 8260A
sec-Butylbenzene	**0.48 F**	**1.3**	**ug/L**	**SW846 8260A**
Styrene	ND	0.40	ug/L	SW846 8260A
Trichloroethene	ND	1.0	ug/L	SW846 8260A
tert-Butylbenzene	ND	1.4	ug/L	SW846 8260A
Tetrachloroethene	ND	1.4	ug/L	SW846 8260A
Toluene	ND	1.1	ug/L	SW846 8260A
trans-1,2-Dichloroethene	ND	0.60	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A
Trichlorofluoromethane	ND	0.80	ug/L	SW846 8260A
Vinyl chloride	ND	1.1	ug/L	SW846 8260A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	95	(75 - 125)
4-Bromofluorobenzene	86	(75 - 125)
1,2-Dichloroethane-d4	87	(62 - 139)
Dibromofluoromethane	95	(75 - 125)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

F The analyte was identified but the value was below the RL and above the MDL.

Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-10WG02

GC Volatiles

Lot-Sample #...:	B7J310120-003	**Work Order #...:**	CDQ6L10P	**Matrix.....:**	WG
Date Sampled...:	10/30/97 08:45	**Date Received..:**	10/31/97 09:30	**MS Run #.....:**	
Prep Date.....:	11/13/97	**Analysis Date..:**	11/13/97		
Prep Batch #...:	7317245	**Analysis Time..:**	15:43		
Dilution Factor:	50	**Initial Wgt/Vol:**	100 uL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V3A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	**2600**	**100**	**ug/L**	**SW846 8020A**
Ethylbenzene	**4900**	**100**	**ug/L**	**SW846 8020A**
Toluene	**7300**	**100**	**ug/L**	**SW846 8020A**
Methyl tert-butyl ether	**380**	**100**	**ug/L**	**SW846 8020A**
Xylenes (total)	**13000**	**100**	**ug/L**	**SW846 8020A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	109	(46 - 136)
Bromofluorobenzene	106	(48 - 138)
Fluorobenzene	74	(44 - 165)

Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-10WG02

GC/MS Volatiles

Lot-Sample #...: B7J310120-003 **Work Order #...:** CDQ6L106 **Matrix.....:** WG
Date Sampled...: 10/30/97 08:45 **Date Received..:** 10/31/97 09:30 **MS Run #.....:** 7315051
Prep Date.....: 11/06/97 **Analysis Date..:** 11/06/97
Prep Batch #...: 7315163 **Analysis Time..:** 15:13
Dilution Factor: 500 **Initial Wgt/Vol:** 50 uL **Final Wgt/Vol..:** 25 mL
Analyst ID.....: 007084 **Instrument ID..:** VO4

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,1,2-Tetrachloroethane	ND	250	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	400	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	200	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	500	ug/L	SW846 8260A
1,1-Dichloroethane	ND	200	ug/L	SW846 8260A
1,1-Dichloroethene	ND	600	ug/L	SW846 8260A
1,1-Dichloropropene	ND	500	ug/L	SW846 8260A
1,2,3-Trichlorobenzene	ND	150	ug/L	SW846 8260A
1,2,3-Trichloropropane	ND	1600	ug/L	SW846 8260A
1,2,4-Trichlorobenzene	ND	200	ug/L	SW846 8260A
1,2,4-Trimethylbenzene	**3000**	**650**	**ug/L**	**SW846 8260A**
1,2-Dichloroethane	ND	300	ug/L	SW846 8260A
1,2-Dichlorobenzene	ND	150	ug/L	SW846 8260A
1,2-Dibromo-3-chloropropane (DBCP)	ND	1300	ug/L	SW846 8260A
1,2-Dichloropropane	ND	200	ug/L	SW846 8260A
1,2-Dibromoethane (EDB)	ND	300	ug/L	SW846 8260A
1,3,5-Trimethylbenzene	**780**	**250**	**ug/L**	**SW846 8260A**
1,3-Dichlorobenzene	ND	600	ug/L	SW846 8260A
1,3-Dichloropropane	ND	200	ug/L	SW846 8260A
1,4-Dichlorobenzene	ND	150	ug/L	SW846 8260A
1-Chlorohexane	ND	250	ug/L	SW846 8260A
2,2-Dichloropropane	ND	1800	ug/L	SW846 8260A
2-Chlorotoluene	ND	200	ug/L	SW846 8260A
4-Chlorotoluene	ND	300	ug/L	SW846 8260A
Benzene	**5500**	**200**	**ug/L**	**SW846 8260A**
Bromobenzene	ND	150	ug/L	SW846 8260A
Bromochloromethane	ND	200	ug/L	SW846 8260A
Bromodichloromethane	ND	400	ug/L	SW846 8260A
Bromoform	ND	600	ug/L	SW846 8260A
Bromomethane	ND	550	ug/L	SW846 8260A
Carbon tetrachloride	ND	1000	ug/L	SW846 8260A
Chlorobenzene	ND	200	ug/L	SW846 8260A
Chloroethane	ND	500	ug/L	SW846 8260A
Chloroform	ND	150	ug/L	SW846 8260A
Chloromethane	ND	650	ug/L	SW846 8260A
cis-1,2-Dichloroethene	ND	600	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	500	ug/L	SW846 8260A

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Quanterra
Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-10WG02

GC/MS Volatiles

Lot-Sample #...: B7J310120-003 **Work Order #...:** CDQ6L106 **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Dibromochloromethane	ND	250	ug/L	SW846 8260A
Dibromomethane	ND	1200	ug/L	SW846 8260A
Dichlorodifluoromethane	ND	500	ug/L	SW846 8260A
Ethylbenzene	**6000**	**300**	**ug/L**	**SW846 8260A**
Hexachlorobutadiene	ND	550	ug/L	SW846 8260A
Isopropylbenzene	**300**	**250**	**ug/L**	**SW846 8260A**
m-Xylene & p-Xylene	**11000**	**250**	**ug/L**	**SW846 8260A**
Methylene chloride	ND	150	ug/L	SW846 8260A
n-Butylbenzene	ND	550	ug/L	SW846 8260A
n-Propylbenzene	ND	200	ug/L	SW846 8260A
Naphthalene	**950**	**200**	**ug/L**	**SW846 8260A**
o-Xylene	**4300**	**550**	**ug/L**	**SW846 8260A**
p-Isopropyltoluene	ND	600	ug/L	SW846 8260A
sec-Butylbenzene	ND	650	ug/L	SW846 8260A
Styrene	ND	200	ug/L	SW846 8260A
Trichloroethene	ND	500	ug/L	SW846 8260A
tert-Butylbenzene	ND	700	ug/L	SW846 8260A
Tetrachloroethene	ND	700	ug/L	SW846 8260A
Toluene	**8700**	**550**	**ug/L**	**SW846 8260A**
trans-1,2-Dichloroethene	ND	300	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	500	ug/L	SW846 8260A
Trichlorofluoromethane	ND	400	ug/L	SW846 8260A
Vinyl chloride	ND	550	ug/L	SW846 8260A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(75 - 125)
4-Bromofluorobenzene	109	(75 - 125)
1,2-Dichloroethane-d4	119	(62 - 139)
Dibromofluoromethane	113	(75 - 125)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-11GW02

GC/MS Volatiles

Lot-Sample #...: B7J250110-004 **Work Order #...:** CDLWD106 **Matrix.....:** WG
Date Sampled...: 10/24/97 17:00 **Date Received..:** 10/25/97 09:45 **MS Run #.....:**
Prep Date.....: 11/01/97 **Analysis Date..:** 11/01/97
Prep Batch #...: 7310272 **Analysis Time..:** 15:22
Dilution Factor: 1 **Initial Wgt/Vol:** 25 mL **Final Wgt/Vol..:** 25 mL
Analyst ID.....: 001696 **Instrument ID..:** VO4

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	0.80	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	0.40	ug/L	SW846 8260A
1,1-Dichloroethene	ND	1.2	ug/L	SW846 8260A
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260A
1,2,3-Trichlorobenzene	ND	0.30	ug/L	SW846 8260A
1,2,3-Trichloropropane	ND	3.2	ug/L	SW846 8260A
1,2,4-Trichlorobenzene	ND	0.40	ug/L	SW846 8260A
1,2,4-Trimethylbenzene	ND	1.3	ug/L	SW846 8260A
1,2-Dichloroethane	ND	0.60	ug/L	SW846 8260A
1,2-Dichlorobenzene	ND	0.30	ug/L	SW846 8260A
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.6	ug/L	SW846 8260A
1,2-Dichloropropane	ND	0.40	ug/L	SW846 8260A
1,2-Dibromoethane (EDB)	ND	0.60	ug/L	SW846 8260A
1,3,5-Trimethylbenzene	ND	0.50	ug/L	SW846 8260A
1,3-Dichlorobenzene	ND	1.2	ug/L	SW846 8260A
1,3-Dichloropropane	ND	0.40	ug/L	SW846 8260A
1,4-Dichlorobenzene	ND	0.30	ug/L	SW846 8260A
1-Chlorohexane	ND	0.50	ug/L	SW846 8260A
2,2-Dichloropropane	ND	3.5	ug/L	SW846 8260A
2-Chlorotoluene	ND	0.40	ug/L	SW846 8260A
4-Chlorotoluene	ND	0.60	ug/L	SW846 8260A
Benzene	ND	0.40	ug/L	SW846 8260A
Bromobenzene	ND	0.30	ug/L	SW846 8260A
Bromochloromethane	ND	0.40	ug/L	SW846 8260A
Bromodichloromethane	ND	0.80	ug/L	SW846 8260A
Bromoform	ND	1.2	ug/L	SW846 8260A
Bromomethane	ND	1.1	ug/L	SW846 8260A
Carbon tetrachloride	ND	2.1	ug/L	SW846 8260A
Chlorobenzene	ND	0.40	ug/L	SW846 8260A
Chloroethane	ND	1.0	ug/L	SW846 8260A
Chloroform	ND	0.30	ug/L	SW846 8260A
Chloromethane	ND	1.3	ug/L	SW846 8260A
cis-1,2-Dichloroethene	ND	1.2	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A

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Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: MW-11GW02

GC/MS Volatiles

Lot-Sample #...: B7J250110-004 **Work Order #...:** CDLWD106 **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Dibromochloromethane	ND	0.50	ug/L	SW846 8260A
Dibromomethane	ND	2.4	ug/L	SW846 8260A
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260A
Ethylbenzene	ND	0.60	ug/L	SW846 8260A
Hexachlorobutadiene	ND	1.1	ug/L	SW846 8260A
Isopropylbenzene	ND	0.50	ug/L	SW846 8260A
m-Xylene & p-Xylene	ND	0.50	ug/L	SW846 8260A
Methylene chloride	ND	0.30	ug/L	SW846 8260A
n-Butylbenzene	ND	1.1	ug/L	SW846 8260A
n-Propylbenzene	ND	0.40	ug/L	SW846 8260A
Naphthalene	ND	0.40	ug/L	SW846 8260A
o-Xylene	ND	1.1	ug/L	SW846 8260A
p-Isopropyltoluene	ND	1.2	ug/L	SW846 8260A
sec-Butylbenzene	ND	1.3	ug/L	SW846 8260A
Styrene	ND	0.40	ug/L	SW846 8260A
Trichloroethene	ND	1.0	ug/L	SW846 8260A
tert-Butylbenzene	ND	1.4	ug/L	SW846 8260A
Tetrachloroethene	ND	1.4	ug/L	SW846 8260A
Toluene	**0.30 F**	**1.1**	**ug/L**	**SW846 8260A**
trans-1,2-Dichloroethene	ND	0.60	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A
Trichlorofluoromethane	ND	0.80	ug/L	SW846 8260A
Vinyl chloride	ND	1.1	ug/L	SW846 8260A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	93	(75 - 125)
4-Bromofluorobenzene	88	(75 - 125)
1,2-Dichloroethane-d4	93	(62 - 139)
Dibromofluoromethane	103	(75 - 125)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

F The analyte was identified but the value was below the RL and above the MDL.

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE
Method 8020A

Client Name: HydroGeologic
Client ID: BGSMW03 (0.00,0.00)
LAB ID: 058814-0009-SA
Matrix: GRND-H2O Sampled: 22 JAN 98 Received: 23 JAN 98
Authorized: 23 JAN 98 Prepared: 26 JAN 98 Analyzed: 28 JAN 98
Instrument: GCPID-H Dilution: 100

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	1400	M	200	5.6	ug/L
Toluene	26	JM	200	15	ug/L
Chlorobenzene	ND		200	8.5	ug/L
Ethylbenzene	38	JM	200	5.4	ug/L
Xylenes (total)	75	JM	200	15	ug/L
1,3-Dichlorobenzene	ND		400	9.0	ug/L
1,4-Dichlorobenzene	ND		300	33	ug/L
1,2-Dichlorobenzene	ND		400	18	ug/L
tert-Butyl methyl ether	ND		500	1.0	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	104	%	44 - 165
Fluorobenzene	96	%	44 - 165

J = Result is detected below the reporting limit or is an estimated concentration.
M = Preferred Result
ND = Not Detected

Reported By: Shawn Hadley Approved By: Audrey Cornell

AFCEE^Aromatic VOAs by Method 8020A with MTBE
Method 8020A

Client Name: HydroGeologic
Client ID: BGSMW03 (0.00,0.00)
LAB ID: 058814-0009-SA
Matrix: GRND-H2O Sampled: 22 JAN 98 Received: 23 JAN 98
Authorized: 23 JAN 98 Prepared: 26 JAN 98 Analyzed: 28 JAN 98
Instrument: GCPID-H Dilution: 100

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	1400	d	200	5.6	ug/L
Toluene	36	Jd	200	15	ug/L
Chlorobenzene	ND		200	8.5	ug/L
Ethylbenzene	47	Jd	200	5.4	ug/L
Xylenes (total)	78	Jd	200	15	ug/L
1,3-Dichlorobenzene	ND		400	9.0	ug/L
1,4-Dichlorobenzene	ND		300	33	ug/L
1,2-Dichlorobenzene	ND		400	18	ug/L
tert-Butyl methyl ether	ND		500	1.0	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	110	%	44 - 165
Fluorobenzene	97	%	44 - 165

d = See Preferred Result on Other Column
J = Result is detected below the reporting limit or is an estimated concentration.
ND = Not Detected

Reported By: Shawn Hadley Approved By: Audrey Cornell

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE
Method 8020A

Client Name: HydroGeologic
Client ID: BGSMW05 (0.00,0.00)
LAB ID: 058814-0005-SA
Matrix: GRND-H2O Sampled: 22 JAN 98 Received: 23 JAN 98
Authorized: 23 JAN 98 Prepared: 26 JAN 98 Analyzed: 28 JAN 98
Instrument: GCPID-H Dilution: 1.0

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	ND		2.0	0.056	ug/L
Toluene	0.19	J	2.0	0.15	ug/L
Chlorobenzene	ND		2.0	0.085	ug/L
Ethylbenzene	ND		2.0	0.054	ug/L
Xylenes (total)	ND		2.0	0.15	ug/L
1,3-Dichlorobenzene	ND		4.0	0.090	ug/L
1,4-Dichlorobenzene	ND		3.0	0.33	ug/L
1,2-Dichlorobenzene	ND		4.0	0.18	ug/L
tert-Butyl methyl ether	ND		5.0	0.010	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	104	%	44 - 165
Fluorobenzene	95	%	44 - 165

J = Result is detected below the reporting limit or is an estimated concentration.
ND = Not Detected

Reported By: Shawn Hadley Approved By: Audrey Cornell

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE
Method 8020A

Client Name: HydroGeologic
Client ID: BGSMW06 (0.00,0.00)
LAB ID: 058814-0010-SA
Matrix: GRND-H2O Sampled: 22 JAN 98 Received: 23 JAN 98
Authorized: 23 JAN 98 Prepared: 26 JAN 98 Analyzed: 28 JAN 98
Instrument: GCPID-H Dilution: 1.0

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	ND		2.0	0.056	ug/L
Toluene	0.15	J	2.0	0.15	ug/L
Chlorobenzene	ND		2.0	0.085	ug/L
Ethylbenzene	ND		2.0	0.054	ug/L
Xylenes (total)	ND		2.0	0.15	ug/L
1,3-Dichlorobenzene	ND		4.0	0.090	ug/L
1,4-Dichlorobenzene	ND		3.0	0.33	ug/L
1,2-Dichlorobenzene	ND		4.0	0.18	ug/L
tert-Butyl methyl ether	ND		5.0	0.010	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	104	%	44 - 165
Fluorobenzene	97	%	44 - 165

J = Result is detected below the reporting limit or is an estimated concentration.
ND = Not Detected

Reported By: Shawn Hadley Approved By: Audrey Cornell

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE
Method 8020A

Client Name: HydroGeologic
Client ID: BSS-B (0.00,0.00)
LAB ID: 058832-0007-SA
Matrix: GRND-H2O Sampled: 23 JAN 98 Received: 24 JAN 98
Authorized: 24 JAN 98 Prepared: 28 JAN 98 Analyzed: 28 JAN 98
Instrument: GCPID-H Dilution: 200

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	ND		400	11	ug/L
Toluene	7600	M	400	30	ug/L
Chlorobenzene	ND		400	17	ug/L
Ethylbenzene	1700	M	400	11	ug/L
Xylenes (total)	12000	M	400	30	ug/L
1,3-Dichlorobenzene	ND		800	18	ug/L
1,4-Dichlorobenzene	600	Ld	600	66	ug/L
1,2-Dichlorobenzene	ND		800	36	ug/L
tert-Butyl methyl ether	ND		1000	2.0	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	110	%	44 - 165
Fluorobenzene	102	%	44 - 165

d = See Preferred Result on Other Column
L = These components are not separable using this method and are therefore quantified together.
M = Preferred Result
ND = Not Detected

Reported By: Shawn Hadley Approved By: Audrey Cornell

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE
Method 8020A

Client Name: HydroGeologic
Client ID: BSS-B (0.00,0.00)
LAB ID: 058832-0007-SA
Matrix: GRND-H2O Sampled: 23 JAN 98 Received: 24 JAN 98
Authorized: 24 JAN 98 Prepared: 28 JAN 98 Analyzed: 28 JAN 98
Instrument: GCPID-H Dilution: 200

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	ND		400	11	ug/L
Toluene	7900	d	400	30	ug/L
Chlorobenzene	ND		400	17	ug/L
Ethylbenzene	1800	d	400	11	ug/L
Xylenes (total)	12000	d	400	30	ug/L
1,3-Dichlorobenzene	ND		800	18	ug/L
1,4-Dichlorobenzene	ND	M	600	66	ug/L
1,2-Dichlorobenzene	ND		800	36	ug/L
tert-Butyl methyl ether	ND		1000	2.0	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	110	%	44 - 165
Fluorobenzene	103	%	44 - 165

d = See Preferred Result on Other Column
M = Preferred Result
ND = Not Detected

Reported By: Shawn Hadley Approved By: Audrey Cornell

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE & TMBs
Method 8020A

Client Name: HydroGeologic
Client ID: MW-1 (0.00,0.00)
LAB ID: 058861-0001-SA
Matrix: GRND-H2O Sampled: 26 JAN 98 Received: 27 JAN 98
Authorized: 27 JAN 98 Prepared: 29 JAN 98 Analyzed: 29 JAN 98
Instrument: GCPID-H Dilution: 50

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	2300	M	100	2.8	ug/L
Toluene	140	BM	100	7.5	ug/L
Chlorobenzene	ND		100	4.2	ug/L
Ethylbenzene	1500	M	100	2.7	ug/L
Xylenes (total)	2900	Bd	100	7.5	ug/L
1,3-Dichlorobenzene	ND		200	4.5	ug/L
1,4-Dichlorobenzene	390	Ld	150	16	ug/L
1,2-Dichlorobenzene	ND		200	9.0	ug/L
tert-Butyl methyl ether	310	M	250	0.50	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	112	%	44 - 165
Fluorobenzene	101	%	44 - 165

B = Compound is also detected in the blank.
d = See Preferred Result on Other Column
L = These components are not separable using this method and are therefore quantified together.
M = Preferred Result
ND = Not Detected

Reported By: Shawn Hadley Approved By: Maria E. Mattingly

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE & TMBs
Method 8020A

Client Name: HydroGeologic
Client ID: MW-1 (0.00,0.00)
LAB ID: 058861-0001-SA
Matrix: GRND-H2O Sampled: 26 JAN 98 Received: 27 JAN 98
Authorized: 27 JAN 98 Prepared: 29 JAN 98 Analyzed: 29 JAN 98
Instrument: GCPID-H Dilution: 50

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	2400	d	100	2.8	ug/L
Toluene	180	Bd	100	7.5	ug/L
Chlorobenzene	ND		100	4.2	ug/L
Ethylbenzene	1600	d	100	2.7	ug/L
Xylenes (total)	2900	BM	100	7.5	ug/L
1,3-Dichlorobenzene	ND		200	4.5	ug/L
1,4-Dichlorobenzene	18	JM	150	16	ug/L
1,2-Dichlorobenzene	ND		200	9.0	ug/L
tert-Butyl methyl ether	410	d	250	0.50	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	103	%	44 - 165
Fluorobenzene	99	%	44 - 165

B = Compound is also detected in the blank.
d = See Preferred Result on Other Column
J = Result is detected below the reporting limit or is an estimated concentration.
M = Preferred Result
ND = Not Detected

Reported By: Shawn Hadley Approved By: Maria E. Mattingly

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE & TMBs
Method 8020A

Client Name: HydroGeologic
Client ID: MW-10 (0.00,0.00)
LAB ID: 058861-0003-SA
Matrix: GRND-H2O Sampled: 26 JAN 98 Received: 27 JAN 98
Authorized: 27 JAN 98 Prepared: 29 JAN 98 Analyzed: 29 JAN 98
Instrument: GCPID-H Dilution: 200

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	4900	M	400	11	ug/L
Toluene	7300	BM	400	30	ug/L
Chlorobenzene	ND		400	17	ug/L
Ethylbenzene	5200	M	400	11	ug/L
Xylenes (total)	14000	BM	400	30	ug/L
1,3-Dichlorobenzene	ND		800	18	ug/L
1,4-Dichlorobenzene	720	Ld	600	66	ug/L
1,2-Dichlorobenzene	ND		800	36	ug/L
tert-Butyl methyl ether	400	JM	1000	2.0	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	102	%	44 - 165
Fluorobenzene	94	%	44 - 165

B = Compound is also detected in the blank.
d = See Preferred Result on Other Column
J = Result is detected below the reporting limit or is an estimated concentration.
L = These components are not separable using this method and are therefore quantified together.
M = Preferred Result
ND = Not Detected

Reported By: Shawn Hadley Approved By: Maria E. Mattingly

Quanterra Environmental Services

AFCEE^Aromatic VOAs by Method 8020A with MTBE & TMBs
Method 8020A

Client Name: HydroGeologic
Client ID: MW-10 (0.00,0.00)
LAB ID: 058861-0003-SA
Matrix: GRND-H2O Sampled: 26 JAN 98 Received: 27 JAN 98
Authorized: 27 JAN 98 Prepared: 29 JAN 98 Analyzed: 29 JAN 98
Instrument: GCPID-H Dilution: 200

Parameter	Result	Qualifier	RL	MDL	Units
Benzene	5000	d	400	11	ug/L
Toluene	7600	Bd	400	30	ug/L
Chlorobenzene	ND		400	17	ug/L
Ethylbenzene	5400	d	400	11	ug/L
Xylenes (total)	15000	Bd	400	30	ug/L
1,3-Dichlorobenzene	ND		800	18	ug/L
1,4-Dichlorobenzene	ND	M	600	66	ug/L
1,2-Dichlorobenzene	ND		800	36	ug/L
tert-Butyl methyl ether	760	Jd	1000	2.0	ug/L

Surrogate	Recovery		Acceptable Range
a,a,a-Trifluorotoluene	100	%	44 - 165
Fluorobenzene	96	%	44 - 165

B = Compound is also detected in the blank.
d = See Preferred Result on Other Column
J = Result is detected below the reporting limit or is an estimated concentration.
M = Preferred Result
ND = Not Detected

Reported By: Shawn Hadley Approved By: Maria E. Mattingly

CLIENT SAMPLE NO. 493 52

GC VOLATILES SHEET

BGSMW03WG04

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: D0855058

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. ____ Date Analyzed: 04/24/98

Column: (pack/cap) CAP Dilution Factor: 10

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	18	
71-43-2	Benzene		E
108-88-3	Toluene	12	
100-41-4	Ethylbenzene	16	
1330-20-7	Xylene (total)	93	

12/88 Rev.

CLIENT SAMPLE NO. 493 54

GC VOLATILES SHEET

BGSMW03WG04CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: DN854623

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. ____ Date Analyzed: 04/23/98

Column: (pack/cap) CAP Dilution Factor: 10

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	63	
71-43-2	Benzene		E
108-88-3	Toluene	14	
100-41-4	Ethylbenzene	19	
1330-20-7	Xylene (total)	94	

12/88 Rev.

CLIENT SAMPLE NO. 493 55

GC VOLATILES SHEET

BGSMW03WG04DL

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-002 DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: D0855039

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. ____ Date Analyzed: 04/24/98

Column: (pack/cap) CAP Dilution Factor: 50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	
1634-04-4	Methyl-tert-butyl ether	NA	
71-43-2	Benzene	1300	
108-88-3	Toluene	NA	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylene (total)	NA	

12/88 Rev.

CLIENT SAMPLE NO. 493 56

GC VOLATILES SHEET

BGSMW03WG04DLCON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-002 DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: DN854608

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. ____ Date Analyzed: 04/23/98

Column: (pack/cap) CAP Dilution Factor: 50

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	NA	
71-43-2	Benzene	1100	
108-88-3	Toluene	NA	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylene (total)	NA	

12/88 Rev.

Recra LabNet - Chicago
PURGEABLE AROMATICS BY GC

RFW Batch Number: 9804G255 Client: NAS Ft. Worth JRB GW Work Order: 60025-001-001-0 Report Date: 05/07/98 14:47 Page: 1

	Cust ID:	TB041498	EB041498	ST14-W18WG04	ST14-W18WG04	BGSMW05WG04	BGSMW05WG04
Sample Information	RFW#:	001	002	003	003	004	004
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/L	ug/L	ug/L	ug/L CONFIRM	ug/L	ug/L CONFIRM
Surrogate	a,a,a-Trifluorotoluene	109 %	98 %	I %	108 %	105 %	89 %
	4-Bromofluorobenzene	107 %	93 %	108 %	I %	102 %	88 %
		fl	fl	fl	fl	fl	fl
Methyl-tert-butyl ether		1.0 U	1.0 U	2.4	17	3.6	3.8
Benzene		1.0 U	1.0 U	9.2	23	1.0 U	NA
Toluene		1.0 U	1.0 U	0.94 J	NA	1.0 U	NA
Ethylbenzene		1.0 U	1.0 U	3.9	2.5	1.0 U	NA
Xylene (total)		1.0 U	1.0 U	5.8	5.9	1.0 U	NA

	Cust ID:	BGSMW05WG04	BGSMW05WG04	BGSMW05WG04	BGSMW05WG04	BGSMW06WG04	ST14-W16WG04
Sample Information	RFW#:	004 MS	004 MS	004 MSD	004 MSD	006	008
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/L	ug/L CONFIRM	ug/L	ug/L CONFIRM	ug/L	ug/L
Surrogate	a,a,a-Trifluorotoluene	99 %	95 %	93 %	97 %	98 %	I %
	4-Bromofluorobenzene	96 %	98 %	87 %	98 %	93 %	109 %
		fl	fl	fl	fl	fl	fl
Methyl-tert-butyl ether		134 * %	97 %	134 * %	106 %	1.0 U	1.0
Benzene		104 %	96 %	104 %	102 %	1.0 U	21
Toluene		108 %	97 %	107 %	95 %	1.0 U	1.0 U
Ethylbenzene		115 %	97 %	109 %	104 %	1.0 U	0.66 J
Xylene (total)		110 %	95 %	107 %	102 %	1.0 U	1.2

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
PURGEABLE AROMATICS BY GC

RFW Batch Number: 9804G300 Client: NAS Ft. Worth JRB GW Work Order: 60025-001-001-0 Report Date: 05/07/98 15:03 Page: 1

	Cust ID:	EB041698	ST14-02WG04	ST14-02WG04	TB041698	BSS-BWG04	BSS-BWG04
Sample Information	RFW#:	002	005	005	008	011	011
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.0	1.0	1.0	1.0	250	250
	Units:	ug/L	ug/L	ug/L CONFIRM	ug/L	ug/L	ug/L CONFIRM
Surrogate	a,a,a-Trifluorotoluene	102 %	I %	107 %	98 %	100 %	95 %
	4-Bromofluorobenzene	94 %	103 %	I %	92 %	98 %	98 %
		fl	fl	fl	fl	fl	fl
Methyl-tert-butyl ether		1.0 U	0.58 J	NA	1.0 U	250 U	NA
Benzene		1.0 U	9.2	10	1.0 U	250 U	NA
Toluene		1.0 U	1.0 U	NA	1.0 U	11000	8300
Ethylbenzene		1.0 U	1.0 U	NA	1.0 U	2100	1900
Xylene (total)		1.0 U	0.93 J	NA	1.0 U	13000	11000

	Cust ID:	EB041798	TB041798	BLK	BLK BS	BLK	BLK BS
Sample Information	RFW#:	012	013	98GVD115-MB1	98GVD115-MB1	98GVD117-MB1	98GVD117-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate	a,a,a-Trifluorotoluene	103 %	100 %	95 %	102 %	92 %	103 %
	4-Bromofluorobenzene	95 %	95 %	92 %	100 %	85 %	99 %
		fl	fl	fl	fl	fl	fl
Methyl-tert-butyl ether		1.0 U	1.0 U	1.0 U	123 %	1.0 U	135 * %
Benzene		1.0 U	1.0 U	1.0 U	106 %	1.0 U	107 %
Toluene		1.0 U	1.0 U	1.0 U	112 %	1.0 U	117 %
Ethylbenzene		1.0 U	1.0 U	1.0 U	118 %	1.0 U	121 %
Xylene (total)		1.0 U	0.51 J	1.0 U	115 %	1.0 U	117 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

CLIENT SAMPLE NO. 493 59

GC VOLATILES SHEET

SAV-2WG04

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: DN854336

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. ____ Date Analyzed: 04/23/98

Column: (pack/cap) CAP Dilution Factor: 200

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	
1634-04-4	Methyl-tert-butyl ether	280	
71-43-2	Benzene	2300	
108-88-3	Toluene	120	J
100-41-4	Ethylbenzene	1200	
1330-20-7	Xylene (total)	2100	

12/88 Rev.

GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 60

SAV-2WG04CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: DN854398

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. _____ Date Analyzed: 04/23/98

Column: (pack/cap) CAP Dilution Factor: 200

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	300	
71-43-2	Benzene	2200	
108-88-3	Toluene	NA	
100-41-4	Ethylbenzene	1200	
1330-20-7	Xylene (total)	2300	

12/88 Rev.

CLIENT SAMPLE NO. 493 61

GC VOLATILES SHEET

MW-10WG04

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: DM854320

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. ____ Date Analyzed: 04/22/98

Column: (pack/cap) CAP Dilution Factor: 200

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	490	
71-43-2	Benzene	4000	
108-88-3	Toluene	4500	
100-41-4	Ethylbenzene	4900	
1330-20-7	Xylene (total)	12000	

12/88 Rev.

CLIENT SAMPLE NO. 493 62

GC VOLATILES SHEET

MW-10WG04CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9804G329-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: DN854584

Level: (low/med) LOW Date Received: 04/21/98

% Moisture: not dec. _____ Date Analyzed: 04/23/98

Column: (pack/cap) CAP Dilution Factor: 250

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	
1634-04-4	Methyl-tert-butyl ether	570	
71-43-2	Benzene	4000	
108-88-3	Toluene	4600	
100-41-4	Ethylbenzene	5100	
1330-20-7	Xylene (total)	12000	

12/88 Rev.

GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 63

BGSMW03WG05

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-011

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GS862487

Level: (low/med) LOW Date Received: 07/17/98

% Moisture: not dec. ____ Date Analyzed: 07/28/98

Column: (pack/cap) CAP Dilution Factor: 5.0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	32	~~J~~	J
71-43-2	Benzene		~~J~~	1800
108-88-3	Toluene	18		
100-41-4	Ethylbenzene	47		
1330-20-7	Xylene (total)	98		

12/88 Rev.

LSM 9-15-98

R Weaver 10/12/98

GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 64

BGSMW03WG05CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-011

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GU858505

Level: (low/med) LOW Date Received: 07/17/98

% Moisture: not dec. _____ Date Analyzed: 07/30/98

Column: (pack/cap) CAP Dilution Factor: 5.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	13	~~J~~	J
71-43-2	Benzene		B	2200
108-88-3	Toluene	18		
100-41-4	Ethylbenzene	49		
1330-20-7	Xylene (total)	100		

12/88 Rev.

LSM
9-15-98

DWeaver
10/12/98

55

GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 65

BGSMW03WG05DL

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-011 DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GS862475

Level: (low/med) LOW Date Received: 07/17/98

% Moisture: not dec. ____ Date Analyzed: 07/28/98

Column: (pack/cap) CAP Dilution Factor: 50

Use original results

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	NA	
71-43-2	Benzene	1800	
108-88-3	Toluene	NA	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylene (total)	NA	

12/88 Rev.

LWeaver 10/12/98

CLIENT SAMPLE NO. 493 66

GC VOLATILES SHEET

BGSMW03WG05DLCON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-011 DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GT858479

Level: (low/med) LOW Date Received: 07/17/98

% Moisture: not dec. ____ Date Analyzed: 07/29/98

Column: (pack/cap) CAP Dilution Factor: 50

Use original results.

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	NA	
71-43-2	Benzene	2200	
108-88-3	Toluene	NA	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylene (total)	NA	

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Libleave 10/12/98

HYDROGEOLOGIC, INC.

Lab Name: QUANTERRA

SDG Number: 13

Matrix: (soil/water) WG
Method: SW846 8020A
Volatile Organics (8020A)

Lab Sample ID: B7J250110 003

Sample WT/Vol: 0.5 / mL
Work Order: CDLWA201
Dilution factor: 10

Date Received: 10/25/97
Date Extracted: 10/30/97
Date Analyzed: 10/30/97

QC Batch: 7308214

Client Sample Id: BGSMW03WG02 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
71-43-2	Benzene	1000	
100-41-4	Ethylbenzene	25	
108-88-3	Toluene	10	F
1330-20-7	Xylenes (total)	51	

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
4-Bromochlorobenzene	74	(46 - 136)
Bromofluorobenzene	95	(48 - 138)
Fluorobenzene	114	(44 - 165)

Quanterra Environmental Services

HYDROGEOLOGIC, INC.

Client Sample ID: BGSMW05WG02

GC Volatiles

Lot-Sample #...:	B7J280118-007	**Work Order #...:**	CDN53101	**Matrix.....:**	WG
Date Sampled...:	10/27/97 16:40	**Date Received..:**	10/28/97 10:00	**MS Run #.....:**	
Prep Date.....:	11/03/97	**Analysis Date..:**	11/03/97		
Prep Batch #...:	7309222	**Analysis Time..:**	20:22		
Dilution Factor:	1	**Initial Wgt/Vol:**	5 mL	**Final Wgt/Vol..:**	5 mL
Analyst ID.....:	001854	**Instrument ID..:**	V2A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	2.0	ug/L	SW846 8020A
Ethylbenzene	ND	2.0	ug/L	SW846 8020A
Toluene	**0.52 F**	**2.0**	**ug/L**	**SW846 8020A**
Xylenes (total)	**1.0 F**	**2.0**	**ug/L**	**SW846 8020A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromochlorobenzene	82	(46 - 136)
Bromofluorobenzene	85	(48 - 138)
Fluorobenzene	82	(44 - 165)

NOTE(S):

ND = The analyte was analyzed for but not detected at or above the MDL.

F The analyte was identified but the value was below the RL and above the MDL.

HYDROGEOLOGIC, INC.

Lab Name: QUANTERRA

SDG Number: 13

Matrix: (soil/water) WG
Method: SW846 8020A
Volatile Organics (8020A)

Lab Sample ID: B7J250110 003

Sample WT/Vol: 0.5 / mL
Work Order: CDLWA201
Dilution factor: 10

Date Received: 10/25/97
Date Extracted: 10/30/97
Date Analyzed: 10/30/97

QC Batch: 7308214

Client Sample Id: BGSMW03WG02 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
71-43-2	Benzene	1000	
100-41-4	Ethylbenzene	25	
108-88-3	Toluene	10	F
1330-20-7	Xylenes (total)	51	

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
4-Bromochlorobenzene	74	(46 - 136)
Bromofluorobenzene	95	(48 - 138)
Fluorobenzene	114	(44 - 165)

GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 70

BGSMW05WG05CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-014

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GT862810

Level: (low/med) LOW Date Received: 07/18/98

% Moisture: not dec. _____ Date Analyzed: 07/29/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	1.4	~~J~~ J
71-43-2	Benzene	NA	
108-88-3	Toluene	NA	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylene (total)	NA	

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GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 71

BGSMW05WG05

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-014

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GR862106

Level: (low/med) LOW Date Received: 07/18/98

% Moisture: not dec. ____ Date Analyzed: 07/27/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	2.4	~~J~~	J
71-43-2	Benzene	1.0	U	
108-88-3	Toluene	1.0	U	
100-41-4	Ethylbenzene	1.0	U	
1330-20-7	Xylene (total)	1.0	U	

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GC VOLATILES SHEET

BGSMW06WG05CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G588-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GU858595

Level: (low/med) LOW Date Received: 07/21/98

% Moisture: not dec. _____ Date Analyzed: 07/30/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	NA		
71-43-2	Benzene	NA		
108-88-3	Toluene	0.72	~~U~~	J
100-41-4	Ethylbenzene	NA		
1330-20-7	Xylene (total)	1.6	~~U~~	J

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GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 73

BGSMW06WG05

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G588-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GR862174

Level: (low/med) LOW Date Received: 07/21/98

% Moisture: not dec. _____ Date Analyzed: 07/27/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	1.0	U	
71-43-2	Benzene	1.0	U	
108-88-3	Toluene	0.56	~~J~~	J
100-41-4	Ethylbenzene	1.0	U	
1330-20-7	Xylene (total)	1.2	~~J~~	J

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GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 74

BSS-BWG05

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-015

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G0862107

Level: (low/med) LOW Date Received: 07/18/98

% Moisture: not dec. ____ Date Analyzed: 07/24/98

Column: (pack/cap) CAP Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	100	U
71-43-2	Benzene	100	U
108-88-3	Toluene		~~E~~ 6600
100-41-4	Ethylbenzene	2700	
1330-20-7	Xylene (total)	11000	

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GC VOLATILES SHEET

BSS-BWG05CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-015

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GU858530

Level: (low/med) LOW Date Received: 07/18/98

% Moisture: not dec. ____ Date Analyzed: 07/30/98

Column: (pack/cap) CAP Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	NA	
71-43-2	Benzene	NA	
108-88-3	Toluene		E 6600
100-41-4	Ethylbenzene	2500	
1330-20-7	Xylene (total)	10000	

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CLIENT SAMPLE NO. 493 76

GC VOLATILES SHEET

BSS-BWG05DL

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-015 DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GS862503

Level: (low/med) LOW Date Received: 07/18/98

% Moisture: not dec. ____ Date Analyzed: 07/28/98

Column: (pack/cap) CAP Dilution Factor: 200

use original results

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	NA	
71-43-2	Benzene	NA	
108-88-3	Toluene	6600	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylene (total)	NA	

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GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 77

BSS-BWG05DLCON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-015 DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GT862833

Level: (low/med) LOW Date Received: 07/18/98

% Moisture: not dec. ____ Date Analyzed: 07/29/98

Column: (pack/cap) CAP Dilution Factor: 200

use original results

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	NA	
71-43-2	Benzene	NA	
108-88-3	Toluene	6600	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylene (total)	NA	

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GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 78

SAV-2WG05

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-010

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G0862118

Level: (low/med) LOW Date Received: 07/17/98

% Moisture: not dec. _____ Date Analyzed: 07/24/98

Column: (pack/cap) CAP Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	320		
71-43-2	Benzene	2900		
108-88-3	Toluene	110	J	J
100-41-4	Ethylbenzene	1800		
1330-20-7	Xylene (total)	3100		

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GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 79

SAV-2WG05CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G512-010

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GT858411

Level: (low/med) LOW Date Received: 07/17/98

% Moisture: not dec. ____ Date Analyzed: 07/29/98

Column: (pack/cap) CAP Dilution Factor: 100

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
1634-04-4	Methyl-tert-butyl ether	240	
71-43-2	Benzene	3600	
108-88-3	Toluene	73	~~J~~ J
100-41-4	Ethylbenzene	2000	
1330-20-7	Xylene (total)	3400	

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CLIENT SAMPLE NO. 493 80

GC VOLATILES SHEET

MW10WG05CON

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G588-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GU846064

Level: (low/med) LOW Date Received: 07/22/98

% Moisture: not dec. _____ Date Analyzed: 07/30/98

Column: (pack/cap) CAP Dilution Factor: 200

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	220	~~J~~	J
71-43-2	Benzene	3300		
108-88-3	Toluene	1900		
100-41-4	Ethylbenzene	5400		
1330-20-7	Xylene (total)	12000		

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GC VOLATILES SHEET

CLIENT SAMPLE NO. 493 81

MW10WG05

Lab Name: Recra LabNet Work Order: 60025-001-001-0

Client: NAS Ft. Worth JRB GW

Matrix: WATER Lab Sample ID: 9807G588-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: GS862544

Level: (low/med) LOW Date Received: 07/22/98

% Moisture: not dec. _____ Date Analyzed: 07/28/98

Column: (pack/cap) CAP Dilution Factor: 200

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND			
1634-04-4	Methyl-tert-butyl ether	330	~~U~~	J
71-43-2	Benzene	3200		
108-88-3	Toluene	2000		
100-41-4	Ethylbenzene	5000		
1330-20-7	Xylene (total)	11000		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11WG09

Lab Name: STL BALTIMORE Contract: 990921

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907279

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3139.D

Level: (low/med) LOW Date Received: 7/17/99

% Moisture: not dec. Date Analyzed: 7/28/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
95-47-6	o-Xylene	1	U
1634-04-4	Methyl t-butyl ether	1	U
71-43-2	Benzene	1	U
108-88-3	Toluene	1	U
100-41-4	Ethylbenzene	1	U
1330-20-7	m&p Xylenes	1	U

FORM I VOA

ATTACHMENT 3
SURFACE WATER ANALYTICAL RESULTS

Volatile Aromatics by GC/PID

Method SW8020

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Saturday, November 01, 1997

Field ID: LABQC
Lab ID: BTX-WRB1100797MB

Sample Matrix:	liquid	Date Collected:	07-Oct-97	Sample Aliquot:	5
% Moisture:	N/A	Date Extracted:	07-Oct-97	Final Volume:	5
Cleanup Method:	NONE	Date Analyzed:	07-Oct-97	Dilution:	1
Report Basis:	NA	Prep Batch:	BTX100797B1		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	ug/L	1	U	
71-43-2	BENZENE	2	ug/L	2	U	
108-88-3	TOLUENE	2	ug/L	2	U	
108-90-7	CHLOROBENZENE	2	ug/L	2	U	
100-41-4	ETHYLBENZENE	2	ug/L	2	U	
1330-20-7	TOTAL XYLENES	2	ug/L	2	U	
541-73-1	1,3-DICHLOROBENZENE	4	ug/L	4	U	
106-46-7	1,4-DICHLOROBENZENE	3	ug/L	3	U	
95-50-1	1,2-DICHLOROBENZENE	4	ug/L	4	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2,3,4-TRIFLUOROTOLUENE	99.1	ug/l	100	99	44 - 165

U = Less than the Reporting Limit

Volatile Aromatics by GC/PID

Method SW8020

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Saturday, November 01, 1997

Field ID: MS1603
Lab ID: 9709232-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 23-Sep-97
Date Extracted: 07-Oct-97
Date Analyzed: 07-Oct-97
Prep Batch: BTX100797B1

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	ug/L	1	U	
71-43-2	BENZENE	2	ug/L	2	U	
108-88-3	TOLUENE	2	ug/L	2	U	
108-90-7	CHLOROBENZENE	2	ug/L	2	U	
100-41-4	ETHYLBENZENE	2	ug/L	2	U	
1330-20-7	TOTAL XYLENES	2	ug/L	2	U	
541-73-1	1,3-DICHLOROBENZENE	4	ug/L	4	U	
106-46-7	1,4-DICHLOROBENZENE	3	ug/L	3	U	
95-50-1	1,2-DICHLOROBENZENE	4	ug/L	4	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2,3,4-TRIFLUOROTOLUENE	97	ug/l	100	97	44 - 165

U = Less than the Reporting Limit

Volatile Aromatics by GC/PID

Method SW8020

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Saturday, November 01, 1997

Field ID: MS1604
Lab ID: 9709232-2

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 23-Sep-97
Date Extracted: 07-Oct-97
Date Analyzed: 07-Oct-97
Prep Batch: BTX100797B1

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
1634-04-4	METHYL TERTIARY BUTYL ETHER	1.4	ug/L	1		
71-43-2	BENZENE	3.7	ug/L	2		
108-88-3	TOLUENE	0.71	ug/L	2	J	
108-90-7	CHLOROBENZENE	2	ug/L	2	U	
100-41-4	ETHYLBENZENE	2	ug/L	2	U	
1330-20-7	TOTAL XYLENES	2	ug/L	2	U	
541-73-1	1,3-DICHLOROBENZENE	4	ug/L	4	U	
106-46-7	1,4-DICHLOROBENZENE	3	ug/L	3	U	
95-50-1	1,2-DICHLOROBENZENE	4	ug/L	4	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2,3,4-TRIFLUOROTOLUENE	98.3	ug/l	100	98	44 - 165

U = Less than the Reporting Limit

Volatile Aromatics by GC/PID

Method SW8020

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Saturday, November 01, 1997

Field ID: MS1605
Lab ID: 9709232-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 23-Sep-97
Date Extracted: 07-Oct-97
Date Analyzed: 07-Oct-97
Prep Batch: BTX100797B1

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	ug/L	1	U	
71-43-2	BENZENE	2	ug/L	2	U	
108-88-3	TOLUENE	2	ug/L	2	U	
108-90-7	CHLOROBENZENE	2	ug/L	2	U	
100-41-4	ETHYLBENZENE	2	ug/L	2	U	
1330-20-7	TOTAL XYLENES	2	ug/L	2	U	
541-73-1	1,3-DICHLOROBENZENE	4	ug/L	4	U	
106-46-7	1,4-DICHLOROBENZENE	3	ug/L	3	U	
95-50-1	1,2-DICHLOROBENZENE	4	ug/L	4	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2,3,4-TRIFLUOROTOLUENE	100	ug/l	100	100	44 - 165

U = Less than the Reporting Limit

Volatile Aromatics by GC/PID

Method SW8020

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Saturday, November 01, 1997

Field ID: MS1606
Lab ID: 9709232-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 23-Sep-97
Date Extracted: 07-Oct-97
Date Analyzed: 07-Oct-97
Prep Batch: BTX100797B1

Sample Aliquot: 5
Final Volume: 5
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
1634-04-4	METHYL TERTIARY BUTYL ETHER	0.56	ug/L	1	J	
71-43-2	BENZENE	2	ug/L	2	U	
108-88-3	TOLUENE	2	ug/L	2	U	
108-90-7	CHLOROBENZENE	2	ug/L	2	U	
100-41-4	ETHYLBENZENE	2	ug/L	2	U	
1330-20-7	TOTAL XYLENES	2	ug/L	2	U	
541-73-1	1,3-DICHLOROBENZENE	4	ug/L	4	U	
106-46-7	1,4-DICHLOROBENZENE	3	ug/L	3	U	
95-50-1	1,2-DICHLOROBENZENE	4	ug/L	4	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2,3,4-TRIFLUOROTOLUENE	103	ug/l	100	103	44 - 165

U = Less than the Reporting Limit

Total Recoverable Petroleum Hydrocarbons

Method EPA 418.1

Sample Results

Lab Name: Paragon Analytics, Inc.
ClientName: IT Corporation
Client Project ID: NAS Ft. Worth-DO 32 768579-70300000
Work Order Number: 9709232 **Final Volume:** 25 ML
Reporting Basis: AS RECEIVED **Reported on:** Wednesday, October 08, 1997 **Matrix:** Water

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Units	Detection Limit	Flag	Sample Aliquot
MS1604	9709232-2	9/23/97	10/8/97	10/8/97	N/A	1	ND	MG/L	1		250 ML
MS1605	9709232-3	9/23/97	10/8/97	10/8/97	N/A	1	ND	MG/L	1		250 ML
MS1606	9709232-4	9/23/97	10/8/97	10/8/97	N/A	1	ND	MG/L	1		250 ML

Comments:

1. ND = Not Detected at or above the client requested detection limit.

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MS1604

:b Name: PARAGON_ANALYTICS_INC.___ Contract: _____

ıb Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 768579

ıtrix (soil/water): WATER Lab Sample ID: WS9709232-2

evel (low/med): LOW__ Date Received: 09/24/97

Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	0.60	U		F

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MS1605

ab Name: PARAGON_ANALYTICS_INC.___ Contract: _____

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 768579

atrix (soil/water): WATER Lab Sample ID: WS9709232-3

evel (low/med): LOW__ Date Received: 09/24/97

Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	0.60	U		F

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MS1606

Lab Name: PARAGON_ANALYTICS_INC.___ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 768579

Matrix (soil/water): WATER Lab Sample ID: WS9709232-4

Level (low/med): LOW__ Date Received: 09/24/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	0.60	U		F

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN

Polynuclear Aromatic Hydrocarbons

Method SW8310

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Tuesday, November 04, 1997

Field ID:	LABQC	Sample Matrix:	liquid	Date Collected:	29-Sep-97	Sample Aliquot:	1000
Lab ID:	PAH-WRB1092997MB	% Moisture:	N/A	Date Extracted:	29-Sep-97	Final Volume:	1
		Cleanup Method:	NONE	Date Analyzed:	02-Oct-97	Dilution:	1
		Report Basis:	NA	Prep Batch:	145102		

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
91-20-3	NAPHTHALENE	0.5	ug/L	0.5	U	
208-96-8	ACENAPHTHYLENE	1	ug/L	1	U	
83-32-9	ACENAPHTHENE	1	ug/L	1	U	
86-73-7	FLUORENE	0.1	ug/L	0.1	U	
85-01-8	PHENANTHRENE	0.05	ug/L	0.05	U	
120-12-7	ANTHRACENE	0.1	ug/L	0.1	U	
206-44-0	FLUORANTHENE	0.1	ug/L	0.1	U	
129-00-0	PYRENE	0.05	ug/L	0.05	U	
56-55-3	BENZO(A)ANTHRACENE	0.05	ug/L	0.05	U	
218-01-9	CHRYSENE	0.05	ug/L	0.05	U	
205-99-2	BENZO(B)FLUORANTHENE	0.1	ug/L	0.1	U	
207-08-9	BENZO(K)FLUORANTHENE	0.05	ug/L	0.05	U	
50-32-8	BENZO(A)PYRENE	0.05	ug/L	0.05	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	0.1	ug/L	0.1	U	
	BENZO(GHI)PERYLENE	0.1	ug/L	0.1	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	0.1	ug/L	0.1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2-CHLOROANTHRACENE	0.597	ug/l	1	60	15 - 117

U = Less than the Reporting Limit

Polynuclear Aromatic Hydrocarbons

Method SW8310

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Tuesday, November 04, 1997

Field ID: MS1604
Lab ID: 9709232-2

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 23-Sep-97
Date Extracted: 29-Sep-97
Date Analyzed: 02-Oct-97
Prep Batch: 145102

Sample Aliquot: 1000
Final Volume: 1
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
91-20-3	NAPHTHALENE	0.5	ug/L	0.5	U	
208-96-8	ACENAPHTHYLENE	1	ug/L	1	U	
86-73-7	FLUORENE	0.1	ug/L	0.1	U	
83-32-9	ACENAPHTHENE	1	ug/L	1	U	
85-01-8	PHENANTHRENE	0.05	ug/L	0.05	U	
120-12-7	ANTHRACENE	0.1	ug/L	0.1	U	
206-44-0	FLUORANTHENE	0.1	ug/L	0.1	U	
129-00-0	PYRENE	0.05	ug/L	0.05	U	
56-55-3	BENZO(A)ANTHRACENE	0.05	ug/L	0.05	U	
218-01-9	CHRYSENE	0.05	ug/L	0.05	U	
205-99-2	BENZO(B)FLUORANTHENE	0.1	ug/L	0.1	U	
207-08-9	BENZO(K)FLUORANTHENE	0.05	ug/L	0.05	U	
50-32-8	BENZO(A)PYRENE	0.05	ug/L	0.05	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	0.1	ug/L	0.1	U	
	BENZO(GHI)PERYLENE	0.1	ug/L	0.1	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	0.1	ug/L	0.1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2-CHLOROANTHRACENE	0.588	ug/l	1	59	15 - 117

U = Less than the Reporting Limit

Polynuclear Aromatic Hydrocarbons

Method SW8310

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Tuesday, November 04, 1997

Field ID: MS1605
Lab ID: 9709232-3

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 23-Sep-97
Date Extracted: 29-Sep-97
Date Analyzed: 02-Oct-97
Prep Batch: 145102

Sample Aliquot: 1000
Final Volume: 1
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
91-20-3	NAPHTHALENE	0.5	ug/L	0.5	U	
208-96-8	ACENAPHTHYLENE	1	ug/L	1	U	
86-73-7	FLUORENE	0.1	ug/L	0.1	U	
83-32-9	ACENAPHTHENE	1	ug/L	1	U	
85-01-8	PHENANTHRENE	0.05	ug/L	0.05	U	
120-12-7	ANTHRACENE	0.1	ug/L	0.1	U	
206-44-0	FLUORANTHENE	0.1	ug/L	0.1	U	
129-00-0	PYRENE	0.05	ug/L	0.05	U	
56-55-3	BENZO(A)ANTHRACENE	0.05	ug/L	0.05	U	
218-01-9	CHRYSENE	0.05	ug/L	0.05	U	
205-99-2	BENZO(B)FLUORANTHENE	0.1	ug/L	0.1	U	
207-08-9	BENZO(K)FLUORANTHENE	0.05	ug/L	0.05	U	
50-32-8	BENZO(A)PYRENE	0.05	ug/L	0.05	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	0.1	ug/L	0.1	U	
	BENZO(GHI)PERYLENE	0.1	ug/L	0.1	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	0.1	ug/L	0.1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2-CHLOROANTHRACENE	0.632	ug/l	1	63	15 - 117

U = Less than the Reporting Limit

Polynuclear Aromatic Hydrocarbons

Method SW8310

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Tuesday, November 04, 1997

Field ID: MS1606
Lab ID: 9709232-4

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 23-Sep-97
Date Extracted: 29-Sep-97
Date Analyzed: 02-Oct-97
Prep Batch: 145102

Sample Aliquot: 1000
Final Volume: 1
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
91-20-3	NAPHTHALENE	0.5	ug/L	0.5	U	
208-96-8	ACENAPHTHYLENE	1	ug/L	1	U	
83-32-9	ACENAPHTHENE	1	ug/L	1	U	
86-73-7	FLUORENE	0.1	ug/L	0.1	U	
85-01-8	PHENANTHRENE	0.05	ug/L	0.05	U	
120-12-7	ANTHRACENE	0.1	ug/L	0.1	U	
206-44-0	FLUORANTHENE	0.1	ug/L	0.1	U	
129-00-0	PYRENE	0.05	ug/L	0.05	U	
56-55-3	BENZO(A)ANTHRACENE	0.05	ug/L	0.05	U	
218-01-9	CHRYSENE	0.05	ug/L	0.05	U	
205-99-2	BENZO(B)FLUORANTHENE	0.1	ug/L	0.1	U	
207-08-9	BENZO(K)FLUORANTHENE	0.05	ug/L	0.05	U	
50-32-8	BENZO(A)PYRENE	0.05	ug/L	0.05	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	0.1	ug/L	0.1	U	
	BENZO(GHI)PERYLENE	0.1	ug/L	0.1	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	0.1	ug/L	0.1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2-CHLOROANTHRACENE	0.64	ug/l	1	64	15 - 117

U = Less than the Reporting Limit

Polynuclear Aromatic Hydrocarbons

Method SW8310

Method Blank

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9709232
Client Name: IT Corporation
ClientProject ID: 768579-70300000

Reported on: Tuesday, November 04, 1997

Field ID: LABQC
Lab ID: PAH-WRB1093097MB

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: NA

Date Collected: 30-Sep-97
Date Extracted: 30-Sep-97
Date Analyzed: 02-Oct-97
Prep Batch: 145103

Sample Aliquot: 1000
Final Volume: 1
Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
91-20-3	NAPHTHALENE	0.5	ug/L	0.5	U	
208-96-8	ACENAPHTHYLENE	1	ug/L	1	U	
83-32-9	ACENAPHTHENE	1	ug/L	1	U	
86-73-7	FLUORENE	0.1	ug/L	0.1	U	
85-01-8	PHENANTHRENE	0.05	ug/L	0.05	U	
120-12-7	ANTHRACENE	0.1	ug/L	0.1	U	
206-44-0	FLUORANTHENE	0.1	ug/L	0.1	U	
129-00-0	PYRENE	0.05	ug/L	0.05	U	
56-55-3	BENZO(A)ANTHRACENE	0.05	ug/L	0.05	U	
218-01-9	CHRYSENE	0.05	ug/L	0.05	U	
205-99-2	BENZO(B)FLUORANTHENE	0.1	ug/L	0.1	U	
207-08-9	BENZO(K)FLUORANTHENE	0.05	ug/L	0.05	U	
50-32-8	BENZO(A)PYRENE	0.05	ug/L	0.05	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	0.1	ug/L	0.1	U	
191-24-2	BENZO(G,H,I)PERYLENE	0.1	ug/L	0.1	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	0.1	ug/L	0.1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
	2-CHLOROANTHRACENE	0.704	ug/l	1	70	15 - 117

U = Less than the Reporting Limit

A.F. 493/98

Barry R. McBee, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Dan Pearson, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

October 21, 1997

CERTIFIED MAIL

Mr. Charles Rice
Team Chief
Base Closure Restoration Division
HQ AFCEE/ERB
3207 North Road
Brooks AFB, Texas 78235-5363

Re: Subsurface Hydrocarbon Contamination at the Base Gas Station (BGS) and Base Service Station (BSS), NAS Fort Worth, Carswell AFB (Tarrant County), Texas
(LPST ID No. 104524 - Priority 3.2 - Facility ID No. 009696)

Dear Mr. Rice:

We have completed our review of the investigation and remedial procedures addressing subsurface contamination at the above referenced facility as provided in the Groundwater Sampling and Monitoring Workplan submitted on September 26, 1997. After careful review of all available information, we conclude that the workplan satisfy the requirements stipulated in our September 16, 1997 letter. Additionally, we reiterate our concurrence with the recommendation for no further corrective action at the subject sites. Please be advised that if the results of the requested monitoring period indicate an increasing or erratic contaminant trend with time, you may be requested to extend the monitoring period or develop target cleanup concentrations under Plan B of our RBCA guidance.

If you have any questions concerning this letter, please contact me at 512/239-2200. Your cooperation in this matter is appreciated.

Sincerely,

A. Peña, P.E.

Antonio Peña
Coordinator, Team II
Responsible Party Remediation Section
Petroleum Storage Tank Division

ARP/keh
104524.gws

cc: Sam Barrett, TNRCC Region 4 Field Office, 817/795-2519
(1101 East Arkansas Lane, Arlington, Texas 76010-6499)

Barry R. McBee, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Dan Pearson, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

September 16, 1997

CERTIFIED MAIL

Mr. Charles Rice
HQ AFCEE/ERB
3207 North Road
Brooks AFB, Texas 78235-5363

Re: Subsurface Hydrocarbon Contamination at the Base Gas Station (BGS) and Base Service Station (BSS), NAS Fort Worth, Carswell AFB (Tarrant County), Texas (LPST ID No. 104524 - Priority 3.2 - Facility ID No. 009696)

Dear Mr. Rice:

We have completed our review of the investigation and remedial procedures addressing subsurface contamination at the above referenced facility as provided in the final Risk-Based Assessment (RBA) and Plan B Risk Assessment reports submitted by your consultant, IT International Technology Corporation on August 17, 1997. After careful review of all available information, we are in general concurrence with your consultant's recommendation for a no further corrective action status at these sites, however, additional groundwater sampling is required to monitor Chemicals of Concern (COCs) and plume stability.

Please submit a workplan for two semi-annual groundwater sampling events according to the following plan:

visible sheen gas/fuel odor

Base Gas Station: Monitor wells MW-3, MW-5 and MW-6;
Base Service Station: Monitor Wells BSS-B, MW-2, MW-10 and MW-11.
Surface Water: Take an upgradient and downgradient water sample from the Fork Trinity River.

moving downgrad sediment gas/fuel odor

In addition, upon review of the RBA reports the following deficiency was noted. Please submit the following items:

Attachment 14: Texas Natural Resource Conservation Commission (TNRCC) Form 0019 for all wells was missing for both the BGS and BSS.

Upon completion of the above mentioned items, a report which addresses the above concerns should be submitted to this Office. Upon receipt, this project will be reevaluated and a determination made as to whether closure or further corrective action is warranted. **The LPST and Facility ID Numbers should be included in all correspondence.**

If you have any questions concerning this letter, please contact me at 512/239-2200. Your cooperation in this matter is appreciated.

Sincerely,

, P.E.

Antonio Peña
Coordinator, Team II
Responsible Party Remediation Section
Petroleum Storage Tank Division

ARP/keh
104524.rsk

cc: Sam Barrett, TNRCC Region 4 Field Office, 817/795-2519
(1101 East Arkansas Lane, Arlington, Texas 76010-6499)

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE