MARTIN MARIETTA

Y/SUB/95-99069C/K49/1

SITE STATUS MONITORING REPORT FOR UNDERGROUND STORAGE TANK 2331–U AT BUILDING 9201-1

OAK RIDGE Y-12 PLANT
OAK RIDGE, TENNESSEE
FACILITY ID #0-010117

January 1995

Environmental Management Department
Health, Safety, Environment,
and Accountability Organization

MANAGED BY
MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY

Y/SUB/95-99069C/K49/1

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Prepared by

Science Applications International Corporation
Under Subcontract 22B-99069C
for the
Oak Ridge Y-12 Plant
Oak Ridge, Tennessee 37831

Managed by

Martin Marietta Energy Systems, Inc.
for the
U.S. Department of Energy
Under Contract No. DE-AC05-84OR21400

94-047MS/072994

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LIST OF ACRONYMS

BGS	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
BTOC	below top of casing
CAP	Corrective Action Plan
GRO	gasoline range organic
LEL	lower explosive limit
MSL	mean sea level
TDEC	Tennessee Department of Environment and Conservation
TPH	total petroleum hydrocarbon
TWA	time weighted average
UEFPC	Upper East Fork Poplar Creek
UST	underground storage tank

SIGNATURE PAGE

I certify under penalty of law, including but not limited to penalties for perjury, that the information contained in this report and on any attachments, is true, accurate, and complete to the best of my knowledge, information, and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for intentional violations.

See Attached Certification		
Owner/Operator (Print)	Signature	Date
William D. Keefer	William D. Keefer / TN.3328	12/30/94
P.E. or P.G. (Print)	Signature TN Lic./Reg. #	Date

If a P.E. signs this report, please indicate the area of expertise.

Professional Geologist
(Print or Type)

(P.E./P.G. Stamp/Seal)

County of Anderson State of Tennessee

Subscribed and Sworn to before me this

30th day of Dec, 1994.

Kimberly D. Mitchell
Notary Public

My Commission expires: Sept 23, 97 (Notary Seal)

CERTIFICATION STATEMENT FOR THE SITE STATUS MONITORING REPORT FOR THE UNDERGROUND STORAGE TANK 2331-U, AT BUILDING 9201-1

I certify that this document and all enclosures were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

U.S. Department of Energy
Owner and Operator

By:

R.J. Spence
Department of Energy, Y-12 Site Manager

1/19/95
Date Signed

Diriah L. Sexton
My commission expires Oct. 4, 1998

Martin Marietta Energy Systems, Inc.
Co-Operator

By:

T.R. Butz
Martin Marietta Energy Systems, Inc.
Y-12 Plant Manager

1/13/95
Date Signed

Diriah L. Sexton
NOTARY
My commission expires Oct. 4, 1998
(Stamp/Seal)

Note: Both signatures have been notarized per requirements.

1. INTRODUCTION

1.1 Purpose and Scope

The purpose of this document is to present potentiometric, groundwater quality and vapor monitoring data required for site status monitoring of underground storage tank (UST) 2331-U at the Building 9201-1 Site. Site status monitoring has been conducted at the site as part of a Monitoring Only program approved by the Tennessee Department of Environment and Conservation (TDEC) based on review and approval of Site Ranking (Site Ranking Form approved May 23, 1994). This document presents the results of the first semiannual site status monitoring that was performed in December 1994. Site status monitoring and preparation of this report have been conducted in accordance with the requirements of TDEC Rule 1200-1-15 and the TDEC *UST Reference Handbook, Second Edition* (TDEC 1994) Technical Guidance Document (TGD) 007.

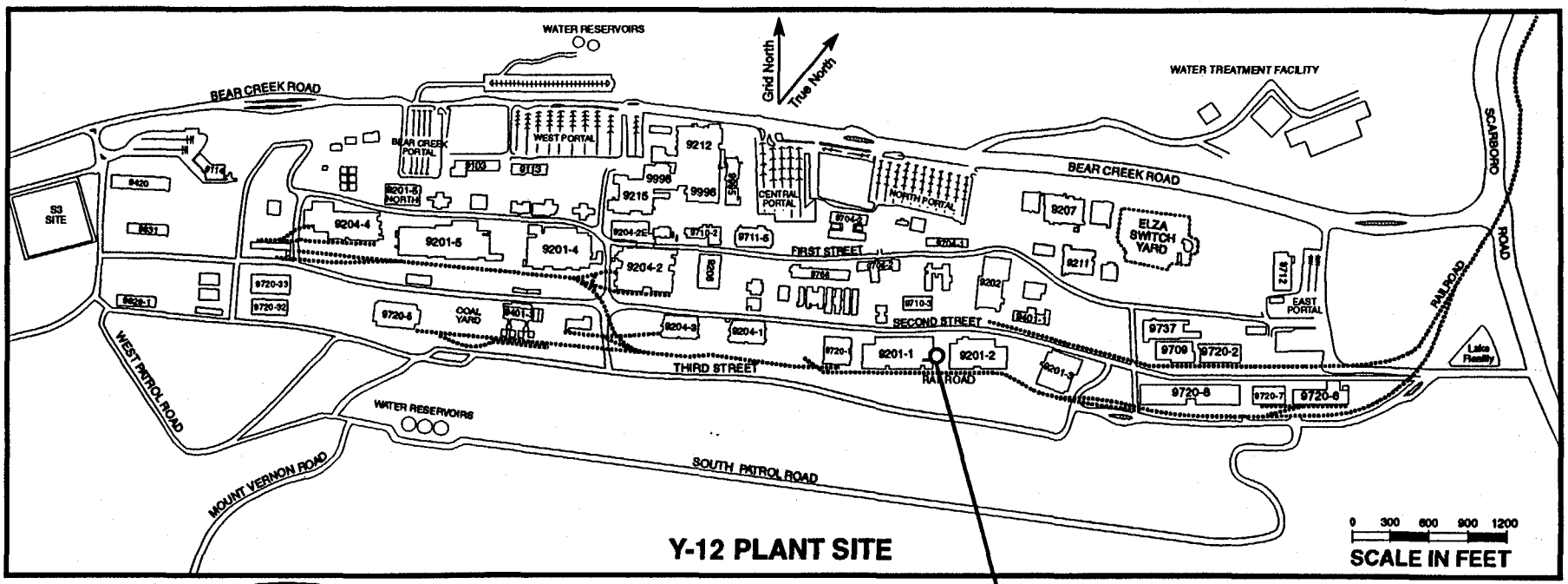
This document is organized into three sections. Section 1 presents introductory information relative to the site including the regulatory initiative and a site description. Section 2 includes the results of measurement and sampling of monitoring wells GW-193, GW-657, GW-707, GW-708, GW-808, GW-809, and GW-810. Section 3 presents data from vapor monitoring conducted in subsurface utilities present at the site.

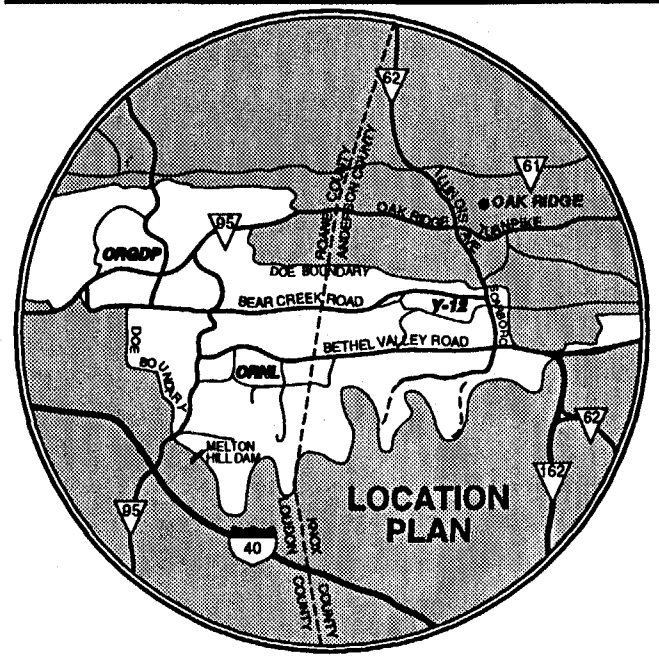
1.2 Site Description

The Building 9201-1 Site is located within the south central portion of the Oak Ridge Y-12 Plant in Oak Ridge, Tennessee (Figure 1-1). This area is within the Exclusion Zone of the Y-12 Plant, which is access restricted. The site is generally defined as the area directly south of the Building 9201-1 concrete ramp/loading dock (Figure 1-2). The site was previously the location of a gasoline UST used to fuel gasoline-powered equipment in the area. The tank has been excavated and removed from the site.

The UST was a 560-gallon gasoline tank that was first suspected of leaking in 1988. Tightness testing confirmed that the tank was leaking and the tank was subsequently excavated and removed. An Initial Site Characterization and Environmental Assessment identified the presence of petroleum contamination above applicable TDEC Closure Action Levels. A Corrective Action Plan (CAP) was prepared and approved and Baseline Monitoring was performed in support of corrective action (11/93). However, site ranking performed in accordance with the newly issued TGD-014 (1/94) indicated that contaminant concentrations were sufficiently low and contaminant exposure sufficiently limited in extent to qualify for a monitoring only program in lieu of active remediation.

The topography of the Building 9201-1 Site gently decreases in elevation from north to south across the facility. A surface water and groundwater divide coincident with the trace of Upper East Fork Poplar Creek (UEFPC) lies approximately 230 ft south of the site. Given the nature of the surface topography at the Building 9201-1 Site, any petroleum contamination resulting from past UST operations would be expected to migrate south/southeast away from the source area.





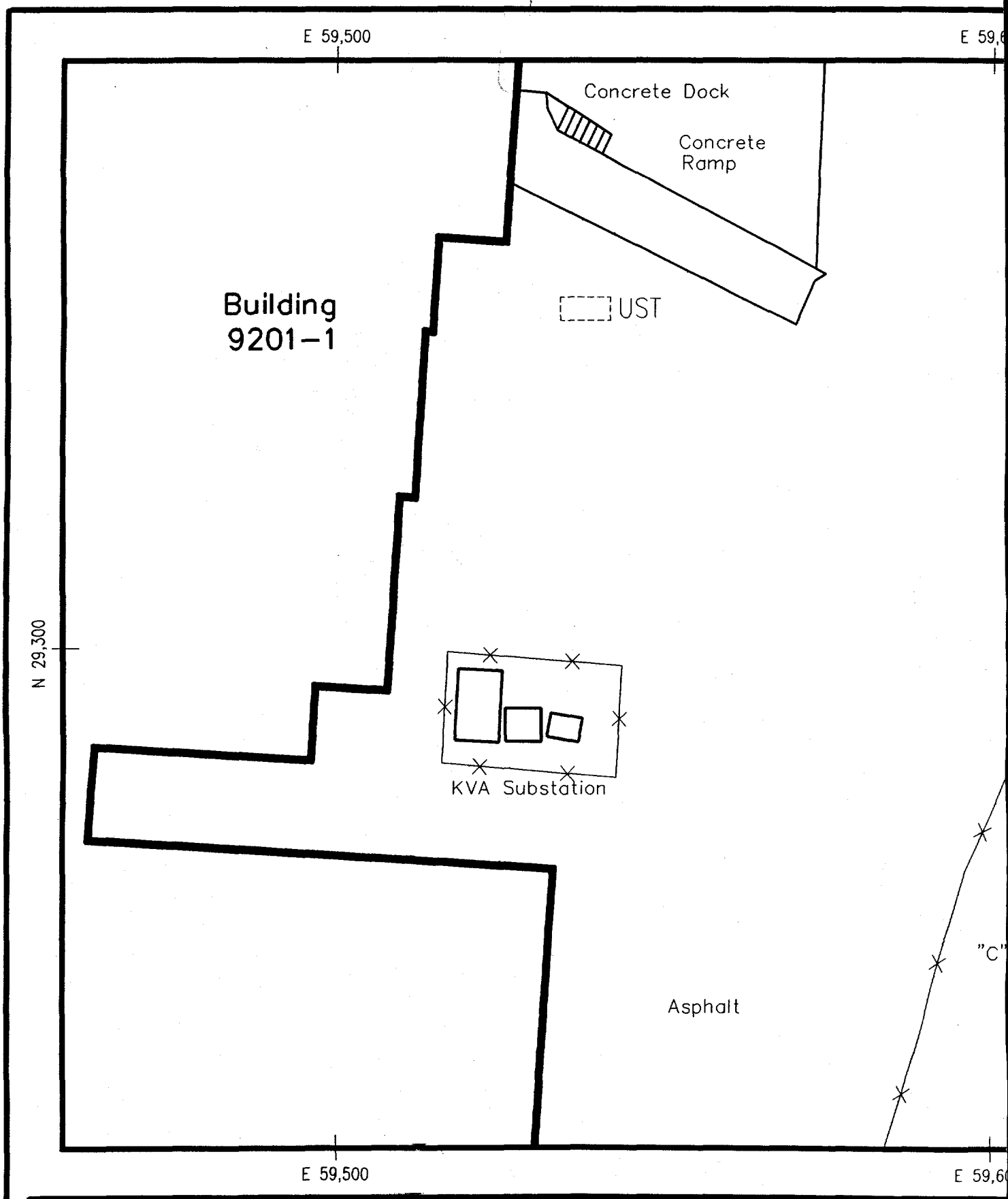
BUILDING 9201-1 SITE

MARTIN MARIETTA ENERGY SYSTEMS, INC.
ENVIRONMENTAL MANAGEMENT DEPARTMENT

LOCATION OF THE BUILDING 9201-1 SITE AT THE Y-12 PLANT

1-031792-077

Figure 1-1. Location of the Building 9201-1 Site at the Y-12 Plant



All location information presented in this figure is based upon MMES engineering drawings, results of previous MMES investigations, and/or field determinations of feature and sampling locations. No representation or warranty, expressed or implied, is made as to the accuracy of the information or statements presented in this figure.

0 5 10 20 40

SCALE: 1" = 20'

Y-12 PLANT NORTH

REV. 1 – 7/28/94 SAIC FILE: 93021R1/DWGS/734SITE

Legend

Building

Fence

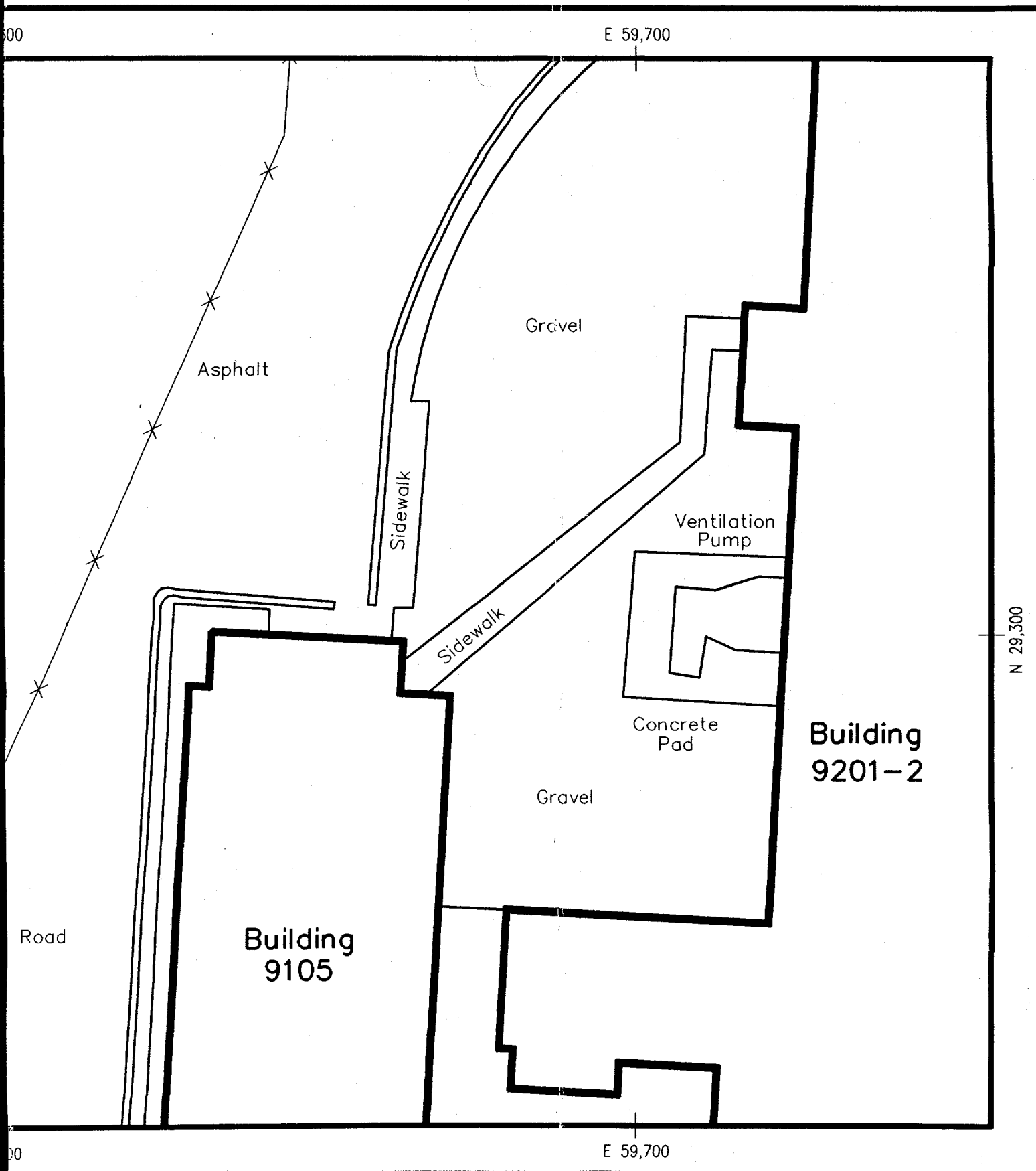


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FIGURE 1-2

Building 9201-1 Site
Site Map

2. GROUNDWATER MONITORING

2.1 Groundwater Measurement, Sample Collection, and Analysis

2.1.1 Well Locations

Seven wells identified by TDEC have been measured and sampled as part of the Monitoring Only program for the site. These wells include GW-193, GW-657, GW-707, GW-708, GW-808, GW-809, and GW-810. The locations of these wells are presented in Figure 2-1. Well installation reports and construction details for monitoring wells GW-193, GW-657, GW-707, and GW-708 are presented in the CAP for the Site [*Corrective Action Plan for Underground Storage Tank 2331-U at the Building 9201-1 Site, Appendix C*, Y/SUB-92-99928C/3 (Energy Systems 1992)]. Well installation reports and construction details for monitoring wells GW-808, GW-809, and GW-810 that were installed in July 1993 are presented in the Corrective Action Baseline Report for the Site [*Corrective Action Baseline Report for Underground Storage Tank 2331-U, Building 9201-1, Appendix A*, Y/SUB/94-99069C/Y15/2 (Energy Systems 1994)].

2.1.2 Groundwater Measurement and Sampling

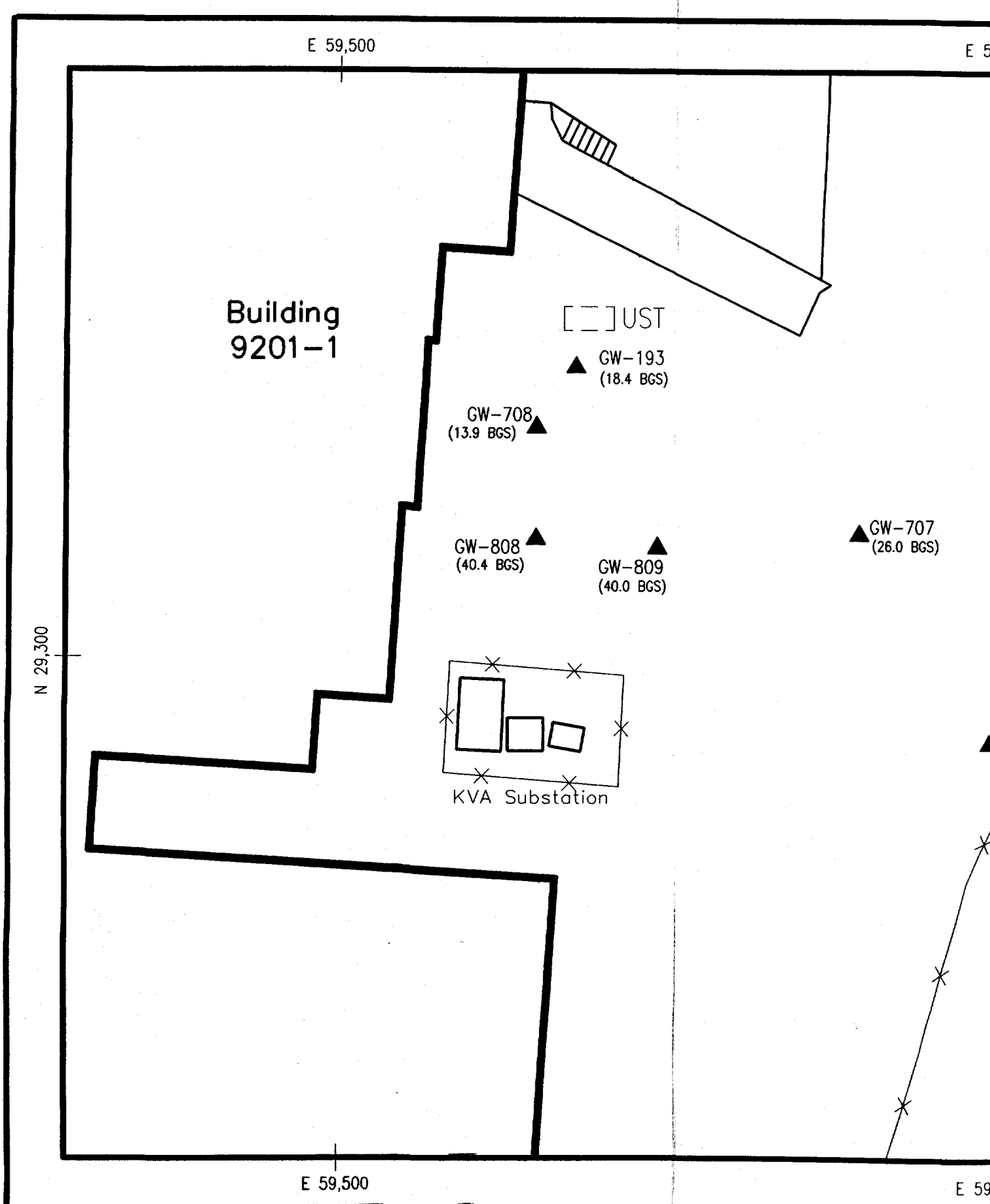
Current groundwater level measurement and sampling of the monitoring wells at the Building 9201-1 Site occurred on June 21, 1994 and December 14, 1994. Water levels were measured to the nearest 0.01 ft using an electronic water level indicator. Each well was then purged of three well volumes prior to sampling except CW-707, which was purged to dryness after the removal of approximately two well volumes and was sampled as soon as sufficient volume had recovered. Field measurement of pH, conductivity, temperature, and dissolved oxygen was conducted during purging to ensure representativeness for sampling. Monitoring wells GW-808, GW-809, and GW-810 had elevated pH (>10.0), but this is not expected to affect analytical results. No measurable free product was encountered during water level measurement or sampling in any of these wells. However, an oily sheen and petroleum odor were observed during purging and sampling of wells GW-193 and GW-708. Samples were collected using a boiler and transferred into pre-cleaned glass containers with zero headspace.

2.1.3 Sample Analysis

Groundwater samples were analyzed for total petroleum hydrocarbons-gasoline range organics (TPH-GRO), and for benzene, toluene, ethylbenzene, and xylenes (BTEX) at the Y-12 Plant Environmental Laboratory (a TDEC Division of UST approved laboratory).

2.2 Potentiometric Data

Potentiometric data for monitoring wells at the Building 9201-1 Site from the comprehensive and site status monitoring measurement events are presented in Table 2-1. Figures 2-2 and 2-3 present potentiometric contour maps from these two periods. These figures indicate an irregular potentiometric surface with locally variable groundwater flow directions. A localized water table high southeast of the former UST site (around wells GW-707 and GW-657) appear to be reasonably persistent. This water table high may be related to a subsurface feature (e.g., fracture) or may reflect a small difference in head between unconsolidated and bedrock wells. However, the general flow direction, for any petroleum contaminants entering groundwater from the former UST depicted for both periods of measurement, is from north to south across the site.



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0 5 10 20 40

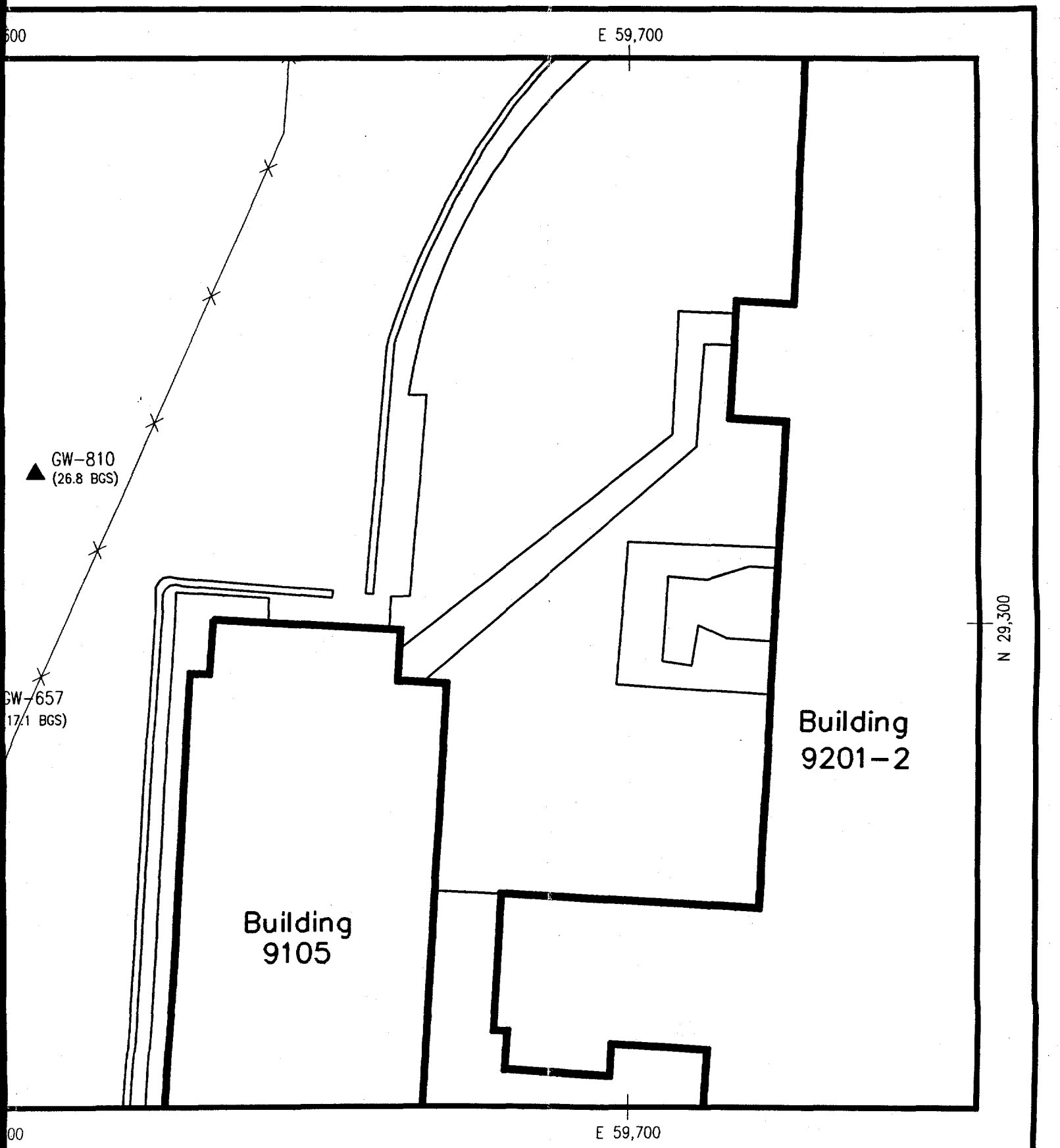
SCALE: 1" = 20'

REV. 1 - 7/28/94 SAIC FILE: 93021R1/DWGS/734MON

Y-12 PLANT NORTH

Legend

▲ GW-193 (18.4 BGS) Groundwater Total Depth



Monitoring Well Location
Below Ground Surface (BGS)

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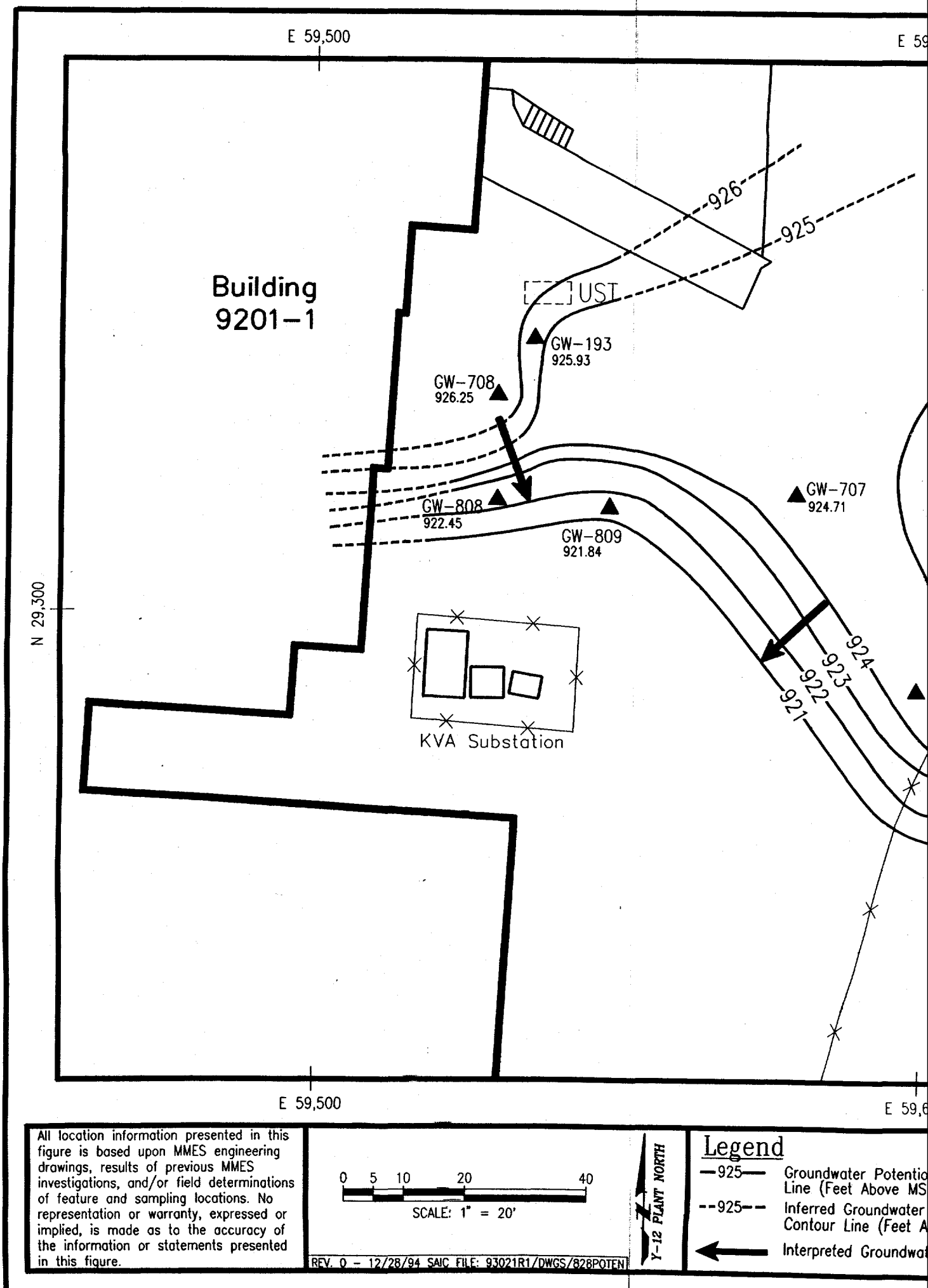
FIGURE 2-1
Building 9201-1 Site
Monitoring Well Location Map

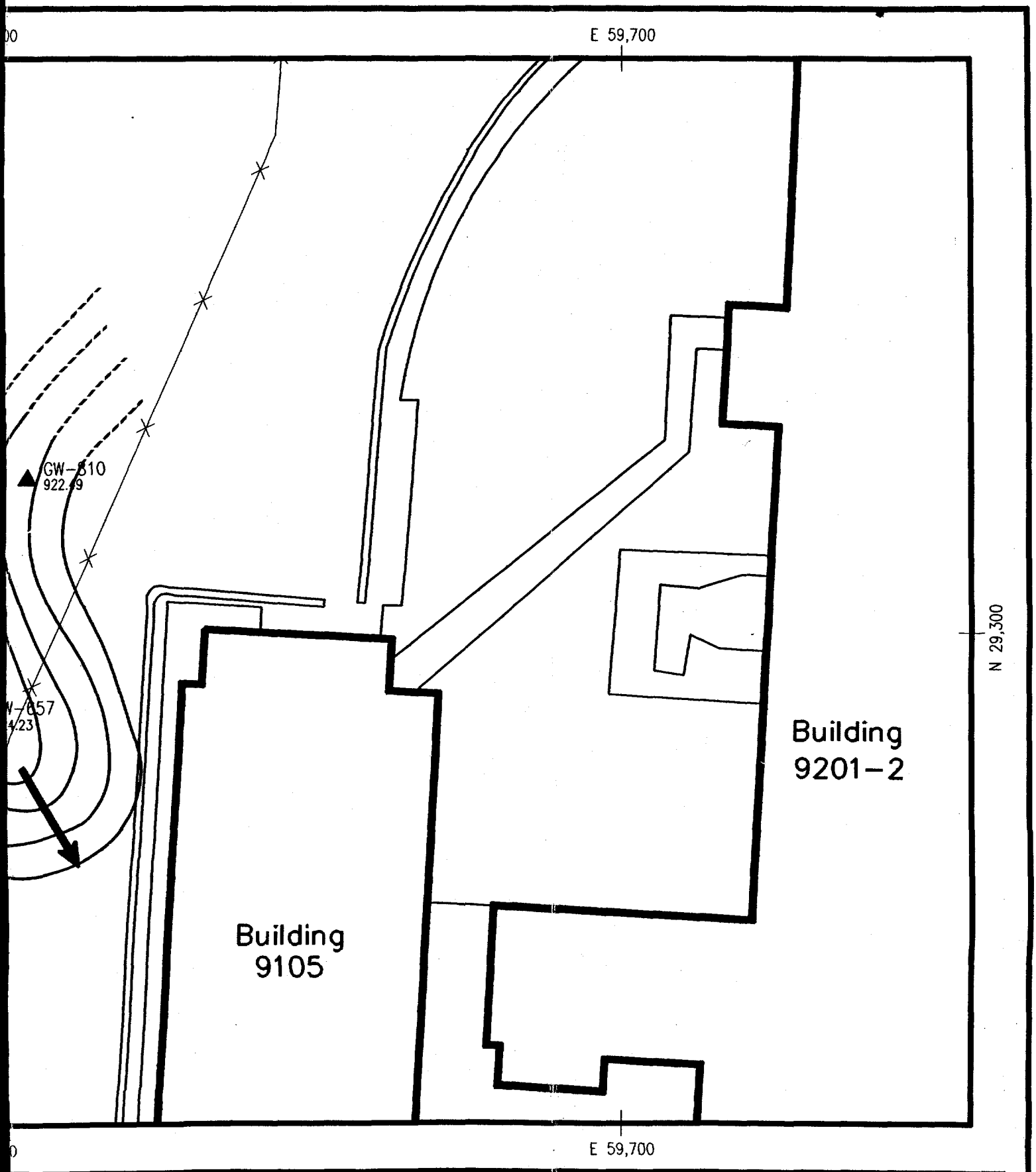
Table 2-1. Water level measurements at the Building 9201-1 Site for the periods of June and December 1994

Monitoring well number	Date measured	Total well depth (ft-BGS)	Top of casing (ft-MSL)	Top of casing to water level (ft-BTOC)	Potentiometric surface elevation (ft-MSL)
GW-193	6/21/94	18.4	934.00	8.20	925.80
	12/14/94	18.4	934.00	8.07	925.93
GW-657	6/21/94	17.1	930.53	6.90	923.63
	12/14/94	17.1	930.53	6.30	924.23
GW-707	6/21/94	26.0	930.91	5.70	925.21
	12/14/94	26.0	930.91	6.20	924.71
GW-708	6/21/94	13.9	930.87	4.60	926.27
	12/14/94	13.9	930.87	4.64	926.23
GW-808	6/21/94	40.4	930.75	7.87	922.88
	12/14/94	40.4	930.75	8.30	922.45
GW-809	6/21/94	40.0	931.04	8.46	922.58
	12/14/94	40.0	931.04	9.20	921.84
GW-810	6/21/94	26.8	931.44	9.69	921.75
	12/14/94	26.8	931.44	8.95	922.49

Notes:

BGS - below ground surface
MSL - mean sea level
BTOC - below top of casing


E 59,500
E 59
Building
9201-1
926
925
USI
GW-193
925.93
GW-708
926.25
GW-808
922.45
GW-809
921.84
GW-707
924.71
N 29,300
924
923
922
921
KVA Substation
E 59,500
E 59,6
All location information presented in this figure is based upon MMES engineering drawings, results of previous MMES investigations, and/or field determinations of feature and sampling locations. No representation or warranty, expressed or implied, is made as to the accuracy of the information or statements presented in this figure.
0 5 10 20 40
SCALE: 1" = 20'
REV. 0 - 12/28/94 SAIC FILE: 93021R1/DWGS/828POTEN
Y-12 PLANT NORTH
Legend
—925— Groundwater Potentio
Line (Feet Above MS
--925-- Inferred Groundwater
Contour Line (Feet A
Interpreted Groundwa



etric Contour

▲ GW-193 Groundwater Monitoring Well Location

otentiometric
ove MSL)

925.93 Water Level Measurement Dec. 1994 (Feet Above MSL)

r Flow Direction

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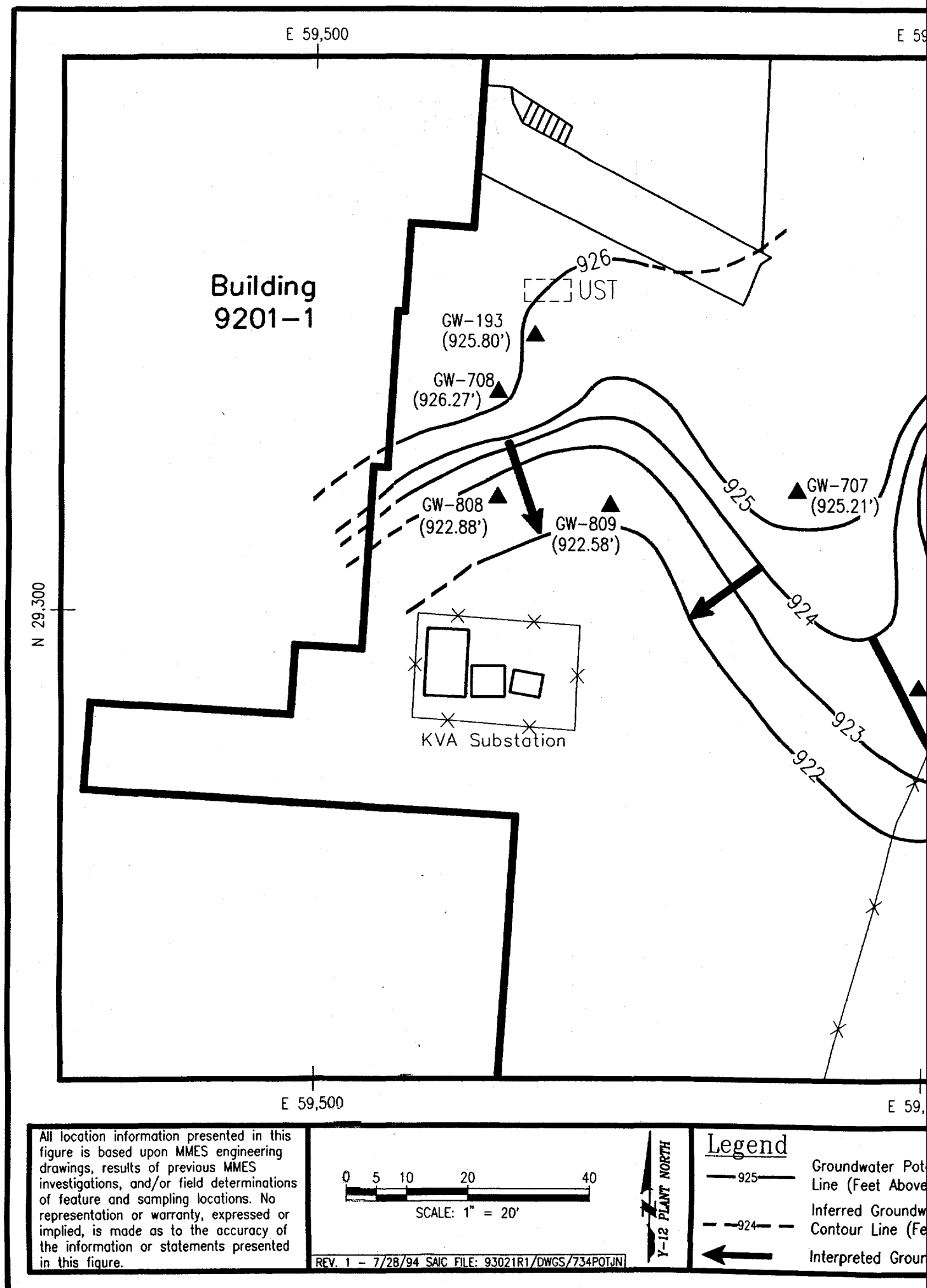
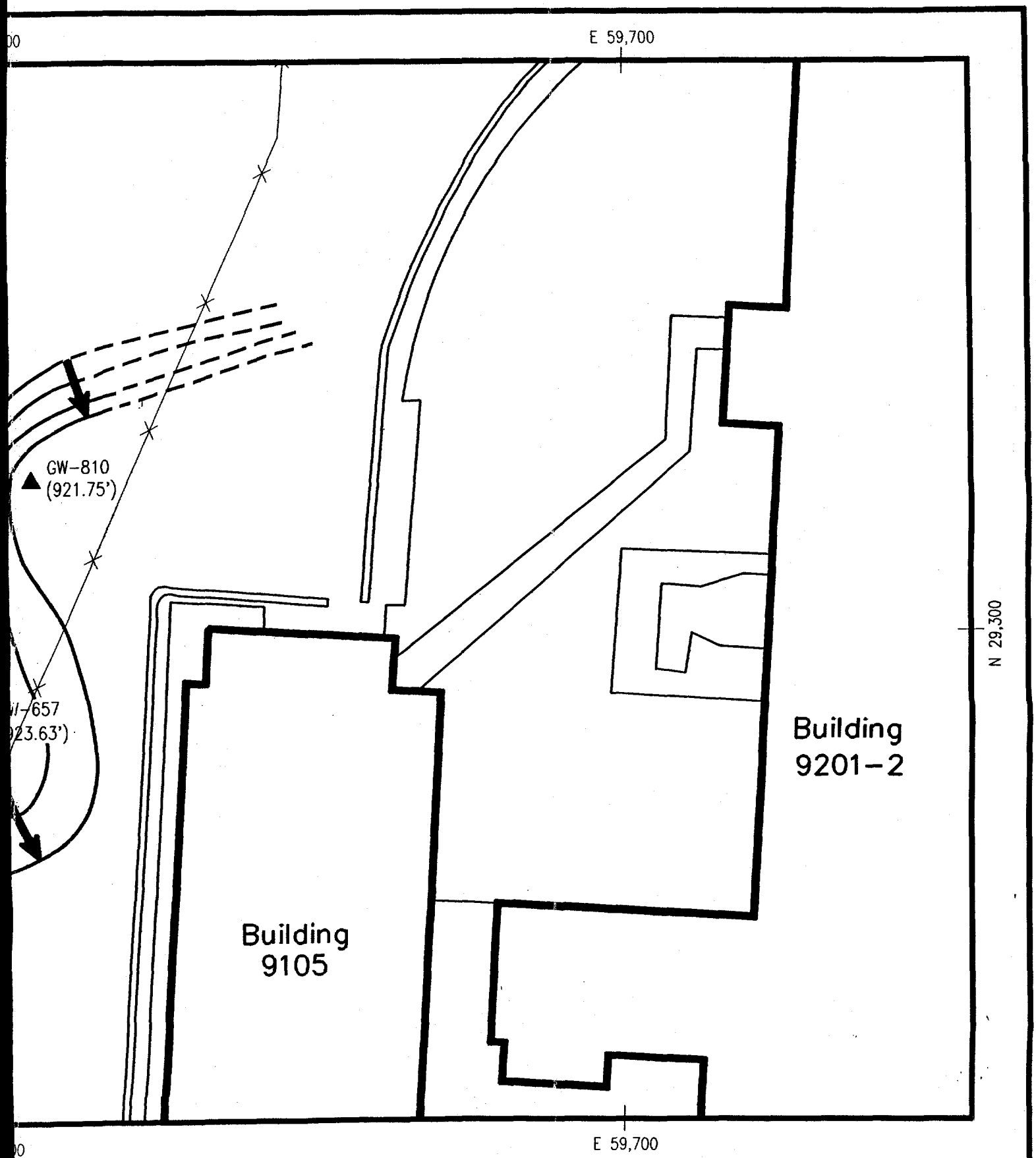
Environmental Management Department

FIGURE 2-2

Building 9201-1 Site
Groundwater Potentiometric
Contour Map Dec. 1994


E 59,500
E 59
Building
9201–1
926
UST
GW–193
(925.80')
GW–708
(926.27')
GW–808
(922.88')
GW–809
(922.58')
GW–707
(925.21')
925
924
923
922
KVA Substation
N 29,300
E 59,500
E 59,
All location information presented in this figure is based upon MMES engineering drawings, results of previous MMES investigations, and/or field determinations of feature and sampling locations. No representation or warranty, expressed or implied, is made as to the accuracy of the information or statements presented in this figure.
0 5 10 20 40
SCALE: 1" = 20'
Y-12 PLANT NORTH
REV. 1 – 7/28/94 SAIC FILE: 93021R1/DWGS/734POTJN
Legend
925
Groundwater Pot
Line (Feet Above
924
Inferred Groundw
Contour Line (Fe
Interpreted Groun



tiometric Contour
MSL)
er Potentiometric
Above MSL)
water Flow Direction

▲GW-193 Groundwater Monitoring Well Locations

(925.29') Water Level Measurement June 1994

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FIGURE 2-3

Building 9201-1 Site
Groundwater Potentiometric
Contour Map June 1994

2.3 Groundwater Analytical Data

Analytical data for groundwater sampled at the site during site status and comprehensive monitoring, baseline sampling, and the last round of 1993 Upper East Fork Poplar Creek Hydrogeologic Regime Groundwater Quality Assessment sampling are presented in Table 2-2. Analytical results for the site status monitoring did not indicate any significant increase or decrease in the level of contamination as compared to historical monitoring. Benzene and TPH values for GW-193 and GW-708 continued to exceed the applicable Closure Action Levels of 0.07 ppm for benzene and 1.0 ppm for TPH, Both of these wells have historically produced values in excess of these closure limits. These results produce no change in the horizontal area of groundwater contamination as defined by the comprehensive monitoring data. Analytical results for GW-657, GW-707, GW-808, GW-809, and GW-810 show no groundwater contamination detected above analytical quantitation limits, which are below the applicable Closure Action Levels. These data indicate that groundwater contamination has not migrated downgradient to the location of these wells, and suggests the area of groundwater contamination is relatively stable over time.. This is consistent with previous monitoring results and the calcualted hydraulic gradient, velocity, and conductivity from slug testing of wells GW-193 and GW-707 (Energy Systems 1992). It is expected that contaminant elvels will fall of slowly as contaminant degradation continues because of the slow migration and limited mixing of the contaminated groundwater.

Table 2-2. Analytical results for groundwater samples collected during site status and comprehensive monitoring, baseline sampling, and 1993 groundwater quality assessment sampling

Sampling event	Sampling date	TPH-GRO[1] (ppm)	Benzene (ppm)	Ethylbenzene (ppm)	Toluene (ppm)	Xylenes (ppm)
			GW-193			
Site status monitoring	12-14-94	*3.000	*0.620	0.320	0.230B[2]	0.360B
Comprehensive monitoring	6-21-94	*4.100	*0.420	0.400	0.200	0480
Basline sampling	11-2-93	*5.50	*1.68E[3]	0.575	0.235	0.353
1993 GWQAR-Qtr. 4	11-18-93	*3.223	*2.800	0.450	0.700	0.580
			GW-657			
Site status monitoring	12-14-94	<0.100	.010U	.010U	.010U	.010U
Comprehensive monitoring	6-21-94	0.100U[4]	0.010U	0.010U	0.010U	0.010U
Baseline sampling	11-2-93	<0.100	<0.001	<0.001	<0.001	<0.001
1993 GWQAR-Qtr. 4	11-15-93	0.0049	0.005U	0.005U	0.005U	0.005U
			GW-707			
Site status monitoring	12-14-94	<0.100	.010U	.010U	.010U	.010U
Comprehensive monitoring	6-21-94	0.042J[5]	0.002J	0.010U	0.010U	0.001J
Baseline sampling[6]	11-2-93	<0.100	<0.001	<0.001	<0.001	<0.001
1993 GWQAR-Qtr. 4	11-18-93	0.0103	0.005U	0.005U	0.005U	0.005U
			GW-708			
Site status monitoring	12-14-94	*5.300	*0.820	0.610	0.094B	1.200B
Comprehensive monitoring	6-21-94	*5.300	*0.980	0.620	0.110	0.690
Baseline sampling[6]	11-2-93	*7.50	*0.900	0.800	0.095	1.575
1993 GWQAR-Qtr. 4	11-12-93	*5.995	*0.780	0.670	0.098	1.800
			GW-808			
Site status monitoring	12-14-94	<0.100	0.010U	0.010U	0.010U	<.010B
Comprehensive monitoring	6-21-94	0.012J	0.010U	0.010U	0.010U	0.006J
Baseline sampling	11-2-93	0.140	<0.001	0.016	<0.001	0.111
			GW-809			
Site status monitoring	12-14-94	<0.100	0.010U	0.010U	0.010U	0.010U
Comprehensive monitoring	6-21-94	0.010	0.010U	0.010U	0.010U	0.010U
Baseline sampling	11-2-93	<0.100	0.001	0.003	0.001	0.016
			GW-810			
Site status monitoring	12-14-94	<0.100	0.010U	0.010U	0.010U	0.010U
Comprehensive monitoring	6-21-94	0.021J	0.010U	0.010U	0.010U	0.010U
Baseline sampling	11-2-93	0.190	0.001	0.019	0.001	0.136

[1]TPH-GRO - Total Petroleum Hydrocarbons-Gasoline Range Organics.

[2]B - Indicates the analyte was found in the associated blank as well as in the sample.

[3]E - Benzene exceeded calibration range.

[4]U - Contaminant was not detected above quantition limit during the analysis.

[5]J - Value estimated for contaminant.

[6]Sample identification error suspected. Baseline sample results for wells GW-707 and GW-708 have been transposed to correct this error.

*Denotes contamination above the applicable closure action levels for the site (1.0 ppm TPH, 0.070 ppm benzene).

3. VAPOR MONITORING

3.1 Monitoring Methods and Locations

Vapor monitoring as part of the Monitoring Only program has been conducted at seven access points along subsurface stormwater and sewer drainage lines that cross the Building 9201-1 Site. However, none of the subsurface utilities present at the site crosses the groundwater plume defined by the most recent data. The locations of vapor monitoring locations are illustrated in Figure 3-1.

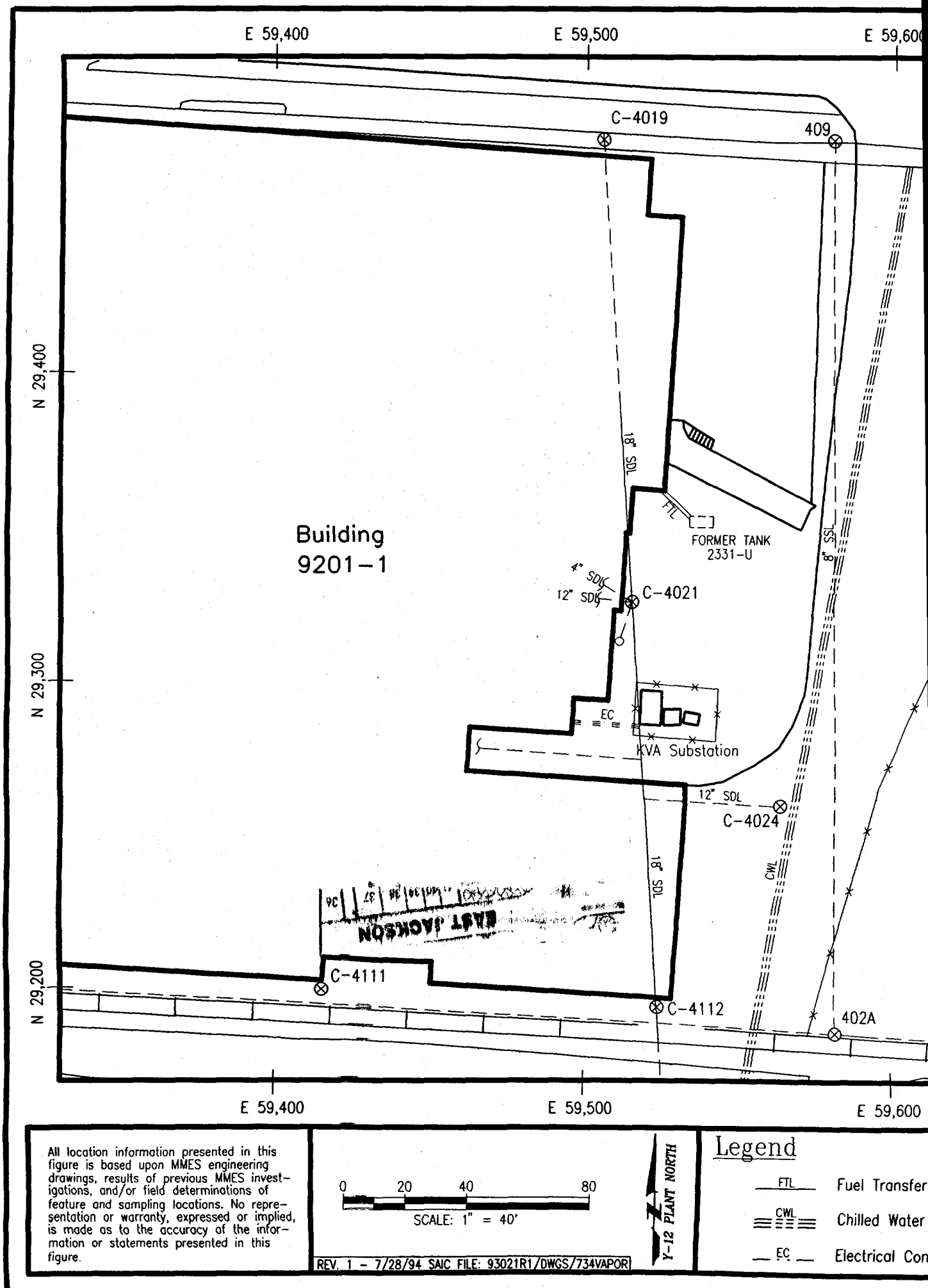
At each location, the atmosphere was monitored using direct reading instruments. Organic vapors were measured using a Thermo Environmental™ organic vapor meter. Oxygen and lower explosive limit (LEL) were monitored .

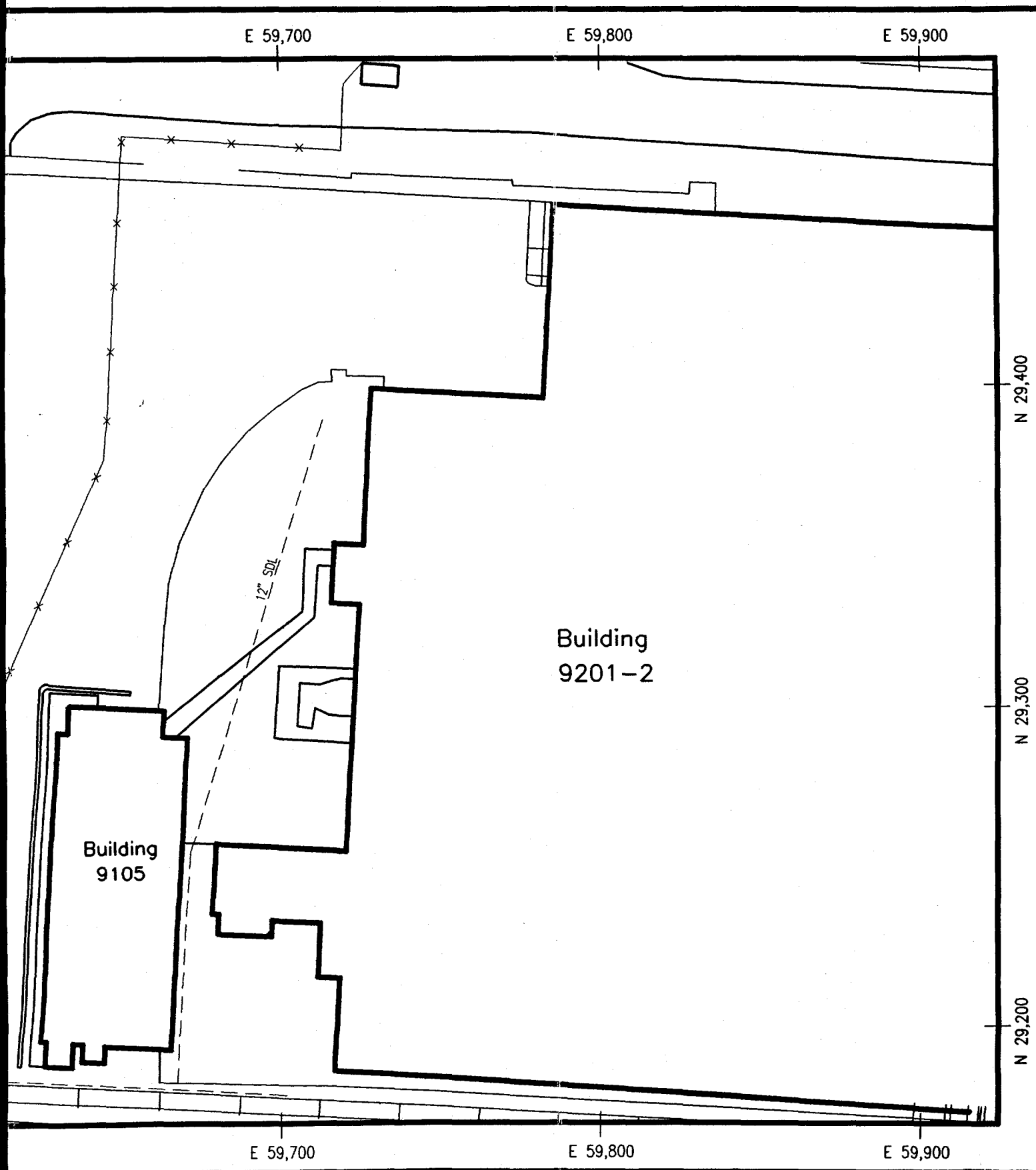
3.2 Vapor Monitoring Results

The results of site status vapor monitoring conducted December 20, 1994 at the Building 9201-1 Site are presented in Table 3-1. Measured oxygen percentages are within the range of normal air concentrations. LEL readings of 0% indicate that an explosion hazard does not exist within any of the monitored utilities. Organic vapor readings range from 0.1 ppm to 0.6 ppm above background. These results are not considered indicative of the presence of measureable petroleum contamination, but may be due to the presence of residual petroleum contamination or other organic compounds (naturally occurring or man-made) at the site. However, the non-discriminatory nature of the organic vapor meter used in monitoring does not allow specific identification of the source.

Table 3-1. Vapor monitoring results for the Building 9201-1 Site, December 20, 1994

Sampling location	O_2 %	LEL %	Organic vapors (ppm)	Background organic vapors (ppm)
402A	20.8	0	0.5	0.0
409	20.8	0	0.3	0.0
C-4019	20.8	0	0.1	0.0
C-4021	20.8	0	0.3	0.0
C-4112	20.8	0	0.3	0.0
C-4111	20.8	0	0.7	0.1
C-4024	20.8	0	0.1	0.0


E 59,400
E 59,500
E 59,600
C-4019
409
N 29,400
N 29,300
N 29,200
Building
9201-1
18" SDL
FTL
FORMER TANK
2331-U
SSL
8"
4" SDL
12" SDL
C-4021
EC
KVA Substation
12" SDL
C-4024
18" SDL
CWL
C-4111
C-4112
402A
All location information presented in this figure is based upon MMES engineering drawings, results of previous MMES investigations, and/or field determinations of feature and sampling locations. No representation or warranty, expressed or implied, is made as to the accuracy of the information or statements presented in this figure.
0 20 40 80
SCALE: 1" = 40'
Y-12 PLANT NORTH
REV. 1 - 7/28/94 SAIC FILE: 93021R1/DWGS/734VAPOR
Legend
FTL Fuel Transfer
CWL Chilled Water
EC Electrical Con



	SDL — Underground Stormwater Drainage Line
Line	SSL — Sanitary Underground Sewer Line
Line	⊗ Vapor Monitoring Location
luit	

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Environmental Management Department

FIGURE 3-1

Building 9201-1 Site
Vapor Monitoring Sampling
Location Map

REFERENCES

American Conference of Governmental Industrial Hygienists 1993-1994. *The 1993-1994 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*, ISDN: 1-882417-03-8.

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APPENDIX A
LABORATORY ANALYTICAL RESULTS FOR SITE STATUS MONITORING

OFFICIAL REPORT

'04/95 11:12:09 Y-12 ANALYTICAL SERVICES ORGANIZATION PAGE 1 OF 1

MITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG. 9201-1		E943470079	8601	APPROVED

E SAMPLED: 12/14/94 11:11:00 DATE NEEDED: 12/29/94 LOCATION: GW-193 CHARGE #: S2205F26
E RECEIVED: 12/15/94 DATE COMPLETED: 12/22/94 PROJECT CODE: CASE: 3130
PLER: 029776 SAMPLE DESCRIPTION: GRAB FINAL APPROVAL:

MENTS: UST WELL AT BLDG. 9201-1. DON BOHRMAN GETS RESULTS, GW-193, 0-010117

T: GRO TPH Gasoline Range Organics Including BTEX REPLICATE: 1 STATUS: APPROVED
P MTH: PROC MTH: SW846 8020 PHASE: TIME ANALYZED: 12/21/94 10:35:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
	Gasoline Range Organics		3000		ug/L
32	Benzene		620		ug/L
414	Ethylbenzene		320		ug/L
883	Toluene		230 B		ug/L
0207	Xylene		360 B		ug/L
	GRO Quantitation Limit		400		ug/L
	BTEX Quantitation Limit		40		ug/L
	GRO Amount in Blank		NONE		ug/L

*** LAST PAGE ***

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04/95 11:12:19 Y-12 ANALYTICAL SERVICES ORGANIZATION PAGE 1 OF 1

MITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG. 9201-1		E943470080	8601	APPROVED
E SAMPLED: 12/14/94 11:40:00	DATE NEEDED: 12/29/94	LOCATION: GW-657			CHARGE #: S2205F26	
E RECEIVED: 12/15/94	DATE COMPLETED: 12/22/94	PROJECT CODE:			CASE: 3130	
PLER: 29776	SAMPLE DESCRIPTION: GRAB			FINAL APPROVAL:		

MENTS: UST WELLS AT 9201-1. RESULTS GO TO DON BOHRMAN, GW-657, 0-010117

T: GRO TPH Gasoline Range Organics Including BTEX REPLICATE: 1 STATUS: APPROVED
P MTH: PROC MTH: SW846 8020 PHASE: TIME ANALYZED: 12/21/94 11:20:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
	Gasoline Range Organics		<100		ug/L
32	Benzene		10 U		ug/L
414	Ethylbenzene		10 U		ug/L
883	Toluene		10 U		ug/L
0207	Xylene		10 U		ug/L
	GRO Quantitation Limit		100		ug/L
	BTEX Quantitation Limit		10		ug/L
	GRO Amount in Blank		NONE		ug/L

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OFFICIAL REPORT

'04/95 11:12:29 Y-12 ANALYTICAL SERVICES ORGANIZATION

MITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG. 9201-1		E943470081	8601	APPROVED

E SAMPLED: 12/14/94 14:45:00 DATE NEEDED: 12/29/94 LOCATION: GW-707 CHARGE #: S2205F26
E RECEIVED: 12/15/94 DATE COMPLETED: 12/22/94 PROJECT CODE: CASE: 3130
PLER: 29776 SAMPLE DESCRIPTION: GRAB FINAL APPROVAL:

MENTS: UST WELL AT BLDG. 9201-1. RESULTS GO TO DON BOHRMAN, GW-707, 0-010117

T: GRO TPH Gasoline Range Organics Including BTEX REPLICATE: 1 STATUS: APPROVED
P MTH: PROC MTH: SW846 8020 PHASE: TIME ANALYZED: 12/21/94 12:09:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
	Gasoline Range Organics		<100		ug/L
32	Benzene		10 U		ug/L
414	Ethylbenzene		10 U		ug/L
883	Toluene		10 U		ug/L
0207	Xylene		10 U		ug/L
	GRO Quantitation Limit		100		ug/L
	BTEX Quantitation Limit		10		ug/L
	GRO Amount in Blank		NONE		ug/L

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MITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG. 9201-1		E943470082	8601	APPROVED

E SAMPLED: 12/14/94 10:45:00 DATE NEEDED: 12/29/94 LOCATION: GW-708 CHARGE #: S2205F26
E RECEIVED: 12/15/94 DATE COMPLETED: 12/22/94 PROJECT CODE: CASE: 3130
PLER: 29776 SAMPLE DESCRIPTION: GRAB FINAL APPROVAL:

MENTS: UST WELL AT BLDG. 9201-1. RESULTS GO TO DON BOHRMAN, GW-708, 0-010117

T: GRO TPH Gasoline Range Organics Including BTEX REPLICATE: 1 STATUS: APPROVED
P MTH: PROC MTH: SW846 8020 PHASE: TIME ANALYZED: 12/21/94 16:06:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
	Gasoline Range Organics		5300		ug/L
32	Benzene		820		ug/L
414	Ethylbenzene		610		ug/L
883	Toluene		94 B		ug/L
0207	Xylene		1200 B		ug/L
	GRO Quantitation Limit		500		ug/L
	BTEX Quantitation Limit		50		ug/L
	GRO Amount in Blank		NONE		ug/L

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OFFICIAL REPORT

'04/95 11:14:41 Y-12 ANALYTICAL SERVICES ORGANIZATION

SMITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG. 9201-1		E943470083	8601	APPROVED

TE SAMPLED: 12/14/94 15:59:00 DATE NEEDED: 12/29/94 LOCATION: GW-808 CHARGE #: S2205F26
TE RECEIVED: 12/15/94 DATE COMPLETED: 12/22/94 PROJECT CODE: CASE: 3130
IPLER: 29776 SAMPLE DESCRIPTION: GRAB FINAL APPROVAL:

MENTS: UST WELL AT BLDG. 9201-1. RESULTS GO TO DON BOHRMAN, GW-808, 0-010117

T: GRO TPH Gasoline Range Organics Including BTEX REPLICATE: 1 STATUS: APPROVED
P MTH: PROC MTH: SW846 8020 PHASE: TIME ANALYZED: 12/21/94 12:49:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
	Gasoline Range Organics		<100		ug/L
32	Benzene		10 U		ug/L
414	Ethylbenzene		10 U		ug/L
883	Toluene		10 U		ug/L
0207	Xylene		<10 B		ug/L
	GRO Quantitation Limit		100		ug/L
	BTEX Quantitation Limit		10		ug/L
	GRO Amount in Blank		NONE		ug/L

*** LAST PAGE ***

OFFICIAL REPORT

04/95 11:14:51 Y-12 ANALYTICAL SERVICES ORGANIZATION

MITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG. 9201-1		E943470084	8601	APPROVED

E SAMPLED: 12/14/94 16:14:00 DATE NEEDED: 12/29/94 LOCATION: GW-809 CHARGE #: S2205F26
E RECEIVED: 12/15/94 DATE COMPLETED: 12/22/94 PROJECT CODE: CASE: 3130
PLER: 29776 SAMPLE DESCRIPTION: GRAB FINAL APPROVAL:

MENTS: UST WELL AT BLDG. 9201-1. RESULTS GO TO DON BOHRMAN, GW-809, 0-010117

T: GRO TPH Gasoline Range Organics Including BTEX REPLICATE: 1 STATUS: APPROVED
P MTH: PROC MTH: SW846 8020 PHASE: TIME ANALYZED: 12/21/94 13:26:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
	Gasoline Range Organics		<100		ug/L
32	Benzene		10 U		ug/L
414	Ethylbenzene		10 U		ug/L
883	Toluene		10 U		ug/L
0207	Xylene		10 U		ug/L
	GRO Quantitation Limit		100		ug/L
	BTEX Quantitation Limit		10		ug/L
	GRO Amount in Blank		NONE		ug/L

*** LAST PAGE ***

OFFICIAL REPORT

04/95 11:15:00 Y-12 ANALYTICAL SERVICES ORGANIZATION PAGE 1 OF 1

MITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG.9201-1		E943470085	8601	APPROVED

E SAMPLED: 12/14/94 14:15:00 DATE NEEDED: 12/29/94 LOCATION: GW-810 CHARGE #: S2205F26
E RECEIVED: 12/15/94 DATE COMPLETED: 12/22/94 PROJECT CODE: CASE: 3130
PLER: 29776 SAMPLE DESCRIPTION: GRAB FINAL APPROVAL:

MENTS: UST WELL AT BLDG. 9201-1. RESULTS GO TO DON BOHRMAN, GW-810, 0-010117

T: GRO TPH Gasoline Range Organics Including BTEX REPLICATE: 1 STATUS: APPROVED
P MTH: PROC MTH: SW846 8020 PHASE: TIME ANALYZED: 12/21/94 14:03:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
	Gasoline Range Organics		<100		ug/L
32	Benzene		10 U		ug/L
414	Ethylbenzene		10 U		ug/L
883	Toluene		10 U		ug/L
0207	Xylene		10 U		ug/L
	GRO Quantitation Limit		100		ug/L
	BTEX Quantitation Limit		10		ug/L
	GRO Amount in Blank		NONE		ug/L

*** LAST PAGE ***

OFFICIAL REPORT

'21/94 15:58:46 Y-12 ANALYTICAL SERVICES ORGANIZATION PAGE 1 OF 1

BMITTER	ADDRESS	CUSTOMER ID	REQ NO	SAMPLE NO	MTC	STATUS
rman, Donald Edwa	Building 9115 MS 8219	BLDG. 9201-1		E943470086	8601	APPROVED

TE SAMPLED: 12/14/94 07:00:00 DATE NEEDED: 12/29/94 LOCATION: TRIP BLANK CHARGE #: S2211601
TE RECEIVED: 12/15/94 DATE COMPLETED: 12/21/94 PROJECT CODE: CASE: SQT001
MPLER: 29776 SAMPLE DESCRIPTION: GRAB FINAL APPROVAL:

MMENTS: TRIP BLANKS FOR UST WELL AT BLDG. 9201-1. FACILITY ID = 0-010117.

ST: VOA624 Volatile Organics by GC/MS (EPA 624) REPLICATE: 1 STATUS: APPROVED
EP MTH: EPA624 PROC MTH: EPA 624 PHASE: TIME ANALYZED: 12/15/94 15:40:00 APPROVER: E030124

NUMBER	DETERMINATION	DT	RESULT	CONFIDENCE	UNIT
73	Chloromethane		10 U		ug/L
39	Bromomethane		10 U		ug/L
14	Vinyl chloride		10 U		ug/L
03	Chloroethane		10 U		ug/L
94	Trichlorofluoromethane		10 U		ug/L
92	Methylene chloride		10 U		ug/L
54	1,1-Dichloroethene		10 U		ug/L
43	1,1-Dichloroethane		10 U		ug/L
605	trans-1,2-Dichloroethene		10 U		ug/L
63	Chloroform		10 U		ug/L
062	1,2-Dichloroethane		10 U		ug/L
56	1,1,1-Trichloroethane		10 U		ug/L
35	Carbon tetrachloride		10 U		ug/L
74	Bromodichloromethane		10 U		ug/L
758	2-Chloroethylvinyl ether		10 U		ug/L
75	1,2-Dichloropropane		10 U		ug/L
61015	cis-1,3-Dichloropropene		10 U		ug/L
16	Trichloroethene		10 U		ug/L
481	Dibromochloromethane		10 U		ug/L
05	1,1,2-Trichloroethane		10 U		ug/L
32	Benzene		10 U		ug/L
61026	trans-1,3-Dichloropropene		10 U		ug/L
52	Bromoform		10 U		ug/L
184	Tetrachloroethene		10 U		ug/L
45	1,1,2,2,-Tetrachloroethane		10 U		ug/L
883	Toluene		10 U		ug/L
907	Chlorobenzene		10 U		ug/L
414	Ethylbenzene		10 U		ug/L

DOE Y-12 PLANT CHAIN OF CUSTODY FORM

№ 20482

SAMPLER: (Signature) J. L. Ditzler

Dept. 2366

Building/Phone 9207/4-9496

BETX, TPH/GR.

REQUISITION NUMBER	SAMPLING DATE	SAMPLING TIME	COMP.	GRAB	SAMPLE LOCATION	NO. OF CONTAINERS	WATER	OIL	SOIL	SOLVENT	SLUDGE	OTHER	REMARKS
	12/14/94	11:11		✓	GW-193	4	✓						E94347 0079
		11:40		✓	GW-657	4	✓						E94347 0080
		14:45		✓	GW-707	4	✓						E94347 0081
		10:45		✓	GW-708	4	✓						E94347 0082
		1559		✓	GW-208	4	✓						E94347 0083
		1614		✓	GW-809	4	✓						E94347 0084
		1415		✓	GW-810	4	✓						E94347 0085
	↓	0700		✓	Trip Blank Bldg. 9207	2	✓						E94347 0086
													UST WELLS for Don Behrman

UCN-15487 (2 10-84)

Signatures Required on Back

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Date / Time	Dept.	Building	Phone
J. L. Dietzler	12/15/94 0755	B Campbell	12/15/94 0755	7222	9207	1-4347
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Date / Time	Dept.	Building	Phone
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Date / Time	Dept.	Building	Phone
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Date / Time	Dept.	Building	Phone
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Date / Time	Dept.	Building	Phone
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Date / Time	Dept.	Building	Phone

REMARKS.

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