AMT, Inc. Facility

Derekwood, USA

Supplemental Site Characterization Data for Corrective Action Workshop Case Study

REPORT # 3

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Table 3A: AMT, Inc.
Ground Water and Soil Vapor Data From GeoProbe

Well[1] (State/Federal Standard)	Groundwater (ug/l)			Soil Vapor (PPM by volume)[5]
	TCA[2]	DCA[3]	DCE[4]	Total VOC
GP-1	100	35	7	1
GP-2	200	70	30	3
GP-3	180	65	20	2
GP-4	20	10	<5	<1
GP-5	80	20	<5	<1
GP-6	210	80	8	1
GP-7	80	20	<5	<1
GP/MW-8	100	40	<5	<1
GP/MW-9	150	50	<5	<1

Footnotes:

1. Data from these wells is taken from site characterization activities conducted subsequent to closure of waste lagoons as part of a State cleanup action.

2. State Department of Environmental Protection Drinking Water Well Ground-water Protection Criteria for 1,1,1-Trichloroethane (TCA) = 200ug/l

3. State Department of Environmental Protection Drinking Water Well Ground-water Protection Criteria for 1,1-Dichloroethane (DCA) = 70 ug/l

4. State Department of Environmental Protection Drinking Water Well Ground-water Protection Criteria for 1,2 Dichloroethylene (DCE) = 7 ug/l

5. The 1 ppm standard for 1,1,DCE is approximately 3,965 ug/m^3, which is greater than 5 orders of magnitude above Region 3's risk-based concentration of 0.03 ug/m^3 for indoor air (at a 10^{-6} risk level). Because American Petroleum Institute Report: "Assessing the Significance of Subsurface Contaminant Vapor Migration to Enclosed Spaces (Site-Specific Alternatives to Generic Estimates)," 1998, estimates a 3 order of magnitude reduction between soil gas and indoor air concentrations, we could conclude that the 1 ppm standard compares to a $1x10^{-4}$ cancer risk level for 1,1 DCE.

Table 3B: AMT, Inc.
Supplemental Soil Characterization Data
(Reported in mg/kg)

Boring Location [1, 2] (State/Federal Residential Standard)	TCA [3] (1,600 mg/kg)	DCA [4] (7,800 mg/kg)	DCE [5] (1.1 mg/kg)	Xylene[6] (160,000 mg/kg)	Chromium VI [7] (230 mg/kg)	Barium [8] (5,500 mg/kg)	Nickel [9] (1,600 mg/kg)	Lead [10] (400 mg/kg)
B-1	NA	NA	NA	<10	NA	NA	NA	NA
B-2	NA	NA	NA	<10	NA	NA	NA	NA
B-3	NA	NA	NA	5.3	NA	NA	NA	NA
B-4	ND(<2)	NA	NA	NA	7,600	65	123	178
B-5	ND(<2)	NA	NA	NA	245	65	54	94
B-6	ND(<2)	NA	NA	NA	300	12	10	4
B-7	ND(<2)	NA	NA	NA	185	18	16	14
B-8	ND(<2)	NA	NA	NA	ND(<1)	ND(<.2)	ND(<4)	ND(<6)
B-9	ND(<2)	NA	NA	NA	ND(<1)	ND(<.2)	ND(<4)	ND(<6)
B-10	ND(<2)	NA	NA	NA	ND(<1)	ND(<.2)	ND(<4)	ND(<6)

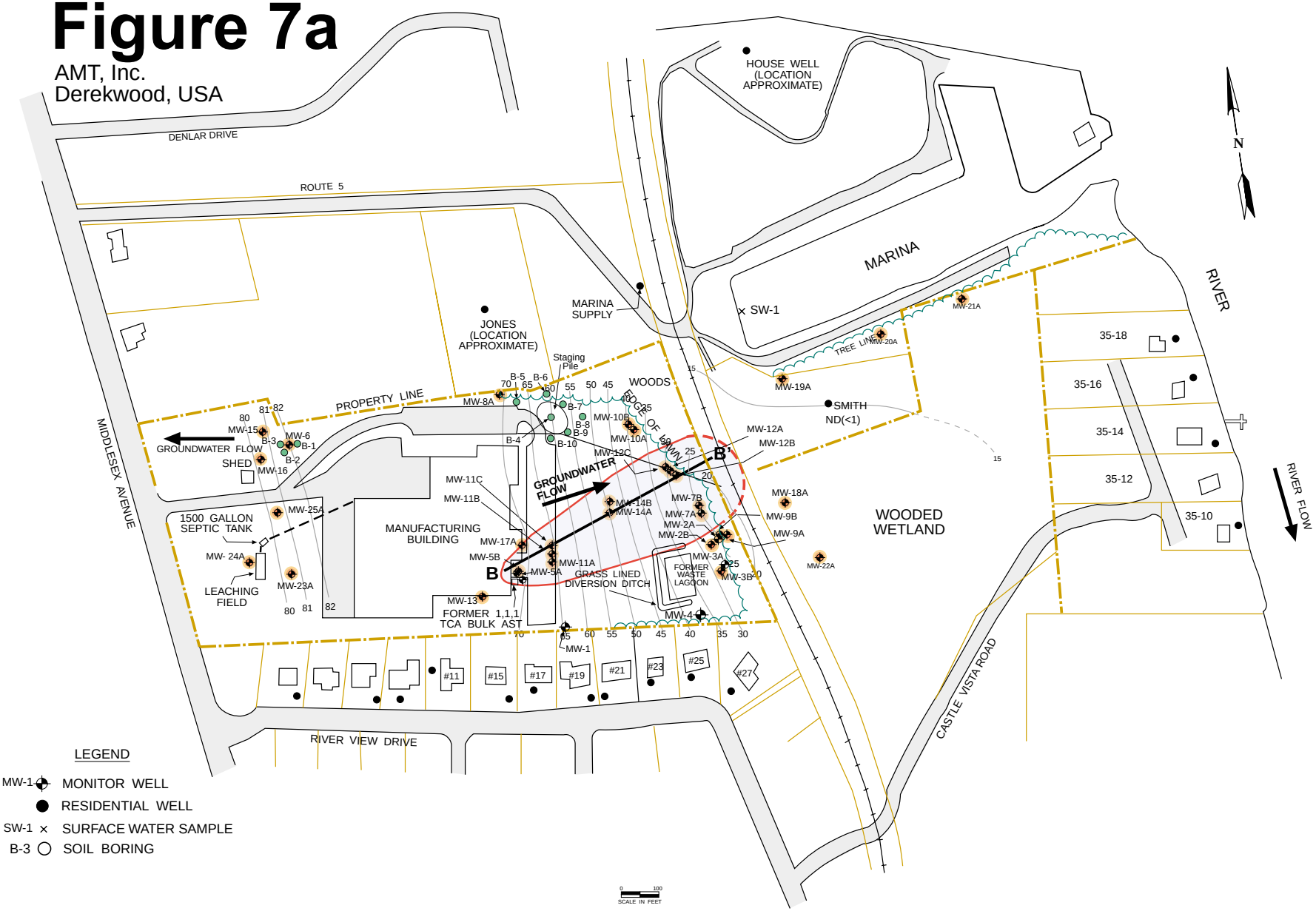
Footnotes:

1. Data from these soil borings is taken from site characterization activities conducted subsequent to closure of waste lagoons as part of a State cleanup action. There is no sampling and analysis evidence of contamination anywhere else onsite.
2. Overburden Surface Soils (top 18 inches)
3. EPA Regional Risk-Based Concentration Table Value for 1,1,1 Trichloroethane (TCA) = 1,600 mg/kg based on Residential Land Use and 410,000 mg/kg for Industrial Land Use.
4. EPA Regional Risk-Based Concentration Table Value for 1,1-Dichloroethane (DCA) = 7,800 mg/kg based on Residential Land Use and 200,000 mg/kg for Industrial Land Use.
5. EPA Regional Risk-Based Concentration Table Value for 1,1-Dichloroethylene (DCE) = 1.1 mg/kg based on Residential Land Use and 9.5 mg/kg for Industrial Land Use.
6. EPA Regional Risk-Based Concentration Table Value for Xylene = 160,000 mg/kg based on Residential Land Use and 4,100,000 mg/kg for Industrial Land use.
7. EPA Regional Risk-Based Concentration Table Value for Chromium VI = 230 mg/kg based on Residential Land Use and 6,100 mg/kg for Industrial Land Use.
8. EPA Regional Risk-Based Concentration Table Value for Barium = 5,500 mg/kg based on Residential Land Use and 140,000 mg/kg for Industrial Land Use.
9 EPA Regional Risk-Based Concentration Table Value for Nickel = 1,600 mg/kg based on Residential Land Use and 410,000 mg/kg for Industrial Land Use.
10. OSWER Directive 9355.4-12, Revised Interim Soil Lead Guidance, August 1994, screening level of 400 mg/kg.

ND = Not Detected (MDLs)
NA = Not Analyzed

Figure 7a

AMT, Inc.
Derekwood, USA

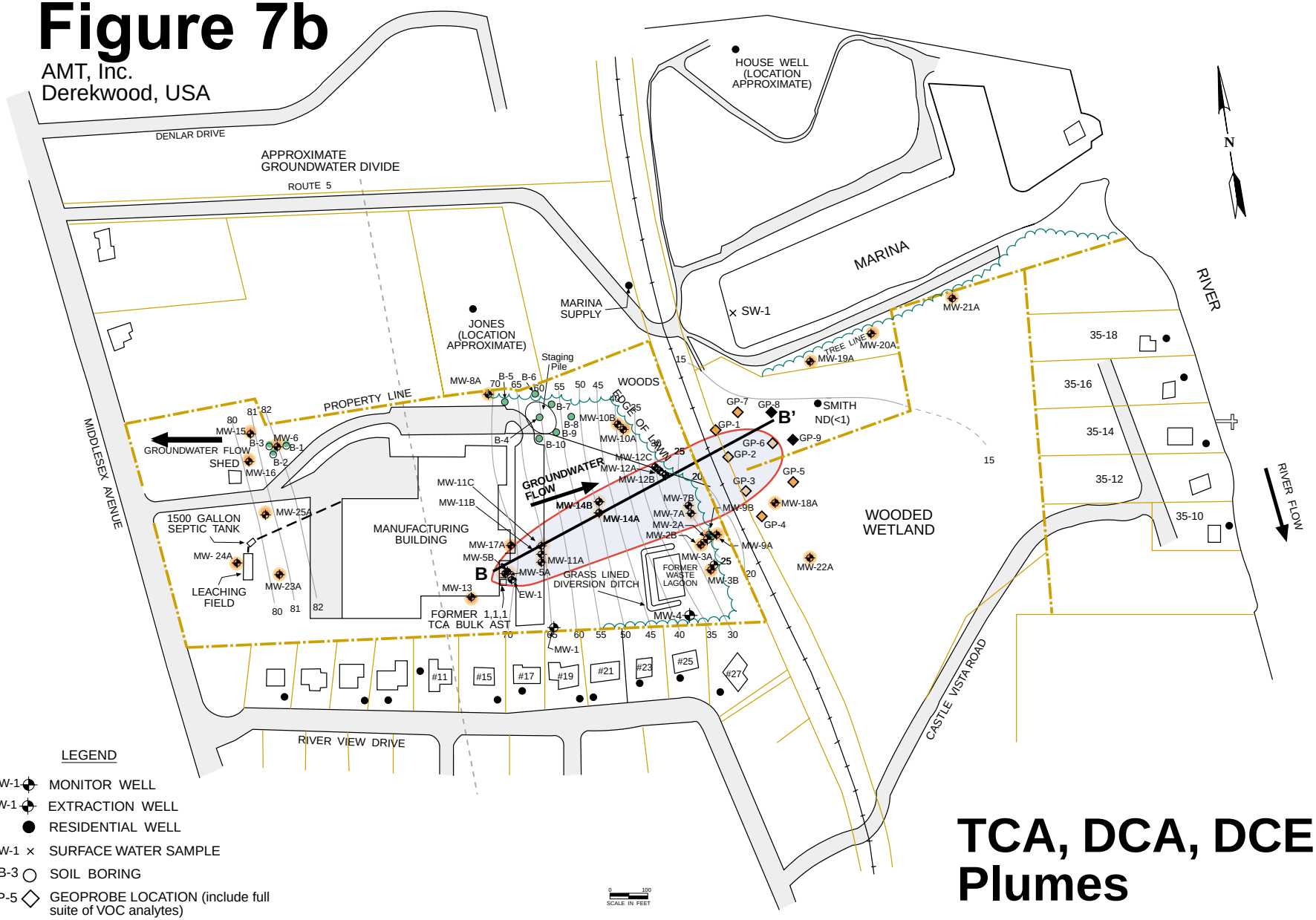


LEGEND

- MW-1 ⊕ MONITOR WELL
- ● RESIDENTIAL WELL
- SW-1 × SURFACE WATER SAMPLE
- B-3 ○ SOIL BORING

Figure 7b

AMT, Inc.
Derekwood, USA



LEGEND

- MW-1 ⊕ MONITOR WELL
- EW-1 ⊕ EXTRACTION WELL
- ● RESIDENTIAL WELL
- SW-1 × SURFACE WATER SAMPLE
- B-3 ○ SOIL BORING
- GP-5 ◇ GEOPROBE LOCATION (include full suite of VOC analytes)
- GP-8 ◆ Later Converted to Permanent Monitoring Well

TCA, DCA, DCE Plumes

05/08/00

Figure 7c

AMT, Inc.
Derekwood, USA