The Earth Technology Corporation

2515 North 124th Street Suite 100
Brookfield, Wisconsin 53005
Telephone (414) 789 7765 / Fax (414) 789 7851

September 18, 1991

Ms. Margaret M. Graefe
Environmental Repair Section
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King, Jr. Drive
Milwaukee, WI 53212

RE: Project Status Report
Site Assessment
MagneTek Electric
Waukesha, Wisconsin
TETC Project No. 91-6311-01

Dear Ms. Graefe:

Attached for your review and Wisconsin Department of Natural Resources (WDNR) files is an informational submittal by The Earth Technology Corporation (TETC) concerning recent work performed at the MagneTek Electric (MagneTek) facility, located at 400 South Prairie Avenue, Waukesha, Wisconsin. This correspondence includes an Executive Summary which presents and discusses activities and results obtained by TETC to date, analytical laboratory reports, and site figures showing sampling locations and other site specific information.

Per our September 12, 1991, phone conversation, TETC proposed interim remedial measures to address on-site concerns and facilitate construction activities contemplated by MagneTek. TETC also requested WDNR concurrence and approval to implement our proposed program in an effort to expedite work on this project, and to provide Magnetek with some assurance that on-site construction work can proceed as planned.

The investigative approach proposed by TETC and concurred by yourself during our phone conversation included:

1. TETC will implement a limited soil removal program in the area along the south side of the MagneTek facility where construction of an aboveground oil storage tank system is planned. This excavation activity will be implemented as a first step to further investigate and remediate on-site environmental concerns.

2. Soil removal activities will consist of excavating soil from the proposed aboveground storage tank area to a depth of approximately fourteen (14) feet (or until groundwater is encountered). Impacted soil will be separated from the remaining material during the excavation work. Decisions made by TETC regarding the extent of impacted versus non-impacted soil, and the amount of excavation required, will be based on the analytical results obtained by TETC and visual observations (if stained soils are present).

3. Limited over-excavation in the proposed construction zone will be performed to create a lateral "buffer zone" which will allow further remediation activities to proceed (if necessary) without affecting the aboveground storage tank construction project.

4. At the present time, we anticipate that impacted soils will be temporarily stockpiled at the site until the course of action for future remediation at the site is determined, and a waste characterization of this material to allow for its disposal has been performed. While on site, the stockpiled material will be placed in roll-off boxes (or on plastic sheeting) and covered.

5. Confirmational sampling will be completed following excavation activities to document the success of cleanup operations. This activity will consist of obtaining several "grab" samples from the bottom and sidewalls of the excavation, and submitting the samples for laboratory analysis (for TPH). Please note, the actual number of samples collected and analyzed will be dependent on extent of the excavation work actually completed, and other site-specific information obtained during this investigation.

TETC is currently preparing and finalizing a Final Report which details Phase I and II activities. We anticipate that a copy of our report will be submitted to your attention on or before September 23, 1991. A Phase III Work Plan detailing the scope-of-work to be completed by TETC for this project is also in preparation, and will be submitted to your attention for WDNR review and approval some time next week.

We appreciate your timeliness and cooperativeness in allowing this project to proceed. As has been the case in the past, we will continue to communicate with you to keep you informed of project developments. Please feel free to contact Dave Voight or Ken Potrykus at 414/789-7765 if you have any questions or comments regarding this submittal.

Sincerely,

THE EARTH TECHNOLOGY CORPORATION (Milwaukee)

David S. Voight
Managing Senior

Ken Potrykus
Senior Staff Scientist

DSV:jlh
Enclosure
91-6311\wdnr2.ltr

EXECUTIVE SUMMARY

The Earth Technology Corporation (TETC) was retained on July 9, 1991, by MagneTek Electric (MagneTek) to conduct a limited site assessment at MagneTek's Waukesha facility, located at 400 South Prairie Avenue, Waukesha, Wisconsin. The purpose of this investigation was to collect information to determine the current environmental condition of this property in an area where construction of a secondary containment structure for an aboveground mineral oil storage tank system is contemplated (Figure 1).

Program objectives were accomplished by conducting a visual inspection along the south side of the MagneTek facility and limited soil boring and chemical sampling program (Phase I). The recognition of potential environmental impacts during the Phase I investigation prompted TETC to conduct supplemental services (Phase II) to investigate the nature and extent of contamination.

Soils underlying the MagneTek site are composed of calcareous sand and gravel outwashes which have been assigned to the Warsaw sandy loam soil series (Soil Conservation Service, 1971). Soil borings completed at the site encountered 6 to 8 feet of loamy sand, which overlay a gravelly sand.

Available published information (U.S. Geological Survey 1975) suggests that groundwater beneath the MagneTek facility occurs at depths varying between 10-20 feet below the land surface. Monitoring wells completed by TETC indicate the average depth to the water table is 14 feet. Water elevation information collected by TETC suggests groundwater within the surficial aquifer unit at the site flows in a generally westwardly direction.

Twelve soil samples were collected at six locations (9-11 and 19-21 foot depths) during Phase I activities (Figure 2) and analyzed for total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) metals, Base Neutral Compounds, pesticides, and Volatile Organic Compounds (VOCs). The concentration of all analytes present in on-site soils are below analytical detection limits with the exception of TPH. Concentrations of TPH, exceeding the informal Wisconsin Department of Natural Resources (WDNR) action level of 10 parts per million (ppm) TPH, were observed at sampling locations SB-1, SB-3, SB-5 (9-11 foot depth) and SB-6 (19-21 feet) (Table 1) requiring agency notification. TETC informed the Emergency Government Hot Line and the WDNR--Southeast District office of program results on behalf of MagneTek. Supplemental site investigation activities were also implemented.

The Phase II investigation conducted by TETC was undertaken to further determine the nature and extent of the observed TPH impacts to on-site soil and groundwater. This was accomplished by completing additional boring and chemical sampling of the sandy loam horizons present beneath the asphalt parking lot (6-8 feet below grade), and installing four (4) additional soil borings which were subsequently converted into groundwater monitoring wells (Figures 3 and 4).

Both groundwater and soil samples underwent laboratory analysis for TPH. Phase II results (Figure 5) revealed TPH impacts to soil at locations MW-2 (12-14 foot depth) and MW-4 (10-12 and 12-14 foot depths) (Table 1). This investigation supported earlier results indicating that TPH impacts to on-site soils are limited to the depth interval between 10 and 14 feet (above the saturated zone).

The concentration of TPH present in the groundwater at all monitoring well locations (Table 2) are below the analytical detection limit, suggesting that local groundwater quality had not been impacted.

Additional work (Phase III) to investigate and remediate TPH impacted soils at the MagneTek facility is warranted. Anticipated activity will include additional subsurface investigation to further delineate the lateral and vertical extent of TPH impacted soil, completion of an underground storage tank closure assessment, and the implementation of on-site remediation activities.

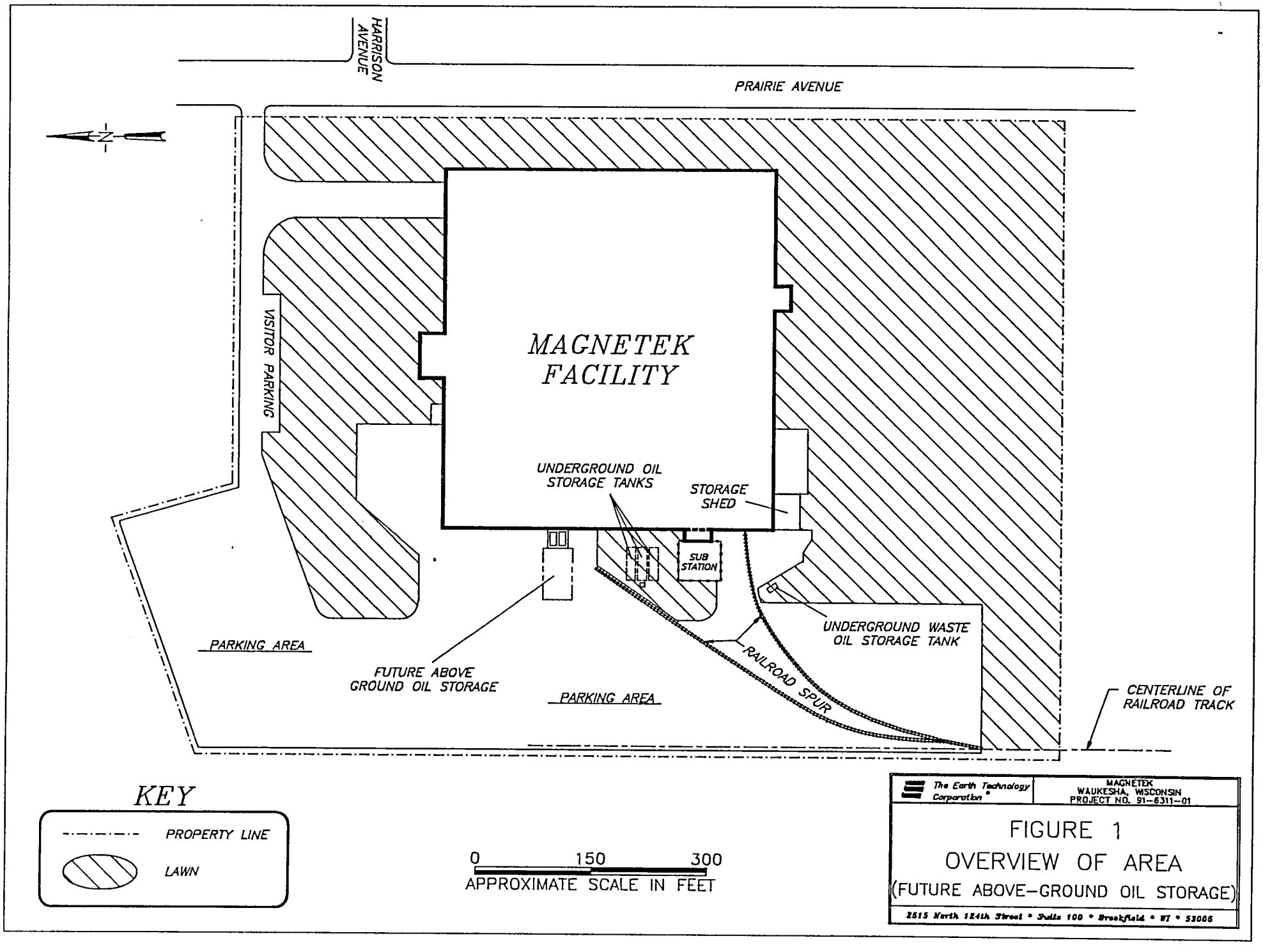
TABLE 1
SUMMARY OF ANALYTICAL RESULTS FOR COLLECTED SOIL SAMPLES AT MAGNETEK, WAUKESHA, WISCONSIN

SAMPLING DATE	SAMPLE NO.	SAMPLE DEPTH	VOCs	BNAs*	PCB/PEST	TPH**
7/11	SB1-1	10	ND	ND	ND	69.4
7/11	SB1-2	20	NA	NA	NA	ND
7/11	SB2-1	10	NA	NA	NA	ND
7/11	SB2-2	20	NA	NA	NA	ND
7/11	SB3-1	10	ND	ND	ND	1,285.0
7/11	SB3-2	20	NA	NA	NA	ND
7/11	SB4-1	10	NA	NA	NA	ND
7/11	SB4-2	20	NA	NA	NA	ND
7/11	SB5-1	10	ND	ND	ND	904.7
7/11	SB5-2	20	NA	NA	NA	ND
7/11	SB6-1	10	NA	NA	NA	ND
7/11	SB6-2	20	NA	NA	NA	114.0
7/30	SSB1-1	2-2.5	NA	NA	NA	ND
7/30	SSB1-4	6-7	NA	NA	NA	ND
7/30	SSB2-1	2-2.5	NA	NA	NA	ND
7/30	SSB2-4	6-7	NA	NA	NA	ND
8/15	GW1-1	6-8	NA	NA	NA	ND
8/15	GW1-4	12-14	NA	NA	NA	ND
8/15	GW2-1	6-8	NA	NA	NA	ND
8/15	GW2-2	8-10	NA	NA	NA	ND
8/15	GW2-4	12-14	NA	NA	NA	19.7
8/15	GW3-1	6-8	NA	NA	NA	ND
8/15	GW3-4	12-14	NA	NA	NA	ND
8/15	GW4-1	6-8	NA	NA	NA	ND
8/15	GW4-2	8-10	NA	NA	NA	ND
8/15	GW4-3	10-12	NA	NA	NA	108.0
8/15	GW4-4	12-14	NA	NA	NA	107.5

Notes:
- NA = Denotes sample not analyzed for indicated parameter.
- ND = Denotes sample concentrations are less than or equal to reported value.
- * = Denotes concentration is at or below Method Detection Limit. (Method Dedtection Limit may not coincide with federal regulatory levels because concentrations are at Practical Quantitation Limit.)
- ** = All values are reported in milligrams per kilogram.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS FOR COLLECTED GROUNDWATER SAMPLES
AT MAGNETEK, WAUKESHA, WISCONSIN

SAMPLING DATE	SAMPLE NO.	*TPH LEVELS (milligrams/lite)
8/15	MW1	0.05
8/15	MW2	0.05
8/15	MW3	0.05
8/15	MW4	0.05
*Sample concentrations are less than or equal to Method Detection Limit.		


HARRISON AVENUE
PRAIRIE AVENUE
N
MAGNETEK FACILITY
VISITOR PARKING
UNDERGROUND OIL STORAGE TANKS
STORAGE SHED
SUB STATION
UNDERGROUND WASTE OIL STORAGE TANK
RAILROAD SPUR
CENTERLINE OF RAILROAD TRACK
PARKING AREA
FUTURE ABOVE GROUND OIL STORAGE
PARKING AREA
KEY
PROPERTY LINE
LAWN
0
150
300
APPROXIMATE SCALE IN FEET
The Earth Technology Corporation
MAGNETEK
WAUKESHA, WISCONSIN
PROJECT NO. 91-6311-01
FIGURE 1
OVERVIEW OF AREA
(FUTURE ABOVE-GROUND OIL STORAGE)
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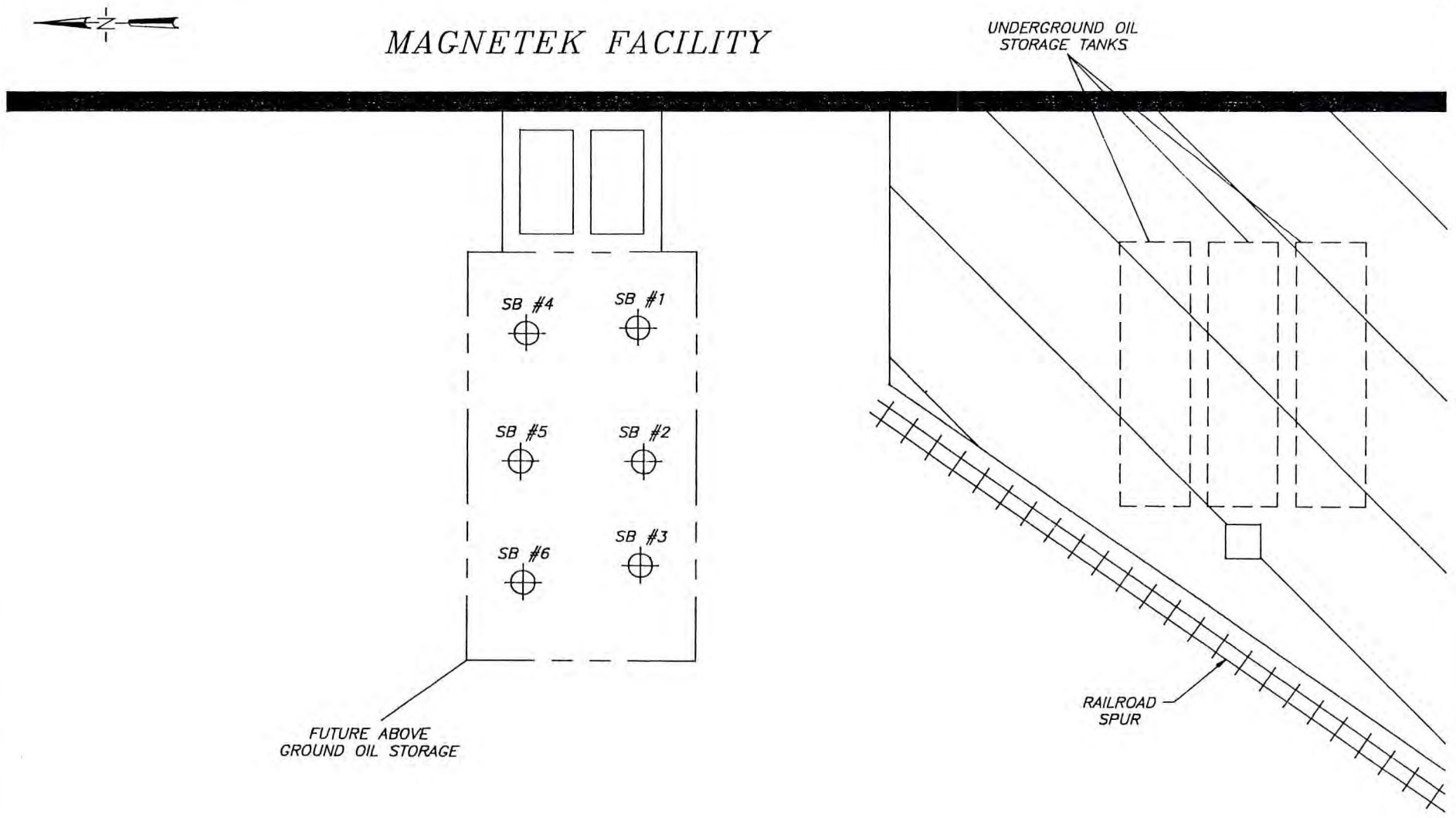

KEY

TETC SOIL BORING

LAWN

0 25 50

APPROXIMATE SCALE IN FEET

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MAGNETEK
WAUKESHA, WISCONSIN
PROJECT NO. 91-6311-01

FIGURE 2

SOIL BORING LOCATIONS

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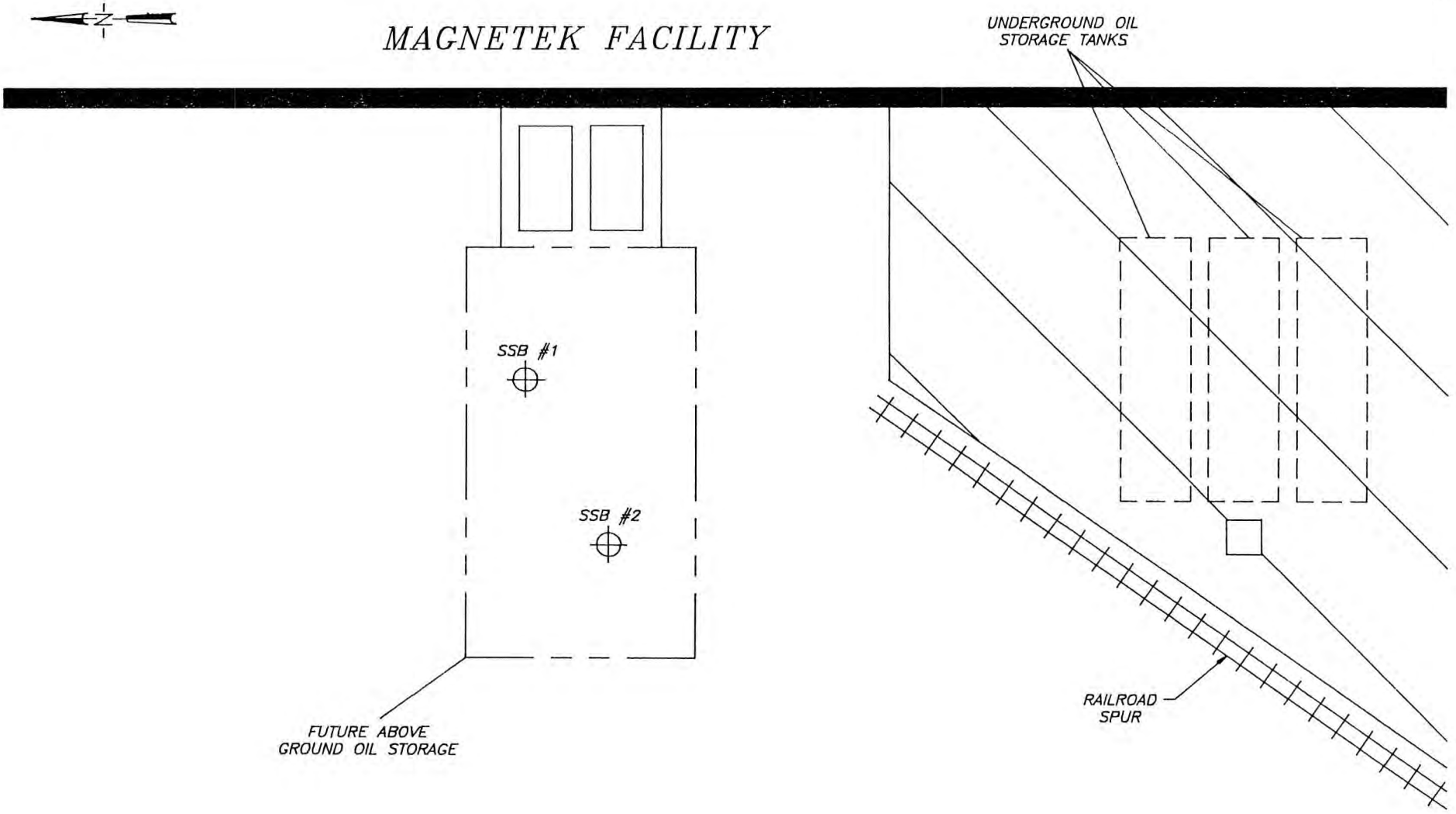

KEY

TETC SHALLOW SOIL BORING

LAWN

0 25 50

APPROXIMATE SCALE IN FEET

The Earth Technology Corporation

MAGNETEK
WAUKESHA, WISCONSIN
PROJECT NO. 91-6311-01

FIGURE 3
SHALLOW SOIL BORING LOCATIONS

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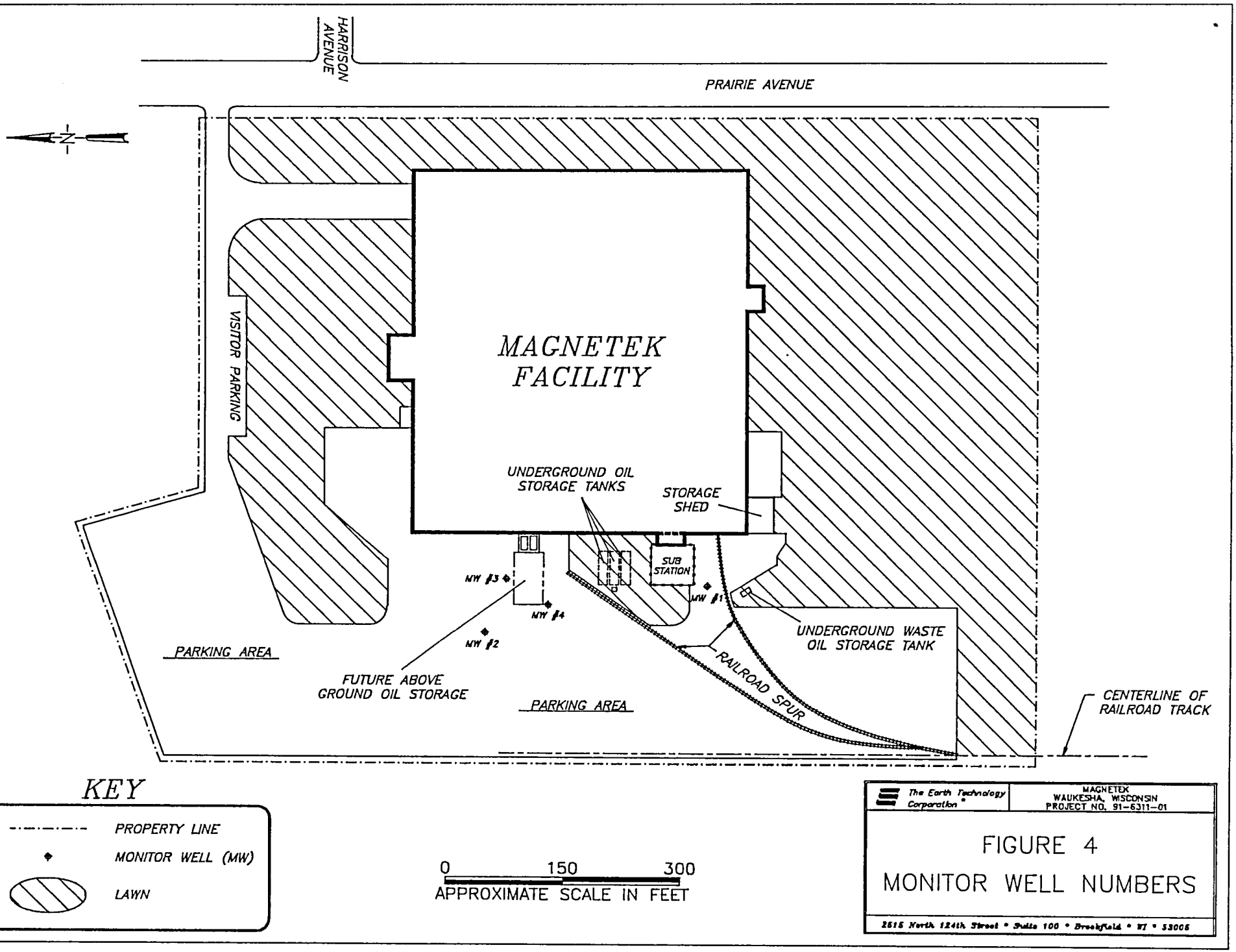
HARRISON AVENUE
PRAIRIE AVENUE
N
MAGNETEK FACILITY
VISITOR PARKING
UNDERGROUND OIL STORAGE TANKS
STORAGE SHED
SUB STATION
MW #3
MW #4
MW #2
MW #1
PARKING AREA
FUTURE ABOVE GROUND OIL STORAGE
PARKING AREA
UNDERGROUND WASTE OIL STORAGE TANK
RAILROAD SPUR
CENTERLINE OF RAILROAD TRACK
KEY
PROPERTY LINE
MONITOR WELL (MW)
LAWN
0
150
300
APPROXIMATE SCALE IN FEET
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MAGNETEK
WAUKESHA, WISCONSIN
PROJECT NO. 91-6311-01
FIGURE 4
MONITOR WELL NUMBERS
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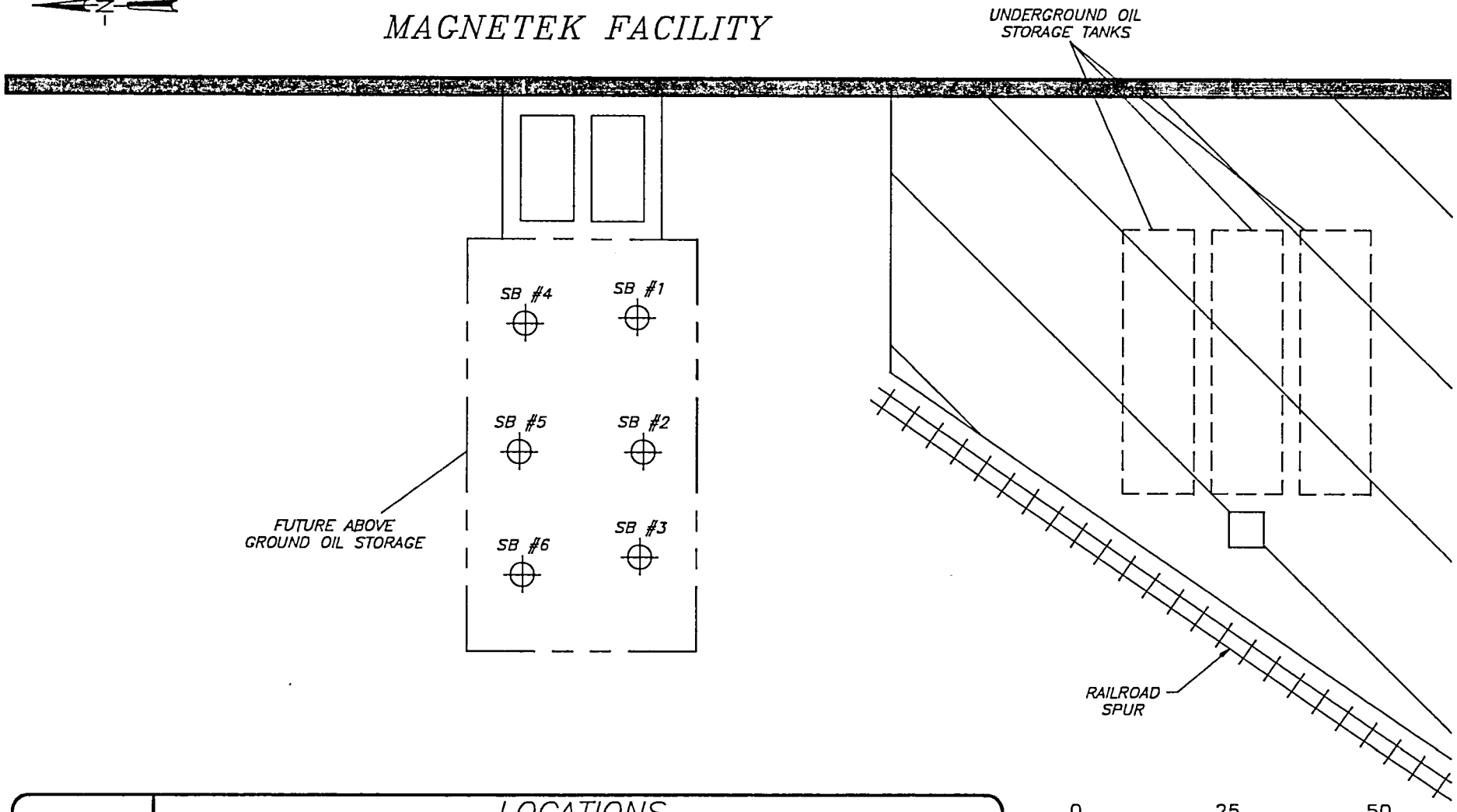
MAGNETEK FACILITY



DEPTH (IN FEET)	LOCATIONS					
	SB #1	SB #2	SB #3	SB #4	SB #5	SB #6
9–11	69.4 mg/Kg	10.0 mg/Kg	1285.0 mg/Kg	1.56 mg/Kg	904.7 mg/Kg	2.5 mg/Kg
19–21 (WITHIN THE SATURATED ZONE)	8.0 mg/Kg	10.0 mg/Kg	2.5 mg/Kg	10.0 mg/Kg	5.6 mg/Kg	114.0 mg/Kg

⊕ TETC SOIL BORING LAWN mg/Kg MILLIGRAMS PER KILOGRAM OF TPH

0 25 50

APPROXIMATE SCALE IN FEET

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MAGNETEK
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PROJECT NO. 91-6311-01

FIGURE 5

CONCENTRATIONS OF TOTAL PETROLEUM HYDROCARBON (TPH) AT SOIL BORING LOCATIONS

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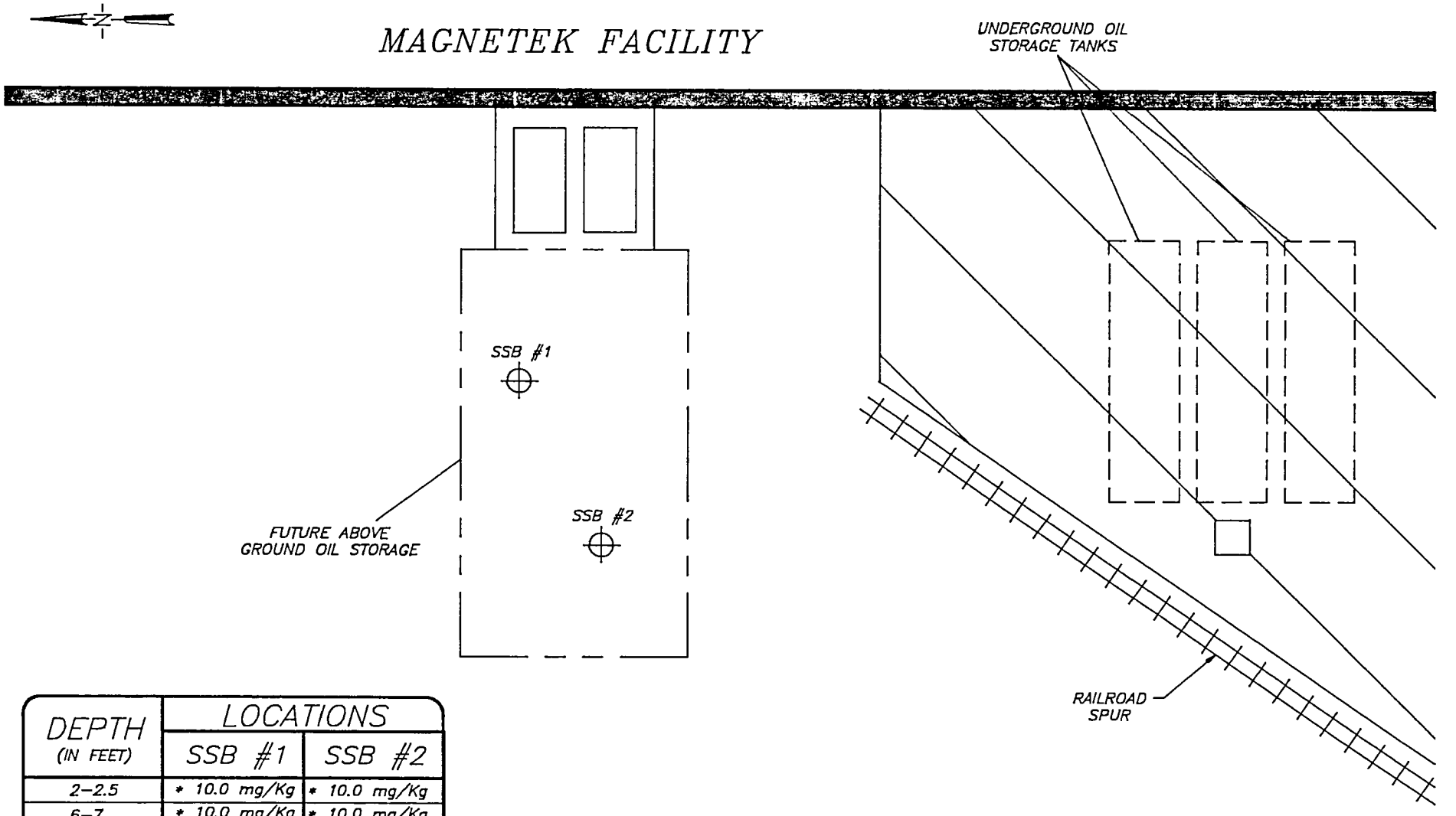

DEPTH (IN FEET)	LOCATIONS	
	SSB #1	SSB #2
2–2.5	* 10.0 mg/Kg	* 10.0 mg/Kg
6–7	* 10.0 mg/Kg	* 10.0 mg/Kg

⊕ TETC SHALLOW SOIL BORING

LAWN

mg/Kg MILLIGRAMS PER KILOGRAM OF TPH

* SAMPLE CONCENTRATIONS ARE LESS THAN METHOD OF DETECTION LIMIT

0 25 50

APPROXIMATE SCALE IN FEET

The Earth Technology Corporation

MAGNETEK
WAUKESHA, WISCONSIN
PROJECT NO. 91-6311-01

FIGURE 6

CONCENTRATIONS OF
TOTAL PETROLEUM HYDROCARBON (TPH)
AT SHALLOW SOIL BORING LOCATIONS

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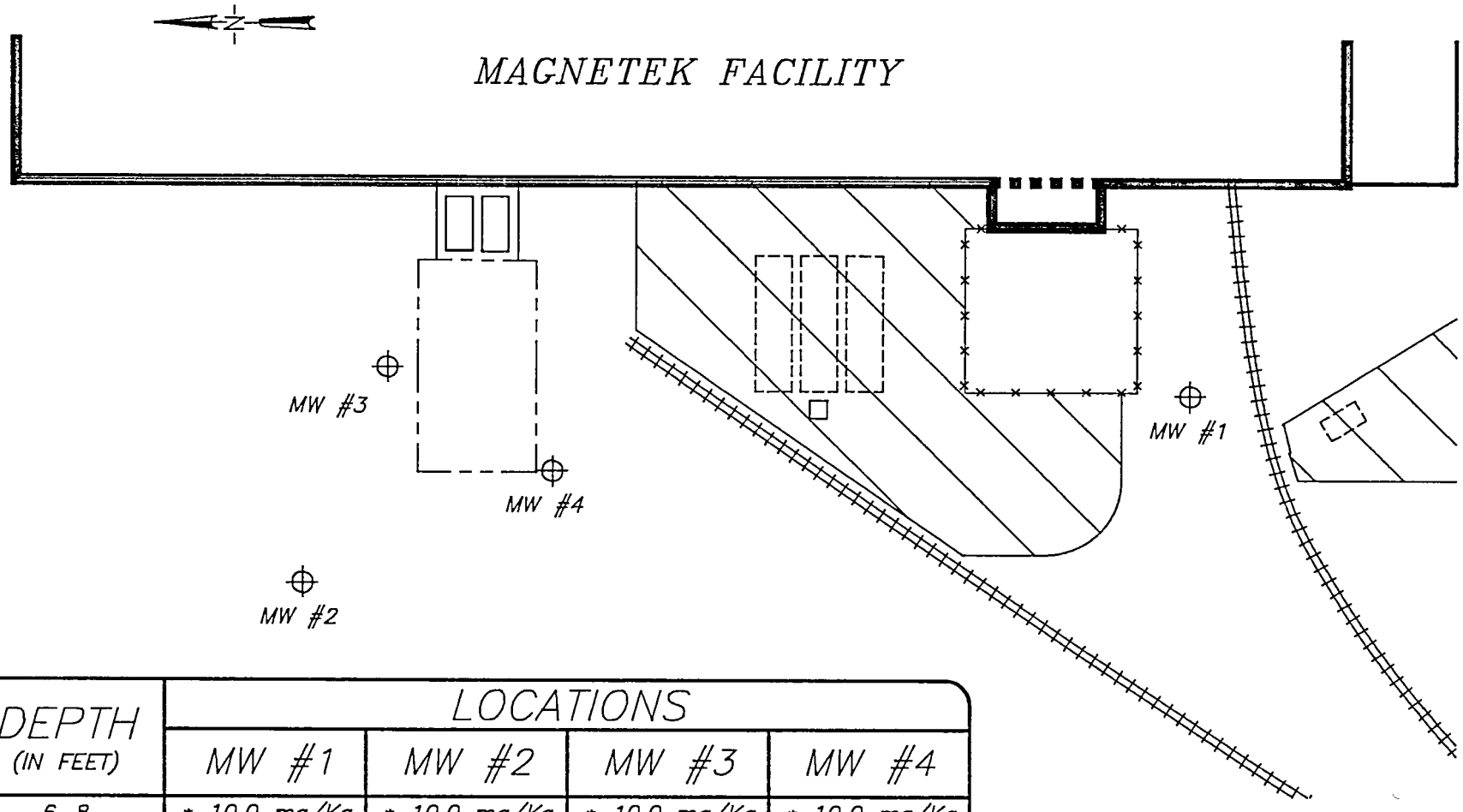

DEPTH (IN FEET)	LOCATIONS			
	MW #1	MW #2	MW #3	MW #4
6–8	* 10.0 mg/Kg	* 10.0 mg/Kg	* 10.0 mg/Kg	* 10.0 mg/Kg
8–10	WNR	* 10.0 mg/Kg	WNR	* 10.0 mg/Kg
10–12	WNR	BROKE	WNR	108.0 mg/Kg
12–14	* 10.0 mg/Kg	19.7 mg/Kg	* 10.0 mg/Kg	107.5 mg/Kg

WNR — WAS NOT RUN

BROKE — SAMPLE CANISTER BROKE AT LABORATORY

* — SAMPLE CONCENTRATIONS ARE LESS THAN METHOD OF DETECTION LIMIT

⊕ — TETC MONITOR WELL

LAWN

mg/Kg — MILLIGRAMS PER KILOGRAM OF TPH

0 50 100

APPROXIMATE SCALE IN FEET

The Earth Technology Corporation

MAGNETEK
WAUKESHA, WISCONSIN
PROJECT NO. 91-6311-01

FIGURE 7

CONCENTRATIONS OF TOTAL PETROLEUM HYDROCARBON (TPH) AT MONITORING WELL LOCATIONS

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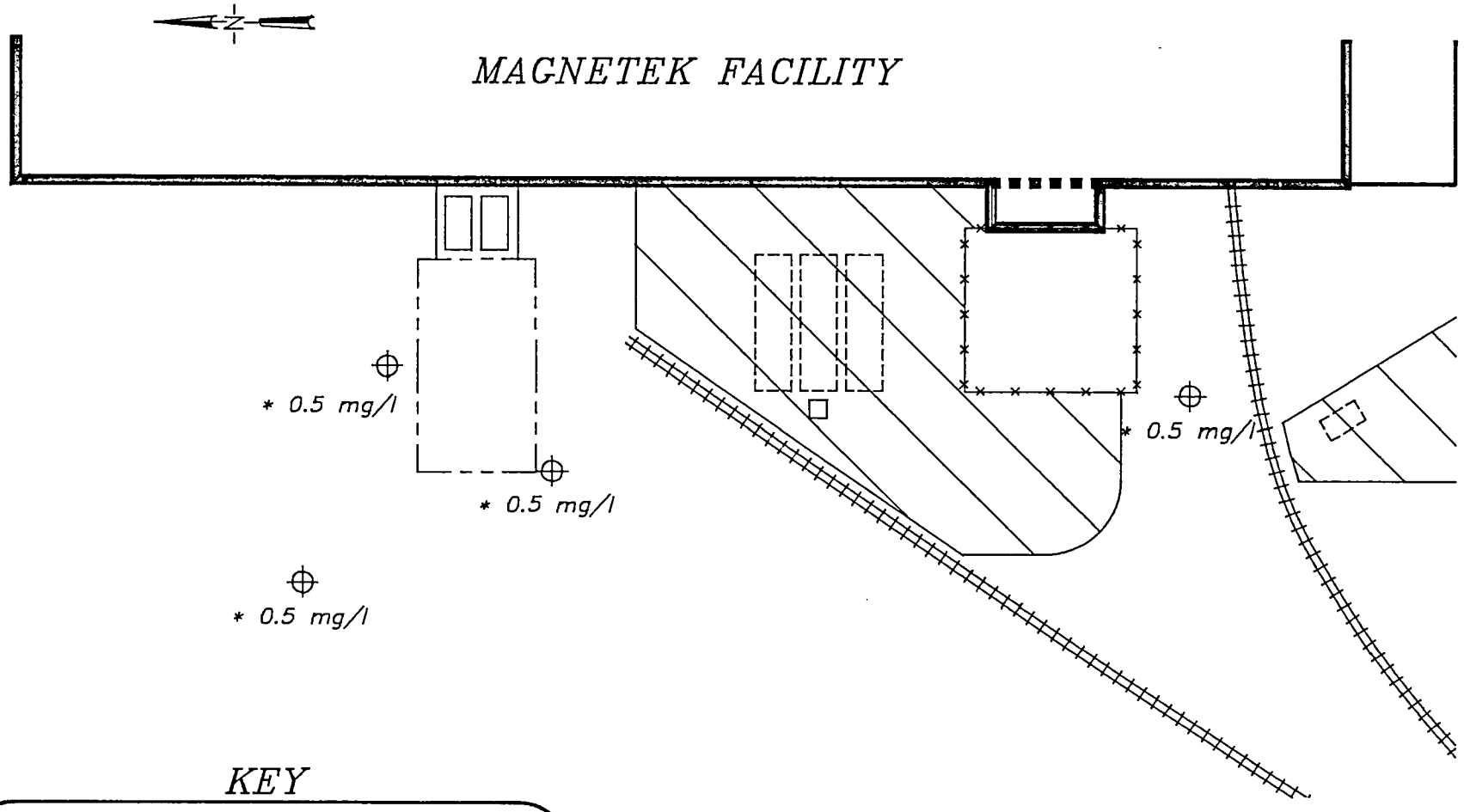

KEY

⊕	TETC MONITOR WELL
mg/l	MILLIGRAMS PER LITER OF TPH
*	SAMPLE CONCENTRATIONS ARE LESS THAN METHOD OF DETECTION LIMIT
▨	LAWN

0 50 100
APPROXIMATE SCALE IN FEET

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FIGURE 8
MONITOR WELL
TOTAL PETROLEUM HYDROCARBON (TPH) CONCENTRATIONS

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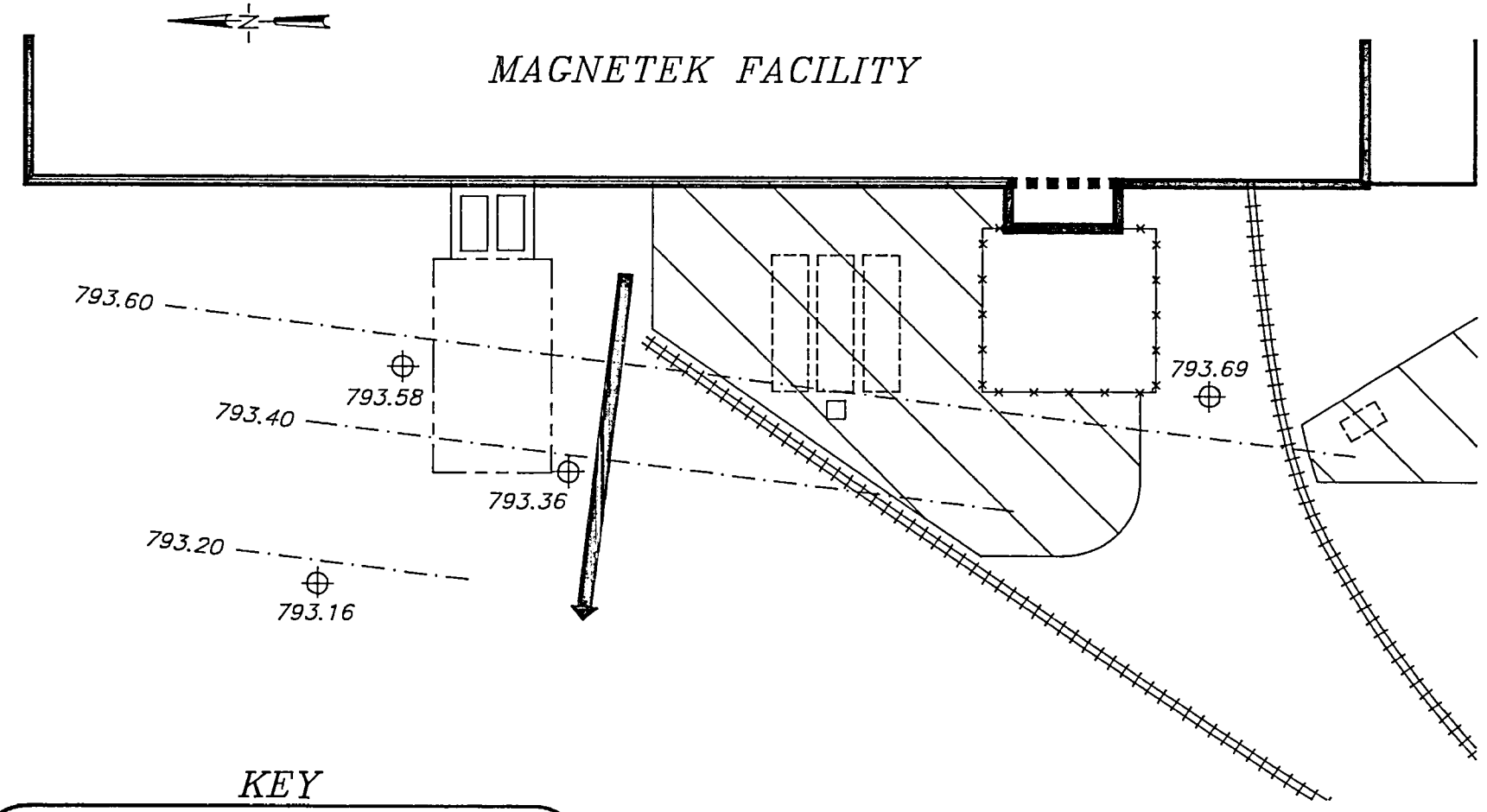

KEY

- TETC MONITOR WELL
- GROUNDWATER CONTOUR LINES
- INDICATES DIRECTION OF GROUNDWATER FLOW
- LAWN

0 50 100
APPROXIMATE SCALE IN FEET

NOTE:
ELEVATIONS ARE LISTED IN MEAN FEET ABOVE SEA LEVEL.

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MAGNETEK
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PROJECT NO. 91-6311-01

FIGURE 9

GROUNDWATER CONTOUR LINES

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