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June 9, 1989
File: 10-1682-03/40

Mr. Gil Wistar
Hazardous Materials Specialist
Alameda County Department of Environmental Health
Hazardous Materials program
80 Swan Way, Room 200
Oakland, CA 94621

SUBJECT: Workplan for Additional Ground Water Assessment, Industrial Asphalt Facility, Pleasanton, California

Dear Mr. Wistar:

Kleinfelder, Inc., is pleased to submit this workplan on behalf of our client, Industrial Asphalt, for additional ground water assessment at the Industrial Asphalt site in Pleasanton, California. The workplan was requested by the ALameda County Department of Environmental Health, Hazardous Materials Division (ACDEH) in their letter dated May 22, 1989.

The following workplan proposes to install three monitoring wells. Locations of these wells are shown on Plate 9. The locations and design of the new monitoring wells are intended to provide additional information on the free product plume and on the extent of ground water contamination by dissolved hydrocarbons.

SUPPLEMENTAL DATA ANALYSIS

As recommended in our Status Report No. 4, all eight onsite monitoring wells have been surveyed horizontally and vertically by licensed land surveyors. Monitoring well coordinates are listed in Table 1. Additionally, a new site base map has been developed and is presented on Plate 1. We also developed ground water potentiometric maps from selected data. These maps allow for an estimate of an average ground water flow direction and the hydraulic gradient beneath the project site.

TABLE 1
MONITORING WELL COORDINATES
INDUSTRIAL ASPHALT

Monitoring Well No.	COORDINATE X[1]	Y[1]	Z[2][3]
MW-1	1,337.32	2,369.87	379.41
MW-2	1,204.66	2,414.29	379.80
MW-3	1,200.25	2,290.74	378.54
MW-4	823.79	2,373.63	376.26
MW-5	1,709.68	2,500.29	382.55
MW-6	1,309.27	2,243.12	379.15
MW-7	1,520.51	2,300.50	378.94
MW-8	1,118.22	2,404.61	378.56

NOTE:

(1) Coordinates are on assumed datum

(2) Elevation in feet above mean sea level (USGS Datum)

(3) Elevation of the top of a PVC casing

Maps developed from the data collected on October 30, 1987, December 21, 1989, February 25, 1988, and July 26, 1988, indicate an average ground water flow direction toward north and northwest (Plates 2, 3, 4 and 5), which is consistent with the regional ground water flow direction. Interpretation of the data collected on January 26, 1989, indicates that ground water flows toward northeast and southwest with a ground water divide beneath the site. One possible explanation for the existence of this divide at the site is a large pumping rate from wells and gravel pits located northeast of the site which could cause a diversion of the local gradient.

Plates 7 and 8 show two most recent ground water potentiometric maps developed using data obtained at the Industrial Asphalt facility in Pleasanton on April 7, 1989, and May 8, 1989, respectively. Interpretation of the data indicates that ground water flow, in general, is from southeast to northwest under the site at an approximate hydraulic gradient of 0.15%. This flow direction is again consistent with the regional ground water flow directions.

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MONITORING WELL INSTALLATION

The above data and other information obtained from existing monitoring wells has allowed for a delineation of: 1) ground water flow direction(s) and gradient, 2) amount of free and dissolved product, 3) source areas, and 4) materials underlying the site. To further characterize the site prior to the initiation of site remediation, we propose the following scope of work:

- Drill wells MW-9 and MW-10 to a depth of 110 feet using a dual-tube percussion drilling technique. These wells will be equipped with four inch diameter PVC casings and screens, centered in the 10" borehole.

- Drill well MW-11 using a hollow stem auger drill rig. This technique has been chosen to obtain representative soil samples at approximate depths of 60-70 feet below grade. This procedure will allow us to detect free product that may exist at a gravelly clay layer that has been encountered at that depth in some previously drilled boreholes at the site. The boring will be drilled 5-10 feet into the layer and completed as a monitoring well using two inch PVC casing and screen with 0.040" slot opening size.

All wells will include a gravel pack, bentonite, and grout seal placed in the annular space between well casing/screen and borehole. These well construction details, well development, purging and sampling will be in accordance with EPA guidelines as presented in "RCRA Ground Water Technical Enforcement Guidance Document", dated September 1986. Proposed locations of these wells are shown on Plate 9.

MONITORING WELL SAMPLING

As requested, monthly sampling of all ground water monitoring wells will be continued and analytical parameters for samples from the wells will be expanded to include BTXE in addition to TPH as diesel and PCBs.

REMEDIATION PROGRAM

Industrial Asphalt, on advice from Kleinfelder, Inc., purchased a skimming filter system in 1988 to remove free product from the wells. During the skimming demonstration, approximately two gallons of free product were skimmed from wells MW-2 and MW-8. However, since that time, the product thickness decreased to low levels and the skimmer has not been used. Therefore, as recommended in our Project Status Report No. 4, if free product in any of the side monitoring wells is detected, a specific gravity skimmer will be used to remove this product by the Industrial Asphalt personnel.

Based on the data collected from this phase of the investigation, Kleinfelder will prepare a summary report which will include conclusions and recommendations for the further remediation program.

If you have any questions, comments or require additional information, please call the undersigned.

Sincerely,

KLEINFELDER, INC.

Krzysztof (Krys) S. Jesionek,
Project Geohydrologist

(for) R. Jeffrey Dunn, Ph.D., G.E.
Assistant Regional Manager

cc: Dennis Hunt, Industrial Asphalt
Dwight Beavers, Industrial Asphalt
Lester Feldman, California Regional Water Quality Control Board
Jerry Killingstad, Alameda County Flood Control and Water Conservation District, Zone 7

KSJ:RJD:jwh

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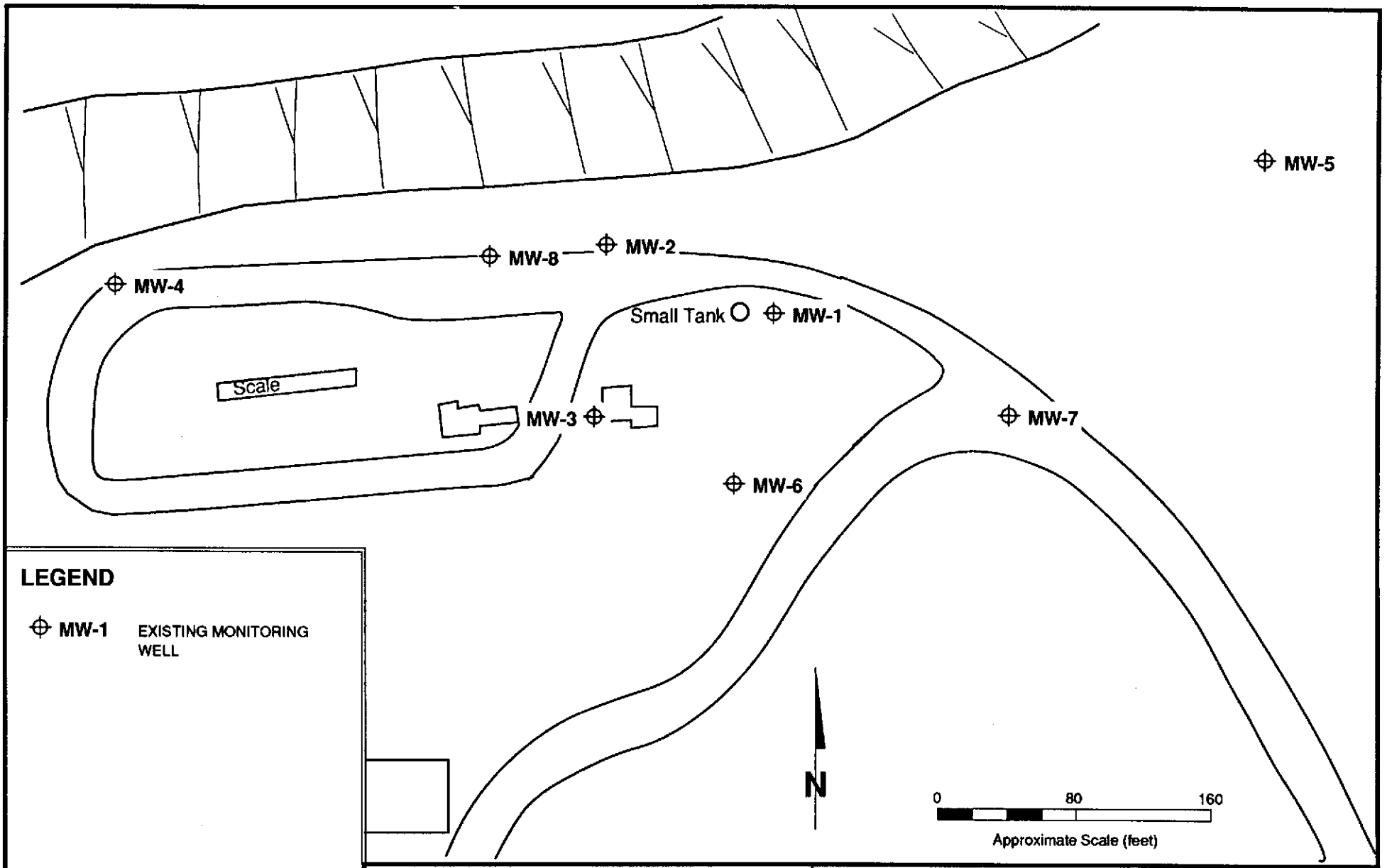

LEGEND

MW-1 EXISTING MONITORING WELL

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DRAFTED BY: L. Sue DATE: 6-8-89

CHECKED BY: K. Jesionek DATE: 6-9-89

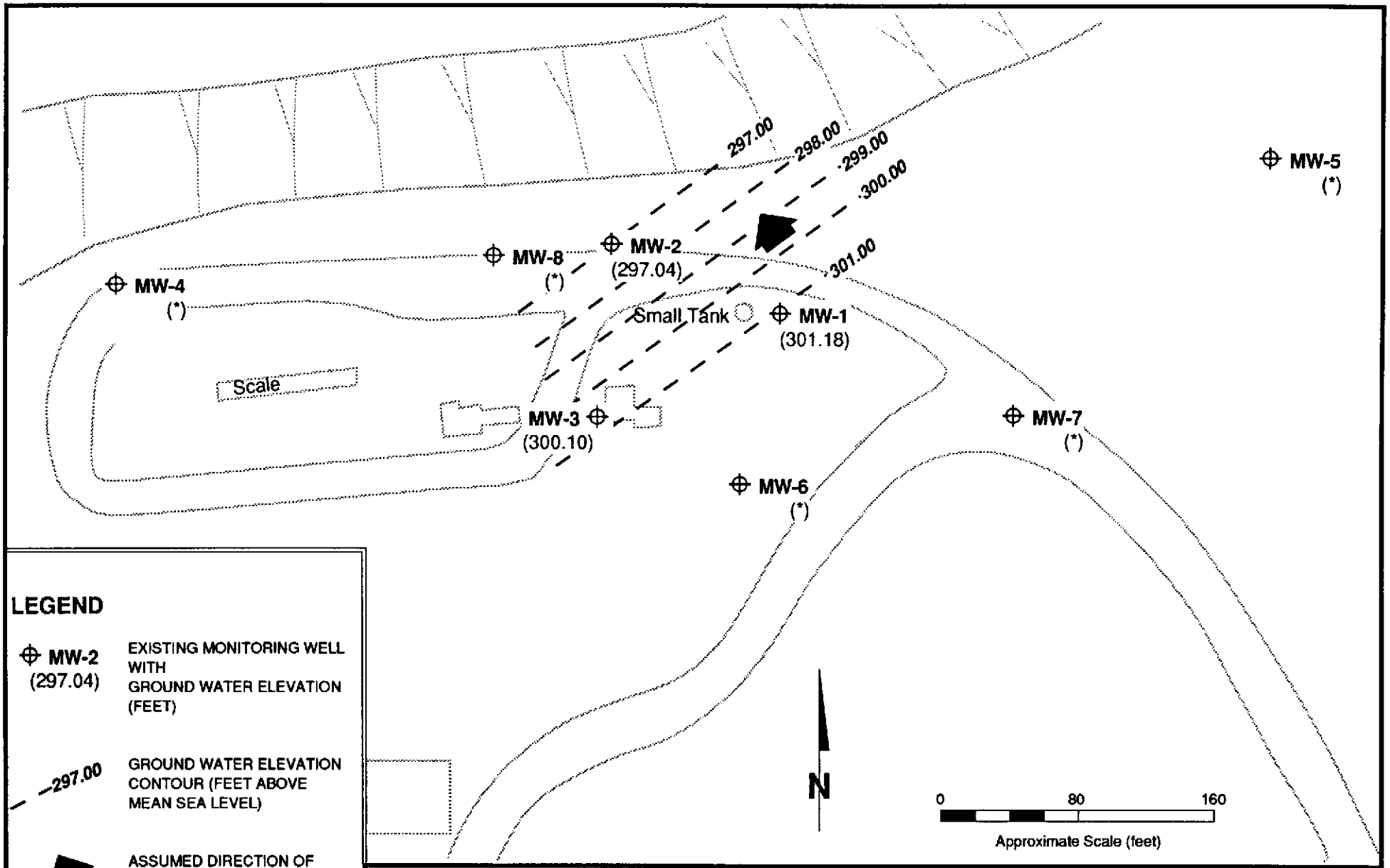
MONITORING WELL LOCATIONS

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE

1



LEGEND

⊕ MW-2 (297.04)	EXISTING MONITORING WELL WITH GROUND WATER ELEVATION (FEET)
297.00	GROUND WATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
	ASSUMED DIRECTION OF GROUND WATER FLOW
(*)	WELL DRY OR NON-EXISTENT

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DRAFTED BY: L. Sue DATE: 6-8-89

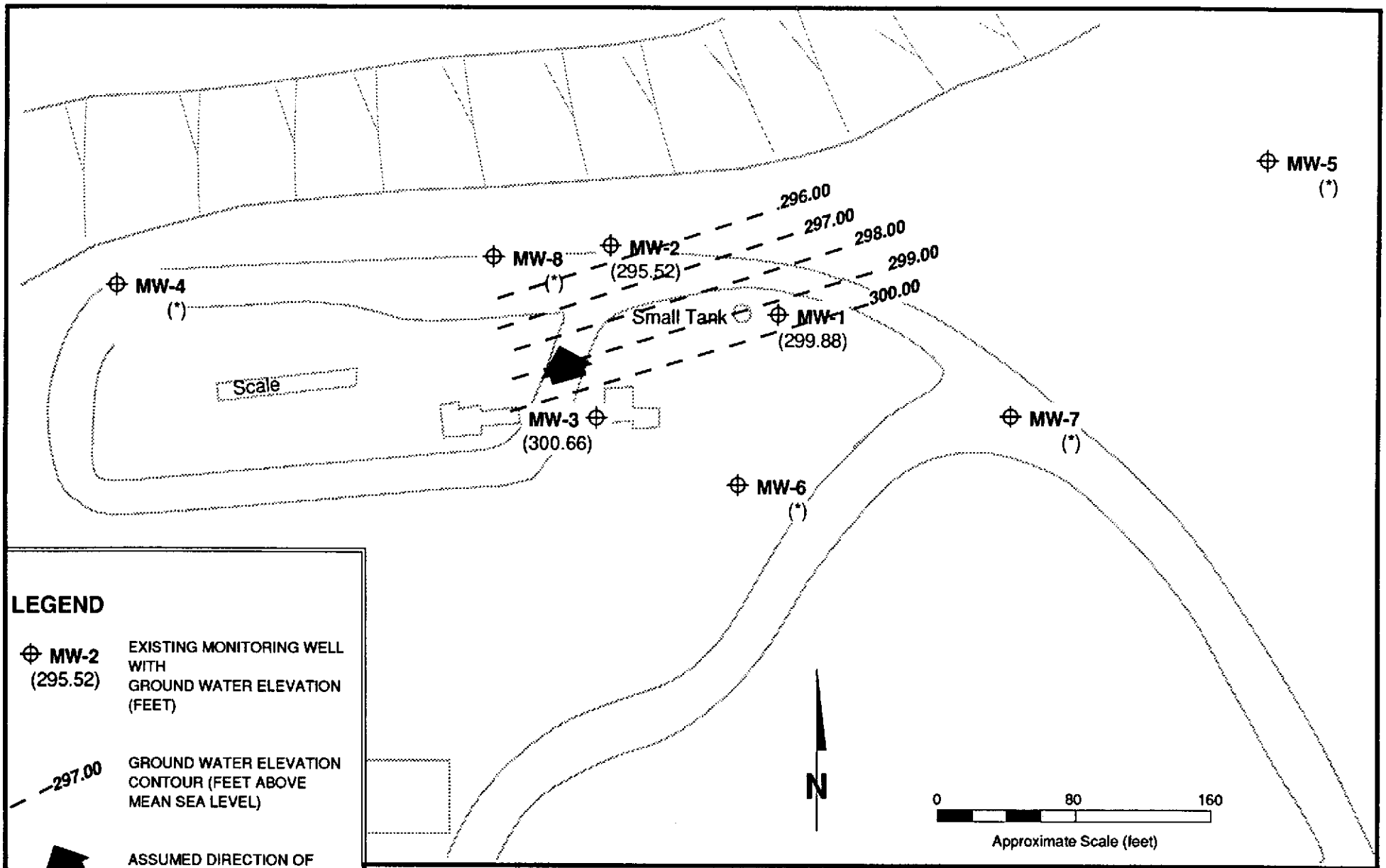
CHECKED BY: K. Jesionek DATE: 6-9-89

GROUND WATER POTENTIOMETRIC MAP ON OCTOBER 30, 1987

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE 2



LEGEND

MW-2 (295.52)	EXISTING MONITORING WELL WITH GROUND WATER ELEVATION (FEET)
297.00	GROUND WATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
	ASSUMED DIRECTION OF GROUND WATER FLOW
(*)	WELL DRY OR NON-EXISTENT

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DRAFTED BY: L. Sue DATE: 6-8-89

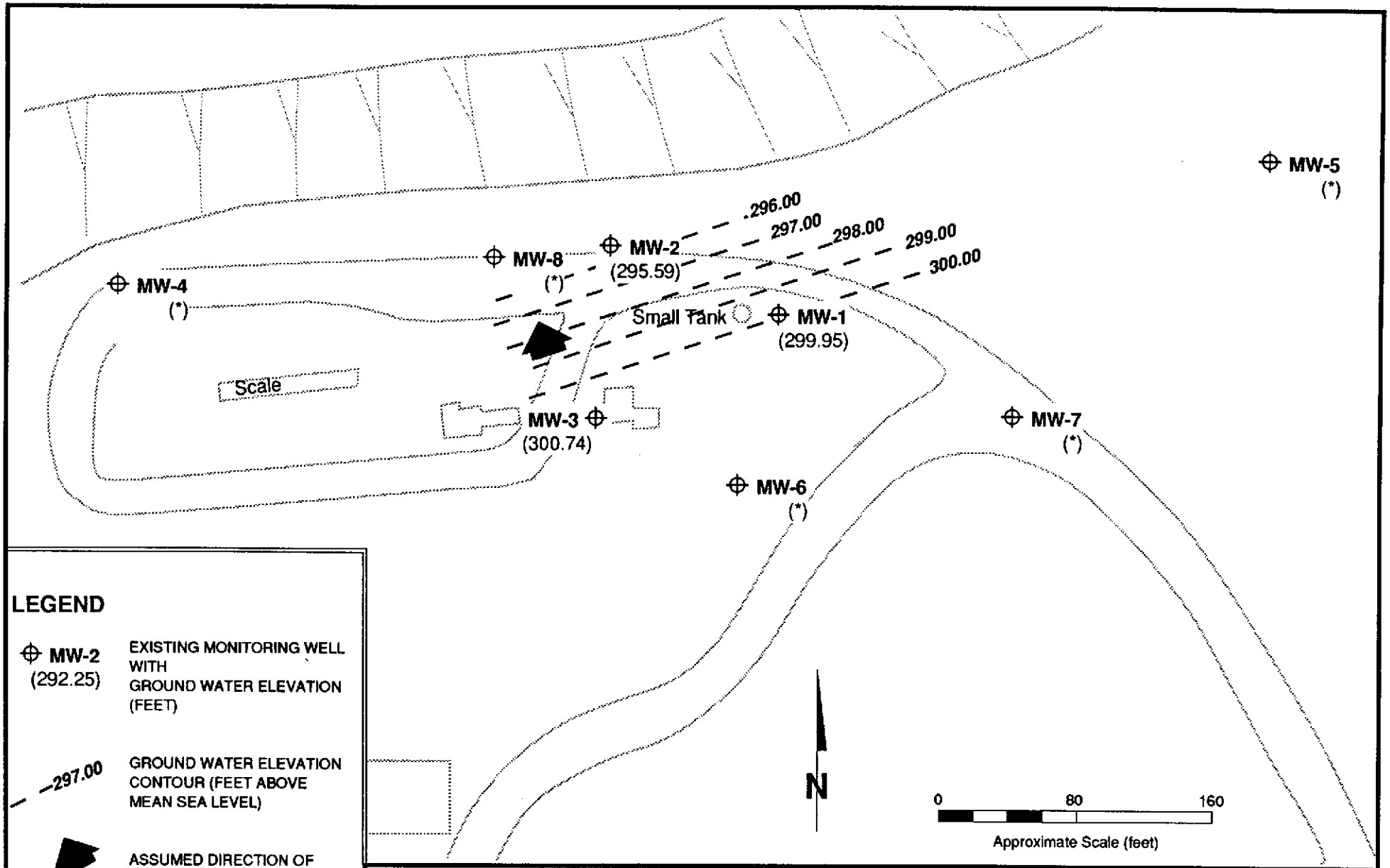
CHECKED BY: K. Jesionek DATE: 6-9-89

GROUND WATER POTENTIOMETRIC MAP ON DECEMBER 21, 1987

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE 3



LEGEND

MW-2 (292.25)	EXISTING MONITORING WELL WITH GROUND WATER ELEVATION (FEET)
297.00	GROUND WATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
	ASSUMED DIRECTION OF GROUND WATER FLOW
(*)	WELL DRY OR NON-EXISTENT

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DRAFTED BY: L. Sue DATE: 6-8-89

CHECKED BY: K. Jesionek DATE: 6-9-89

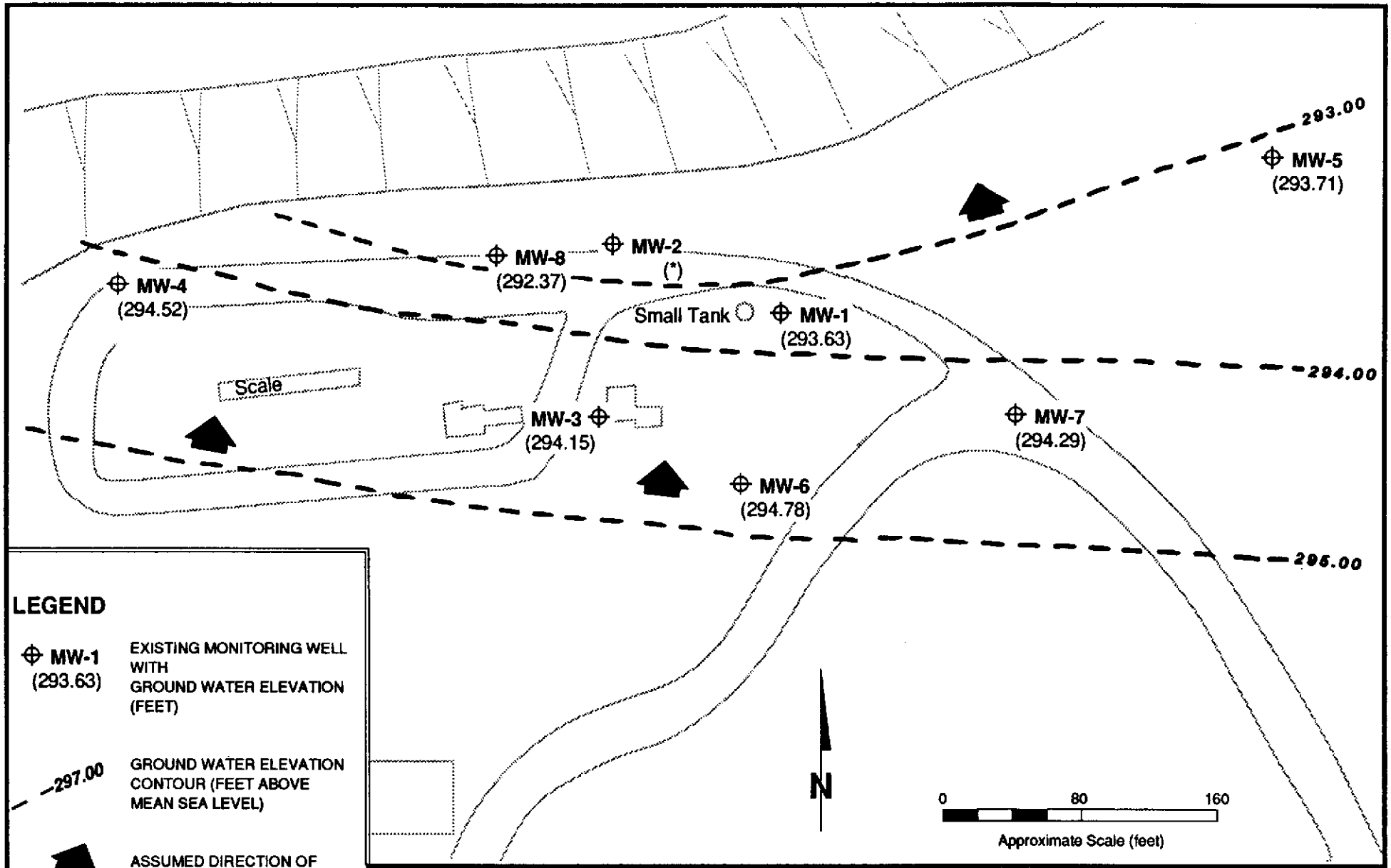
GROUND WATER POTENTIOMETRIC MAP ON FEBRUARY 25, 1988

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE

4



LEGEND

⊕ MW-1 (293.63)	EXISTING MONITORING WELL WITH GROUND WATER ELEVATION (FEET)
297.00	GROUND WATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
	ASSUMED DIRECTION OF GROUND WATER FLOW
(*)	WELL DRY OR NON-EXISTENT

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DRAFTED BY: L. Sue DATE: 6-8-89

CHECKED BY: K. Jesionek DATE: 6-9-89

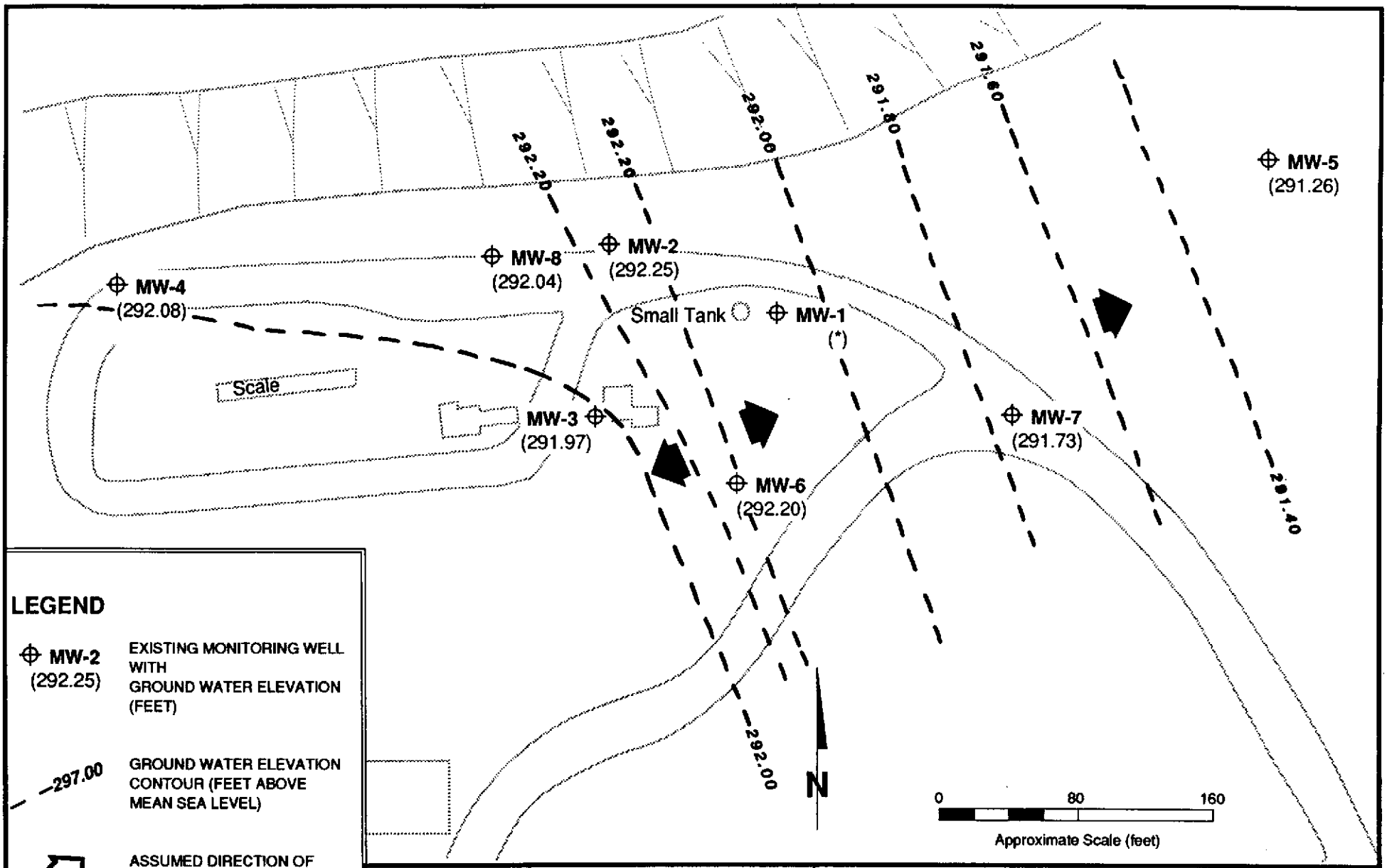
GROUND WATER POTENTIOMETRIC MAP ON JULY 26, 1988

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE

5



LEGEND

MW-2 (292.25)	EXISTING MONITORING WELL WITH GROUND WATER ELEVATION (FEET)
297.00	GROUND WATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
	ASSUMED DIRECTION OF GROUND WATER FLOW
(*)	WELL DRY OR NON-EXISTENT

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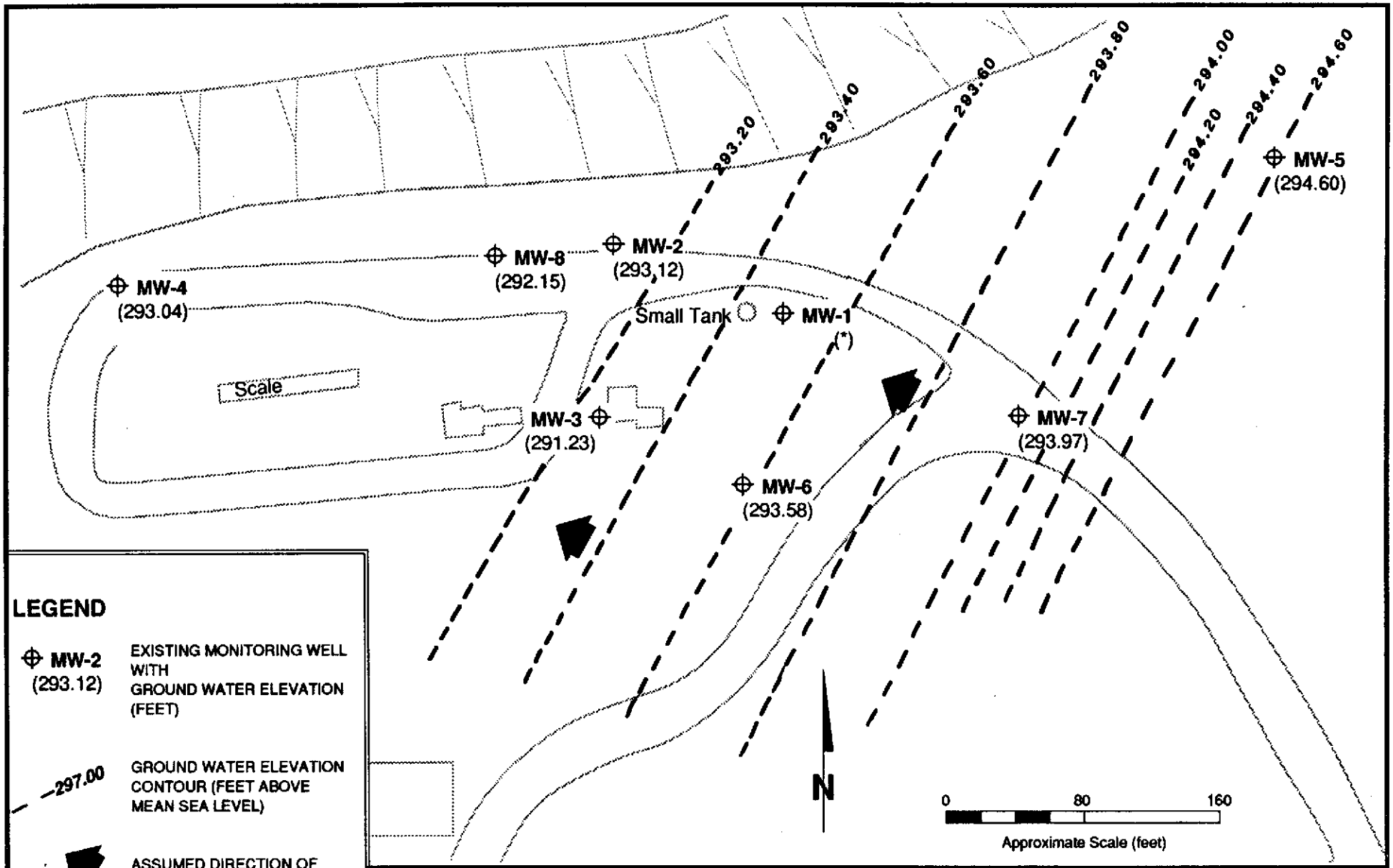
DRAFTED BY:	L. Sue	DATE:	6-8-89
CHECKED BY:	K. Jesionek	DATE:	6-9-89

GROUND WATER POTENTIOMETRIC MAP ON JANUARY 26, 1989

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE 6



LEGEND

MW-2 (293.12)	EXISTING MONITORING WELL WITH GROUND WATER ELEVATION (FEET)
297.00	GROUND WATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
	ASSUMED DIRECTION OF GROUND WATER FLOW
(*)	WELL DRY OR NON-EXISTENT

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DRAFTED BY: L. Sue DATE: 6-8-89

CHECKED BY: K. Jesionek DATE: 6-9-89

GROUND WATER POTENTIOMETRIC MAP ON APRIL 7, 1989

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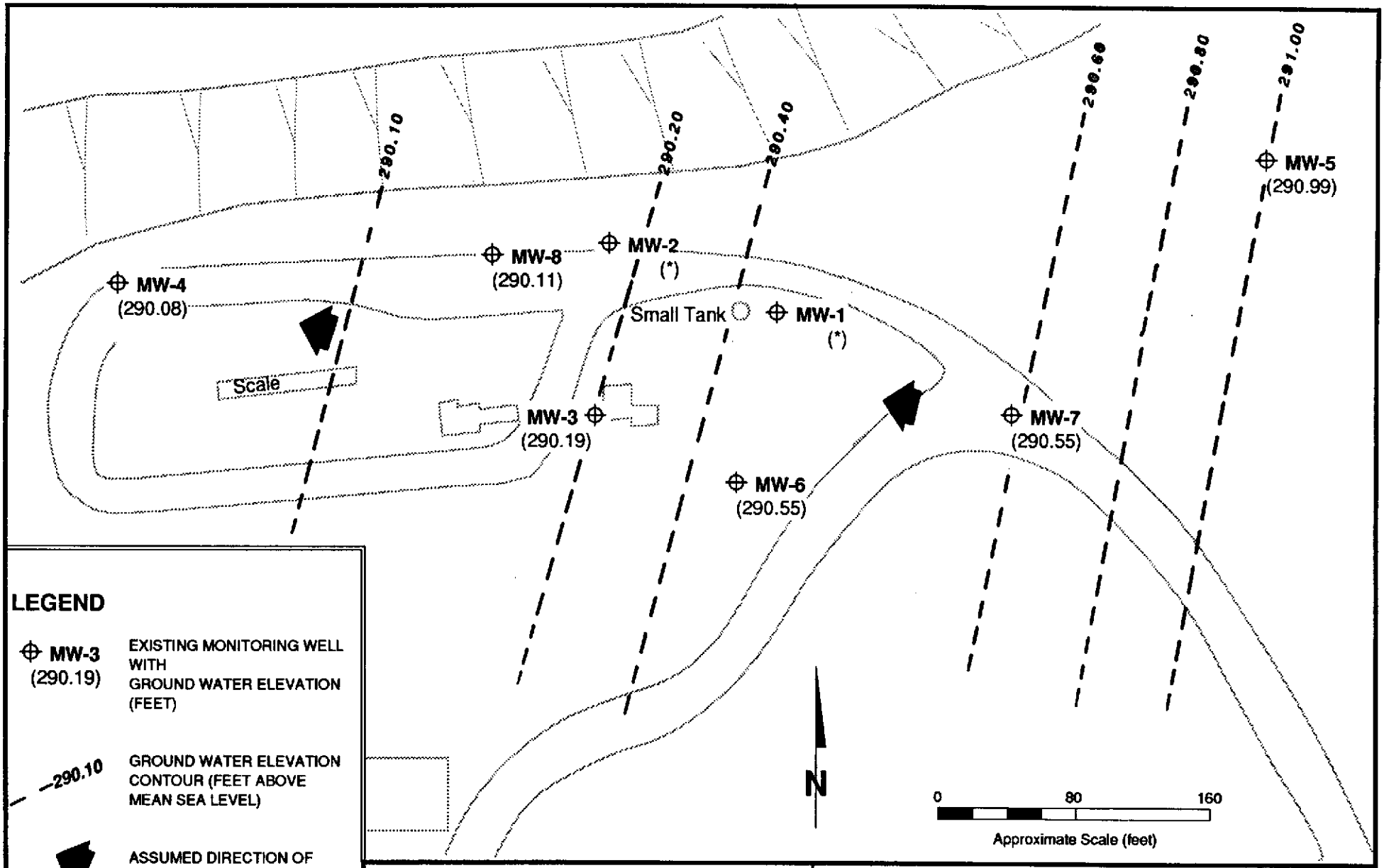
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE 7



LEGEND

- MW-3 (290.19) — EXISTING MONITORING WELL WITH GROUND WATER ELEVATION (FEET)
- 290.10 — GROUND WATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- ASSUMED DIRECTION OF GROUND WATER FLOW
- (*) — WELL DRY OR NON-EXISTENT

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DRAFTED BY: L. Sue DATE: 6-8-89

CHECKED BY: K. Jesionek DATE: 6-9-89

GROUND WATER POTENTIOMETRIC MAP ON MAY 8, 1989

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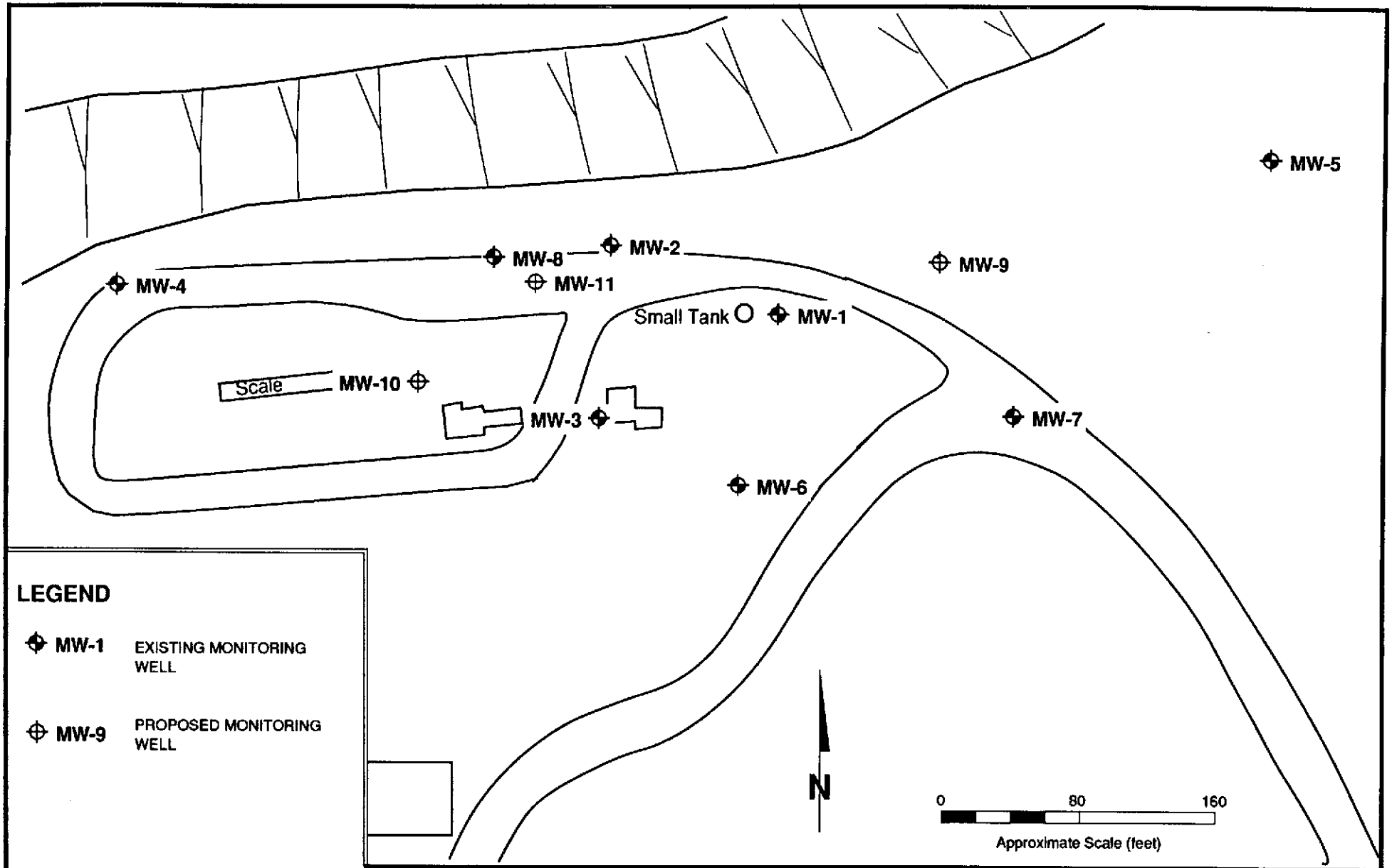
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE 8



LEGEND

MW-1	EXISTING MONITORING WELL
MW-9	PROPOSED MONITORING WELL

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DRAFTED BY:	L. Sue	DATE:	6-8-89
CHECKED BY:	K. Jesionek	DATE:	6-9-89

MONITORING WELL LOCATIONS

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE

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