JAMECO INDUSTRIES, INC.

Wyandanch, New York

GROUNDWATER SAMPLING PLAN

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I. INTRODUCTION

A maintenance plan prepared by AKRF, Inc. and approved by New York State Department of Environmental Conservation (NYSDEC) included provisions to place three new monitoring wells.

- One of these wells will be upgradient, because the existing one is not directly downgradient from the suspected off-site source of organic contamination.
- The other two wells will be downgradient and away from potential on-site sources and will monitor groundwater as it leaves the site .

The location of these new wells is based upon a further delineation of the shallow groundwater flow regimes as well as location of potentially interfering structures and available property.

II. METHODOLOGY

The measurement of groundwater flow gradient based upon the 1991 water elevation measurements suggested that monitoring well MW-2 was not responding in the same manner as the other site wells and may be influenced by localized groundwater mounding from the industrial wastewater leaching pools or by its closeness to the building structure. The result was that the groundwater flow direction varied between South to Southeast depending which wells were included in triangulation calculations.

The groundwater flow regime was re-evaluated by re-measuring the static water elevations in all of the sites existing monitoring wells on February 10, 1993 and deriving a contour map of the groundwater surface. This map was then used to locate the new wells within the Jameco property in a way that avoided potential interference from existing structures away from the potential sources of groundwater contamination in order to measure the effects, if any, of the site on groundwater leaving the site.

III. GROUNDWATER FLOW REGIME

The results of the February groundwater measurements confirms the 1991 measurements showing slightly higher elevations in MW-2 than elsewhere on the downgradient side of the site. Figure 1 and 2 presents the groundwater contour map based upon groundwater elevations in all the 6 monitoring wells. The gradient shows a marked eastern component that differs from the south south-east gradient presented in the maintenance plan. The methodology used to compute the direction of groundwater flow in the maintenance plan was a simple triangulation using MW 1, 5, and 6. Based upon these two flow direction computations, the direction is generally to the south-east.

The upgradient well, MW-1, was the highest groundwater elevation but does not pick up a plume of organic contaminations that had been historically detected in the site's production well further to the east. The production well is no longer used as a supply source and is not accessible for static measurements.

IV. WELL LOCATIONS

The placement of the new upgradient and downgradient and wells was based upon the two flow regimes computed from the 1991 and 1993 static groundwater level measurements, the location of the suspected off-site source of organic contamination, and the physical limitations of the site. The specific judgements of each of the three wells follows.

A. Upgradient Well

The new upgradient well has as its primary purpose the detection of organic contaminants suspected to originate from a manufacturing facility across the street from the Jameco site. The proposed location, presented in Figure 3, places this well to the east of the sanitary waste septic system located near the entry to the plant. This location is approximately 100 feet west of the production well but far enough east of the sanitary

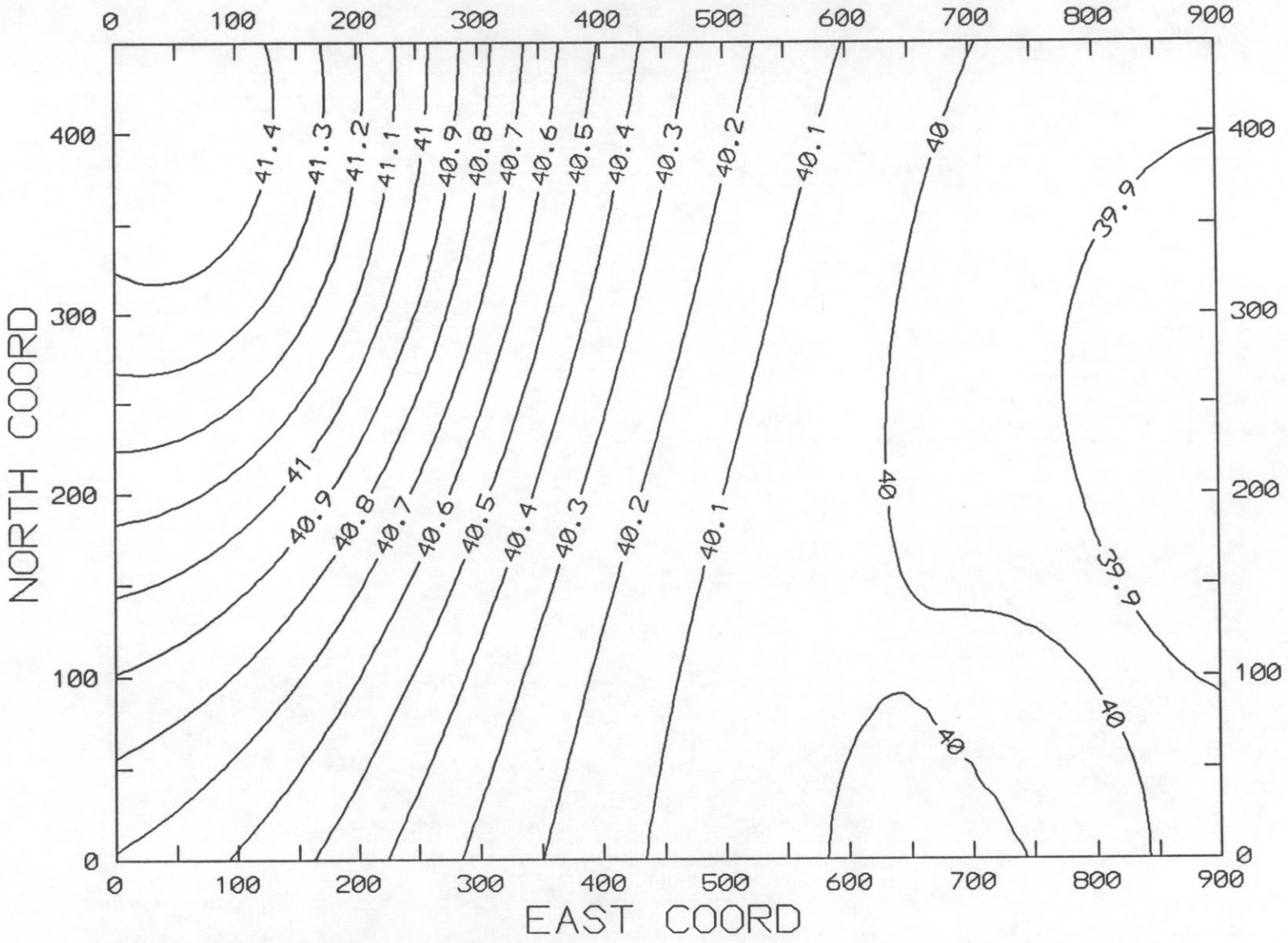

Figure 1

Groundwater Contours

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—40.1— Groundwater Elevation

Figure 2
3-D Groundwater Surface

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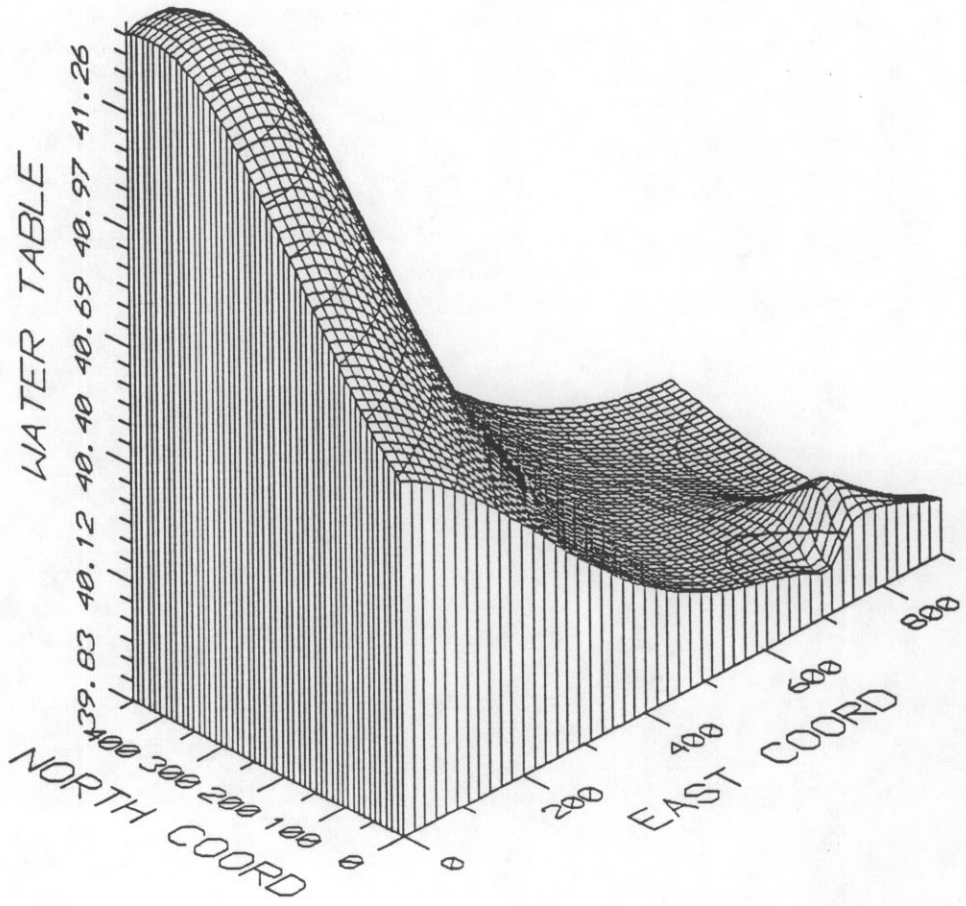
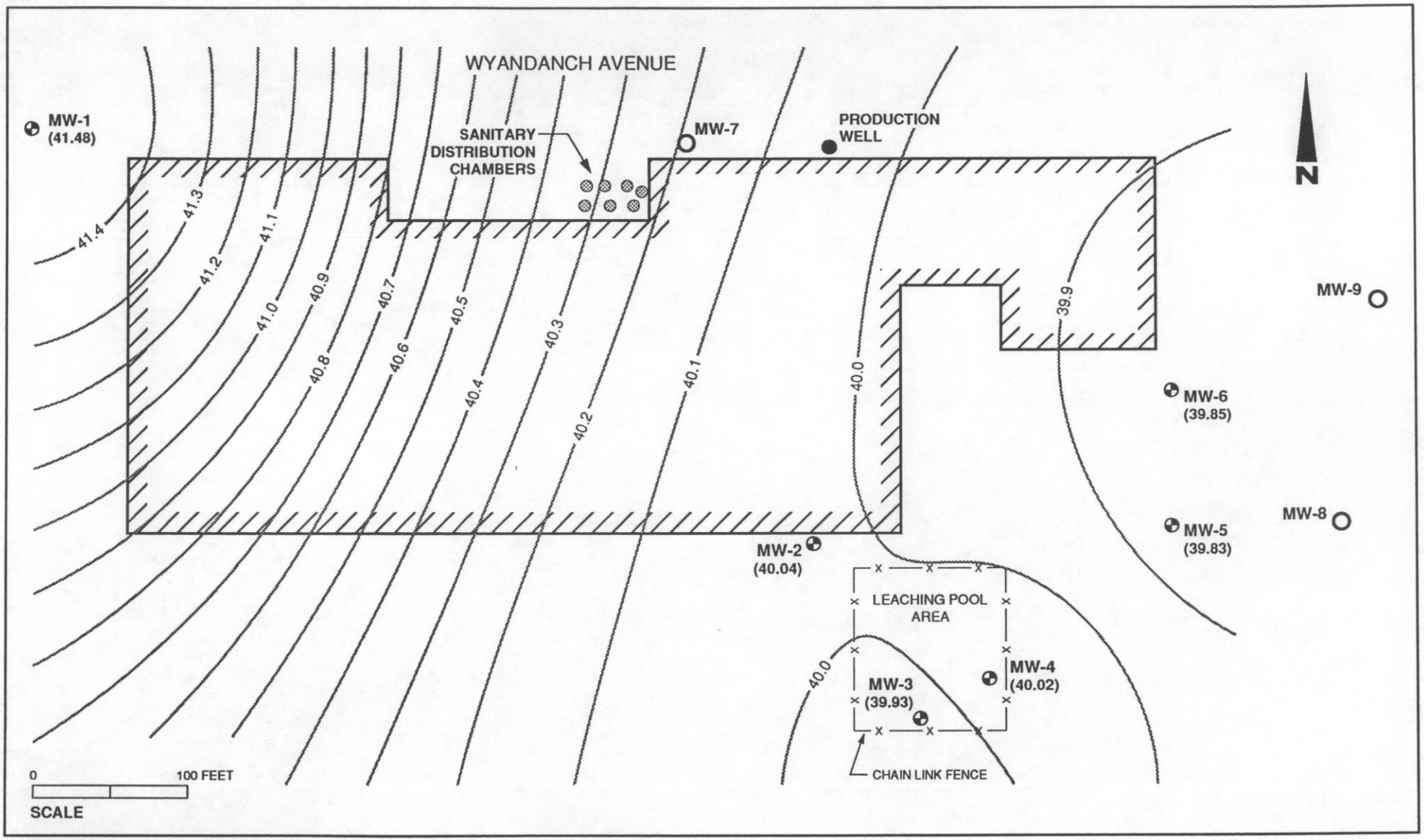


system to avoid interference from this source. With a second well along the northern perimeter of the site, a better definition of the eastern component off the groundwater flow would also be available.

b. Downgradient Wells

The objective of the two new downgradient wells is to measure the groundwater quality as it leaves the site. The previous downgradient wells were either in the middle of an active waste disposal area (MW-3 & 4), subject to interference by the building structure (MW-2) or in an historic waste disposal area (MW-5 and 6). The placement of the two new wells is complicated by the uncertainty concerning the groundwater flow direction, and the availability of company owned or accessible property in the downgradient direction. Since the 1991 and 1993 groundwater gradients indicate a general south-east direction placing two wells spread north-south at the eastern side of the site would present the best potential to measure both on-site and off-site contamination plumes (Figure 3).

The location of MW-8 is set at the property line 100 feet east of MW-5. The property south of this location is privately owned residences, unavailable for well installation. The location of MW-9 was selected to be due east of the plant and would pick up any plume of contamination from the eastern component of the flow direction. The spread of the four monitoring wells on the east side of the property (MW-5, 6, 8 and 9) covers an area of approximately 45 degrees from due east to south-east of the plant. Wells MW-2, 3 and 4 cover the southern most potential vector of groundwater flow. Together, these 7 wells, all in the southeast quadrant of the site should intercept any contaminant pulse emanating from the site or from suspected off-site locations.



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- Existing Monitoring Well
- Proposed Monitoring Well
- (39.93) Water Table

Figure 3

Sampling Locations

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