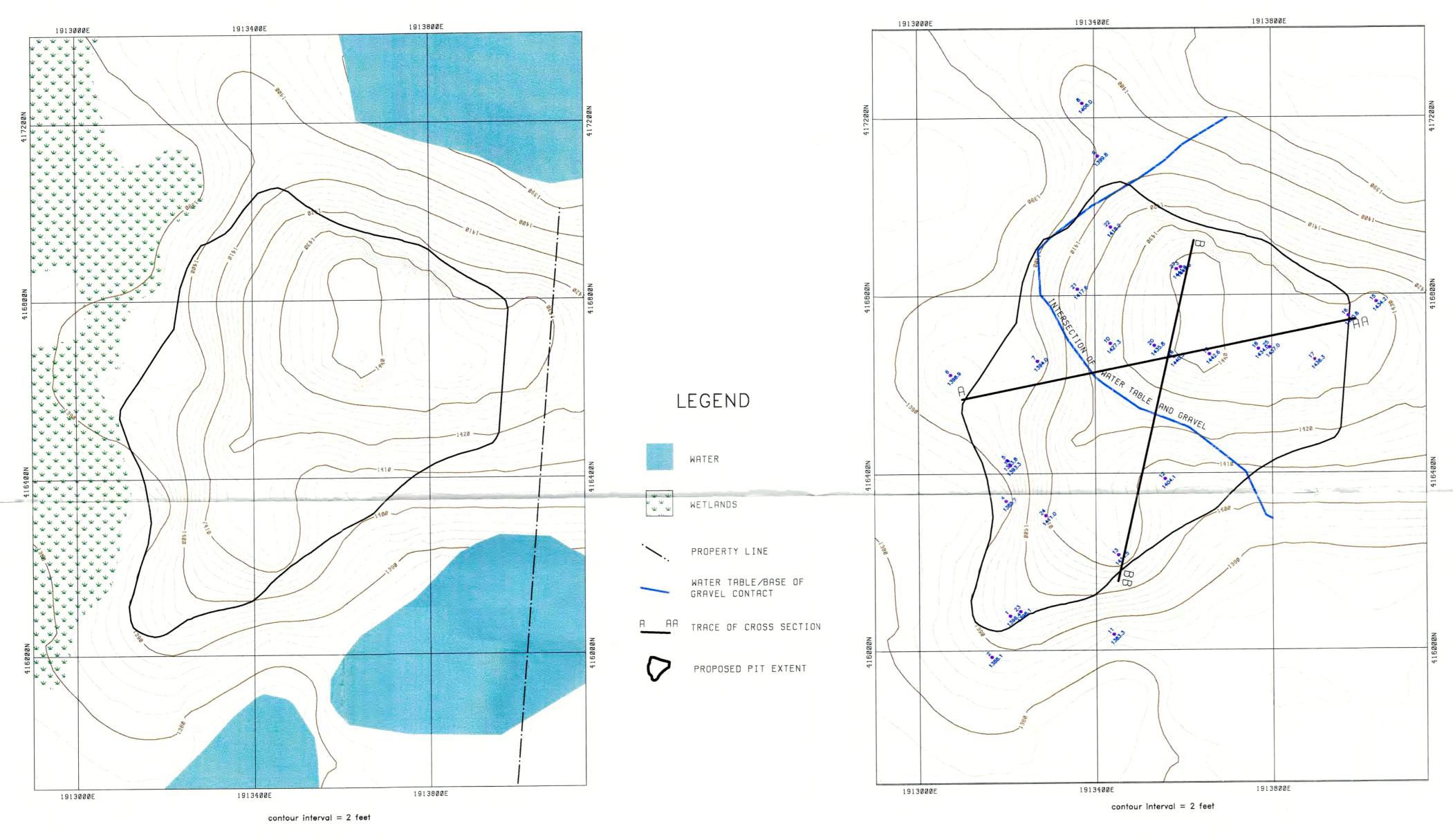


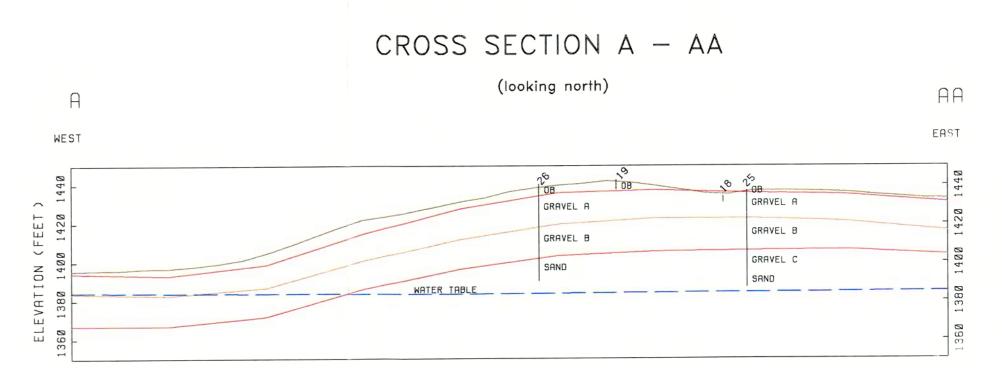
This site map shows locations of drill holes, the proposed extent of the gravel pit, wetlands, lakes, and access. Wetlands depicted are from the National Wetlands Inventory (NWI) data base. The aerial photo was taken in the spring of 1991.

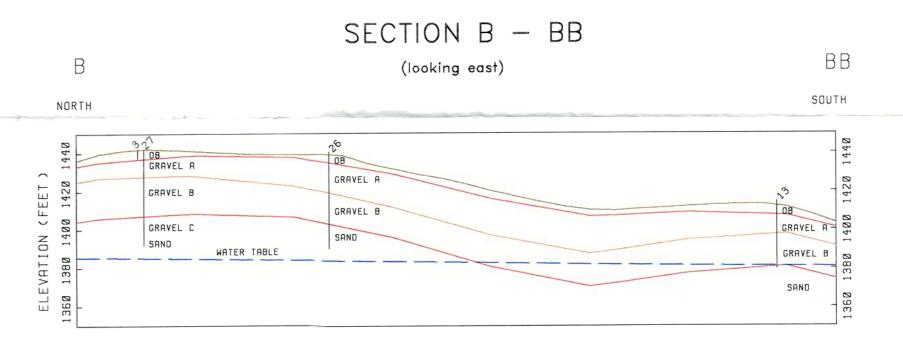
Minnesota Department of Natural Resources Division of Lands and Minerals



This map shows the proposed pit extent in relation to lakes, wetlands, property line, and topography. Note that the confidence of the contour values decrease as the distance away from the pit perimeter increases. Wetlands depicted are from the National Wetlands Inventory (NWI) data base. Map coordinates are in feet, State Plane NAD27.

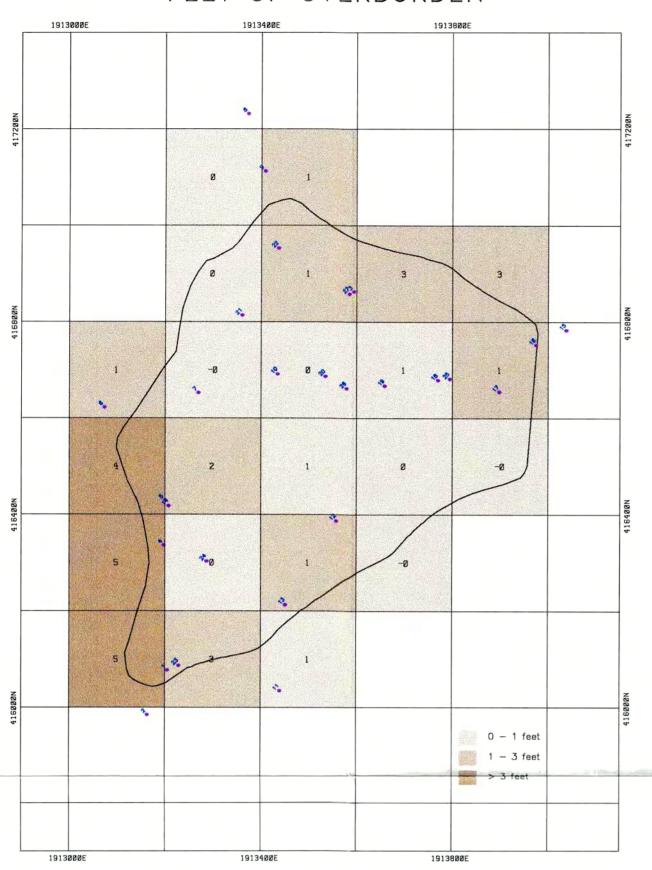
This map shows the drill holes with respective ground elevations, locations of cross sections, and an estimate where the water table intersects the bottom of the gravel. Map coordinates are in feet, State Plane NAD27.





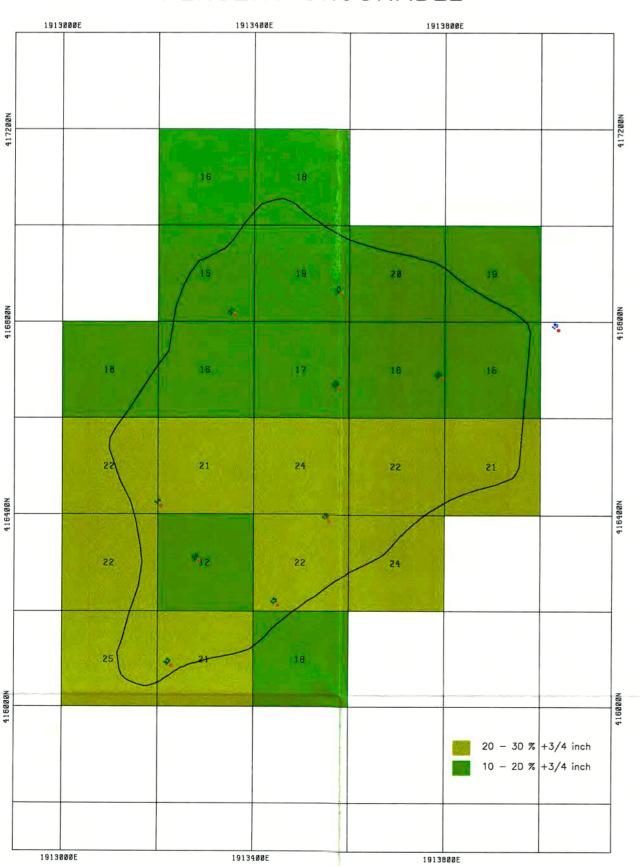
These cross sections show that most of the gravel is above the water table. Horizontal scale 1" = 100 feet. Vertical exaggeration = 2. ob = overburden

FEET OF OVERBURDEN



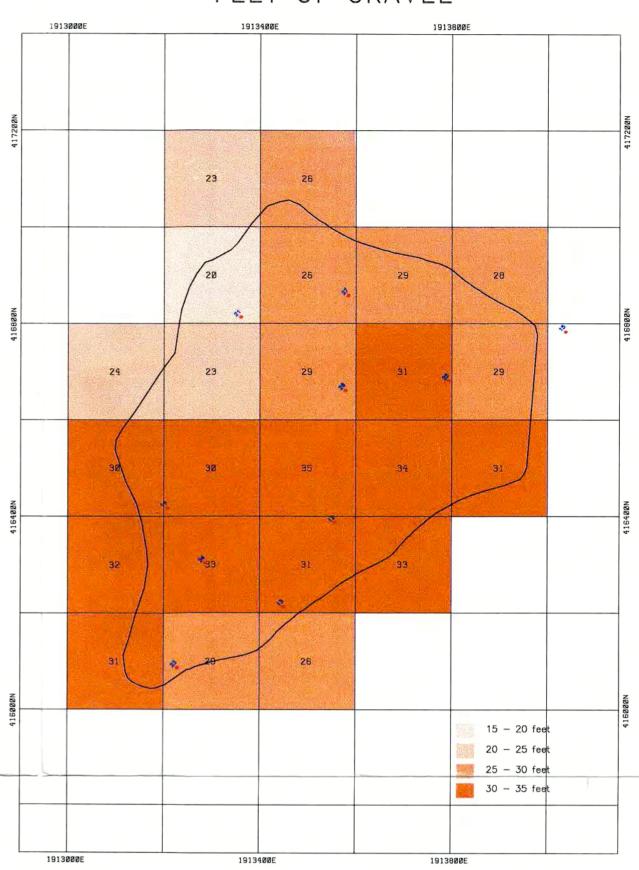
This graphic shows how the thickness of overburden varies across the site. The modeled values are printed at the center of each cell. The heavy black line is the proposed extent of the pit. Each cell is 200 feet on a side. Map coordinates are State Plane NAD27.

PERCENT CRUSHABLE



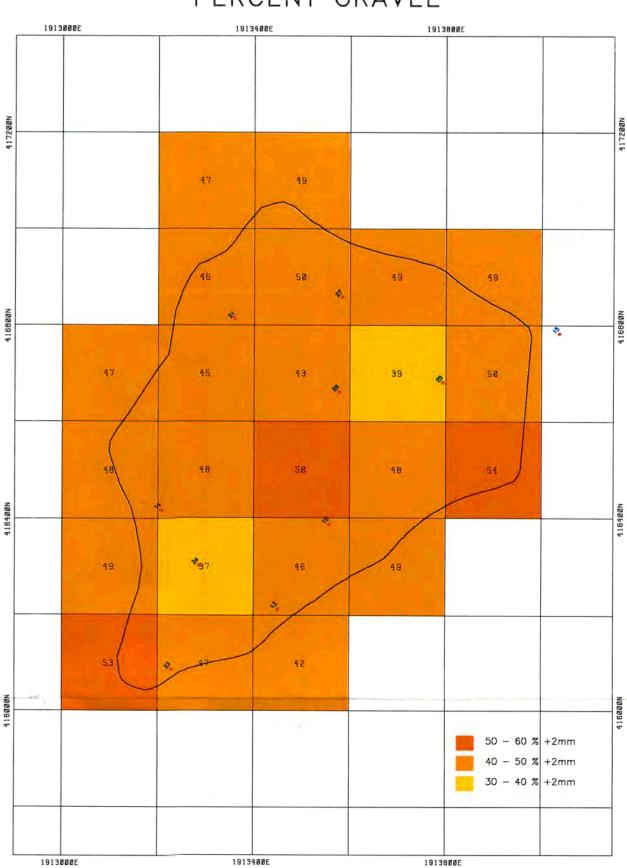
This graphic shows the distribution of the percent of gravel, by weight, larger than 3/4 inch. This is for both gravel layers averaged together. This number is referred to as the percent crushable. The modeled values are printed at the center of each cell. The heavy black line is the proposed extent of the pit. Each cell is 200 feet on a side. Map coordinates are State Plane NAD27.

FEET OF GRAVEL



This graphic shows how the overall thickness of gravel varies across the site. The modeled values are printed at the center of each cell. The heavy black line is the proposed extent of the pit. Each cell is 200 feet on a side. Map coordinates are State Plane NAD27.

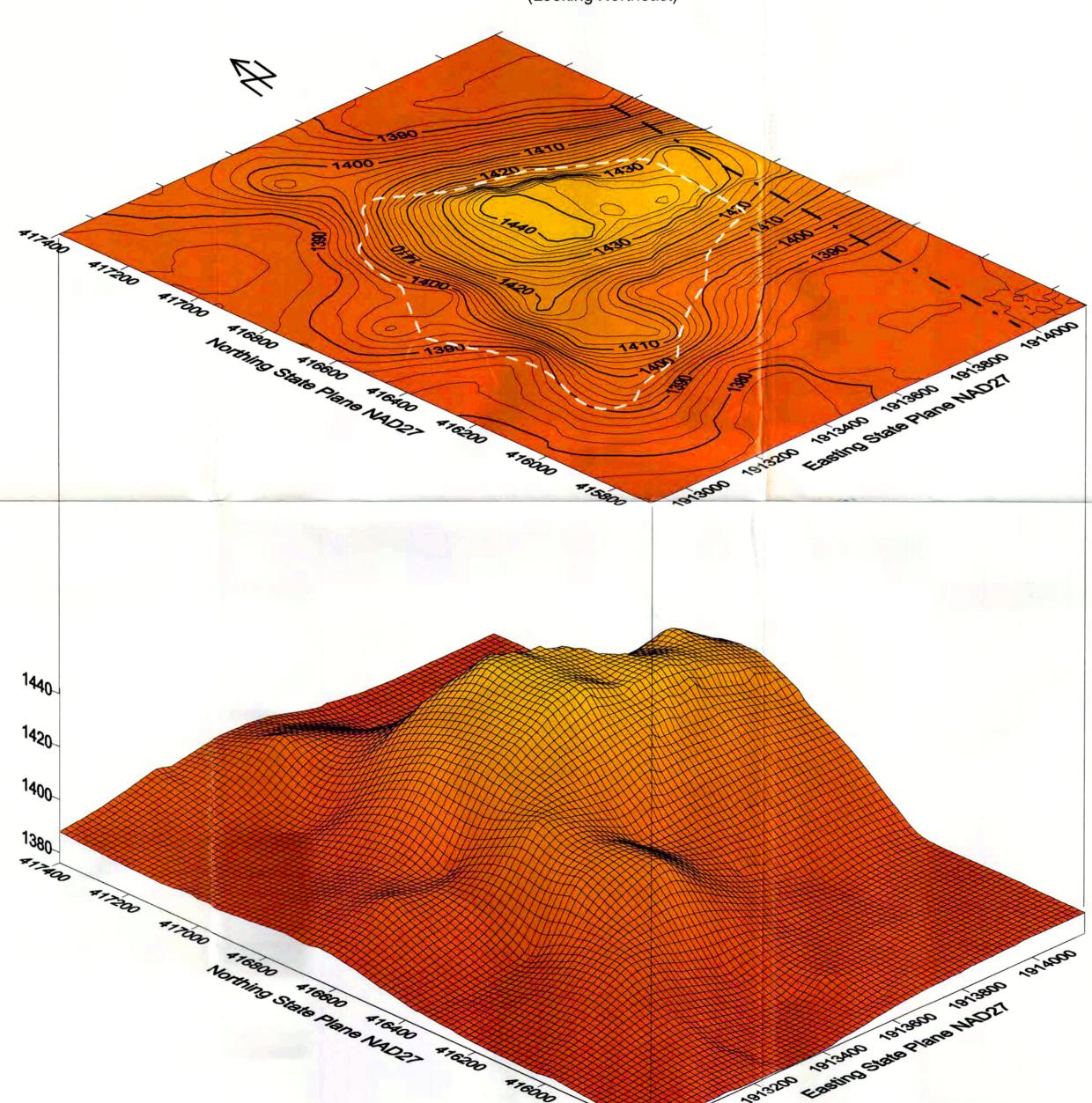
PERCENT GRAVEL



This graphic shows the distribution of percent gravel across the site. Percent gravel is the amount of the material, by weight, larger than the #10 mesh sieve (2 mm). The modeled values are printed at the center of each cell. The heavy black line is the proposed extent of the pit. Each cell is 200 feet on a side. Map coordinates are State Plate NAD27.

PRE-MINING LANDSCAPE

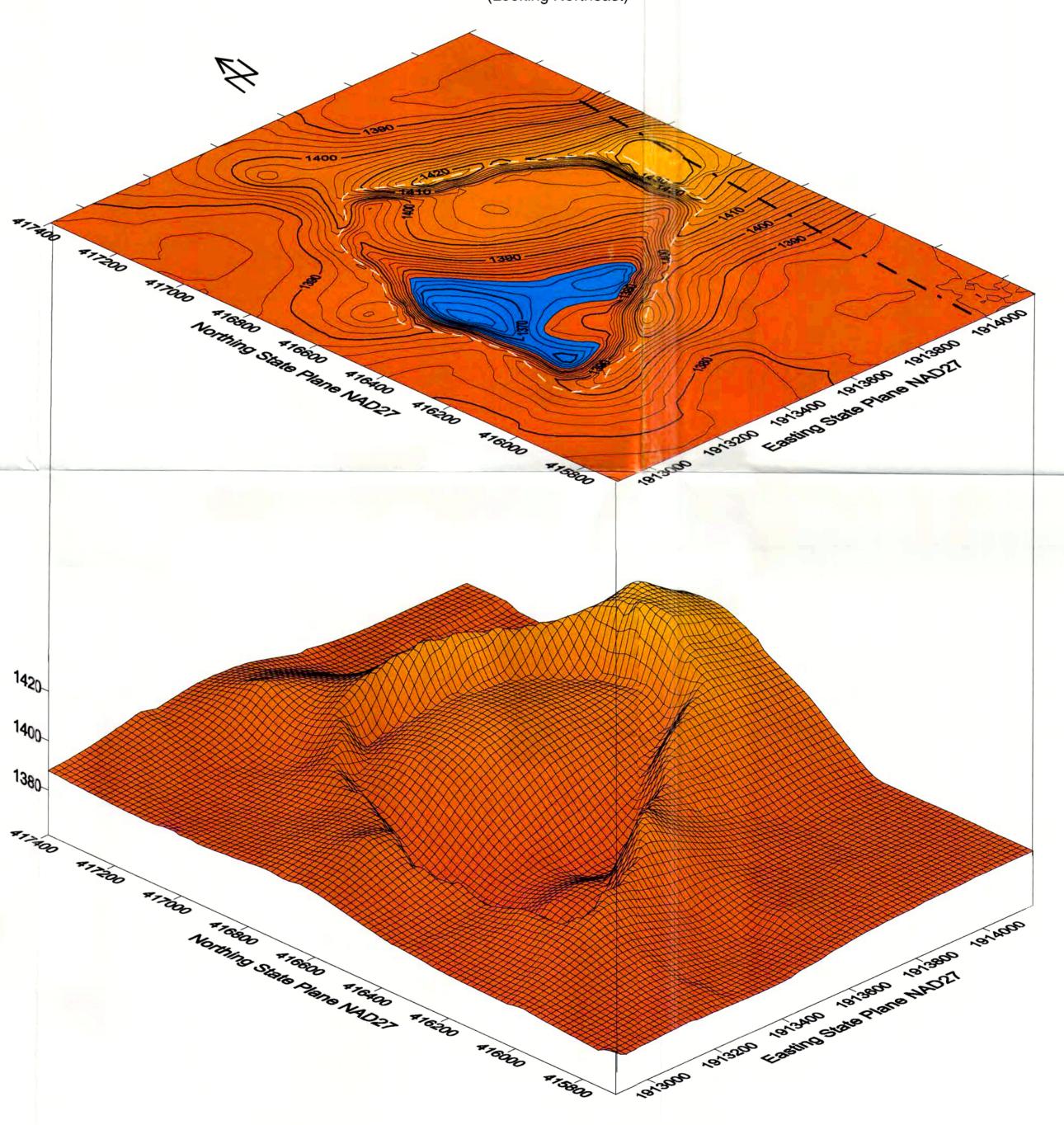
(Looking Northeast)



The top map shows the pre-mining topography. The map is colored so that yellow represents the highest elevations. The proposed pit outline is shown as a dashed white line. A dashed black line represents the eastern property line. The bottom map is a three-dimensional representation of the topographic map above. Vertical exaggeration is 6 times.

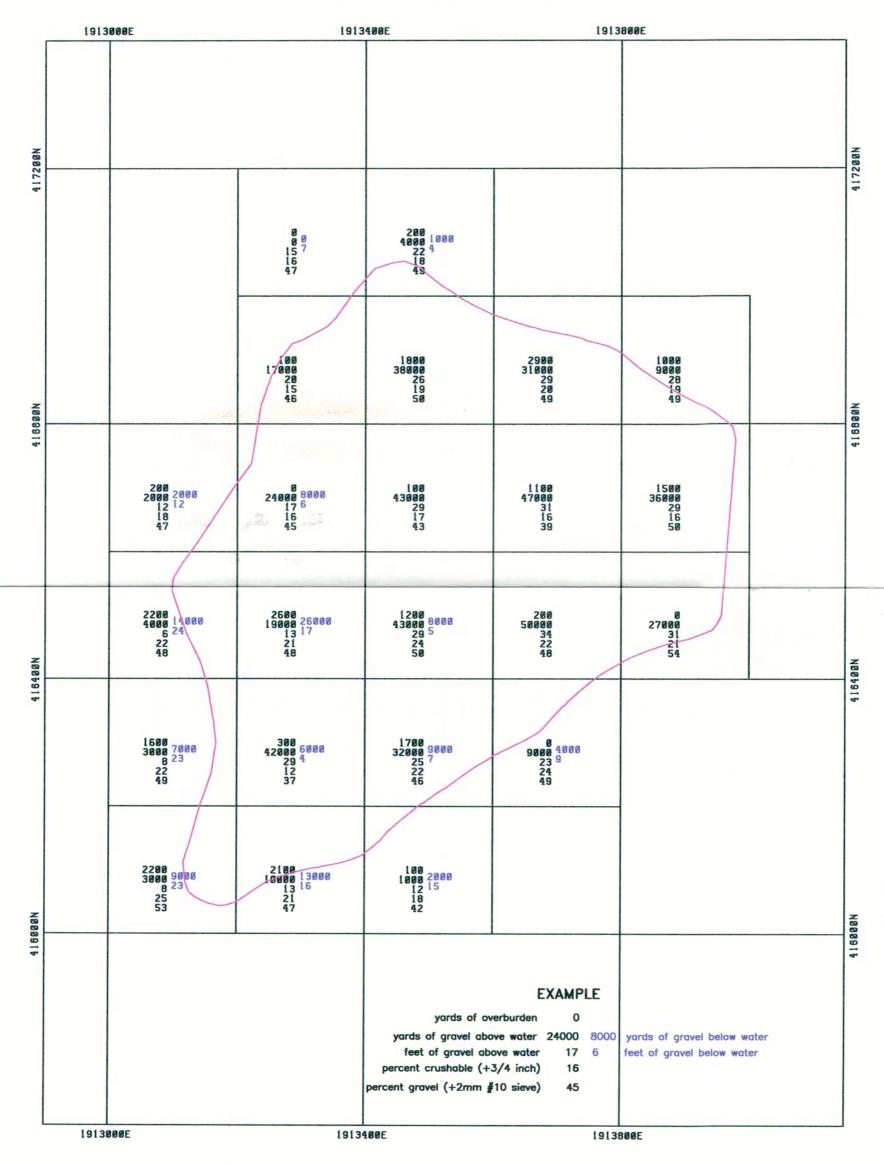
RECLAIMED LANDSCAPE

(Looking Northeast)



The top map shows the reclaimed topography after all of the gravel is mined with pit slopes no steeper than 3:1. The blue area represents about 4 acres of wetland or pond created after the gravel below the water table is mined. The map is colored so that yellow represents the highest elevations. The proposed pit outline is shown as a dashed white line. A dashed black line represents the eastern property line. The bottom map is a three-dimensional representation of the topographic map above. Vertical exaggeration is 6 times.

GRIDDED SEAM MODEL



This graphic displays, for each cell, modeled values for yards of overburden, yards of gravel above and below water, feet of gravel above and below water, and quality information about the gravel. This information is useful for mine planning and oversight of mining by the land manager. Modeled values representative of each cell are printed within that cell. Each cell is 200 feet on a side. The heavy purple line is the proposed extent of the pit.