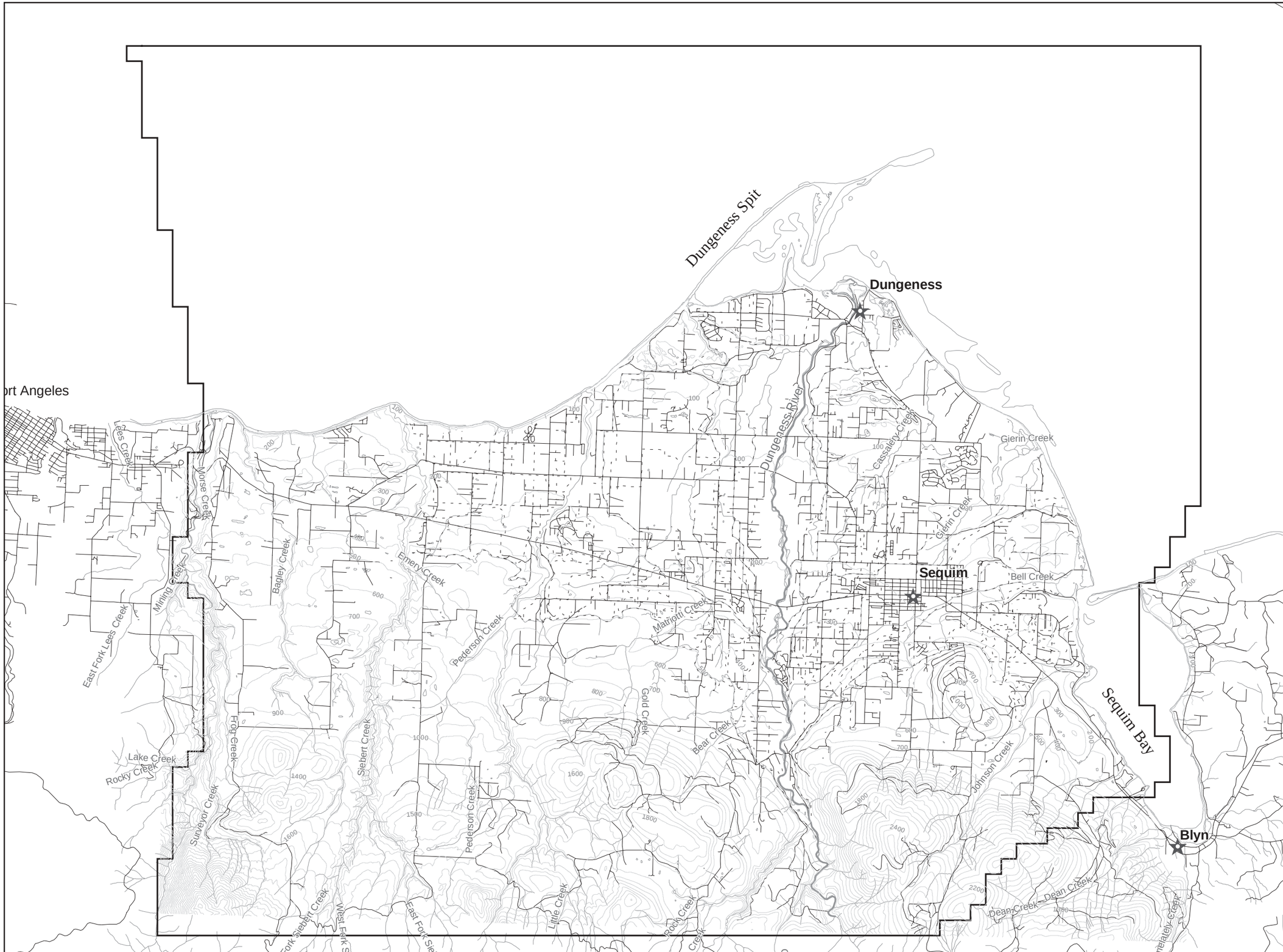
Figure 1-1.
Site Features of the
Sequim-Dungeness Area



Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\Fig1-1_SiteFeatures_Sequim_Dungeness_11x17.mxd Date: April 21, 2003

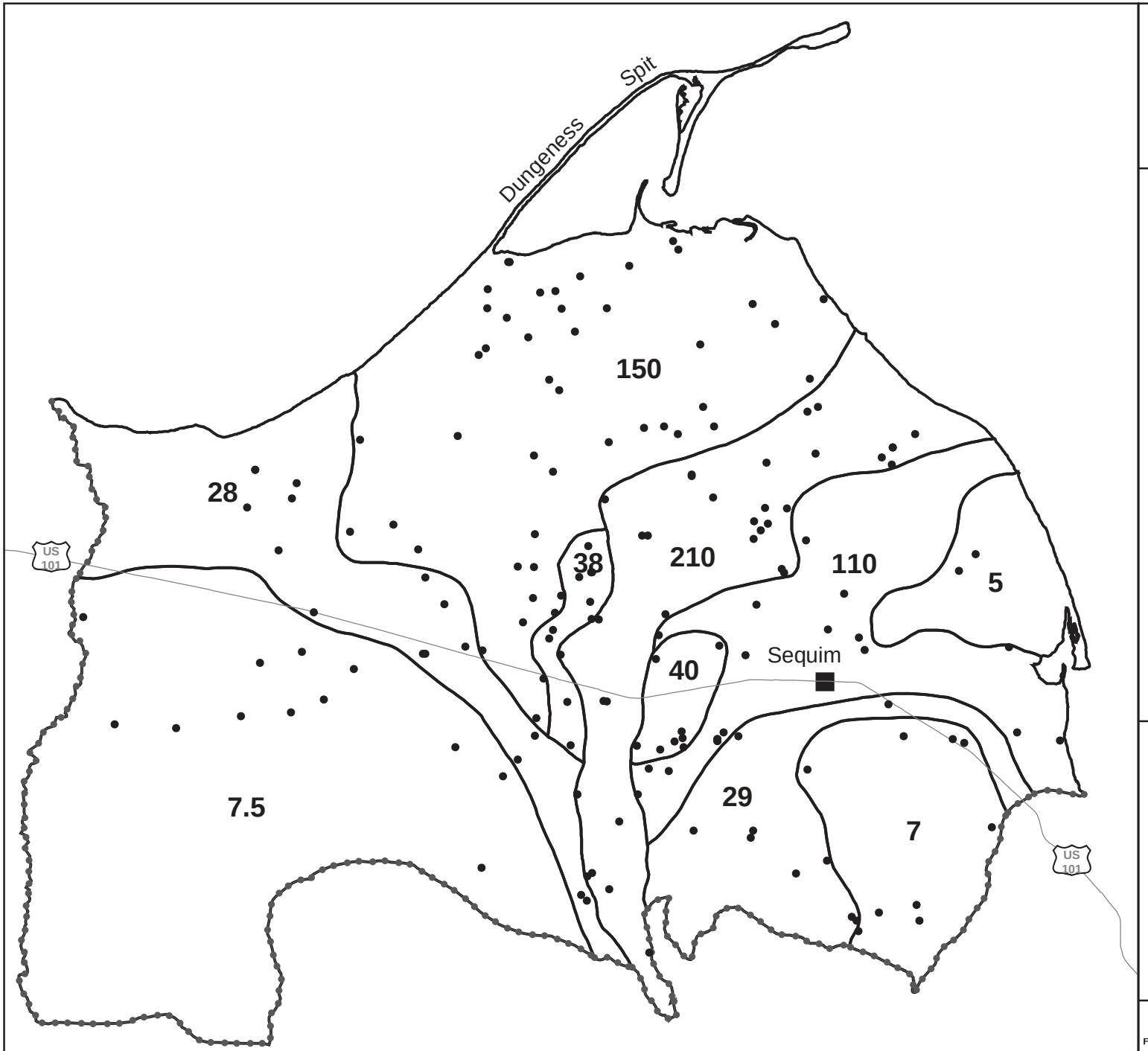


Figure 2-1.
Distribution of Hydrogeologic Unit 1 Hydraulic Conductivities (USGS, 1999)

Map Features

- USGS Study Well
- Primary USGS Study Area Boundary
- Boundary of Conductivity Zone
- **28** Median Value of Horizontal Hydraulic Conductivity, in feet per day.

N

0 0.5 1 2
Miles

Location Map

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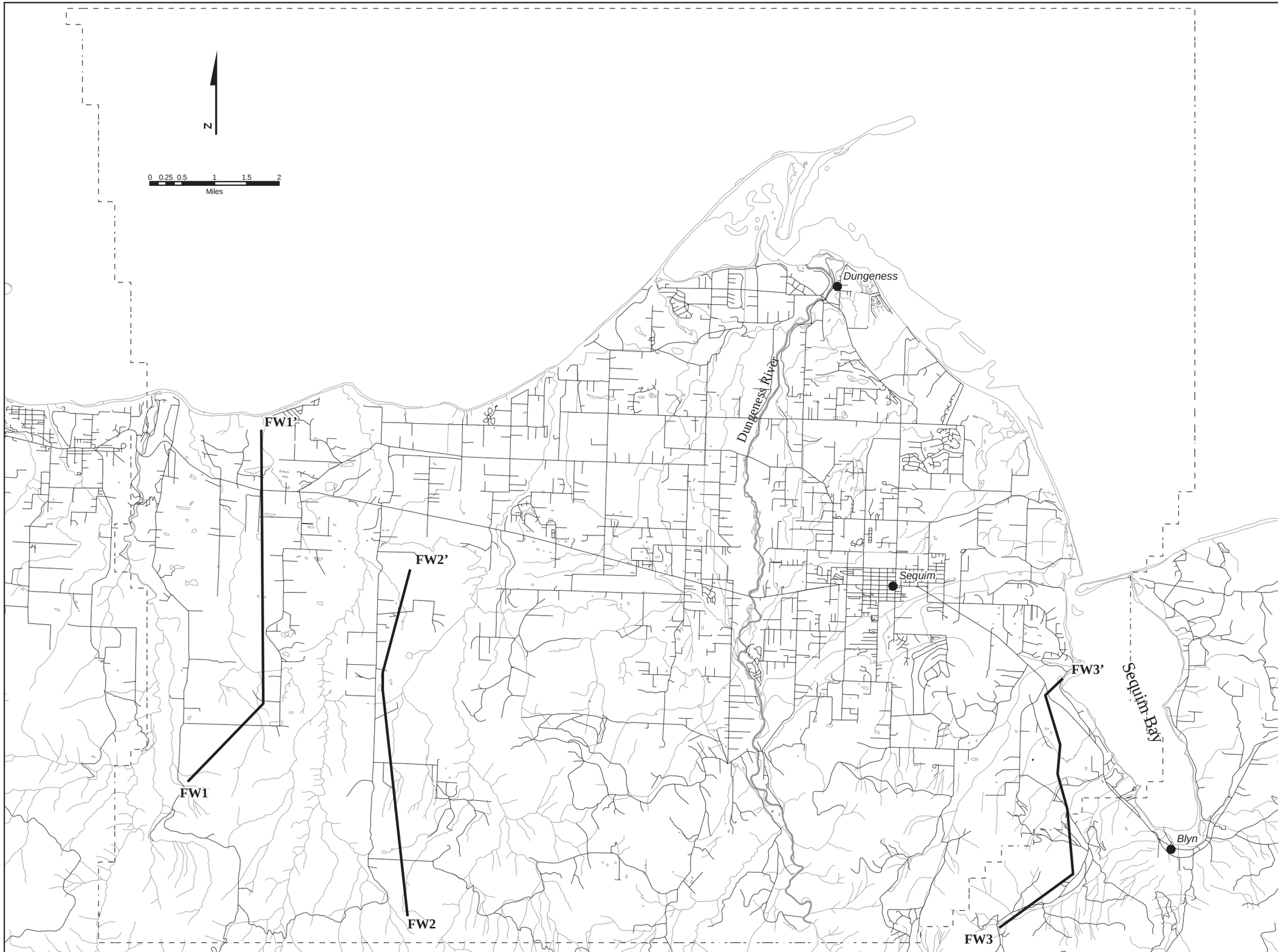
Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\Fig2-1_Distribution_HydroGeo_Unit1_HydraulicConduct.mxd Date: April 21, 2003

Figure 2-2
Locations of Tetra Tech FW Hydrogeologic Cross Sections



Map Features

- Geologic Cross Section
- Dungeness River
- Streams
- Roads
- Model Grid Boundary

Location Map

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Q:\projects_2002\dungeness\workdir\maps\maps_june2003\cross_sections_bw.mxd

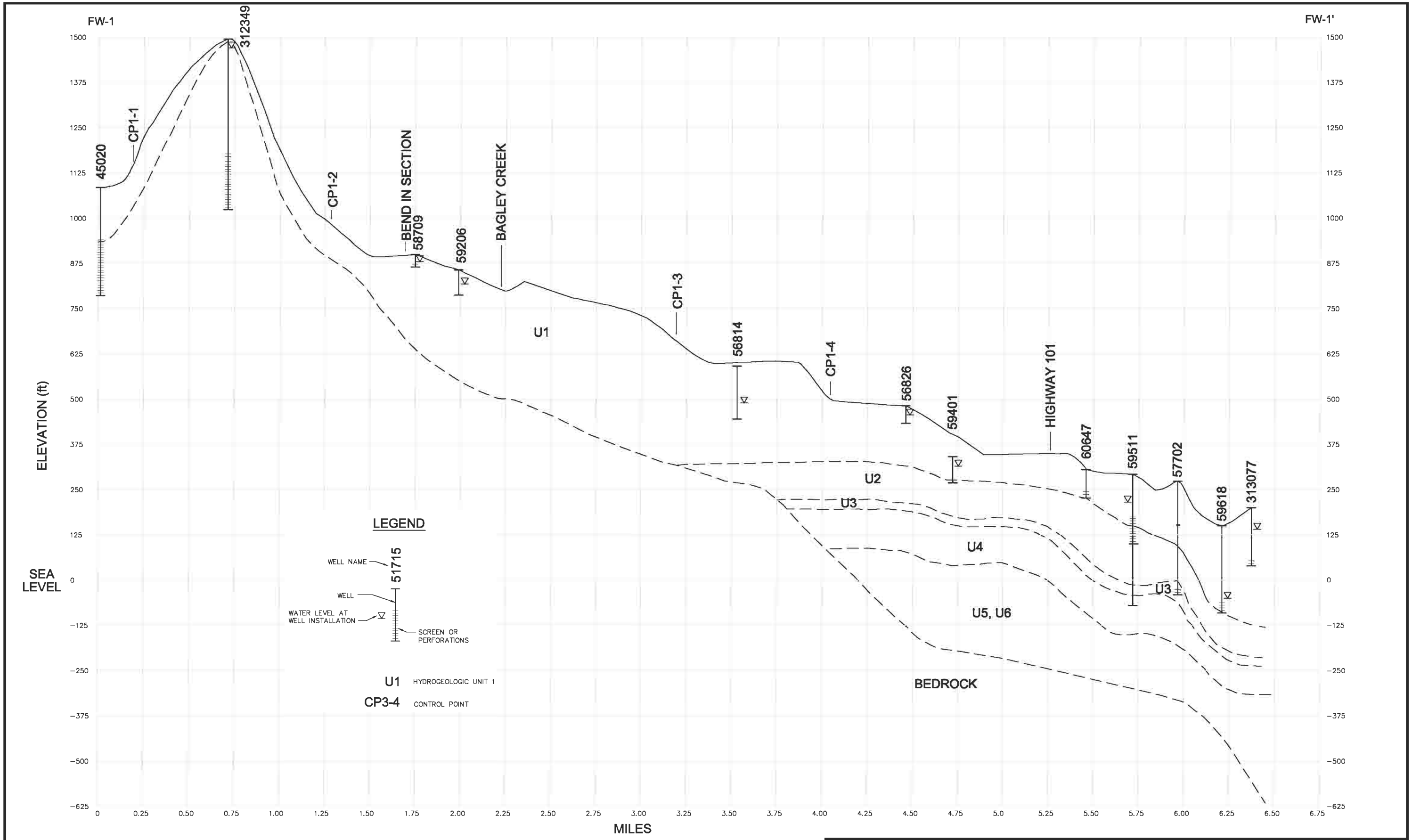

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Figure 2-3a
Hydrogeologic Cross-Section and Well Locations Along FW1 - FW1'

I:\Projects\2752100001\dwg\FW1.dwg 6/10/2003 2:57:10 PM PST

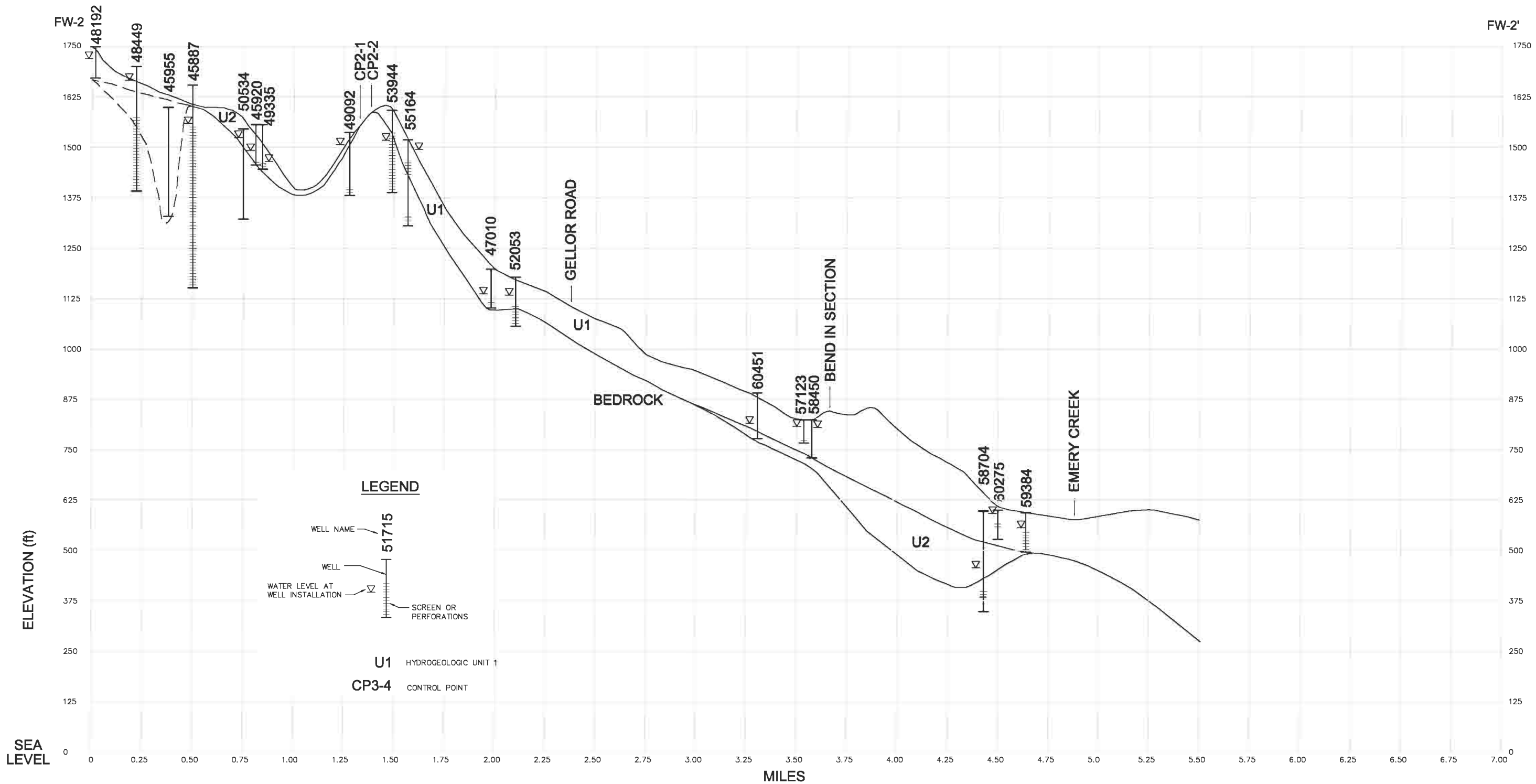

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Figure 2-3b
Hydrogeologic Cross-Section and
Well Locations Along FW2 - FW2'

I:\Projects\27521000001\dwg\FW1.dwg 6/10/2003 2:57:10 PM PST

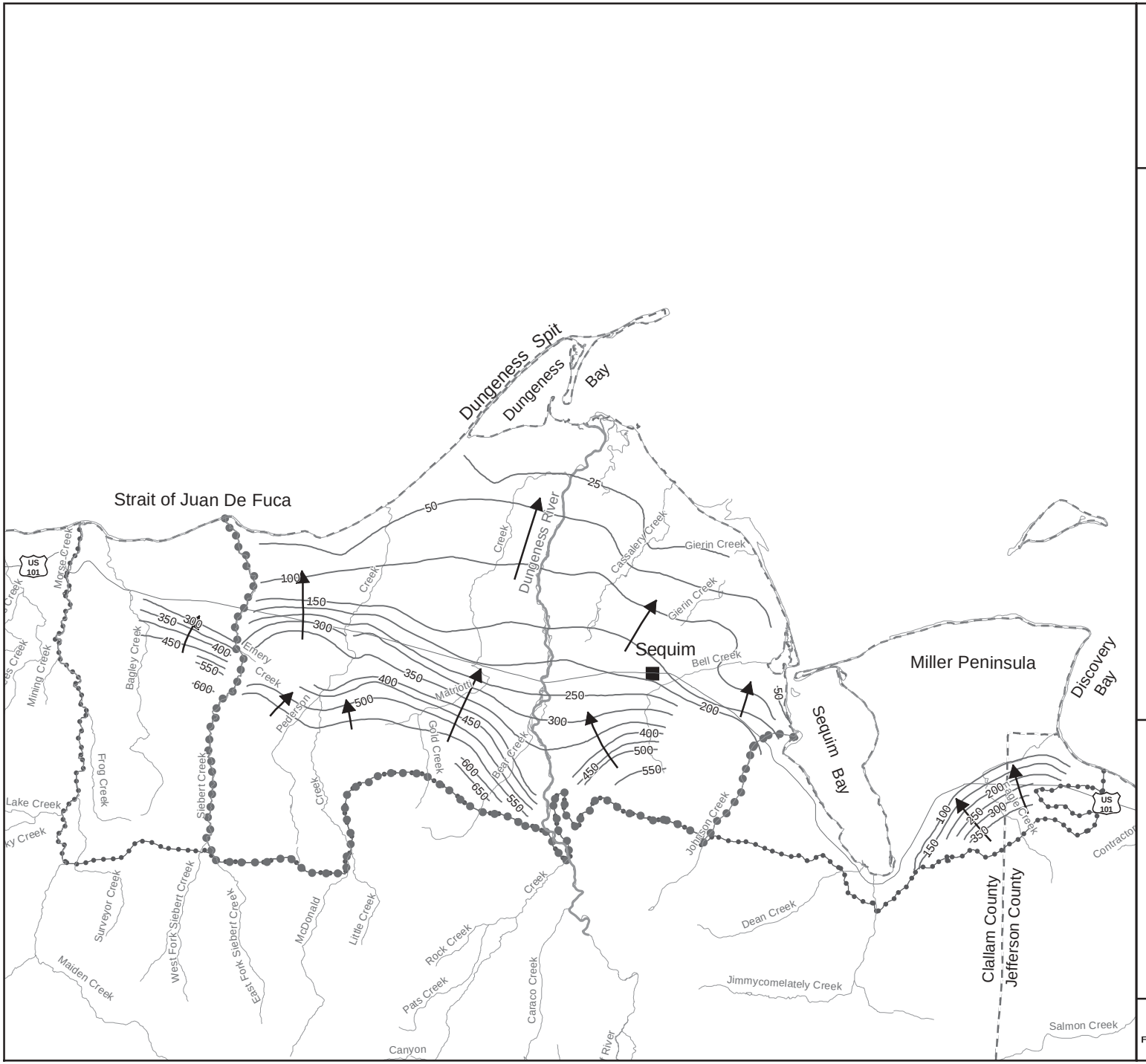


Figure 2-4. Shallow Aquifer Potentiometric Surface for March 1996 (USGS, 1999)

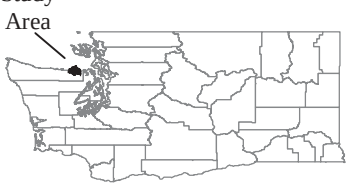
Map Features

- Direction Of Groundwater Flow
- —100— Potentiometric Contour - Shows approximate altitude of potentiometric surface. In feet above sea level. Contour interval 50 feet, with a supplementary contour at 25 feet.
- Dungeness River
- Streams
- Road
- Primary USGS Study Area Boundary
- USGS Study Area Boundary
- County Boundary
- City Location

N

0 1 2 4
Miles

Location Map



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Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\ShallowAquiferPotentiometricSurface_Mar1996.mxd Date: April 21, 2003

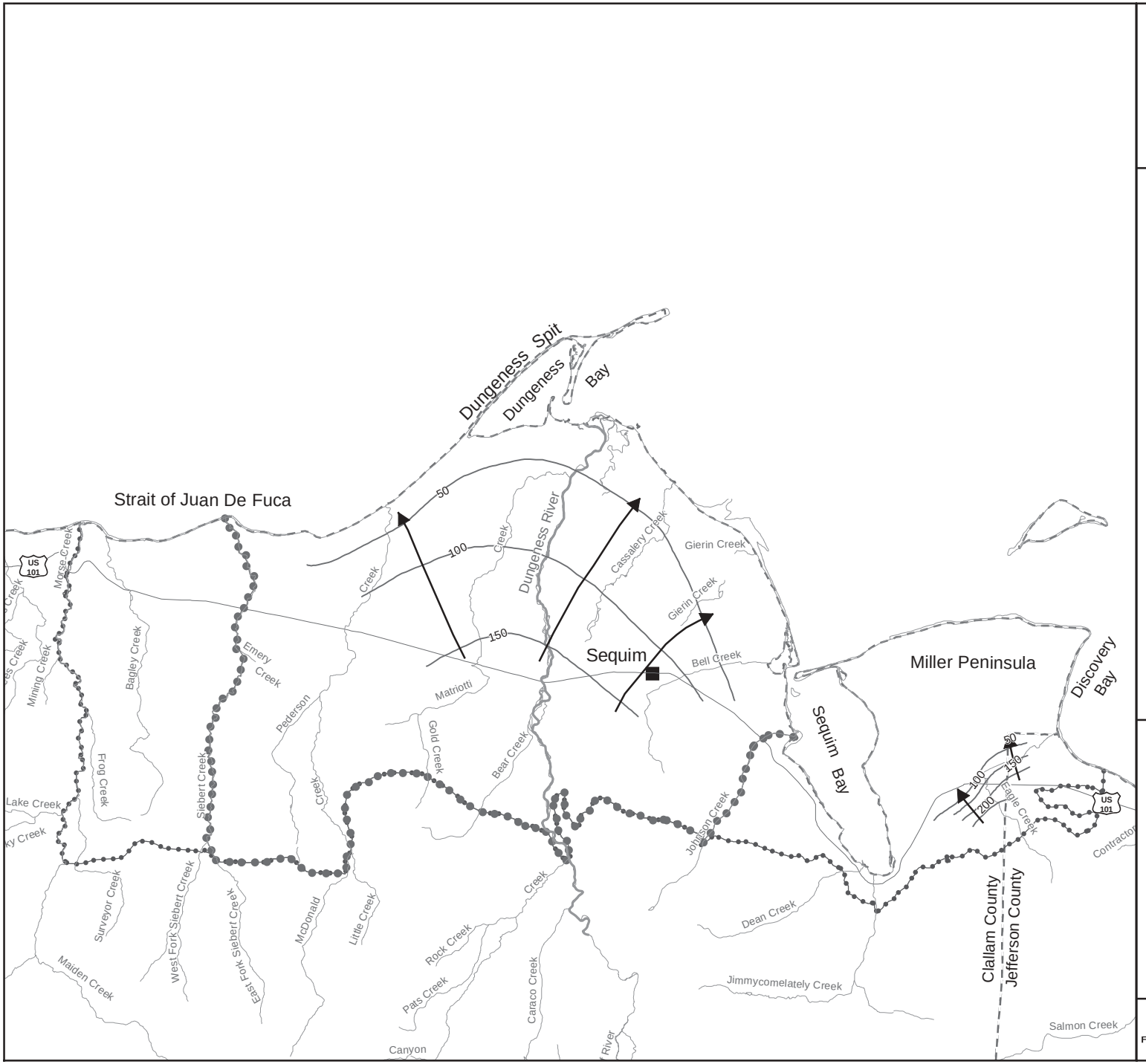

Figure 2-5. Intermediate Aquifer Potentiometric Surface for March 1996 (USGS, 1999)

Map Features

- Direction Of Groundwater Flow
- 100 — Potentiometric Contour - Shows approximate altitude of potentiometric surface. In feet above sea level. Contour interval 50 feet.
- Dungeness River
- Streams
- Road
- Primary USGS Study Area Boundary
- USGS Study Area Boundary
- County Boundary
- City Location

N

0 1 2 4
Miles

Location Map

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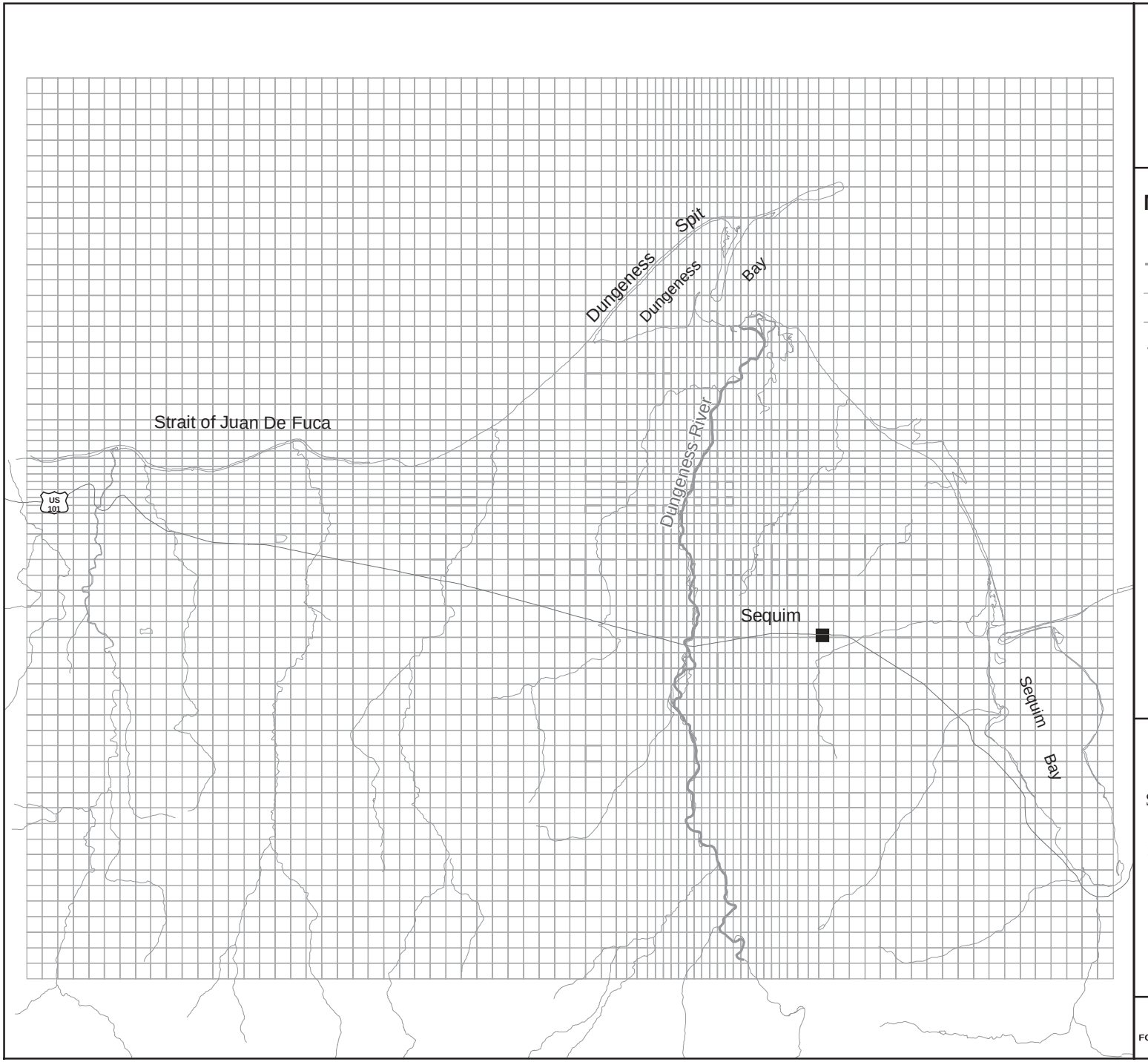
Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\IntermediateAquiferPotentiometricSurface_Mar1996.mxd Date: April 21, 2003

Figure 3-1.
Model Grid



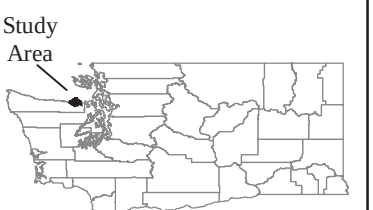
Map Features

- Dungeness River
- Streams
- Road
- County Boundary
- City Location

N

0 1 2 4
Miles

Location Map



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Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\Fig3-1_Model_Grid.mxd Date: April 21, 2003

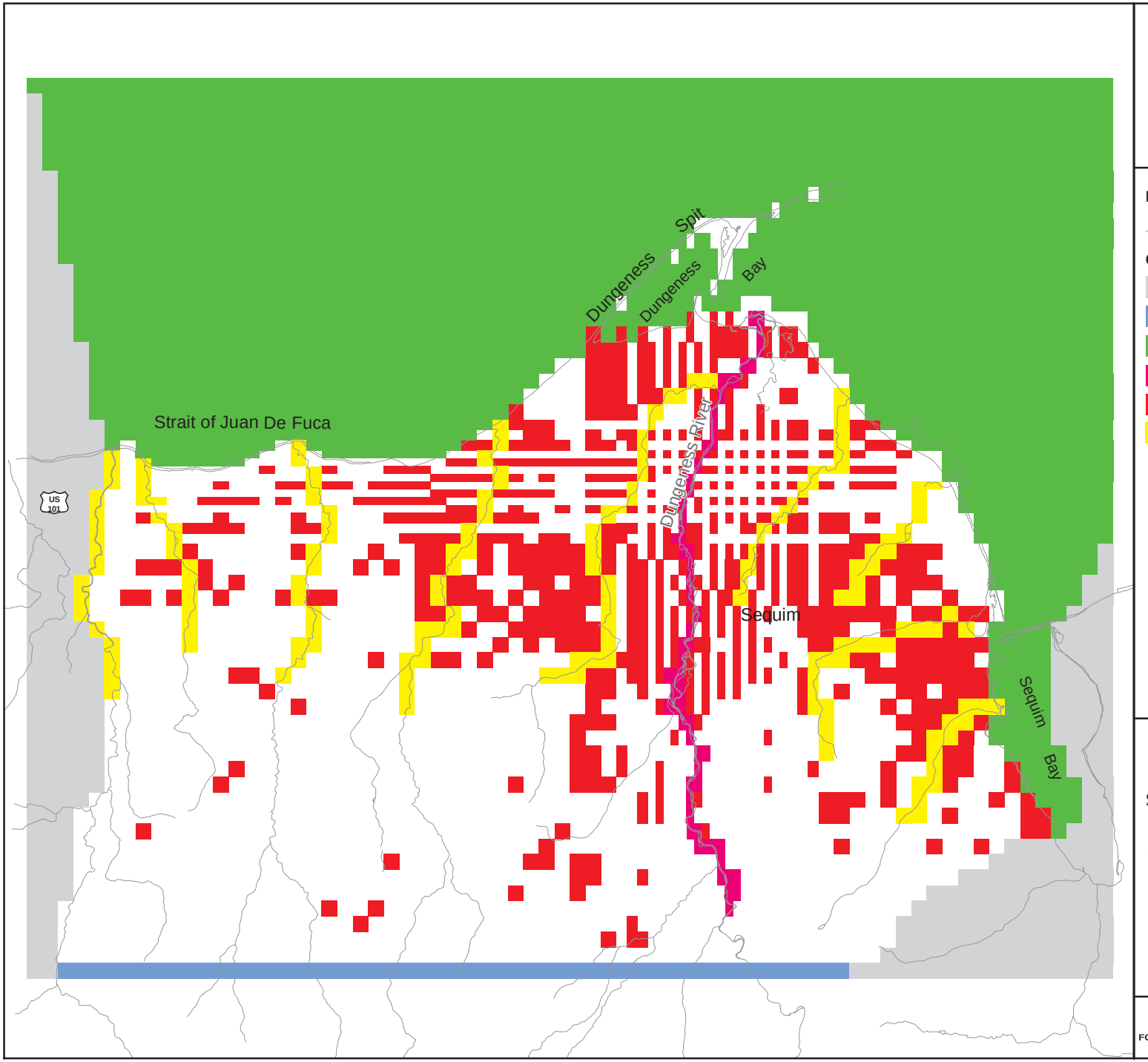


Figure 3-2.
Layer 1 Boundary Conditions

Map Features

Streams

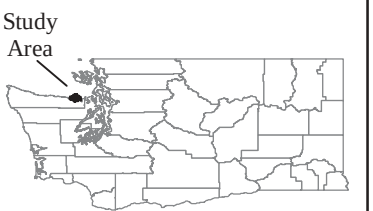
Grid Cell Boundary Conditions

- No Flow Cells
- Constant Heads
- Offshore Drains
- Dungeness River Stream Cells
- Extraction Wells
- Stream Drains

N

0 1 2 4
Miles

Location Map



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Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\Layer1_BoundaryConditions.mxd Date: April 21, 2003

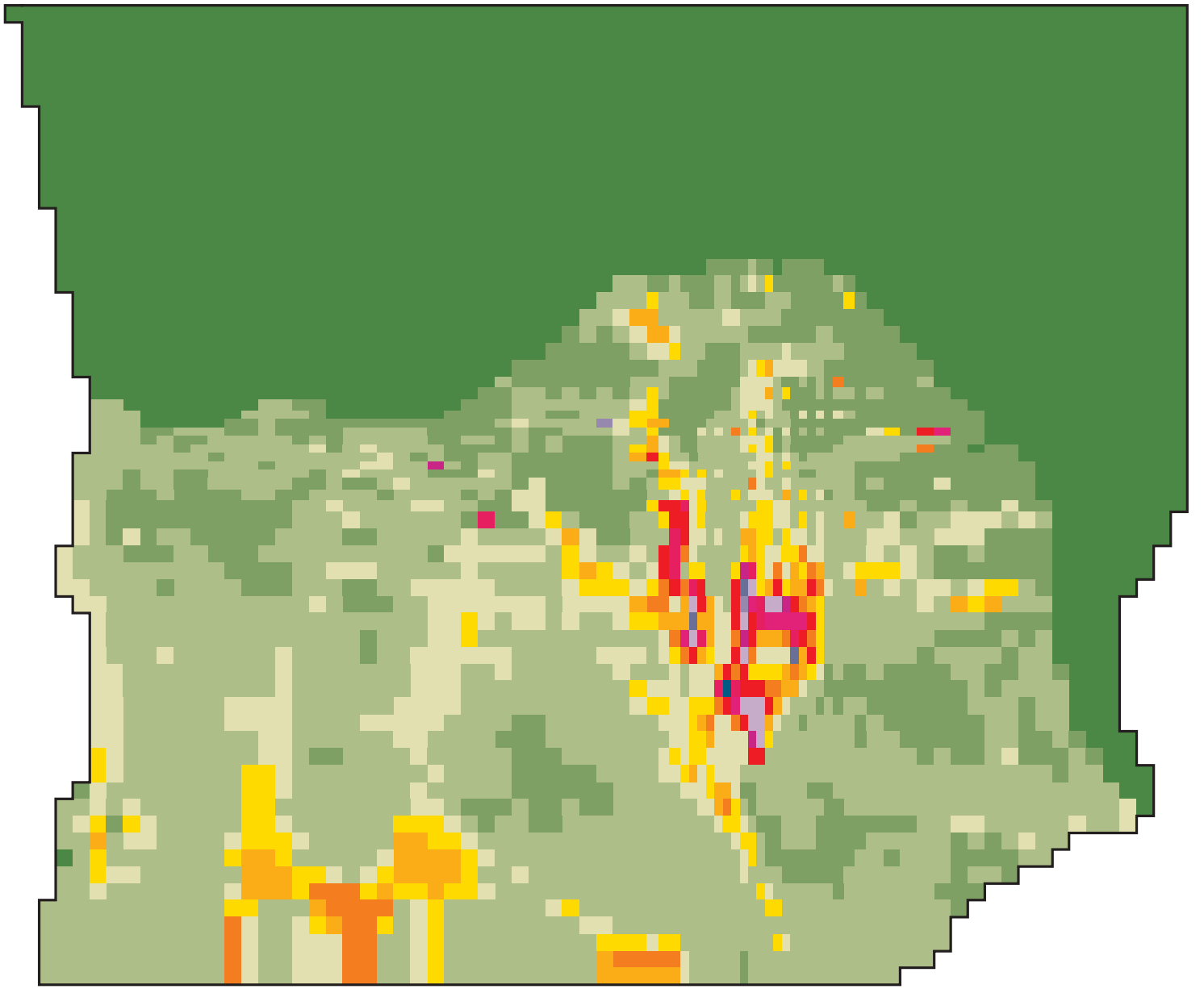


Figure 3-3.
Recharge Zones for
Layer 1 of Steady
State Model

Map Features

Model Boundary

Recharge Zones Layer 1 (in/day)

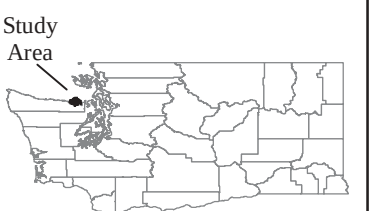
- 0.00
- 0.01 - 0.02
- 0.03 - 0.04
- 0.05 - 0.06
- 0.07 - 0.08
- 0.09 - 0.10
- 0.11 - 0.12
- 0.13 - 0.14
- 0.15 - 0.16
- 0.17 - 0.18
- 0.19 - 0.20
- 0.21 - 0.25
- 0.26 - 0.30
- 0.31 - 0.35
- 0.36 - 0.40

N

0 1 2 4

Miles

Location Map



FOSTER WHEELER
FOSTER WHEELER ENVIRONMENTAL CORPORATION

Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\RechargeZones_Layer1.mxd Date: April 21, 2003

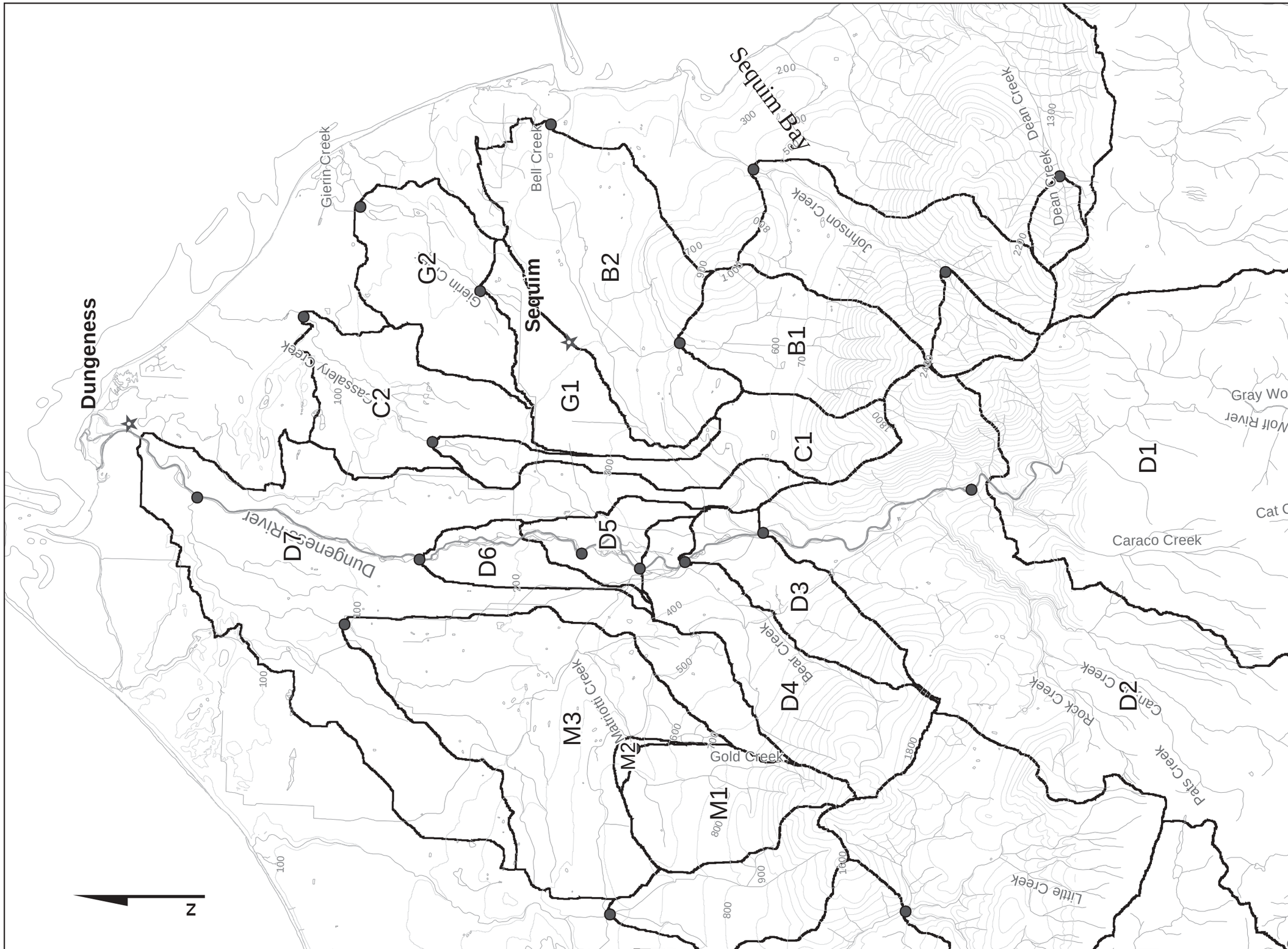


Figure 3-5
Watershed Pour Point Locations Used for Tributary Input to Dungeness River Stream Package.

Map Features

- Pour Points
- City Location
- 100 Foot Contour
- Dungeness River
- Streams
- Watershed Boundary

0 0.5 1 2
Miles

Location Map

Study Area

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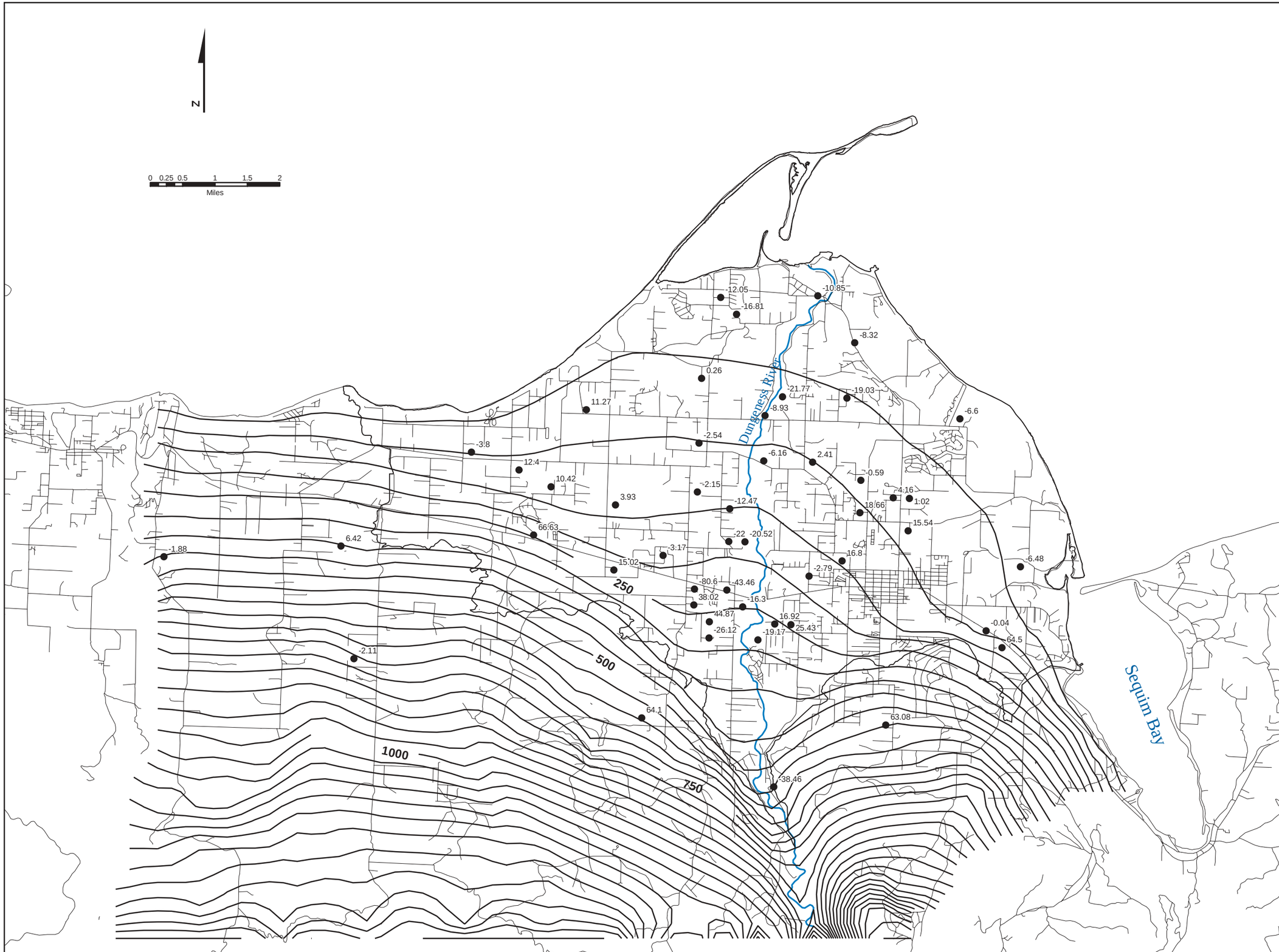
Q:\projects_2002\dungeness\workdir\maps\Dungeness_RiverReport_April2003\PourPoint_Locations_11x17.mxd Date: April 24, 2003

Figure 4-1. Model Predicted Hydraulic Heads and Target Residuals for Layer 1 - Cal17



Legend

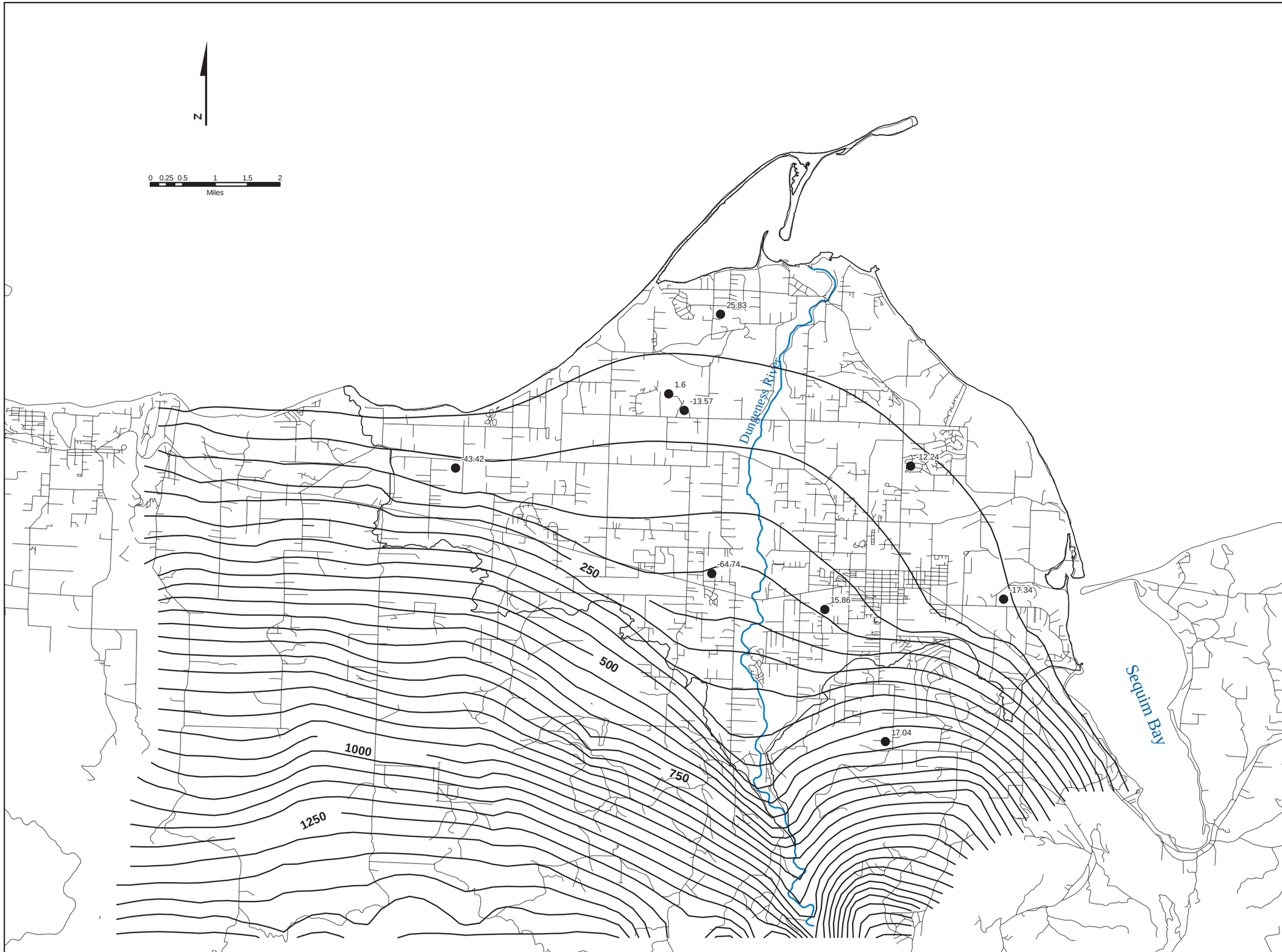
- Roads
- EIS Boundary
- Dungeness River
- Hydraulic Head Contours - 50-ft intervals
- -16.02 Target Residuals (ft) (Negative indicates high computation, positive indicates low)

Location Map

TETRA TECH FW, INC.

Q:\projects_2002\dungeness\workdir\maps\maps_june2003\predicted_layer1_cal17.mxd

Figure 4-2. Model Predicted Hydraulic Heads and Target Residuals for Layer 3 - Cal17



Legend

- Roads
- EIS Boundary
- Dungeness River
- Hydraulic Head Contours - 50-ft intervals
- -16.02 Target Residuals (ft) (Negative indicates high computation, positive indicates low)

Location Map

TETRA TECH FW, INC.

Q:\projects_2002\dungeness\workdir\maps\maps_june2003\predicted_layer3_cal17.mxd

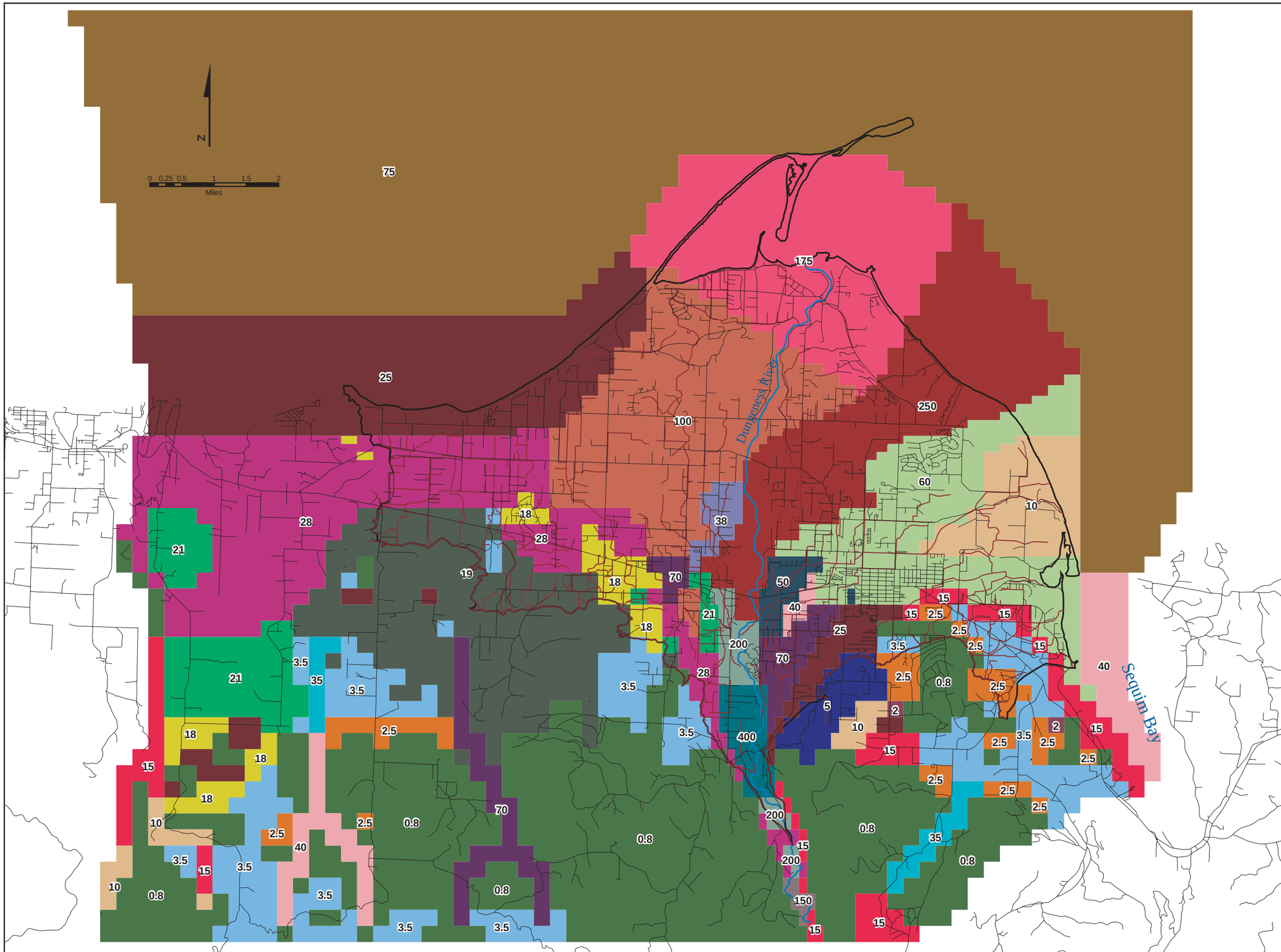


Figure 4-3.
Layer 1
Hydraulic Conductivity
Zones for Cal 17

Legend

- Roads
- Irrigation Ditches
- EIS Boundary
- Dungeness River

Kx

0.8, 2, 2.5, 3.5, 5, 10, 15, 18, 19, 21, 25, 28, 35, 38, 40, 50, 60, 70, 75, 100, 150, 175, 200, 250, 400

Location Map

Study Area

TETRA TECH FW, INC.

Q:\projects_2002\dungeness\workdir\maps\maps_jan2003\recharge_hydro.mxd

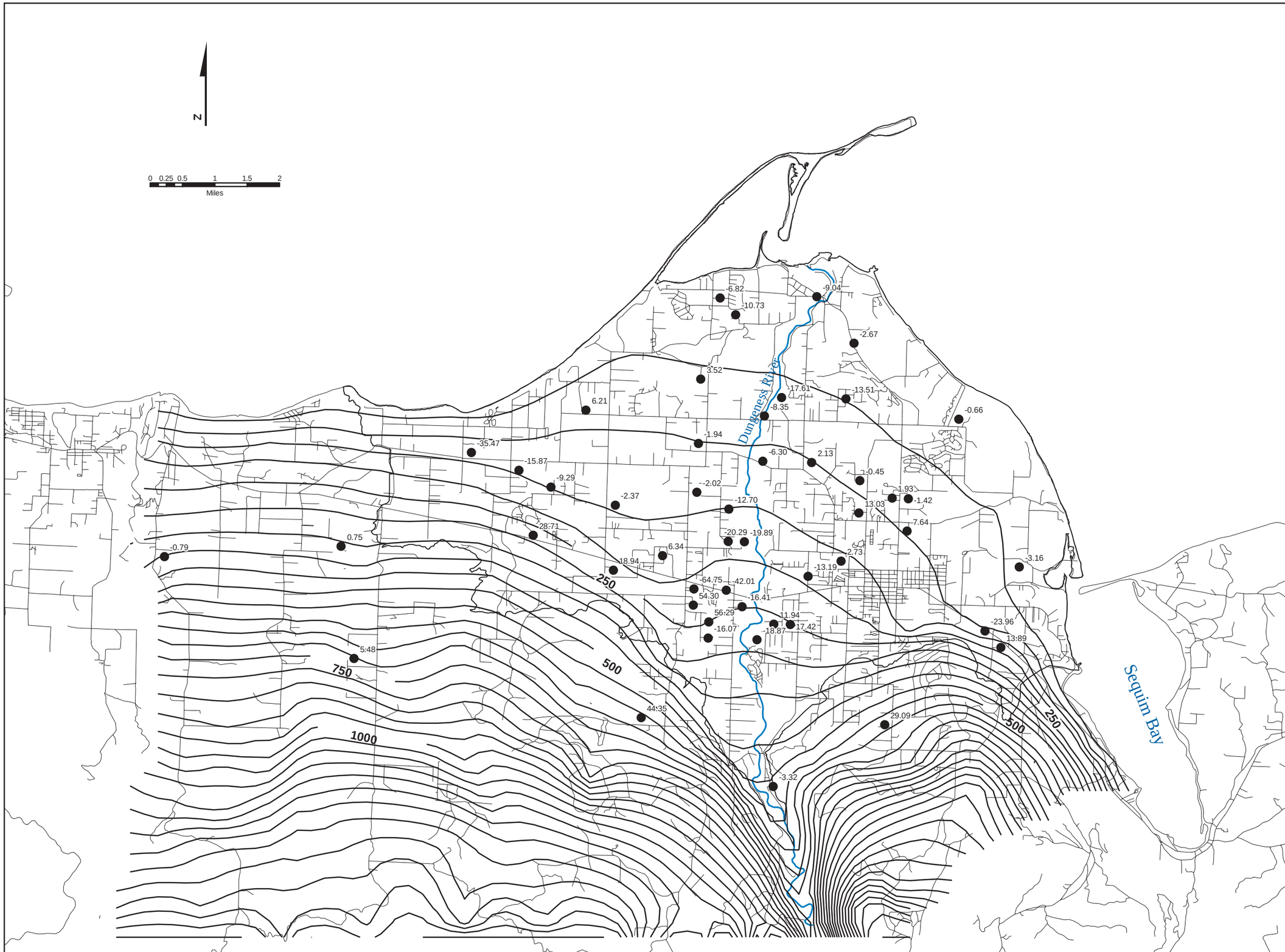


Figure 4-4. Model Predicted Hydraulic Heads and Target Residuals for Layer 1 - Cal24

Legend

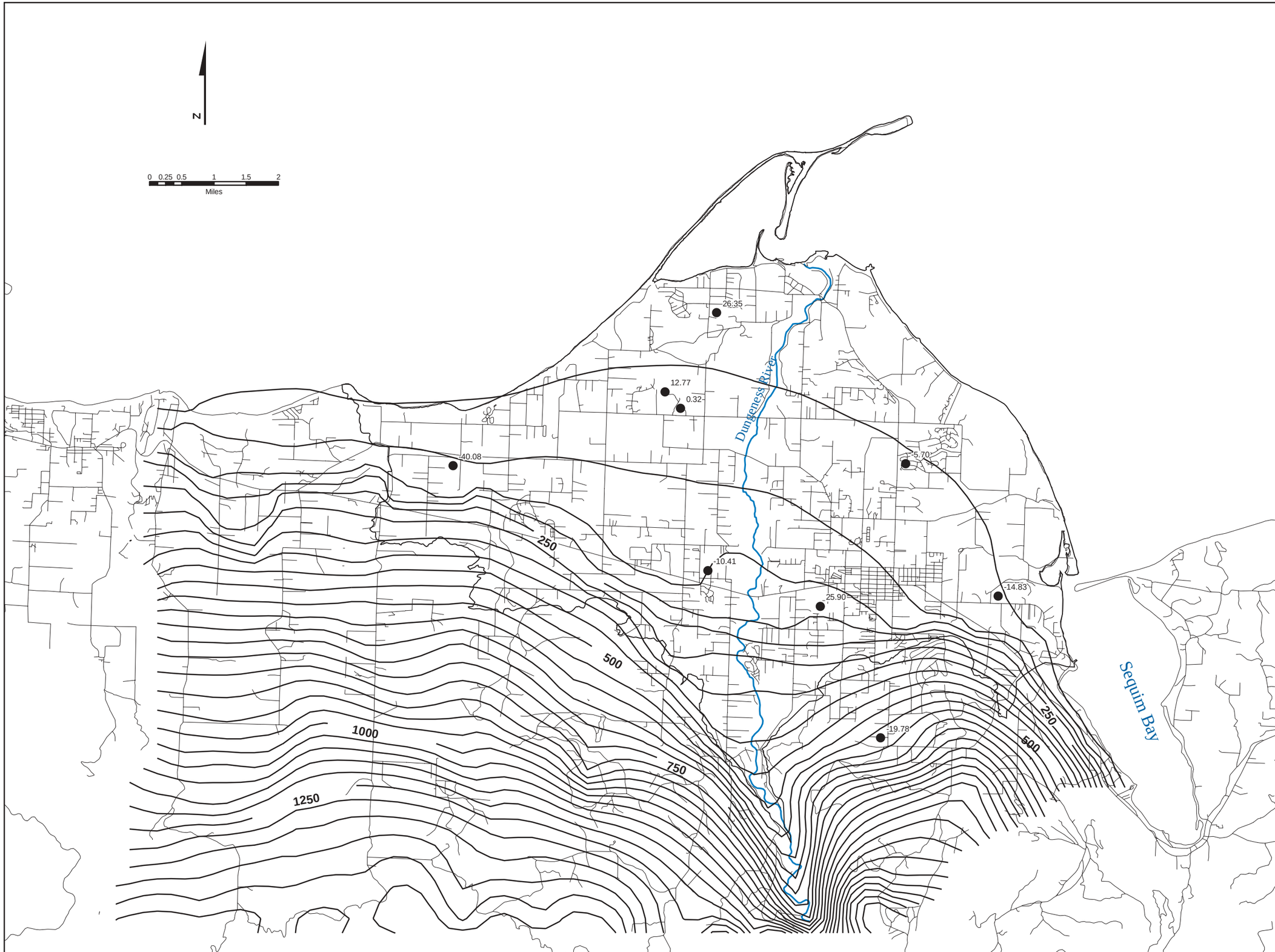
- Roads
- EIS Boundary
- Dungeness River
- Hydraulic Head Contours - 50-ft intervals
- -16.02 Target Residuals (ft) (Negative indicates high computation, positive indicates low)

Location Map

TETRA TECH FW, INC.

Q:\projects_2002\dungeness\workdir\maps\maps_june2003\predicted_layer1_cal24.mxd

Figure 4-5. Model Predicted Hydraulic Heads and Target Residuals for Layer 3 - Cal24



Legend

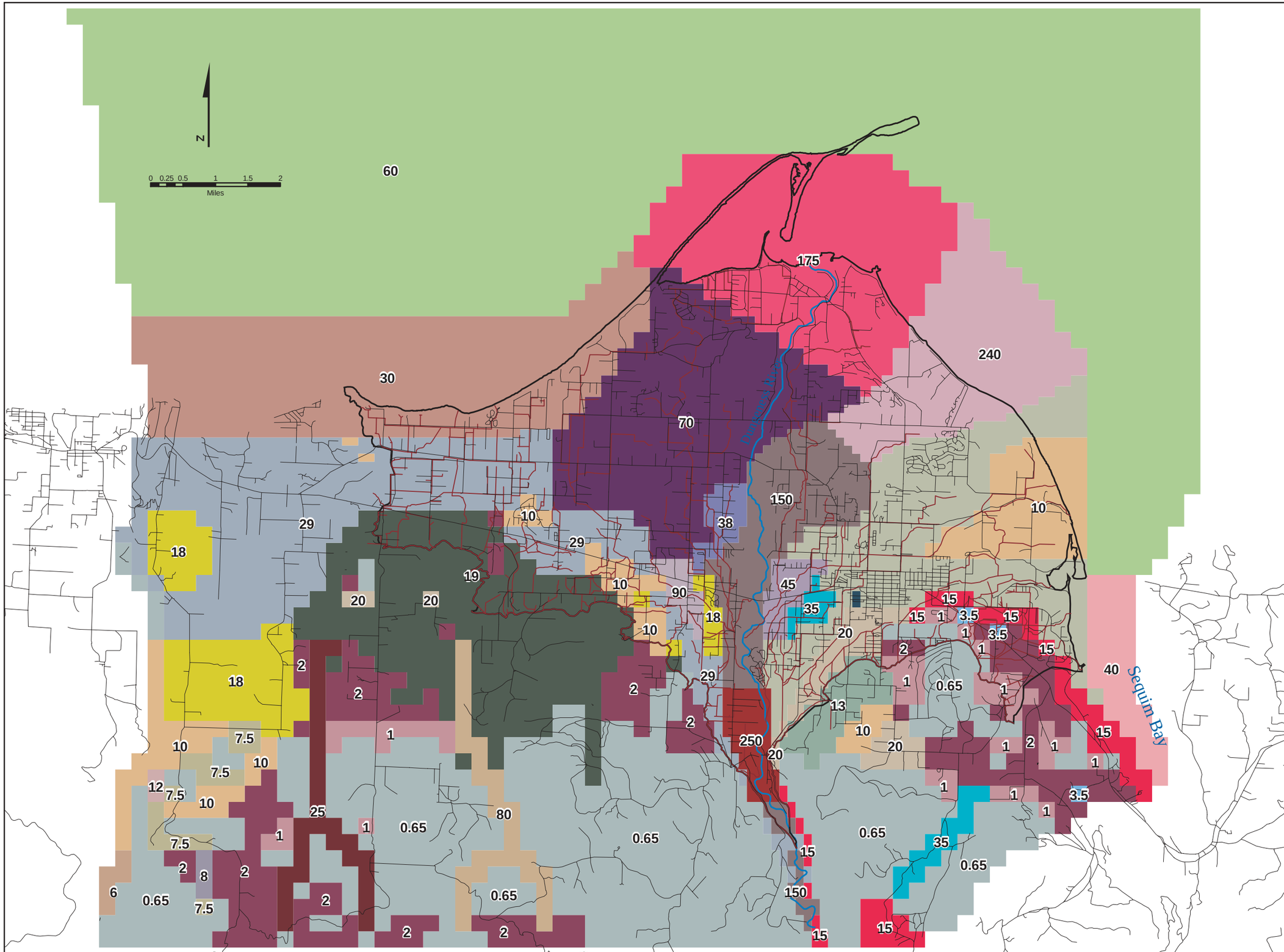
- Roads
- EIS Boundary
- Dungeness River
- Hydraulic Head Contours - 50-ft intervals
- -16.02 Target Residuals (ft) (Negative indicates high computation, positive indicates low)

Location Map

TETRA TECH FW, INC.

Q:\projects_2002\dungeness\workdir\maps\maps_june2003\predicted_layer3_cal24.mxd

Figure 4-6.
Layer 1
Hydraulic Conductivity
Zones for Cal 24



Legend

- Roads
- Irrigation Ditches
- EIS Boundary
- Dungeness River

Kx

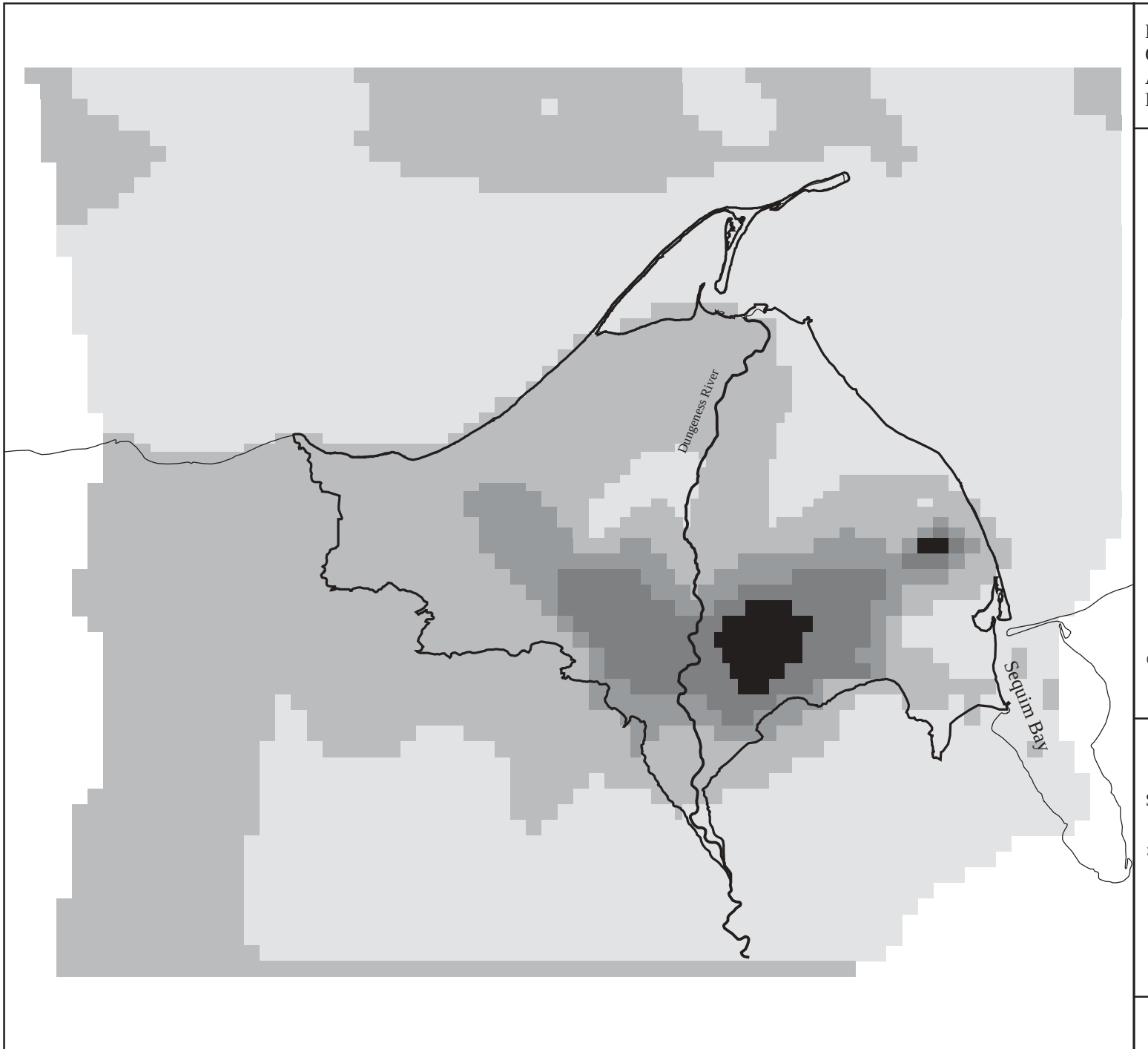
0.65, 1, 2, 2.5, 3.5, 6, 7.5, 8, 10, 12, 13, 15, 18, 19, 20, 25, 29, 30, 35, 38, 40, 45, 50, 55, 60, 70, 80, 90, 150, 175, 240, 250

Location Map

TETRA TECH FW, INC.

Q:\projects_2002\dungeness\workdir\maps\maps_jan2003\recharge_hydro_cal24.mxd

Figure 5-1
Comparison of Alternative 1 to Alternative 2 Simulation Head Differences: Cal17 Minus Cal24



TETRA TECH FW, INC.

Q:\projects_2002\dungeness\workdir\maps\maps_june2003\layer1_head_diff.mxd