

February 1, 2000
AESI Project No. BV97016D

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Mr. Roger Nye
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

Subject: Quarterly Ground Water Level Measurements
C1 (Qva) Monitoring Well Network
Ground Water Study
Seattle-Tacoma International Airport

Dear Roger,

The attached submittal contains the first and second quarter of ground water level measurements collected from select wells completed in the C1 (Qva) aquifer at Seattle-Tacoma International Airport. The first quarter data were previously included in the Conceptual Flow Boundary Model Presentation package that was delivered to you on December 8, 1999. This submittal conforms with the reporting requirements of Agreed Order #97TC-N122, Section IV – Work to be Performed, Item 2.

The proposed monitoring well network was approved by you in mid-September 1999 prior to the first quarterly measurement event which occurred on September 23, 1999. Six pressure transducers were installed in select wells located within the Aircraft Operations and Maintenance Area (AOMA) and have been collecting water level data every six hours since September 29, 1999. The second quarterly measurement event took place on December 21, 1999. The third and fourth measurement events are scheduled for March 22, 2000 and June 21, 2000, respectively.

If you have any questions regarding this data or require additional information please call me at (206) 780-9370.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Bainbridge Island, Washington



John Strunk
Associate Geologist

AR 044214

Mr. Roger Nye
Department of Ecology
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cc: Paul Agid, Port of Seattle
Mike Riley, S.S. Papadopoulos & Associates, Inc.
Mike Staton, Maul Foster & Alongi, Inc.

Enc: 1st & 2nd Quarter Ground Water Level Measurements
Figure 1 - 1st Quarter Ground Water Flow Direction Map
Figure 2 - 2nd Quarter Ground Water Flow Direction Map
Figure 3 - Ground Water Elevation Measurements (Transducer) Plot
Figure 4 - Measured Ground Water Elevations (Transducer & Manual Readings) Plot

**STIA Ground Water Study
Ground Water Level Monitoring Well Network**

**1st Quarterly Water Level Monitoring Event
September 23, 1999**

Well ID	Database ID	Study Area	Well Owner	Date & Time	Reference Elevation (ft)	SWL Depth (ft)	SWL Elevation (ft)
MW-E	UNFUF_MW-E_1001	United Airlines Fuel Farm	United Airlines	09/23/1999 9:30	373.71	64.44	309.27
CMW-7	UNFHS_CMW-7_0758	United Airlines Former Hanger Site	Port of Seattle	09/23/1999 12:00	391.93	83.68	308.25
CMW-8	UNFHS_CMW-8_0758	United Airlines Former Hanger Site	Port of Seattle	09/23/1999 15:15	392.22	83.84	308.38
HZ-13	RACFT_HZ-13_0970	RAC Auto Facility (Hertz/National/Avis)	RAC	09/23/1999 12:40	349.29	34.35	314.94
HZ-16	RACFT_HZ-16_0970	RAC Auto Facility (Hertz/National/Avis)	RAC	09/23/1999 13:00	351.23	42.42	308.81
MW-2	BDGPL_MW-2_0863	Budget Auto Facility	Budget Rental	09/23/1999 10:05	343.89	35.77	308.12
MW-7	BDGPL_MW-7_0863	Budget Auto Facility	Budget Rental	09/23/1999 10:15	349.74	43.81	305.93
MW-6	GATB2_MW-6_0625	Gate B2	Port of Seattle	09/23/1999 11:25	379.56	73.02	306.54
MW-2A	NWFHT_MW-2A_0679	Northwest Airlines Hanger Tanks	Northwest Airlines	09/23/1999 12:18	377.91	57.19	320.72
MW-1	NWBFF_MW-1_0650	North West Airlines Fuel Farm	Northwest Airlines	09/23/1999 12:30	377.53	53.82	323.71
SSW-2	NWHS2_SSW-2_0699	North West Airlines Hydrant Line	Northwest Airlines	09/23/1999 11:40	375.71	56.74	318.97
MW-3	PAFFFF_MW-3_0713	Pan American Fuel Farm	Port of Seattle	09/23/1999 11:05	360.76	48.40	312.36
DEL-15	DELAG_DEL-15_0610	Delta Airlines Auto-Gas Cluster Tanks	Delta Airlines	09/23/1999 10:54	368.15	46.84	321.31
MWE-05	IWLSG_MWE-5_2001	Industrial Waste System Lagoon 1 & 2	Port of Seattle	09/23/1999 14:45	357.59	52.81	304.78
MWE-07	IWLSG_MWE-7_2001	Industrial Waste System Lagoon 1 & 2	Port of Seattle	09/23/1999 14:33	329.10	26.78	302.32
HC99_B-32	GTRUN_B32_2087	3rd Runway	Port of Seattle	09/23/1999 14:15	269.40	5.15	264.25
HC99_B-33	GTRUN_B33_2087	3rd Runway	Port of Seattle	09/23/1999 14:00	262.80	4.02	258.78
HC99_B-41	GTRUN_B41_2087	3rd Runway	Port of Seattle	09/23/1999 13:32	309.00	24.25	284.75
HC99_B-46	GTRUN_B46_2087	3rd Runway	Port of Seattle	09/23/1999 13:45	330.80	24.92	305.88
B-8	GTRUN_B8_2063	3rd Runway	Port of Seattle	09/23/1999 14:25	413.00	48.31	364.69

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**STIA Ground Water Study
Ground Water Level Monitoring Well Network**

**2nd Quarterly Water Level Monitoring Event
December 21, 1999**

Well ID	Database ID	Study Area	Well Owner	Date & Time	Reference Elevation (ft)	SWL Depth (ft)	SWL Elevation (ft)
MW-E	UNFUF_MW-E_1001	United Airlines Fuel Farm	United Airlines	12/21/1999 9:30	373.71	64.58	309.13
CMW-7	UNFHS_CMW-7_0758	United Airlines Former Hanger Site	Port of Seattle	12/21/1999 11:10	391.93	83.65	308.28
CMW-8	UNFHS_CMW-8_0758	United Airlines Former Hanger Site	Port of Seattle	12/21/1999 11:20	392.22	84.18	308.04
HZ-13	RACFT_HZ-13_0970	RAC Auto Facility (Hertz/National/Avis)	RAC	12/21/1999 10:08	349.29	34.54	314.75
HZ-16	RACFT_HZ-16_0970	RAC Auto Facility (Hertz/National/Avis)	RAC	12/21/1999 9:58	351.23	41.47	309.76
MW-2	BDGPL_MW-2_0863	Budget Auto Facility	Budget Rental	12/21/1999 9:40	343.89	35.92	307.97
MW-7	BDGPL_MW-7_0863	Budget Auto Facility	Budget Rental	12/21/1999 9:50	349.74	43.98	305.76
MW-6	GATB2_MW-6_0625	Gate B2	Port of Seattle	12/21/1999 11:03	379.56	73.06	306.50
MW-2A	NWFHT_MW-2A_0679	Northwest Airlines Hanger Tanks	Northwest Airlines	12/21/1999 10:28	377.91	57.38	320.53
MW-1	NWBFF_MW-1_0650	North West Airlines Fuel Farm	Northwest Airlines	12/21/1999 10:21	377.53	54.06	323.47
SSW-2	NWHS2_SSW-2_0699	North West Airlines Hydrant Line	Northwest Airlines	12/21/1999 10:53	375.71	57.06	318.65
MW-3	PAFFF_MW-3_0713	Pan American Fuel Farm	Port of Seattle	12/21/1999 10:46	360.76	48.71	312.05
DEL-15	DELAG_DEL-15_0610	Delta Airlines Auto-Gas Cluster Tanks	Delta Airlines	12/21/1999 11:38	368.15	47.29	320.86
MWE-05	IWLSG_MWE-5_2001	Industrial Waste System Lagoon 1 & 2	Port of Seattle	12/21/1999 15:24	357.59	52.72	304.87
MWE-07	IWLSG_MWE-7_2001	Industrial Waste System Lagoon 1 & 2	Port of Seattle	12/21/1999 15:15	329.10	26.67	302.43
HC99_B-32	GTRUN_B32_2087	3rd Runway	Port of Seattle	12/21/1999 13:20	269.40	3.56	265.84
HC99_B-33	GTRUN_B33_2087	3rd Runway	Port of Seattle	12/21/1999 13:15	262.80	1.86	260.94
HC99_B-41	GTRUN_B41_2087	3rd Runway	Port of Seattle	12/21/1999 13:34	309.00	22.72	286.28
AT97_B59	GTRUN_B59_2063	3rd Runway	Port of Seattle	12/21/1999 14:25	314.31	14.66	299.65
HC99_B-46	GTRUN_B46_2087	3rd Runway	Port of Seattle	12/21/1999 13:40	330.80	23.88	306.92
B-8	GTRUN_B8_2063	3rd Runway	Port of Seattle	12/21/1999 15:07	413.00	48.91	364.09

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DATE
12/07/99
DESIGNED BY
JJS/HXT

Groundwater Flow Direction -
C1 Well Network @ 9/23/99
STIA Groundwater Study

FIGURE NO.
BV97016
PROJECT NO.

LEGEND

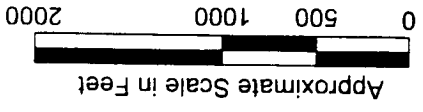
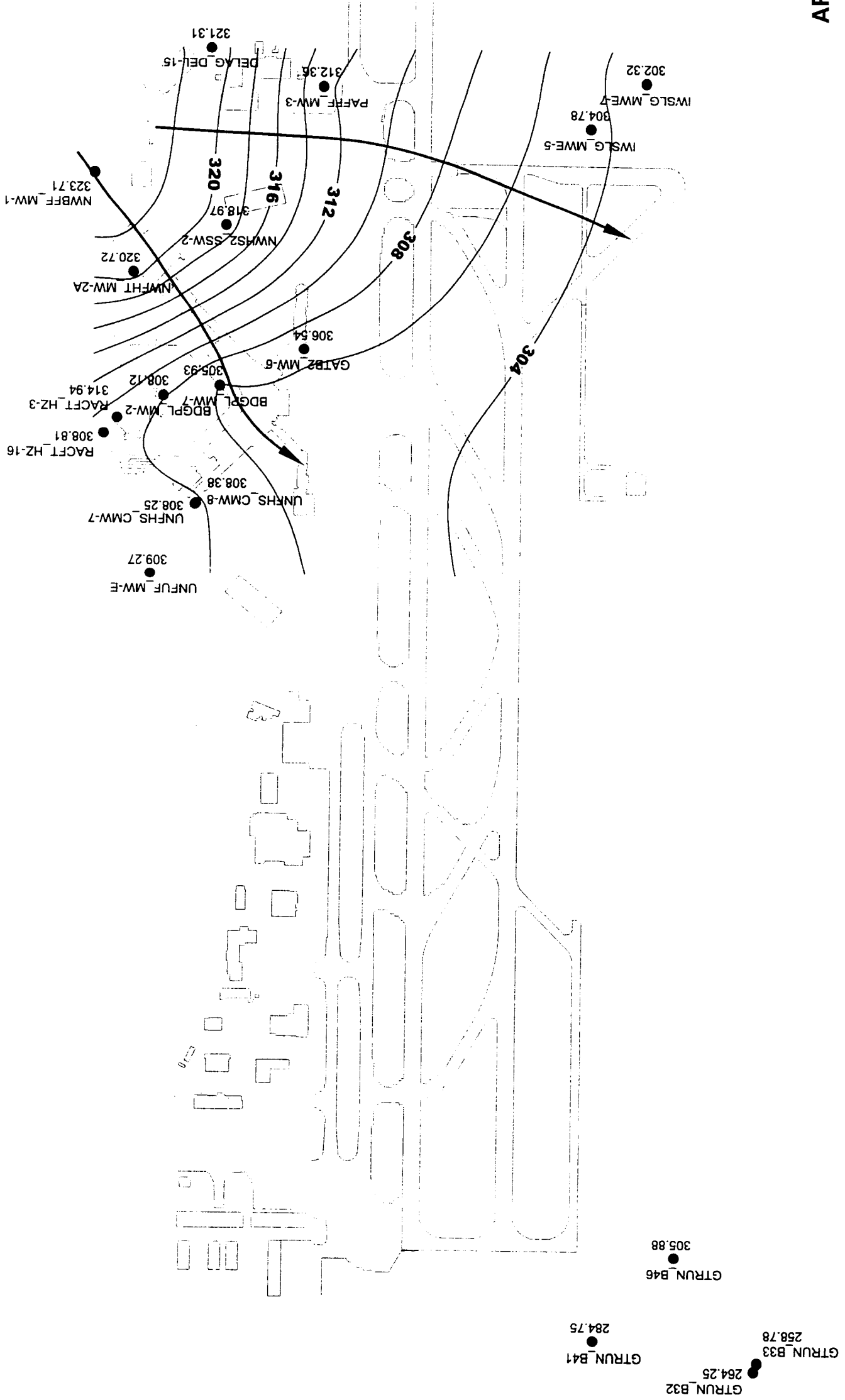
JWSLG-MWE-5

304.78

Groundwater Elevation (feet, STIA Datum)
measured on 9/23/99

Groundwater Flow Directions

AR 044218





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12/28/99
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GJC/HXT

Groundwater Flow Direction -
C1 Well Network @ 12/21/99
STIA Groundwater Study

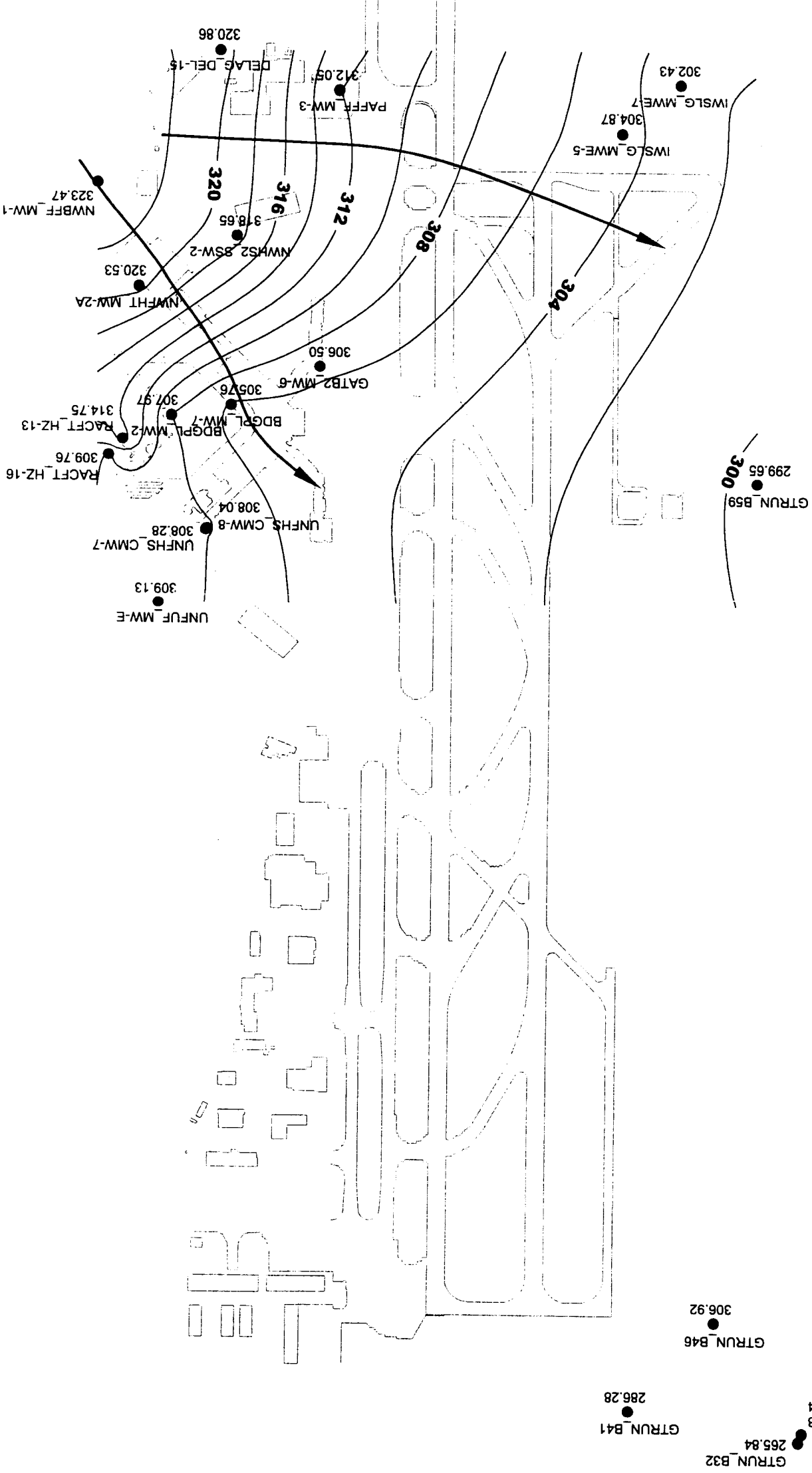
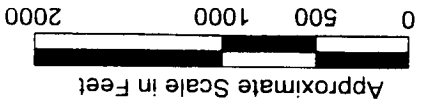
PROJECT NO.
BV97016
FIGURE NO.
2

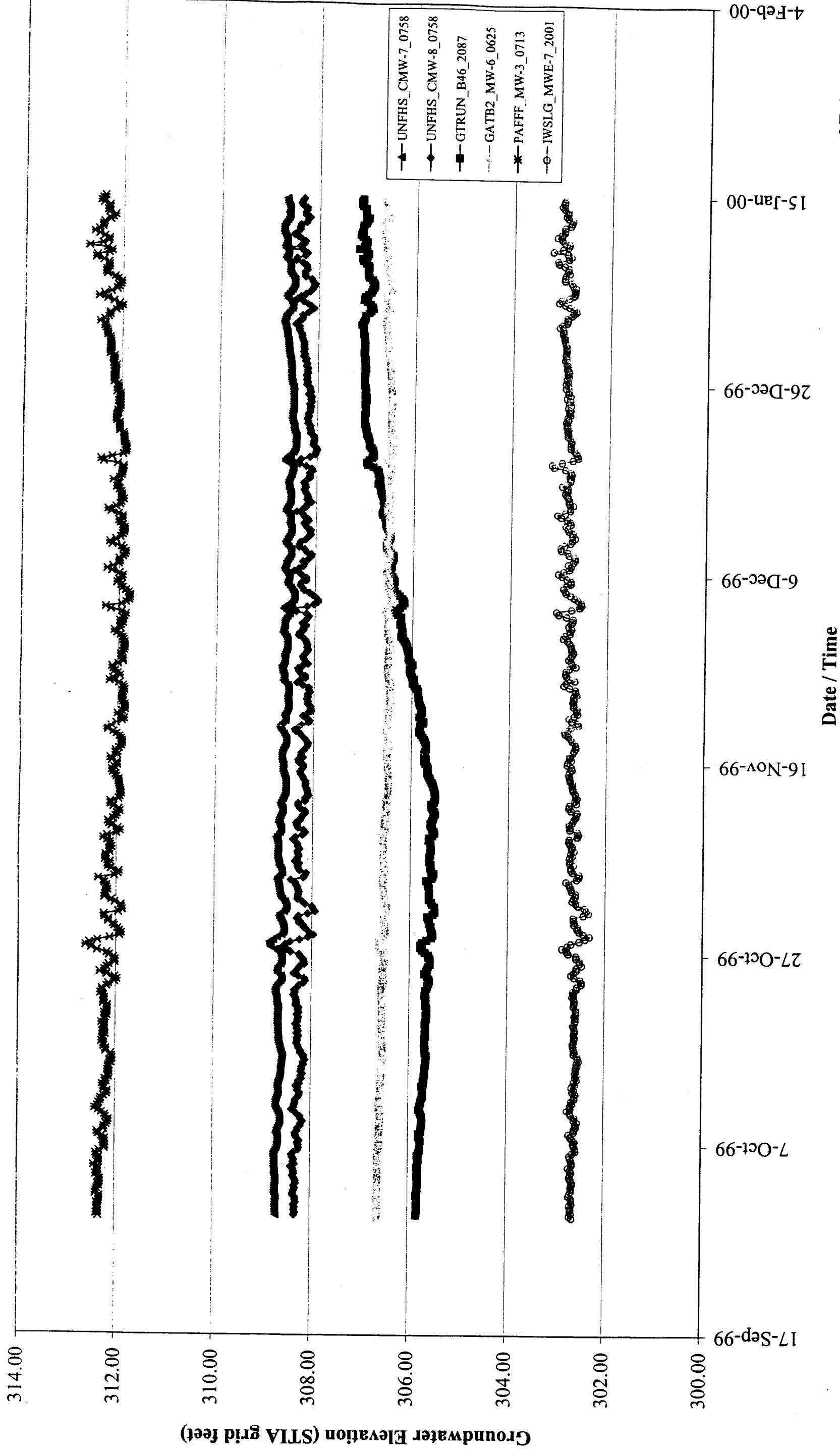
LEGEND

304.87
Groundwater Elevation (feet, STIA Datum)
measured on 12/21/99

Groundwater Flow Directions

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