DuPont Corporate Remediation Group
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March 28, 2012

Ms. Gloria Sosa
Western New York Remediation Section
New York Remediation Branch
Emergency and Remediation Response Division
U.S. Environmental Protection Agency–Region 2
290 Broadway, 20th Floor
New York, NY 10007-1866

Dear Ms. Sosa:

NECCO PARK FOURTH QUARTER 2011 DATA PACKAGE

Enclosed are three copies of the *Fourth Quarter 2011 (4Q11) Data Package* for the E. I. du Pont de Nemours and Company (DuPont) Necco Park Hydraulic Control System (HCS) in accordance with the approved Long Term Groundwater Monitoring Plan. The data package includes an operational summary, process sample analytical data, and figures showing potentiometric surface contours, and vertical gradients. The data package also includes a 4Q11 monitoring summary for dense non-aqueous phase liquid (DNAPL).

Pumping system uptime for 4Q11 was 86.5 percent. The total volume of groundwater treated was 3,167,844 gallons. Twelve (12) gallons of DNAPL were recovered during the period.

Please contact me at (716) 278-5496 if you have any questions or comments regarding this submittal.

Sincerely,

CORPORATE REMEDIATION GROUP

Paul F. Mazierski
Project Director

PFM/EAF
Enc.

cc: M. Hinton/NYSDEC
E. Felter/Parsons
Carol Luttrell/DuPont
T. Pezzino/URS

SOURCE AREA HYDRAULIC CONTROL SYSTEM
FOURTH QUARTER 2011
GROUNDWATER MONITORING DATA PACKAGE
DUPONT NECCO PARK
NIAGARA FALLS, NIAGARA COUNTY, NEW YORK

EPA ID No. NYD980532162

Prepared For:

DuPont Corporate Remediation Group

Buffalo Avenue and 26th Street
Niagara Falls, New York 14302

Prepared By:

PARSONS

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March 2012

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ATTACHMENT 1

Electronic Copy of Groundwater Elevation Data - Fourth Quarter 2011

SECTION 1

DATA PACKAGE SUMMARY

1.1 INTRODUCTION

This data package presents a summary of operating and monitoring data collected during the fourth quarter of 2011 (4Q11) for groundwater remediation measures at the E. I. du Pont de Nemours and Company (DuPont) Necco Park Site (Necco Park) in Niagara Falls, New York. Submission of this data package meets the reporting requirements defined in the agency-approved Long-Term Groundwater Monitoring Plan (LTGMP) and the Sampling, Analysis, and Monitoring Plan (SAMP), which are both incorporated into the DuPont Necco Park Operations and Maintenance Plan (DuPont Corporate Remediation Group 2005).

This data package is the 26th submitted since the 2005 startup of the Necco Park Hydraulic Control System (HCS) and includes a summary of operations for the pumping wells and the Groundwater Treatment Facility (GWTF). Included are figures depicting groundwater elevation contours for seven groundwater flow zones (Figures 1, 3, and 5 through 9) and groundwater elevation data (Appendix A). An electronic copy of the groundwater elevation data is provided as Appendix B.

Figure 2 presents the vertical gradient (in feet per foot [ft/ft]) for selected well pairs between the AT-Zone and A-Zone. Figure 4 presents the vertical gradient between the A-Zone and B-Zone. Vertical gradients are calculated by subtracting the elevation of the upper zone from the elevation of the lower zone and dividing the result by the difference in the elevation of the center of the well screen (for the AT-Zone and A-Zone wells) or the center of the open rock zone (for B-Zone wells).

1.2 OPERATIONAL SUMMARY

The following table provides a summary of average HCS uptime, total gallons of groundwater treated, and gallons of dense non-aqueous phase liquid (DNAPL) removed for 4Q11:

	HCS Uptime (%)	Groundwater Treated (gallons)	DNAPL Removed (gallons)
October	88.1%	1,126,562	0
November	93.6%	1,002368	12
December	77.7%	1,038,914	0
4Q11 Total	**86.5%**	**3,167,844**	**12**

System downtime is categorized into two groups: individual recovery well downtime and complete HCS system downtime. Table 1 summarizes individual recovery well downtime that exceeded a 48-hour period during 4Q11.

Scheduled downtime exceeding 48 hours in 4Q11 was limited to the acid tank inspection in October that required the shutdown of RW-5 (148.6 hours) and RW-11 (180.1 hours). During the acid tank inspection, downtime was limited by only turning off recovery wells when required. Limited acid addition to RW-5 was sufficient to extend operation time at that recovery well. There were four unscheduled recovery well downtime events that exceeded a 48-hour period during 4Q11. These were a result of adjusting process control logic to modify pH interlock response time. RW-5 was down for 52 hours in October. RW-4, RW-5, and RW-11 were down for 49.9 hours in November. RW-4, RW-5, and RW-11 were down for 60.1 hours in early December, and RW-11 was down for 51.8 hours in late December. The process settings were adjusted in late December to prevent further unscheduled shutdowns due to pH interlock.

There were approximately 56.7 hours of scheduled HCS downtime from December 21 to 23, 2011. This shutdown was used to complete repairs to the emission stack. During the 3Q2011 inspection, a deflection plate near the bottom of the stack (non-structural component) was found to be corroded. The corroded section was removed and successfully replaced. The remainder of the stack was in acceptable condition and will be inspected again in 2012.

There was no reportable unscheduled HCS downtime during 4Q11.

Table 2 provides an historical operations summary by quarter since HCS operations began.

Monthly DNAPL monitoring was completed on October 21, November 9, and December 22, 2011. Three feet of DNAPL were observed in RW-5 during the November monitoring, and approximately 12 gallons of DNAPL were removed. Trace DNAPL was noted in well 204C during all three months in the quarter.

1.3 GWTF PROCESS SAMPLING

In accordance with the SAMP, GWTF influent samples (from B/C-Zone and D/E/F-Zone) and a combined effluent sample were collected in 4Q11. Samples were collected by TestAmerica Laboratories of Amherst, New York, on November 9, 2011, and shipped to the TestAmerica Laboratories in North Canton, Ohio, for analysis. Sample results for the process sampling are included in Appendix B.

1.4 POTW COMPLIANCE

As required by the publicly-owned treatment works (POTW) discharge permit for Necco Park, the GWTF discharge is sampled and reported quarterly to the Niagara Falls Water Board. The Necco Park 4Q11 wastewater samples were collected on September 28, 2011. There were no permit limit exceedances for the quarter. The Necco POTW discharge permit was renewed in May 2009 and remains valid through May 1, 2014.

SECTION 2

REFERENCES

DuPont Corporate Remediation Group. 2005. DuPont Necco Park Operations and Maintenance Plan. November 11, 2005.

TABLES

Table 1
Individual Well Shutdown Summary for 4Q11
DuPont Necco Park

	Well ID	Date(s)	Length of Shutdown (hours)	Reason for Shutdown	Remarks
October	5	Oct. 1st through 3rd	52	Process control logic adjustment caused pH interlock	Unscheduled
	5	Oct. 19th through 25th	148.6	Mandatory 5 year internal acid tank inspection	Scheduled. Uptime was maximized by only turning wells off when required, and by maintaining acid addition when possible.
	11	Oct. 16th through 25th	180.1	Mandatory 5 year internal acid tank inspection	Scheduled. Uptime was maximized by only turning wells off when required, and by maintaining acid addition when possible.
November	4,5,11	Nov 27th and 28th	49.9	Process control logic adjustment caused pH interlock	Unscheduled
December	4,5,11	Dec 4th and 5th	60.1	Process control logic adjustment caused pH interlock	Unscheduled
	11	Dec. 25th and 26th	51.8	Process control logic adjustment caused pH interlock	Unscheduled. Setting were adjusted to prevent further occurance.

Table 2
Historical HCS Operational Summary - 4Q11
DuPont Necco Park

Reporting Period	HCS Uptime (%)	HCS Uptime Excluding Scheduled Maintenance Downtime (%)	Groundwater Treated (Gallons)	DNAPL Removed (Gallons)
2Q05	97.3	97.6	3,349,590	73.5
3Q05	89.3	91.4	3,117,280	30
4Q05	93.6	96.5	3,225,819	0
1Q06	99.4	99.4	2,889,134	24
2Q06	97.5	98.1	3,486,835	74
3Q06	88.7	90.9	3,181,365	28
4Q06	91.0	93.8	2,787,745	25
1Q07	91.2	91.2	2,638,005	15
2Q07	93.8	94.2	2,882,064	52
3Q07	92.0	92.5	3,497,149	51
4Q07	91.2	92.0	2,697,915	35
1Q08	92.6	93.5	2,761,674	65
2Q08	95.9	95.9	2,902,261	279
3Q08	77.2	80.0	3,112,202	124
4Q08	70.3	72.2	3,468,710	44
1Q09	88.7	89.6	4,442,026	0
2Q09	95.0	95.0	4,117,084	0
3Q09	95.3	95.3	4,069,280	0
4Q09	95.8	95.8	3,663,740	0
1Q10	98.3	98.3	3,921,478	90
2Q10	77.0	100.0	3,259,485	0
3Q10	100.0	100.0	3,398,078	0
4Q10	93.8	99.1	3,195,727	0
1Q11	94.6	97.6	3,679,957	70
2Q11	89.6	89.6	3,370,066	48
3Q11	91.7	96.2	2,947,721	0
4Q11	86.5	91.4	3,167,844	12
TOTALS	**---**	**---**	**89,230,234**	**1,140**
AVERAGE	**91.4**	**93.6**	**---**	**---**

FIGURES

DUPONT NECCO PARK

119AT
573.13

129AT
573.16

184AT
570.85

185AT
570.87

186AT
570.86

187AT
571.07

180AT
571.71

188AT
571.59

189AT
571.64

190AT
571.63

191AT
571.73

192AT
570.67

193AT
576.23

194AT
573.97

572

571.5

573

572.5

571

575.5

575

574.5

574

573.5

CECOS SECURE CELLS

Scale: Feet

0 50 100 150 200

Contour Interval = 0.5 feet

Elevation datum feet AMSL

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Created by	RBP
Checked by	JWS
Project Manager	EAF
Job number: 445357.02023	

LEGEND

- 3B — Well ID
- Monitoring Well
- Pumping Well
- Potentiometric Contour
- Structure
- Road

Figure 1
Potentiometric Surface Map
DuPont Necco Park: AT-Zone
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011-11-09 NEC Contour Tool/2011-11-09 - AT PZ - F1.srf

DUPONT NECCO PARK

119AT/A
0.03

129AT/A
0.01

184AT/A
NA

185AT/A
0.16

186AT/A
-0.34

187AT/A
NA

188AT/A
-0.58

189AT/A
-0.51

190AT/A
-0.30

191AT/A
-0.06

192AT/A
0.03

193AT/A
NA

194AT/A
-0.23

CECOS SECURE CELLS

Scale: Feet

0 50 100 150 200

Negative value indicates downward vertical gradient

Elevation datum feet AMSL

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Created by:	RBP
Checked by:	JWS
Project Manager:	EAF
Job number: 445357.02023	

LEGEND

3B Well ID

Monitoring Well

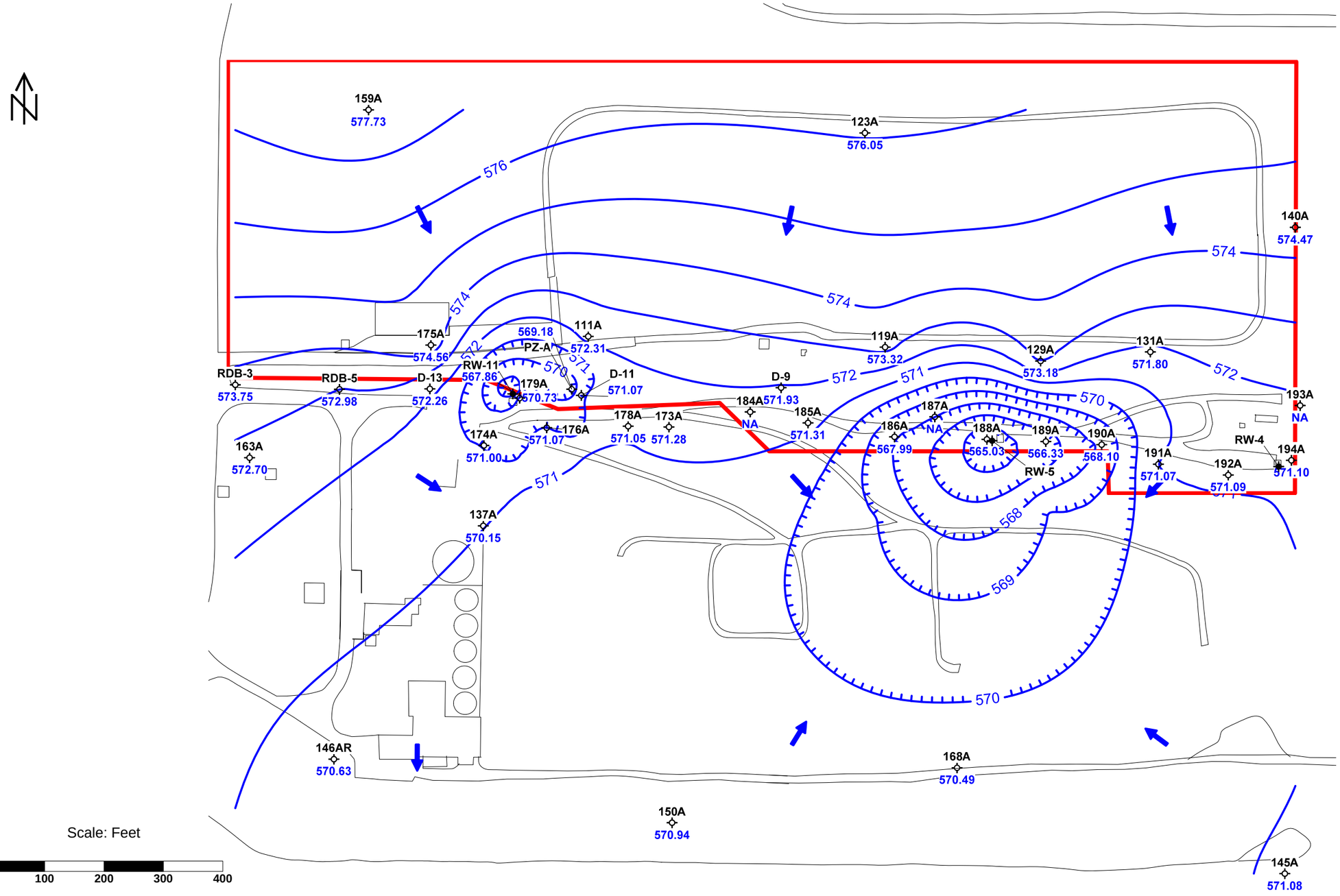
Pumping Well

Structure

Road

Figure 2
Vertical Gradient: AT-Zone to A-Zone
DuPont Necco Park
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011-11-09 NEC Contour Tool/2011-11-09 - ATAvgrad - F2.srf



Scale: Feet

0 100 200 300 400

Contour Interval = 1 foot **Elevation datum feet AMSL**

Note: Wells 117A and 139A were not used in the contouring.

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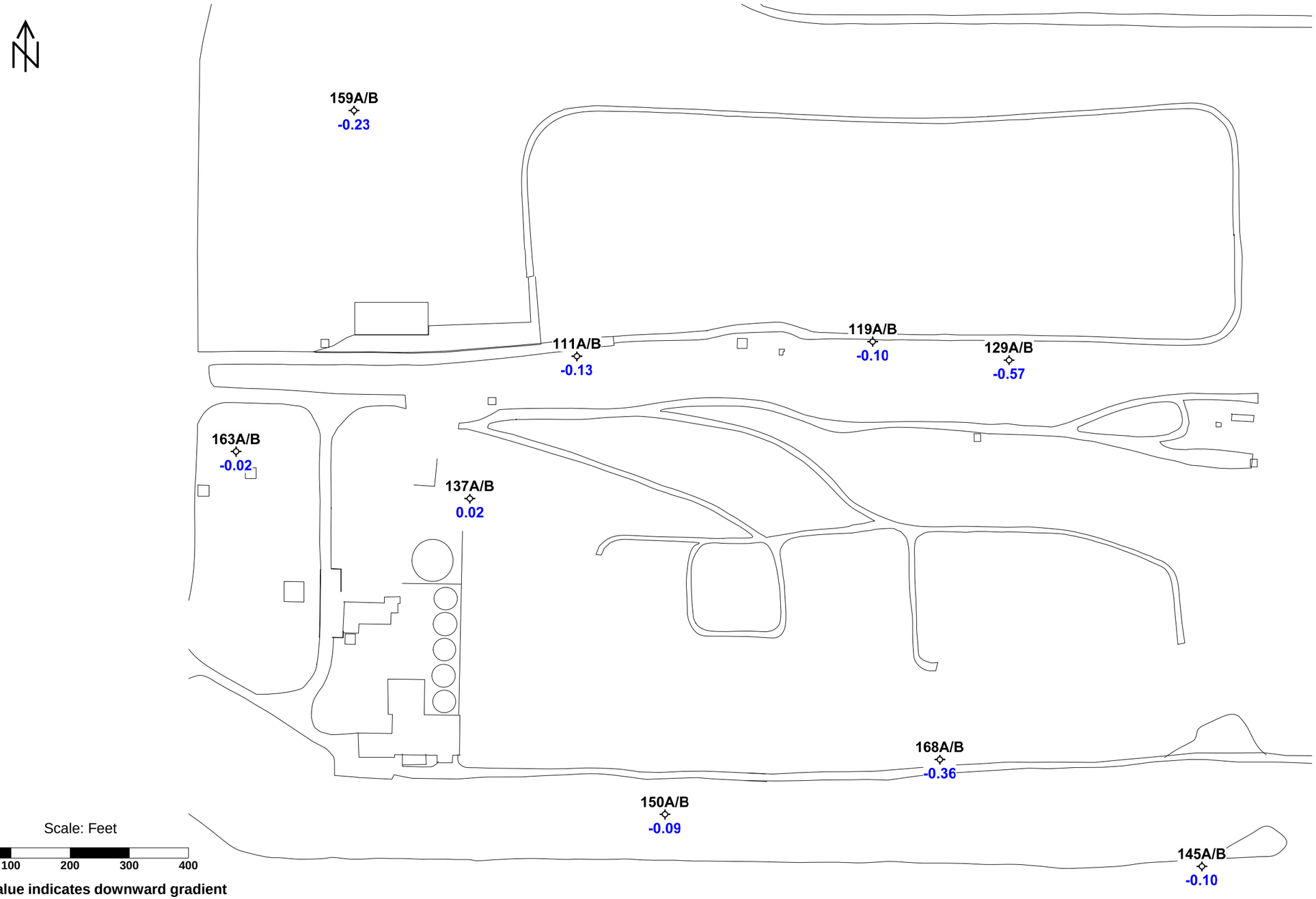
Checked by: JWS	Date:	01-13-12
Project Manager: EAF	Date:	01-13-12
Job number: 445357.02023		

LEGEND

3B	Well ID	Potentiometric Contour	Source Area Extent
	Monitoring Well	Structure	
	Pumping Well	Road	

Figure 3
Potentiometric Surface Map
DuPont Necco Park: A-Zone
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011-11-09 NEC Contour Tool/2011-11-09 - A PZ - F4.srf



Scale: Feet

0 100 200 300 400

Negative value indicates downward gradient

Elevation datum feet AMSL

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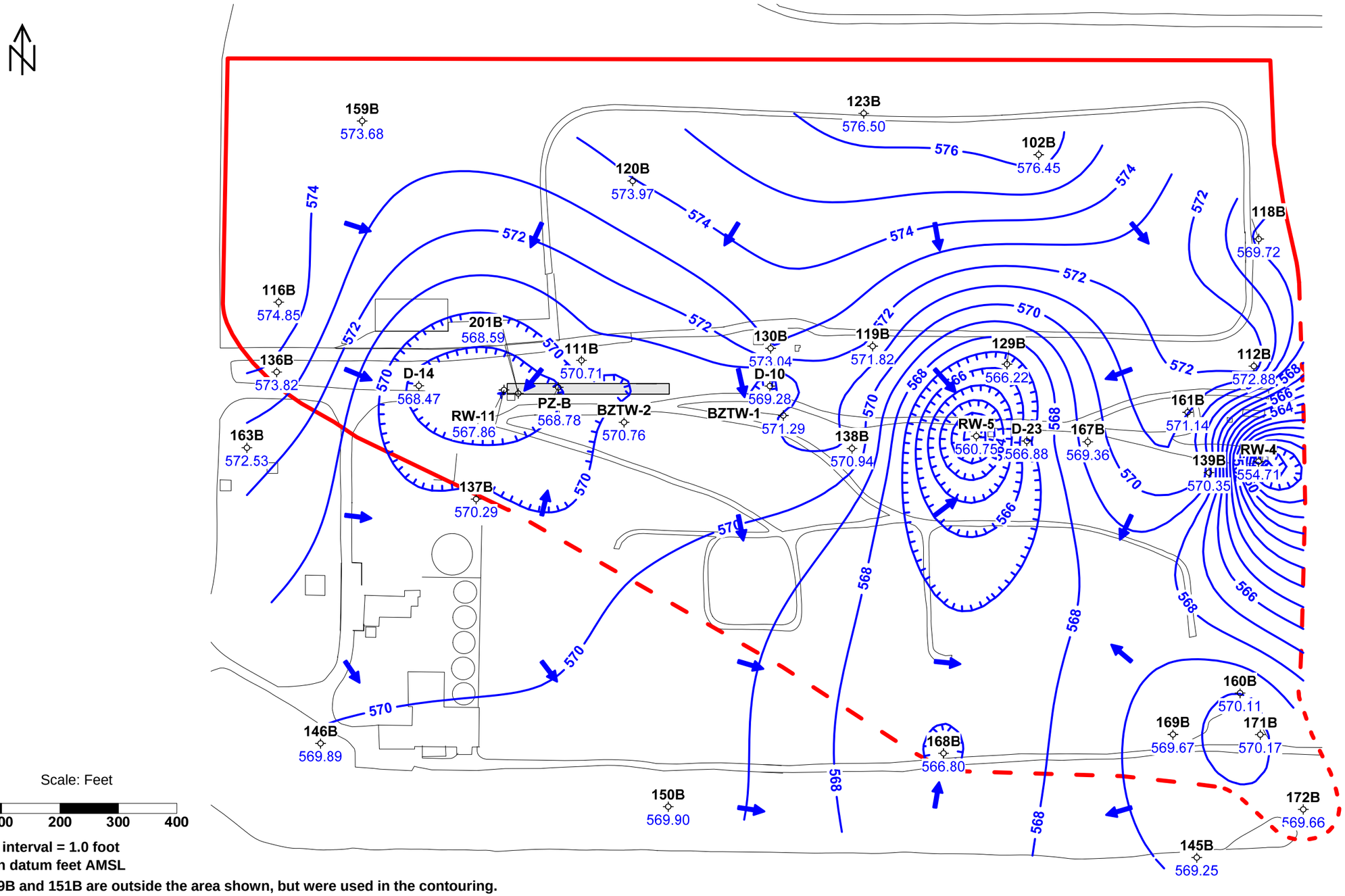
Project Manager: EAF	Date: 1-16-12
Job number: 445357.02023	

LEGEND

- 3B — Well ID
- Monitoring Well
- Pumping Well
- Potentiometric Contour
- Road
- Structure

Figure 4
Vertical Gradient: A-Zone to B-Zone
DuPont Necco Park
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011-11-09 NEC Contour Tool/2011-11-09 - ABvgrad - F5.srf



Scale: Feet

0 100 200 300 400

Contour interval = 1.0 foot
Elevation datum feet AMSL

Wells 149B and 151B are outside the area shown, but were used in the contouring.

Wells 170B, TRW-6 and TRW-7 were not used in the contouring.

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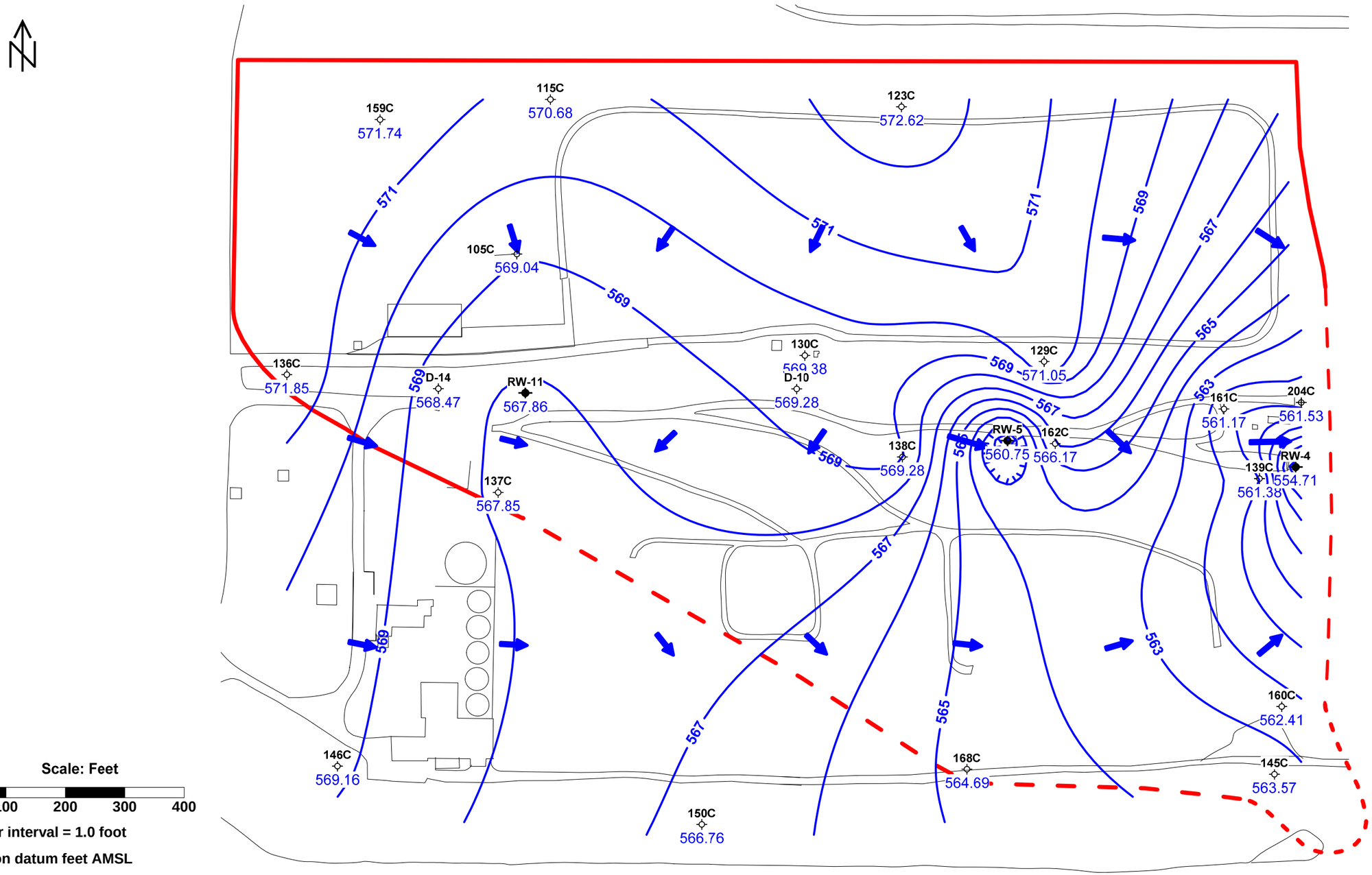
Job number: 445357.02023	

LEGEND

3B	Well ID		Potentiometric Contour		Source Area Extent
☼	Monitoring Well		Structure		Bedrock Fractured Blast Trench
✦	Pumping Well		Road		

Figure 5
Potentiometric Surface Map
DuPont Necco Park: B-Zone
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW contours/ 2011 Annual/2011-11-09 - PZ B - F7.srf



Scale: Feet

0 100 200 300 400

Contour interval = 1.0 foot

Elevation datum feet AMSL

Well 112C was not used in the contouring due to suspect casing.

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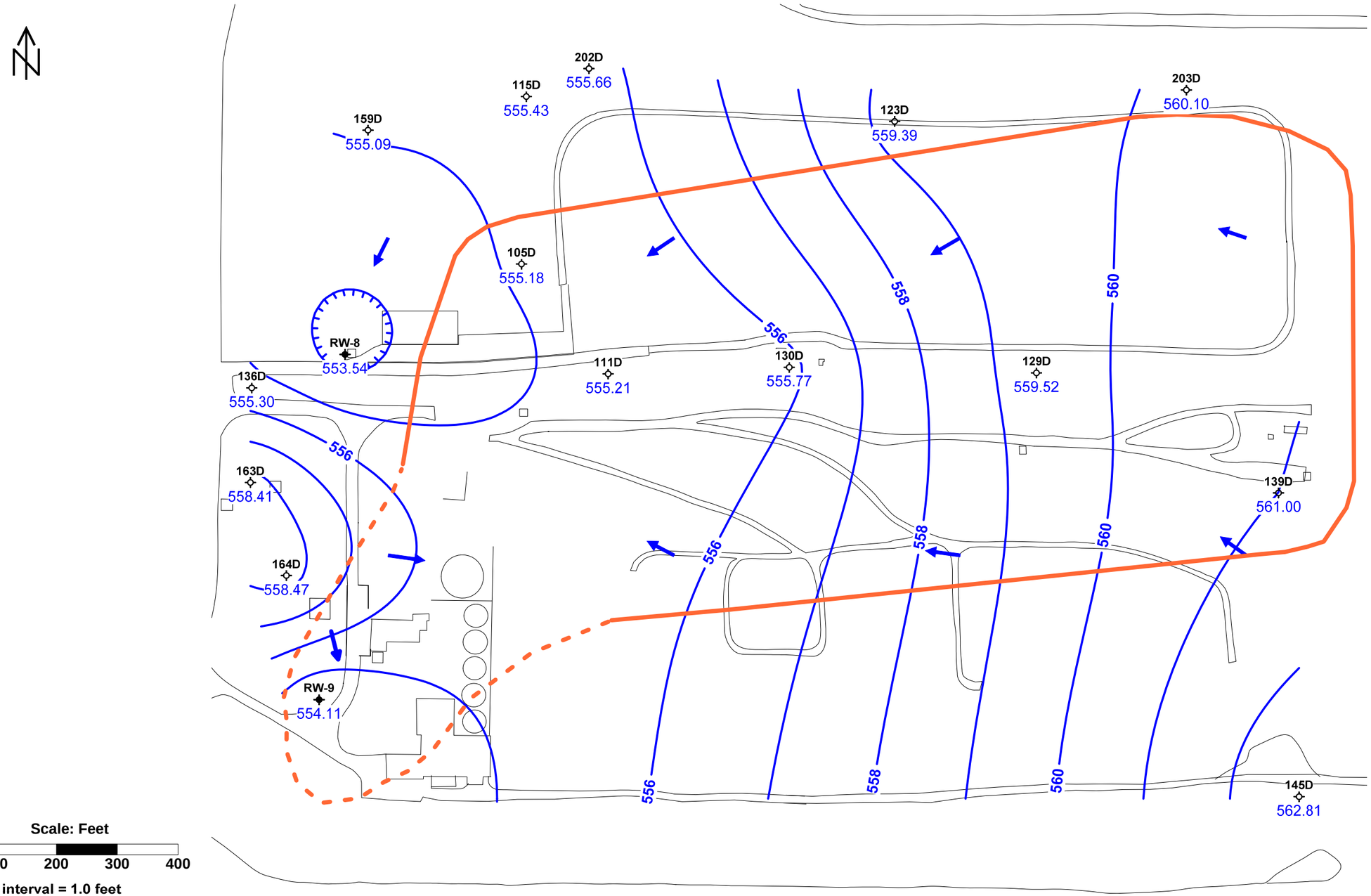
Project Manager: EAF	Date: 01-23-12
Job number: 445357.02023	

LEGEND

- 3B — Well ID
- Monitoring Well
- Pumping Well
- Potentiometric Contour
- Structure
- Road
- Source Area Extent

Figure 6
Potentiometric Surface Map
DuPont Necco Park: C-Zone
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011 Annual Report/2011-11-09 - PZ C - F3-14.srf



Scale: Feet

0 100 200 300 400

Contour interval = 1.0 feet

Elevation datum feet AMSL

Well 149, located outside the map area, was used in the contour interpolation.

Well 137D, 148D, 158D, and 165D, were not used in the interpolation.

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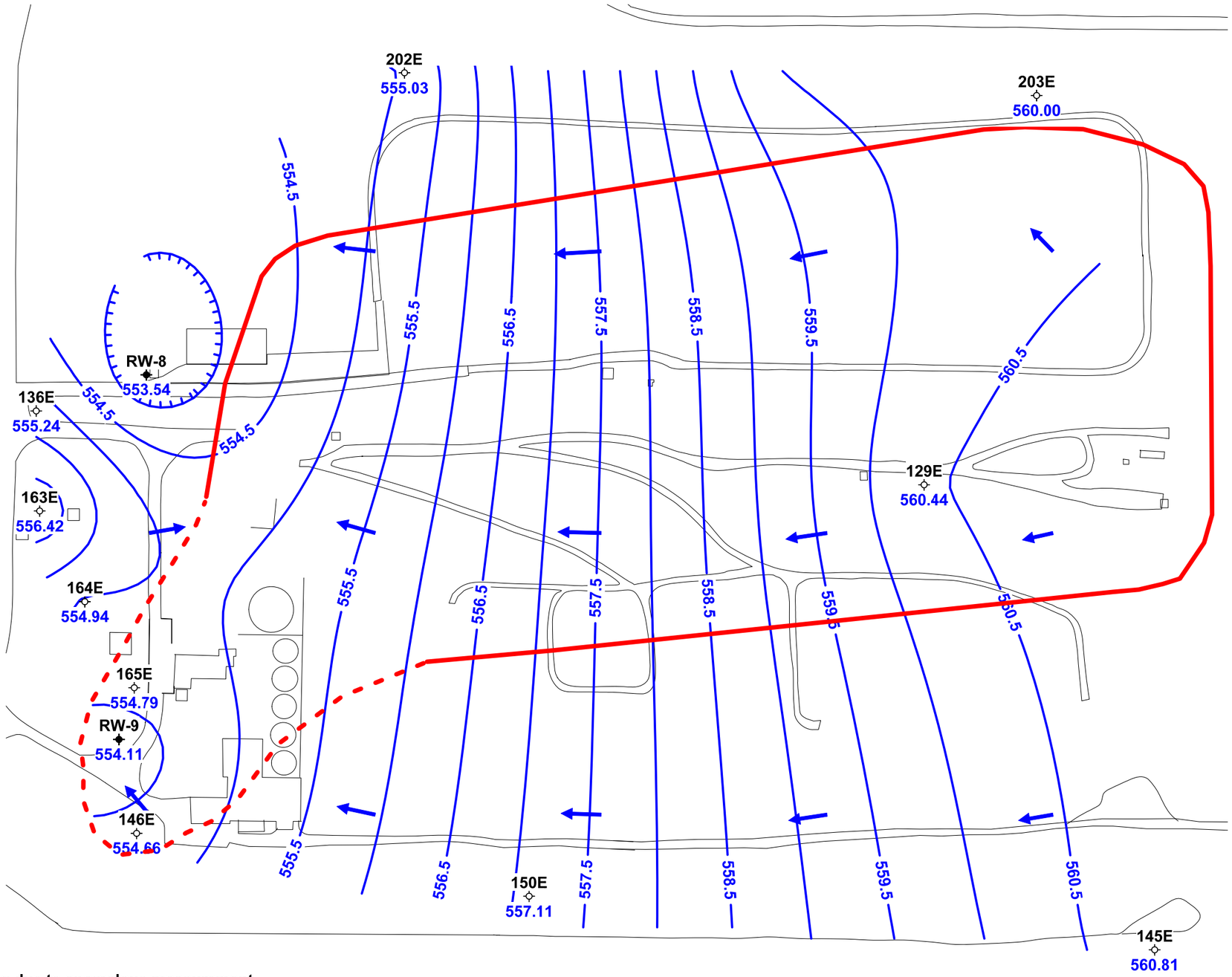
Job number: 445357.02023	

LEGEND

3B	Well ID	Potentiometric Contour	Source Area Extent
	Monitoring Well	Structure	
	Pumping Well	Road	

Figure 7
Potentiometric Surface Map
DuPont Necco Park: D-Zone
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011-11-09 NEC Contour Tool/2011-11-09 - PZ D - F9.srf



Scale: Feet

0 100 200 300 400

Contour interval = 0.5 foot

Elevation datum feet AMSL

Well 142E was not used in the contouring due to anomalous measurement

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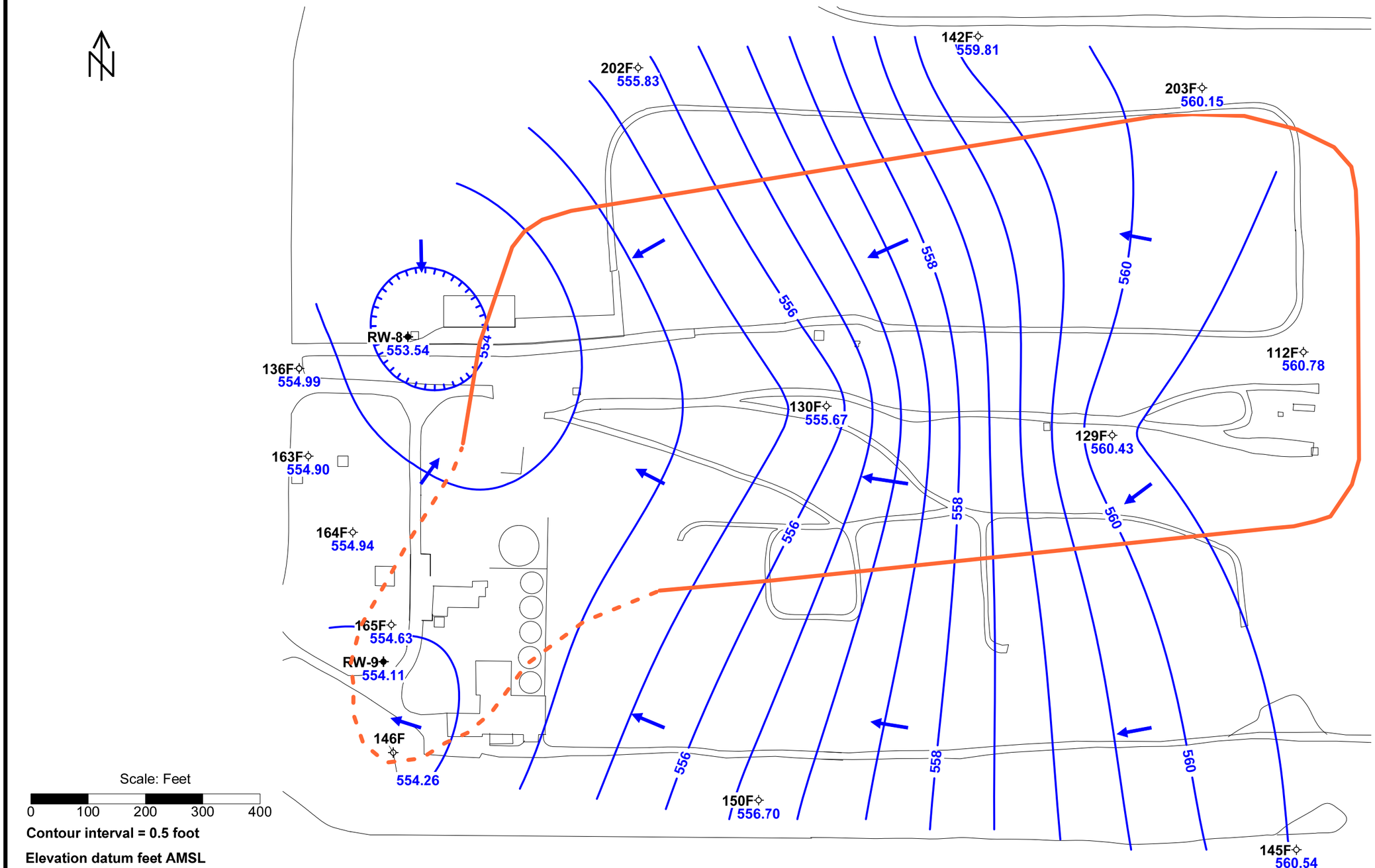
Project Manager: EAF	Date: 01-23-12
Job number: 445357.02023	

LEGEND

- 3B — Well ID
- Monitoring Well
- Pumping Well
- Potentiometric Contour
- Structure
- Road
- Source Area Extent

Figure 8
Potentiometric Surface Map
DuPont Necco Park: E-Zone
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011-11-09 NEC Contour Tool/2011-11-09 - PZ E - F10.srf



Scale: Feet

0 100 200 300 400

Contour interval = 0.5 foot

Elevation datum feet AMSL

Wells 123F and 148F were not used in the interpolation

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Created by: RBP	Date: 01-12-12
Checked by: JWS	Date: 01-16-12
Project Manager: EAF	Date: 01-23-12
	Date:
Job number: 445357.02023	

LEGEND

- 3B — Well ID
- Monitoring Well
- Pumping Well
- Potentiometric Contour
- Structure
- Road
- Source Area Extent

Figure 9
Potentiometric Surface Map
DuPont Necco Park: F-Zone
November 09, 2011

U:/Necco/HydroGeo/Hydro/GW_contours/2011-11-09 NEC Contour Tool/2011-11-09 - PZ F - F11.srf

APPENDIX A

GROUNDWATER ELEVATION DATA
FOURTH QUARTER 2011

APPENDIX A
Groundwater Elevation Data - 4Q11

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME
136F	11/09/11	25.34	580.33	554.99	1104
136G	11/09/11	22.26	579.76	557.50	1105
136E	11/09/11	24.35	579.59	555.24	1106
136D	11/09/11	24.38	579.68	555.30	1107
136C	11/09/11	9.77	581.62	571.85	1108
136B	11/09/11	7.87	581.69	573.82	1109
116B	11/09/11	15.20	590.05	574.85	1126
RW-8	11/09/11	31.98	585.52	553.54	1127
RDB-5	11/09/11	5.59	578.57	572.98	1112
BZTW-4	11/09/11	4.77	578.18	573.41	1113
PZ 200-AT	11/09/11	7.60	586.46	578.86	1221
PZ 199-AT	11/09/11	6.28	584.92	578.64	1222
PZ 198-AT	11/09/11	5.21	583.93	578.72	1223
PZ 197-AT	11/09/11	5.92	584.57	578.65	1225
PZ 196-AT	11/09/11	6.11	585.71	579.60	1227
PZ 195-AT	11/09/11	7.07	584.80	577.73	1229
163A	11/09/11	5.44	578.14	572.70	1123
163B	11/09/11	5.41	577.94	572.53	1122
163D	11/09/11	20.41	578.82	558.41	1119
163E	11/09/11	22.64	579.06	556.42	1120
163F	11/09/11	23.86	578.76	554.90	1121
164D	11/09/11	18.95	577.42	558.47	1117
164E	11/09/11	22.38	577.32	554.94	1116
164F	11/09/11	22.33	577.27	554.94	1115
111A	11/09/11	14.58	586.89	572.31	1132
111B	11/09/11	14.23	584.94	570.71	1133
111D	11/09/11	29.09	584.30	555.21	1134
130B	11/09/11	12.59	585.63	573.04	1136
130C	11/09/11	16.13	585.51	569.38	1137
130D	11/09/11	29.19	584.96	555.77	1138
119A	11/09/11	13.02	586.34	573.32	1142
119AT	11/09/11	13.49	586.62	573.13	1141
119B	11/09/11	14.95	586.77	571.82	1143
129A	11/09/11	11.62	584.80	573.18	1149
129AT	11/09/11	11.78	584.94	573.16	1148
129B	11/09/11	19.02	585.24	566.22	1146
129C	11/09/11	14.63	585.68	571.05	1147
129D	11/09/11	26.51	586.03	559.52	1145
131A	11/09/11	13.63	585.43	571.80	1147
112B	11/09/11	9.02	581.90	572.88	1152
112C	11/09/11	17.08	582.93	565.85	1151
118B	11/09/11	14.18	583.90	569.72	1159
117A	11/09/11	6.39	580.52	574.13	1201
158D	11/09/11	37.72	598.20	560.48	1206
102B	11/09/11	22.56	599.01	576.45	1208
123A	11/09/11	21.88	597.93	576.05	1211

APPENDIX A
Groundwater Elevation Data - 4Q11

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME
123B	11/09/11	19.48	595.98	576.50	1212
123C	11/09/11	22.80	595.42	572.62	1213
123D	11/09/11	37.12	596.51	559.39	1214
123F	11/09/11	38.82	598.57	559.75	1210
120B	11/09/11	25.21	599.18	573.97	1220
136F	11/09/11	25.37	580.33	554.96	1236
136G	11/09/11	22.06	579.76	557.70	1237
RDB-3	11/09/11	5.56	579.31	573.75	1110
112F	11/09/11	22.51	583.29	560.78	1153
141G	11/09/11	29.65	582.53	552.88	1203
175A	11/09/11	12.25	586.81	574.56	1130
140A	11/09/11	7.08	581.55	574.47	1158
140B	11/09/11	3.90	581.26	577.36	1157
140C	11/09/11	9.27	580.57	571.30	1156
140E	11/09/11	19.89	581.01	561.12	1155
142E	11/09/11	25.83	586.00	560.17	1230
142F	11/09/11	25.88	585.69	559.81	1231
141C	11/09/11	16.75	580.05	563.30	1204
105C	11/09/11	26.24	595.28	569.04	1236
105D	11/09/11	39.59	594.77	555.18	1235
115C	11/09/11	25.25	595.93	570.68	1224
115D	11/09/11	41.19	596.62	555.43	1225
143G	11/09/11	38.42	591.34	552.92	1232
159A	11/09/11	18.43	596.16	577.73	1230
159B	11/09/11	22.69	596.37	573.68	1229
159C	11/09/11	25.62	597.36	571.74	1228
159D	11/09/11	42.58	597.67	555.09	1227
165D	11/09/11	12.62	577.52	564.90	1314
165E	11/09/11	22.77	577.56	554.79	1315
165F	11/09/11	23.09	577.72	554.63	1316
RW-9	11/09/11	21.02	575.13	554.11	1312
146AR	11/09/11	6.29	576.92	570.63	1305
146B	11/09/11	7.01	576.90	569.89	1306
146C	11/09/11	7.19	576.35	569.16	1307
146E	11/09/11	21.42	576.08	554.66	1308
146F	11/09/11	21.78	576.04	554.26	1309
168A	11/09/11	8.23	578.72	570.49	1240
168B	11/09/11	12.10	578.90	566.80	1241
168C	11/09/11	14.52	579.21	564.69	1243
169B	11/09/11	10.76	580.43	569.67	1250
170B	11/09/11	11.98	579.10	567.12	1252
160B	11/09/11	12.64	582.75	570.11	1255
160C	11/09/11	20.31	582.72	562.41	1256
171B	11/09/11	9.37	579.54	570.17	1258
145C	11/09/11	12.33	575.90	563.57	1300
145D	11/09/11	13.24	576.05	562.81	1302

APPENDIX A
Groundwater Elevation Data - 4Q11

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME
150A	11/09/11	4.92	575.86	570.94	1213
150B	11/09/11	6.09	575.99	569.90	1214
150C	11/09/11	9.37	576.13	566.76	1215
150E	11/09/11	19.04	576.15	557.11	1216
150F	11/09/11	19.28	575.98	556.70	1217
145A	11/09/11	4.76	575.84	571.08	1222
145B	11/09/11	6.23	575.48	569.25	1231
145E	11/09/11	15.17	575.98	560.81	1233
145F	11/09/11	15.51	576.05	560.54	1235
172B	11/09/11	7.29	576.95	569.66	1220
148D	11/09/11	8.91	579.38	570.47	1139
148F	11/09/11	24.92	576.21	551.29	1137
151B	11/09/11	6.97	573.36	566.39	1130
151C	11/09/11	7.25	573.18	565.93	1131
149B	11/09/11	4.07	572.87	568.80	1155
149C	11/09/11	5.96	573.26	567.30	1202
149D	11/09/11	17.85	572.86	555.01	1205
PZ-A	11/09/11	9.88	579.06	569.18	1158
PZ-B	11/09/11	10.69	579.47	568.78	1159
RW-11	11/09/11	10.92	578.78	567.86	1202
TRW-7	11/09/11	7.39	577.89	570.50	1204
174A	11/09/11	6.62	577.62	571.00	1205
176A	11/09/11	8.96	580.03	571.07	1203
179A	11/09/11	8.28	579.01	570.73	1201
D-11	11/09/11	7.00	578.07	571.07	1157
BZTW-2	11/09/11	8.62	579.38	570.76	1155
178A	11/09/11	8.87	579.92	571.05	1156
173A	11/09/11	9.43	580.71	571.28	1154
TRW-6	11/09/11	9.29	580.21	570.92	1153
184AT	11/09/11	8.84	579.69	570.85	1152
184A	11/09/11	8.64	579.88	571.24	1151
130G	11/09/11	27.57	580.79	553.22	1150
130F	11/09/11	25.82	581.49	555.67	1149
D-10	11/09/11	10.74	580.02	569.28	1147
D-9	11/09/11	8.22	580.15	571.93	1148
BZTW-1	11/09/11	8.38	579.67	571.29	1146
185AT	11/09/11	9.82	580.69	570.87	1144
185A	11/09/11	9.53	580.84	571.31	1145
186AT	11/09/11	9.24	580.10	570.86	1140
186A	11/09/11	11.77	579.76	567.99	1141
138C	11/09/11	17.78	587.06	569.28	1142
138B	11/09/11	13.04	583.98	570.94	1143
187AT	11/09/11	8.23	579.30	571.07	1139
187A	11/09/11	12.14	579.94	567.80	1138
188AT	11/09/11	9.00	580.59	571.59	1137

APPENDIX A
Groundwater Elevation Data - 4Q11

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME
188A	11/09/11	15.88	580.91	565.03	1136
53	11/09/11	5.44	578.20	572.76	1133
180AT	11/09/11	7.76	579.47	571.71	1132
189AT	11/09/11	8.76	580.40	571.64	1128
189A	11/09/11	13.49	579.82	566.33	1130
RW-5	11/09/11	18.13	578.88	560.75	1135
162C	11/09/11	14.83	581.00	566.17	1131
129F	11/09/11	20.93	581.36	560.43	1125
129E	11/09/11	20.44	580.88	560.44	1126
D-23	11/09/11	13.73	580.61	566.88	1129
190AT	11/09/11	9.29	580.92	571.63	1123
190A	11/09/11	12.48	580.58	568.10	1124
167B	11/09/11	11.57	580.93	569.36	1122
191AT	11/09/11	9.33	581.06	571.73	1120
191A	11/09/11	9.55	580.62	571.07	1119
192AT	11/09/11	13.79	584.46	570.67	1115
192A	11/09/11	12.99	584.08	571.09	1116
194AT	11/09/11	10.96	584.93	573.97	1108
194A	11/09/11	13.25	584.35	571.10	1109
161C	11/09/11	21.47	582.64	561.17	1101
161B	11/09/11	11.70	582.84	571.14	1100
193AT	11/09/11	6.86	583.09	576.23	1104
193A	11/09/11	11.83	584.13	572.30	1105
139D	11/09/11	24.49	585.49	561.00	1111
139C	11/09/11	23.89	585.27	561.38	1112
139B	11/09/11	15.04	585.39	570.35	1113
139A	11/09/11	13.93	585.14	571.21	1117
RW-4	11/09/11	26.81	581.52	554.71	1107
D-13	11/09/11	6.81	579.07	572.26	1211
D-14	11/09/11	10.54	579.01	568.47	1210
137A	11/09/11	8.32	578.47	570.15	1209
137B	11/09/11	8.02	578.31	570.29	1207
137C	11/09/11	10.54	578.39	567.85	1206
137D	11/09/11	13.32	579.09	565.77	1208
201B	11/09/11	10.66	579.25	568.59	1200
202D	11/09/11	37.07	592.73	555.66	1221
202E	11/09/11	37.70	592.73	555.03	1222
202F	11/09/11	36.90	592.73	555.83	1223
203D	11/09/11	33.75	593.85	560.10	1214
203E	11/09/11	33.85	593.85	560.00	1215
203F	11/09/11	33.70	593.85	560.15	1216
204C	11/09/11	20.24	581.77	561.53	1103

APPENDIX B

GWTF PROCESS SAMPLING RESULTS
FOURTH QUARTER 2011

APPENDIX B
GWTF Process Sample Analytical Results - 4Q11

CAS No.	LabAnalyte	Location Date Units	BC-INFLUENT 11/9/11 FS	DEF-INFLUENT 11/9/11 FS	COMB-EFFLUENT 11/9/11 FS	FILTER-BLK 11/9/11 FS	TBLK 11/9/11 TB
	Field Parameters						
EVS0118	COLOR QUALITATIVE (FIELD)	NS	grey/blue	grey	grey/blue	NS	NS
EVS0125	ODOR (FIELD)	NS	moderate	moderate	slight	NS	NS
EVS0127	PH (FIELD)	STD UNITS	5.84	6.78	6.91	NS	NS
EVS0128	REDOX (FIELD)	MV	-157	-255	-51	NS	NS
EVS0044	SPECIFIC CONDUCTANCE (FIELD)	UMHOS/CM	10460	4626	7568	NS	NS
EVS0113	TEMPERATURE (FIELD)	DEGREES C	14.8	13.7	15.1	NS	NS
EVS0130	TURBIDITY QUANTITATIVE (FIELD)	NTU	325	137	124	NS	NS
	Volatile Organics						
79345	1,1,2,2-TETRACHLOROETHANE	UG/L	2900	1600	840	NS	<0.18
79005	1,1,2-TRICHLOROETHANE	UG/L	4100	3000	540	NS	<0.27
75354	1,1-DICHLOROETHENE	UG/L	490	260	<0.48	NS	<0.19
107062	1,2-DICHLOROETHANE	UG/L	460	240	30	NS	<0.22
56235	CARBON TETRACHLORIDE	UG/L	1700	1500	1.7 J	NS	<0.13
67663	CHLOROFORM	UG/L	17000	4600	130	NS	<0.16
156592	CIS-1,2-DICHLOROETHENE	UG/L	4800	11000	76	NS	<0.17
75092	METHYLENE CHLORIDE	UG/L	2200	5600	78	NS	<0.33
127184	TETRACHLOROETHENE	UG/L	6400	1500	15	NS	<0.29
156605	TRANS-1,2-DICHLOROETHENE	UG/L	340	650	1.1 J	NS	<0.19
79016	TRICHLOROETHENE	UG/L	18000	7500	41	NS	<0.17
75014	VINYL CHLORIDE	UG/L	950	1500	<0.55	NS	<0.22
	Other Organics						
95954	2,4,5-TRICHLOROPHENOL	UG/L	<5.7	370	270	NS	NS
88062	2,4,6-TRICHLOROPHENOL	UG/L	<15	180	120 J	NS	NS
EVS0197	3 & 4 METHYLPHENOL	UG/L	<14	16 J	<7.1	NS	NS
118741	HEXACHLOROBENZENE	UG/L	3.5 J	<1.2	<0.95	NS	NS
87683	HEXACHLOROBUTADIENE	UG/L	520	34 J	130 J	NS	NS
67721	HEXACHLOROETHANE	UG/L	96 J	10 J	13 J	NS	NS
87865	PENTACHLOROPHENOL	UG/L	130 J	500 J	460 J	NS	NS
TIC01	TIC1	UG/L	2900 J	280 J	540 J	NS	NS
	Inorganics						
108952	PHENOL	UG/L	110 J	29 J	60 J	NS	NS
7440393	BARIUM, DISSOLVED	UG/L	48000	88 J	1.6 J	NS	NS
7440393	BARIUM, TOTAL	UG/L	160000	62 J	42000	1900	NS
14808798	SULFATE	UG/L	2300	880000	370000	NS	NS
57125	CYANIDE, TOTAL	UG/L	3200	26	1500 J	NS	NS
Total Volatiles		UG/L	59340	38950	1750		

ATTACHMENT 1

NECCO PARK
4Q11 WATER LEVELS

(ELECTRONIC FORMAT ONLY)