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Division of Environmental Remediation

February 22, 2010

Mr. Salvatore Priore, P.E.
New York State Department of Environmental Conservation
625 Broadway, 11th Floor
Albany, New York 12233-7013

Re: NAPL and Groundwater Gauging Report for Performance Monitoring of the ISS IRM, November 2009 Monitoring Event at the East Station Former MGP Site, Rochester, New York.
**VCA Index #: B8-0535-98-07 Site #: V000358-8**

Dear Mr. Priore:

Rochester Gas & Electric Corporation (RG&E) is submitting the enclosed NAPL and Groundwater Gauging Report for the Performance Monitoring of the ISS IRM, November 2009 Monitoring Event.

Please feel free to call me @ (585) 724-8386 if you have any questions on this submission.

Sincerely,

Daniel M Kennedy

Daniel M. Kennedy
Lead Analyst
RG&E Environmental Compliance

Enclosure:
ec: Joseph Simone, P.E. – Manager of RG&E Environmental Compliance
Katherine Comerford - NYSDOH
File:

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File-H: East Station/NAPL and Groundwater Gauging Report/ November 2009 Monitoring Event/2/22/2010/DMK068

# NAPL AND GROUNDWATER GAUGING REPORT FOR PERFORMANCE MONITORING OF THE ISS IRM FOR THE EAST STATION FORMER MGP SITE, ROCHESTER, NEW YORK NOVEMBER 17, 18 and 19, 2009 MONITORING EVENT

**MSVCA Index # B8-0535-98-07**
**Site # V000358-8**

February 2010

*Prepared for:*

**Rochester Gas & Electric Corporation**
89 East Avenue
Rochester, New York 14649

*Prepared by:*

**Ish Inc.**
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Raleigh, NC 27615

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## 1.0 INTRODUCTION

This **NAPL and Groundwater Gauging Report**, dated February 2010, has been prepared to summarize the findings of field events performed on November 17, 18 and 19, 2009 at the East Station former MGP Site, located in Rochester, New York. Table 1 lists the monitoring and recovery wells gauged. Figure 1 shows the locations of the wells.

This report serves as an update to the report, **"NAPL and Groundwater Monitoring Report for Performance Monitoring of ISS IRM for East Station Former MGP Site, Rochester, New York"**, dated November 2009. Please refer to the report, dated November 2009, for details of the previous monitoring activities.

Please refer to the document titled **"Summary of the Installation and Monitoring of Groundwater Wells for Water Quality and NAPL at the East Station Site following the Completion of the ISS-IRM"** dated September 4, 2008, for information regarding the additional 13 monitoring / recovery wells and the monitoring frequency and reporting schedule.

## 2.0 FIELD ACTIVITIES

Field activities performed on November 17, 18, and 19, 2009 consisted of collecting static water levels and gauging for LNAPL and DNAPL in all 33 wells and performing a pseudo-pump test on the three ISS IRM barrier wells. Methods for NAPL gauging and for groundwater level measurements used for this performance monitoring event are the same as those used for the previous monitoring events and the past site investigation work over the past several years. Field activities performed during each of the five sampling events are identified in Table 1. For the five events, NAPL gauging and water level measurements were completed at the 33 recovery / monitoring wells. In addition, groundwater samples were collected for water quality measurements during the October 2008 and the May 2009 sampling events as shown in Table 1. Please refer to the NAPL and Groundwater Monitoring Report, dated November 2009, for details. No groundwater sampling was done for the monitoring wells and piezometers during the November 2009 sampling event with verbal concurrence from the New York State Department of Environmental Conservation's (NYSDEC) Project Manager Mr. Sal Priore to Ishwar Murarka of Ish Inc.

## 3.0 GROUNDWATER FLOW CHARACTERISTICS

The groundwater elevation data provided in Table 2 was used to develop the overburden groundwater elevation contour map shown on Figure 2 for the November 2009 gauging event. Based on the groundwater contour pattern, flow is generally from the eastern site area, westerly towards the ISS columns. In the northern site area, flow is generally to the northwest. In the southern site area, flow is generally to the southwest. The groundwater elevation contour pattern for this event is similar to the previous post ISS IRM groundwater contour patterns. See the NAPL and Groundwater Monitoring Report, dated November 2009, Figures 5 – 8.

## 4.0 NAPL GAUGING RESULTS

During the November 17, 2009 gauging event, trace LNAPL was noted in wells DW-1R, RW-21, RW-22 and peizometer PZ-01R. In addition, approximately 0.08 feet of LNAPL was measured in monitoring well RW-5. These observations are consistent with previous gauging results for the monitoring locations, as presented in detail in Table 2 and summarized in the following Table 3.

TABLE 3

| Well ID | Oct 13-15, 2008 NAPL Thickness | | Feb 9-10, 2009 NAPL Thickness | | May 18, 2009 NAPL Thickness | | Aug 17-18, 2009 NAPL Thickness | | Nov 17, 2009 NAPL Thickness | |
|---|---|---|---|---|---|---|---|---|---|---|
| | LNAPL (feet) | DNAPL (feet) | LNAPL (feet) | DNAPL (feet) | LNAPL (feet) | DNAPL (feet) | LNAPL (feet) | DNAPL (feet) | LNAPL (feet) | DNAPL (feet) |
| Shallow Bedrock Monitoring Wells: | | | | | | | | | | |
| **DW-1R** | NP | NP | NP | NP | **TRACE** | NP | NP | NP | **TRACE** | NP |
| **MW-5R** | **TRACE** | NP | NP | NP | NP | NP | **TRACE** | NP | NP | NP |
| ISS Barrier Monitoring Wells: | | | | | | | | | | |
| **MW-4R** | NP | NP | NP | NP | **TRACE** | NP | NP | NP | NP | NP |
| **PZ-01R** | NP | NP | NP | NP | **TRACE** | NP | NP | NP | **TRACE** | NP |
| Recovery Wells: | | | | | | | | | | |
| **RW-5** | NP | NP | **0.03** | NP | NM | NM | **0.04** | NP | **0.08** | NP |
| **RW-7** | NP | NP | NP | NP | **TRACE** | NP | NP | NP | NP | NP |
| **RW-12** | **TRACE** | NP | NP | NP | NP | NP | NP | NP | NP | NP |
| **RW-13** | **TRACE** | NP | NP | NP | NP | NP | NP | NP | NP | NP |
| **RW-15** | NP | NP | **TRACE** | NP | NP | NP | NP | NP | NP | NP |
| **RW-19** | NP | NP | **TRACE** | NP | NP | NP | NP | NP | NP | NP |
| **RW-21** | NP | NP | NP | NP | **TRACE** | NP | NP | NP | **TRACE** | NP |
| **RW-22** | NP | NP | NP | NP | **TRACE** | NP | NP | NP | **TRACE** | NP |
| Shallow Monitoring Wells: | | | | | | | | | | |
| **TPMW-2** | NP | NP | **TRACE** | NP | NP | NP | NP | NP | NP | NP |

**NOTES: NP – NOT PRESENT, TRACE = VERY SLIGHT AMOUNT; TOO THIN TO MEASURE**

## 5.0 PSEUDO-PUMP TEST OF ISS BARRIER MONITORING WELLS

On November 18, 2009, a pseudo-pump test was performed with concurrence from the New York State Department of Environmental Conservation's (NYSDEC) Project Manager Mr. Sal Priore to Ishwar Murarka of Ish Inc., on the three ISS barrier monitoring wells to assess the recharge to these wells. The data from this test are presented in Appendix A. The three wells were evacuated to the maximum extent possible, with between 1.5 and 3.25 gallons removed from each well. The water level in each well was gauged prior to evacuation and periodically after evacuation to monitor the recharge of water into the well. MW-2R returned to equilibrium in approximately 5 hours, while at wells MW-4R and PZ-01R, the levels were still rising as indicated by the overnight change in water levels (see Appendix A). A final water level reading was collected on November 19 from all three wells. Overall, these data suggest that the permeability of the materials surrounding the wells (i.e., ISS columns) is low and the connection for groundwater flow is limited.

## 6.0 CONCLUSIONS

The information collected during the November 17 to 19, 2009 monitoring event leads to the following conclusions:

- Based on observations from the five gauging events, trace LNAPL was detected in DW-1R, MW-4R, MW-5R, PZ-01R, RW-5, RW-7, RW-9, RW-12, RW-13, RW-15, RW-19, RW-21, RW-22, and TPMW-2.
- Measurable DNAPL was not detected in any of the 33 monitoring locations including the recovery wells in the NAPL collection trench.
- The overburden zone groundwater exhibits a flow regime generally directed from the east to the west and the flow pattern is similar to historical observations after completion of the ISS-IRM remedy.

RG&E has submitted a proposed NAPL Monitoring and Recovery and Water Quality Monitoring Plan for the East Station ISS IRM to the NYSDEC on January 30, 2010, which identifies the proposed wells to be monitored and sampling frequency for future monitoring events from January 2010 through December 2012. Please refer to this plan for details of future monitoring and reporting to NYSDEC.

## 7.0 REFERENCES

Ish Inc. NAPL and Groundwater Monitoring Report for Performance Monitoring of ISS IRM for East Station Former MGP Site, Rochester, New York, November 2009.

Ish Inc. Phase IV Interim Remedial Measure Completion Report for East Station ISS/IRM, submitted to NYSDEC March 2009, Approved September 2009.

Ish Inc., Installation and Monitoring of Groundwater Wells for Water Quality and NAPL at the East Station Site following the Completion of the ISS-IRM, September 4, 2008

Ish Inc. Draft IRM Work Plan for *In-situ* Stabilization/Solidification to Control NAPL Seeps at the RG&E East Station Former Manufactured Gas Plant Site, October 2003

Ish Inc. ISS IRM NAPL Monitoring and Recovery and Water Quality Monitoring Plan for the East Station former MGP Site. January 2010

# TABLES

**TABLE 1**

**SUMMARY OF MONITORING WELL GAUGING AND SAMPLING EVENTS FOR PERFORMANCE MONITORING AND NAPL RECOVERY WELLS**
**RG&E East Station Former MGP Site**
**Rochester, New York**

| Well ID | October 13-15, 2008 | | | February 9 and 10, 2009 | | May 18 and 19, 2009 | | | August 17 and 18, 2009 | | November 17-19, 2009 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NAPL Monitoring | Analytical Sampling | Depth to Groundwater | NAPL Monitoring | Depth to Groundwater | NAPL Monitoring | Depth to Groundwater | Analytical Sampling | NAPL Monitoring | Depth to Groundwater | NAPL Monitoring | Depth to Groundwater |
| **Shallow Bedrock Monitoring Wells:** | | | | | | | | | | | | |
| DW-1R | x | x | x | x | x | x | x | x | x | x | x | x |
| DW-3R | x | x | x | x | x | x | x | x | x | x | x | x |
| MW-3DR | x | x | x | x | x | x | x | x | x | x | x | x |
| MW-5R | x | x | x | x | x | x | x | x | x | x | x | x |
| MW-8DR | x | x | x | x | x | x | x | x | x | x | x | x |
| **ISS Barrier Monitoring Wells:** | | | | | | | | | | | | |
| MW-2R | x | x | x | x | x | x | x | NS | x | x | x | x |
| MW-4R | x | x | x | x | x | x | x | NS | x | x | x | x |
| PZ-01R | x | x | x | x | x | x | x | NS | x | x | x | x |
| **Recovery Wells in the NAPL Collection Trench** | | | | | | | | | | | | |
| RW-1 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-2 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-3 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-4 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-5 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-6 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-7 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-8 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-9 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-10 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-11 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-12 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-13 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-14 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-15 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-16 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-17 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-18 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-19 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| RW-20 | x | NS | x | x | x | x | x | NS | x | x | x | x |
| **Recovery Wells to the East of ISS IRM Area** | | | | | | | | | | | | |
| RW-21 | x | x | x | x | x | x | x | x | x | x | x | x |
| RW-22 | x | x | x | x | x | x | x | x | x | x | x | x |
| RW-23 | x | x | x | x | x | x | x | x | x | x | x | x |
| **Shallow Monitoring Wells to the East of ISS IRM Area** | | | | | | | | | | | | |
| TPMW-1 | x | x | x | x | x | x | x | x | x | x | x | x |
| TPMW-2 | x | x | x | x | x | x | x | x | x | x | x | x |

Note:
x NAPL gauging or water quality analysis sampling performed
NS Not Sampled for water quality analysis

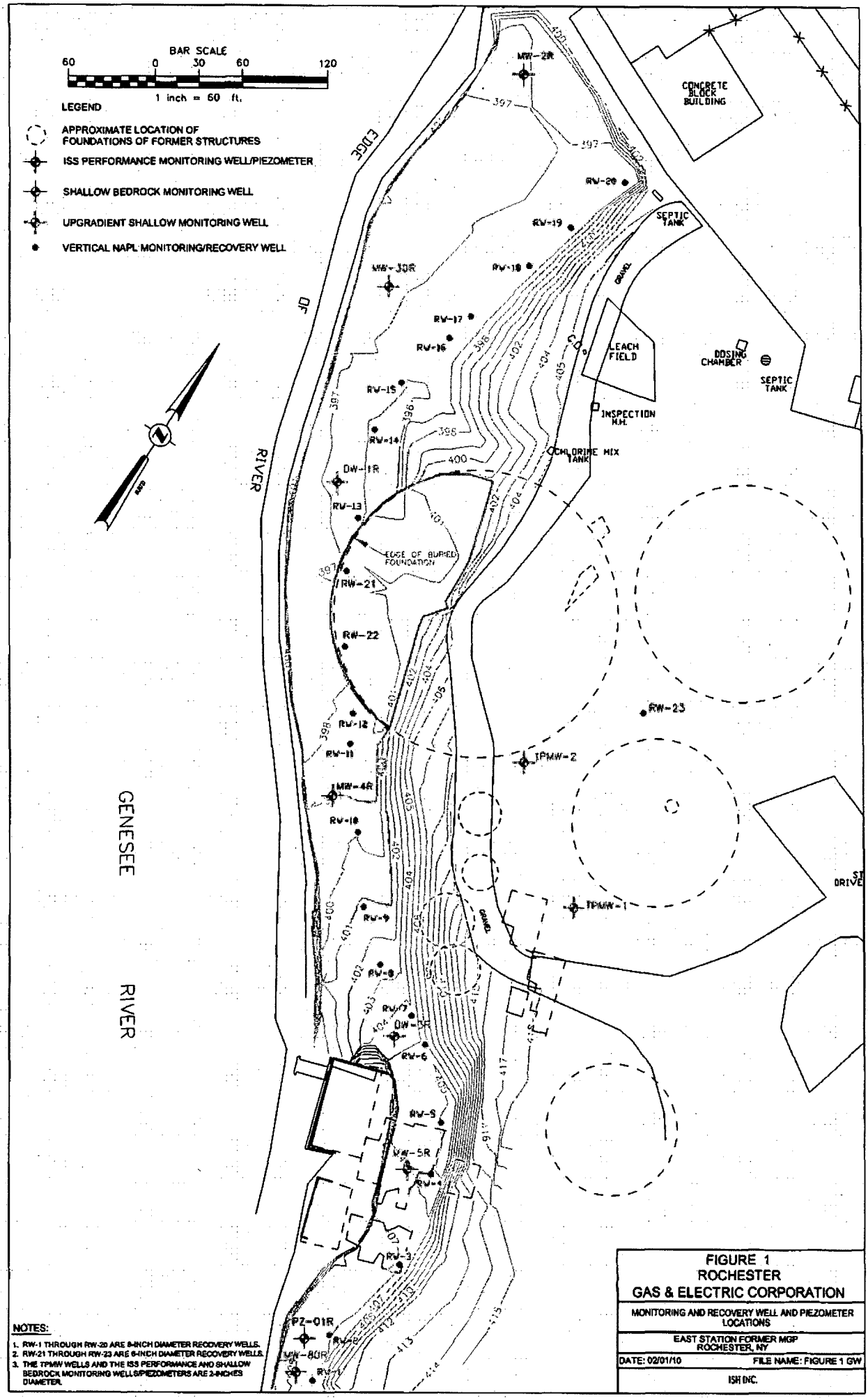
**TABLE 2**

**GROUNDWATER ELEVATIONS AND NAPL MEASUREMENTS**
***RG&E East Station Former MGP Site***
**Rochester, New York**

| Well ID | TOC[1] Elevation[2] | October 13, 2008 | | | | February 9 and 10, 2009 | | | | May 18, 2009 | | | | August 17 and 18, 2009 | | | | November 17, 18 and 19, 2009 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Depth to Groundwater (feet from TOC) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Groundwater Elevation[2] | Depth to Groundwater (feet from TOC) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Groundwater Elevation[2] | Depth to Groundwater (feet from TOC) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Groundwater Elevation[2] | Depth to Groundwater (feet from TOC) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Groundwater Elevation[2] | Depth to Groundwater (feet from TOC) | LNAPL Thickness (feet) | DNAPL Thickness (feet) | Groundwater Elevation[2] |
| **Shallow Bedrock Monitoring Wells** | | | | | | | | | | | | | | | | | | | | | |
| DW-1R | 401.04 | 14.61 | NP[3] | NP | 386.43 | 9.43 | NP | NP | 391.61 | 10.26 | TRACE | NP | 390.78 | 10.31 | NP | NP | 390.73 | 10.39 | TRACE | NP | 390.65 |
| DW-3R | 407.42 | 18.90 | NP | NP | 388.52 | 16.26 | NP | NP | 391.16 | 15.97 | NP | NP | 391.45 | 15.56 | NP | NP | 391.86 | 15.55 | NP | NP | 391.87 |
| MW-3DR | 401.02 | 14.54 | NP | NP | 386.48 | 9.40 | NP | NP | 391.62 | 10.26 | NP | NP | 390.76 | 10.31 | NP | NP | 390.71 | 11.33 | NP | NP | 389.69 |
| MW-5R | 410.50 | 18.93 | TRACE | NP | 391.57 | 17.56 | NP | NP | 392.94 | 17.43 | NP | NP | 393.07 | 16.74 | TRACE | NP | 393.76 | 17.32 | NP | NP | 393.18 |
| MW-8DR | 411.63 | 20.64 | NP | NP | 390.99 | 17.74 | NP | NP | 393.89 | 18.16 | NP | NP | 393.47 | 17.17 | NP | NP | 394.46 | 18.11 | NP | NP | 393.52 |
| **ISS Barrier Monitoring Wells** | | | | | | | | | | | | | | | | | | | | | |
| MW-2R | 401.62 | 15.28 | NP | NP | 386.34 | 1.10 | NP | NP | 400.52 | 10.89 | NP | NP | 390.73 | 10.94 | NP | NP | 390.68 | 10.87 | NP | NP | 390.75 |
| MW-4R | 403.25 | 14.83 | NP | NP | 388.42 | 11.42 | NP | NP | 391.83 | 11.58 | TRACE | NP | 391.67 | 11.07 | NP | NP | 392.18 | 11.59 | NP | NP | 391.66 |
| PZ-01R | 411.80 | 21.71 | NP | NP | 390.09 | 20.12 | NP | NP | 391.68 | 19.84 | TRACE | NP | 391.96 | 19.48 | NP | NP | 392.32 | 19.51 | TRACE | NP | 392.29 |
| **Recovery Wells** | | | | | | | | | | | | | | | | | | | | | |
| RW-1 | 412.71 | 18.38 | NP | NP | 394.33 | 16.81 | NP | NP | 395.90 | 18.15 | NP | NP | 394.56 | 17.47 | NP | NP | 395.24 | 17.49 | NP | NP | 395.22 |
| RW-2 | 412.51 | 18.13 | NP | NP | 394.38 | 16.54 | NP | NP | 395.97 | 17.83 | NP | NP | 394.68 | 17.20 | NP | NP | 395.31 | 17.52 | NP | NP | 394.99 |
| RW-3 | 412.35 | 17.94 | NP | NP | 394.41 | 16.35 | NP | NP | 396.00 | 17.70 | NP | NP | 394.65 | 17.00 | NP | NP | 395.35 | 17.54 | NP | NP | 394.81 |
| RW-4 | 411.97 | 17.54 | NP | NP | 394.43 | 15.91 | NP | NP | 396.06 | 17.30 | NP | NP | 394.67 | 16.61 | NP | NP | 395.36 | 16.96 | NP | NP | 395.01 |
| RW-5 | 411.86 | 17.22 | NP | NP | 394.64 | 17.80 | 0.03 | NP | 394.06 | NM[4] | NM | NM | NM | 16.47 | 0.04 | NP | 395.39 | 16.64 | 0.08 | NP | 395.22 |
| RW-6 | 410.17 | 16.03 | NP | NP | 394.14 | 14.06 | NP | NP | 396.11 | 15.51 | NP | NP | 394.66 | 15.29 | NP | NP | 394.88 | 15.45 | NP | NP | 394.72 |
| RW-7 | 410.25 | 16.03 | NP | NP | 394.22 | 14.00 | NP | NP | 396.25 | 15.54 | TRACE | NP | 394.71 | 15.32 | NP | NP | 394.93 | 15.53 | NP | NP | 394.72 |
| RW-8 | 407.69 | 13.61 | NP | NP | 394.08 | 11.55 | NP | NP | 396.14 | 12.97 | NP | NP | 394.72 | 12.76 | NP | NP | 394.93 | 12.97 | NP | NP | 394.72 |
| RW-9 | 406.90 | 13.00 | NP | NP | 393.90 | 10.71 | NP | NP | 396.19 | 12.22 | TRACE | NP | 394.68 | 11.95 | NP | NP | 394.95 | 12.26 | NP | NP | 394.64 |
| RW-10 | 405.53 | 12.17 | NP | NP | 393.36 | 9.34 | NP | NP | 396.19 | 10.93 | NP | NP | 394.60 | 10.66 | NP | NP | 394.87 | 10.95 | NP | NP | 394.58 |
| RW-11 | 404.19 | 11.42 | NP | NP | 392.77 | 8.02 | NP | NP | 396.17 | 9.63 | NP | NP | 394.56 | 9.39 | NP | NP | 394.80 | 9.69 | NP | NP | 394.50 |
| RW-12 | 403.60 | 11.23 | TRACE | NP | 392.37 | 7.65 | NP | NP | 395.95 | 9.08 | NP | NP | 394.52 | 8.80 | NP | NP | 394.80 | 9.06 | NP | NP | 394.54 |
| RW-13 | 404.64 | 12.49 | TRACE | NP | 392.15 | 9.21 | NP | NP | 395.43 | 10.56 | NP | NP | 394.08 | 10.35 | NP | NP | 394.29 | 10.43 | NP | NP | 394.21 |
| RW-14 | 401.72 | 9.51 | NP | NP | 392.21 | 6.70 | NP | NP | 395.02 | 7.67 | NP | NP | 394.05 | 7.45 | NP | NP | 394.27 | 7.90 | NP | NP | 393.82 |
| RW-15 | 401.86 | 9.66 | NP | NP | 392.20 | 6.97 | TRACE | NP | 394.89 | 7.86 | NP | NP | 394.00 | 7.66 | NP | NP | 394.20 | 8.16 | NP | NP | 393.70 |
| RW-16 | 402.08 | 9.82 | NP | NP | 392.26 | 7.17 | NP | NP | 394.91 | 8.06 | NP | NP | 394.02 | 7.85 | NP | NP | 394.23 | 7.96 | NP | NP | 394.12 |
| RW-17 | 402.02 | 9.75 | NP | NP | 392.27 | 7.16 | NP | NP | 394.86 | 8.00 | NP | NP | 394.02 | 7.80 | NP | NP | 394.22 | 7.84 | NP | NP | 394.18 |
| RW-18 | 402.49 | 10.25 | NP | NP | 392.24 | 7.61 | NP | NP | 394.88 | 8.47 | NP | NP | 394.02 | 8.27 | NP | NP | 394.22 | 9.03 | NP | NP | 393.46 |
| RW-19 | 402.43 | 10.18 | NP | NP | 392.25 | 7.52 | TRACE | NP | 394.91 | 8.43 | NP | NP | 394.00 | 8.23 | NP | NP | 394.20 | 8.30 | NP | NP | 394.13 |
| RW-20 | 406.02 | 13.74 | NP | NP | 392.28 | 11.12 | NP | NP | 394.90 | 12.00 | NP | NP | 394.02 | 11.80 | NP | NP | 394.22 | 11.85 | NP | NP | 394.17 |
| RW-21 | 403.25 | 11.03 | NP | NP | 392.22 | 7.11 | NP | NP | 396.14 | 8.93 | TRACE | NP | 394.32 | 8.71 | NP | NP | 394.54 | 8.93 | TRACE | NP | 394.32 |
| RW-22 | 403.64 | 11.56 | NP | NP | 392.08 | 7.54 | NP | NP | 396.10 | 9.34 | TRACE | NP | 394.30 | 9.14 | NP | NP | 394.50 | 9.35 | TRACE | NP | 394.29 |
| RW-23 | 413.72 | 16.13 | NP | NP | 397.59 | 14.00 | NP | NP | 399.72 | 14.86 | NP | NP | 398.86 | 14.52 | NP | NP | 399.20 | 9.84 | NP | NP | 403.88 |
| **Shallow Monitoring Wells** | | | | | | | | | | | | | | | | | | | | | |
| TPMW-1 | 419.06 | 19.54 | NP | NP | 399.52 | 17.65 | NP | NP | 401.41 | 18.17 | NP | NP | 400.89 | 17.60 | NP | NP | 401.46 | 18.74 | NP | NP | 400.32 |
| TPMW-2 | 414.79 | 17.46 | NP | NP | 397.33 | 11.47 | TRACE | NP | 403.32 | 15.72 | NP | NP | 399.07 | 15.62 | NP | NP | 399.17 | 16.09 | NP | NP | 398.70 |
| **Previously Installed Monitoring Wells and Piezometers** | | | | | | | | | | | | | | | | | | | | | |
| DW-5 | | Could not locate | | | | | | | | | | | | | | | | | | | |
| MW-1 | | Well removed during tar well IRM | | | | | | | | | | | | | | | | | | | |
| MW-6 | 421.24 | 12.96 | NP | NP | 408.28 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| MW-6D | 421.16 | 17.50 | NP | NP | 403.66 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| MW-7 | 428.82 | 19.70 | NP | NP | 409.12 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| MW-9 | | Well removed during tar well IRM | | | | | | | | | | | | | | | | | | | |
| MW-10 | | Well removed during tar well IRM | | | | | | | | | | | | | | | | | | | |
| PZ-1 | 414.62 | 14.38 | NP | NP | 400.24 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| PZ-5 | NM | DRY | NP | NP | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| PZ-9 | | Could not locate | | | | | | | | | | | | | | | | | | | |
| PZ-10 | | PVC is pinched and bent 0.8' below TOC | | | | | | | | | | | | | | | | | | | |
| PZ-11 | 402.15 | 9.07 | NP | NP | 393.08 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| PZ-12 | 416.70 | 11.08 | NP | NP | 405.62 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| PZ-13 | 420.52 | 12.52 | NP | NP | 408.00 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| PZ-14 | 421.86 | 6.71 | NP | NP | 415.15 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| PZ-15 | | Piezometer removed during tar well IRM | | | | | | | | | | | | | | | | | | | |
| PZ-16 | | Well snapped off at ground surface marked location with cone | | | | | | | | | | | | | | | | | | | |
| PZ-17 | | Piezometer removed during tar well IRM | | | | | | | | | | | | | | | | | | | |
| PZ-18 | | Could not locate | | | | | | | | | | | | | | | | | | | |
| PZ-19 | | Piezometer removed during tar well IRM | | | | | | | | | | | | | | | | | | | |
| PZ-20 | | Could not locate | | | | | | | | | | | | | | | | | | | |
| SW-4 | 415.98 | 10.03 | NP | NP | 405.95 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM |
| SW-5 | | Could not locate | | | | | | | | | | | | | | | | | | | |

**Notes:**
(1) TOC - top of casing
(2) Well elevation datum is NAVD 1988.
(3) NP - Not Present
(4) NM - Not Measured

# FIGURES




NOTES:

1. RW-1 THROUGH RW-20 ARE 8-INCH DIAMETER RECOVERY WELLS.
2. RW-21 THROUGH RW-23 ARE 6-INCH DIAMETER RECOVERY WELLS.
3. THE TPMW WELLS AND THE ISS PERFORMANCE AND SHALLOW BEDROCK MONITORING WELLS/PIEZOMETERS ARE 2-INCHES DIAMETER.

**FIGURE 1**
**ROCHESTER GAS & ELECTRIC CORPORATION**

MONITORING AND RECOVERY WELL AND PIEZOMETER LOCATIONS

EAST STATION FORMER MGP
ROCHESTER, NY

DATE: 02/01/10 FILE NAME: FIGURE 1 GW

ISH INC.

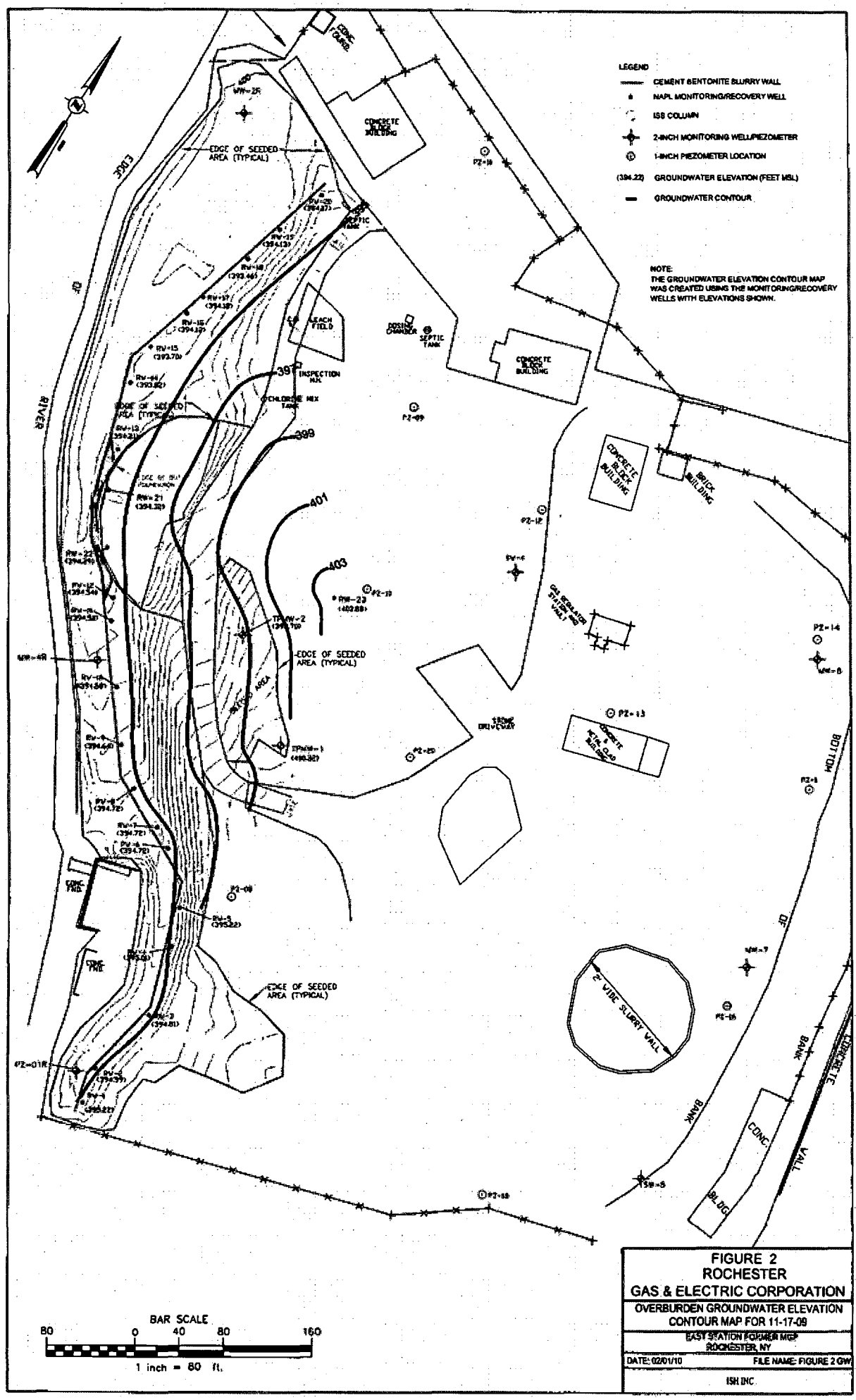



FIGURE 2
ROCHESTER GAS & ELECTRIC CORPORATION
OVERBURDEN GROUNDWATER ELEVATION CONTOUR MAP FOR 11-17-09
EASY STATION FORMER MGP
ROCHESTER, NY
DATE: 02/01/10 FILE NAME: FIGURE 2 GW
ISH INC.

# APPENDIX A

## PSEUDO-PUMP TEST DATA

**PSEUDO-PUMP TEST DATA**
**RG&E EAST STATION, ROCHESTER, NEW YORK**
**NOVEMBER 18 AND 19, 2009**

| Well ID | DATE | TIME | SWL | Comments |
|---|---|---|---|---|
| MW-2R | 11/18/09 | INITIAL | 10.87 | PURGED 2.8 GALLONS FROM 10:00 TO 10:22 |
| | | | | Water is dark, blackish in color with petro-type odor |
| | 11/18/09 | 10:22 | 16.64 | |
| | 11/18/09 | 10:22:30 | 16.63 | |
| | 11/18/09 | 10:23 | 15.88 | |
| | 11/18/09 | 10:23:30 | 15.09 | |
| | 11/18/09 | 10:25 | 15.03 | |
| | 11/18/09 | 10:25:30 | 14.59 | |
| | 11/18/09 | 10:26 | 14.55 | |
| | 11/18/09 | 10:26:30 | 14.51 | |
| | 11/18/09 | 10:27 | 14.49 | |
| | 11/18/09 | 10:27:30 | 14.47 | |
| | 11/18/09 | 10:28 | 14.41 | |
| | 11/18/09 | 10:28:30 | 14.43 | |
| | 11/18/09 | 10:29 | 14.41 | |
| | 11/18/09 | 10:29:30 | 14.41 | |
| | 11/18/09 | 10:30 | 14.41 | |
| | 11/18/09 | 10:31 | 14.33 | |
| | 11/18/09 | 10:32 | 14.28 | |
| | 11/18/09 | 10:33 | 14.25 | |
| | 11/18/09 | 10:34 | 14.23 | |
| | 11/18/09 | 10:35 | 14.15 | |
| | 11/18/09 | 10:40 | 14.06 | |
| | 11/18/09 | 10:43 | 13.98 | |
| | 11/18/09 | 10:46 | 13.90 | |
| | 11/18/09 | 10:49 | 13.82 | |
| | 11/18/09 | 10:53 | 13.75 | |
| | 11/18/09 | 10:56 | 13.68 | |
| | 11/18/09 | 10:59 | 13.63 | |
| | 11/18/09 | 11:02 | 13.56 | |
| | 11/18/09 | 11:05 | 13.50 | |
| | 11/18/09 | 11:08 | 13.44 | |
| | 11/18/09 | 11:11 | 13.39 | |
| | 11/18/09 | 11:14 | 13.33 | |
| | 11/18/09 | 11:37 | 12.85 | |
| | 11/18/09 | 11:56 | 12.08 | |
| | 11/18/09 | 13:27 | 11.11 | |
| | 11/18/09 | 14:46 | 11.10 | |
| | 11/18/09 | 15.09 | 11.10 | |
| | 11/19/09 | 10:35 Final | 11.10 | |

| Well ID | DATE | TIME | SWL | Comments |
|---|---|---|---|---|
| MW-4R | 11/18/09 | INITIAL | 11.59 | PURGED 3.25 GALLONS FROM 12:15 TO 12:36 |
| | | | | Water is bright orange/yellow in color |
| | | | | Coal tar type odor |
| | 11/18/09 | 12:36 | 17.09 | |
| | 11/18/09 | 12:36:30 | 17.03 | |
| | 11/18/09 | 12:37 | 16.99 | |
| | 11/18/09 | 12:37:30 | 16.95 | |
| | 11/18/09 | 12:38 | 16.92 | |
| | 11/18/09 | 12:38:30 | 16.88 | |
| | 11/18/09 | 12:39 | 16.86 | |
| | 11/18/09 | 12:39:30 | 16.83 | |
| | 11/18/09 | 12:40 | 16.82 | |
| | 11/18/09 | 12:40:30 | 16.79 | |
| | 11/18/09 | 12:41 | 16.77 | |
| | 11/18/09 | 12:41:30 | 16.75 | |
| | 11/18/09 | 12:42 | 16.74 | |
| | 11/18/09 | 12:42:30 | 16.72 | |
| | 11/18/09 | 12:43 | 16.70 | |
| | 11/18/09 | 12:43:30 | 16.69 | |
| | 11/18/09 | 12:44 | 16.68 | |
| | 11/18/09 | 12:44:30 | 16.66 | |
| | 11/18/09 | 12:45 | 16.64 | |
| | 11/18/09 | 12:46 | 16.62 | |
| | 11/18/09 | 12:47 | 16.60 | |
| | 11/18/09 | 12:48 | 16.59 | |
| | 11/18/09 | 12:49 | 16.57 | |
| | 11/18/09 | 12:50 | 16.55 | |
| | 11/18/09 | 12:54 | 16.52 | |
| | 11/18/09 | 12:57 | 16.49 | |
| | 11/18/09 | 13:00 | 16.46 | |
| | 11/18/09 | 13:05 | 16.42 | |
| | 11/18/09 | 13:10 | 16.38 | |
| | 11/18/09 | 13:15 | 16.34 | |
| | 11/18/09 | 13:20 | 16.32 | |
| | 11/18/09 | 14:52 | 16.11 | |
| | 11/18/09 | 15:19 | 16.06 | |
| | 11/19/09 | 10:43 Final | 15.83 | |

| Well ID | DATE | TIME | SWL | Comments |
|---|---|---|---|---|
| PZ-01R | 11/18/09 | INITIAL | 19.51 | PURGED 1.5 GALLONS FROM 14:00 TO 14:09 |
| | | | | Water is clear with coal tar type odor |
| | 11/18/09 | 14:09 | 21.05 | |
| | 11/18/09 | 14:10 | 20.95 | |
| | 11/18/09 | 14:10:30 | 20.92 | |
| | 11/18/09 | 14:11 | 20.90 | |
| | 11/18/09 | 14:11:30 | 20.89 | |
| | 11/18/09 | 14:12 | 20.87 | |
| | 11/18/09 | 14:12:30 | 20.86 | |
| | 11/18/09 | 14:13 | 20.85 | |
| | 11/18/09 | 14:13:30 | 20.84 | |
| | 11/18/09 | 14:14 | 20.84 | |
| | 11/18/09 | 14:14:30 | 20.83 | |
| | 11/18/09 | 14:15 | 20.82 | |
| | 11/18/09 | 14:16 | 20.81 | |
| | 11/18/09 | 14:17 | 20.80 | |
| | 11/18/09 | 14:18 | 20.79 | |
| | 11/18/09 | 14:19 | 20.78 | |
| | 11/18/09 | 14:23 | 20.77 | |
| | 11/18/09 | 14:26 | 20.75 | |
| | 11/18/09 | 14:29 | 20.74 | |
| | 11/18/09 | 14:35 | 20.72 | |
| | 11/18/09 | 14:40 | 20.72 | |
| | 11/18/09 | 14:45 | 20.72 | |
| | 11/18/09 | 15:15 | 20.66 | |
| | 11/19/09 | 10:55 Final | 19.77 | |