CLAREMONT POLYCHEMICAL SUPERFUND SITE
Groundwater Treatment System
Old Bethpage, New York

MONTHLY REPORT
of the
Operations & Maintenance Activities
During
September 2011

Prepared for the:

New York State Department of Environmental Conservation

Prepared by:

HRP Associates, Inc
197 Scott Swamp Road
Farmington, CT 06032

Prepared: October 6, 2011

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (cont'd)

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

AS	air stripping
ASF	air stripper feed
CA	carbon adsorber
CLP	contract laboratories program
DOSRs	daily operations summary reports
DTW	depth to water
gpd	gallons per day
gpm	gallons per minute
GW	groundwater
GWTP	groundwater treatment plant
GWTS	groundwater extraction, treatment, and reinjection system
HCl	hydrochloric acid
HMI	human-machine interface
HRP	HRP Associates, Inc.
HVAC	heating, ventilation, and air conditioning
IG	infiltration gallery
IW	injection well
LGAC	Liquid phase granular activated carbon
LTRA	Long Term Response Action
MCC	motor control cabinet
MCP	master (main) control panel
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
PD	plant discharge
PID	photo ionization detector
PLC	programmable logic controller
PW	process water
SAIC	Science Applications International Corporation
SAP	sampling and analysis plan
SOP	standard operating procedure
SSHP	site safety and health plan
USACE	United States Army Corps of Engineers
VGAC	vapor-phase granular activated carbon
VFD	variable frequency drive
VOCs	volatile organic compounds

1.0 OPERATION AND MAINTENANCE ACTIVITIES

HRP Associates, Inc. (HRP) continued its daily operation and maintenance (O&M) of the Claremont Polychemical Superfund Site and its groundwater treatment system (GWTS) for September 2011. This period is defined as 0600 hours, September 1, 2011, through 0600 hours, October 1, 2011. O&M conducted during this reporting period was performed in accordance with the site O&M Manual.

The system operated for 30 days in the September reporting period. The plant experienced a single period of extended downtime this month. The processes were shut down for 290 minutes during which the carbon adsorber vessels were back washed as part of the maintenance task. The injection pumps were off for an additional 47 minutes during the injection well falling head test.

Each workday morning, readings of key operational parameters are recorded. These readings are used to monitor the plant's performance and as a basis for adjustments to the plant processes. These records (Daily Data Logs) are kept on-file at the plant.

1.1 Daily Operations Summary Reports

The daily operation of the GWTS is documented in the Daily Operations Summary Reports (DOSR). The DOSRs include a summary of the daily O&M activities and are based on the Daily Operating Logs, the Daily Activities Summary Reports, the Daily Site Safety Inspection Sheets, Weekly Air Monitoring Logs, the Sound Level Monitoring Worksheets, and the Employee and Subcontractor/Visitor Sign-In Sheets. The DOSR and the daily worksheets are kept on file at the plant.

1.2 Summary of Maintenance Activities

Maintenance of the treatment system and associated equipment is performed in accordance with the Claremont Groundwater Treatment System O&M Manual. Routine activities and equipment function tests completed during this reporting period are summarized in the Monthly Maintenance Log. This table is filed on-site and is available for review.

System maintenance incorporates the equipment manufacturers' recommendations, operations experience, and good engineering and maintenance practices. A detailed accounting of daily operation and maintenance activities is provided in the plant operator's daily logbook, the site supervisor's daily logbook, the operator's daily activities summary reports, and the site supervisor's daily plant activity notes. These documents are filed on-site.

Significant maintenance activities completed during this reporting period included the following:

- Scheduled routine monthly tasks were completed and included motor amp loads readings, injection well (IW) depth soundings, IW falling head tests, valve function tests, comprehensive site inspections, and infiltration gallery readings.

- Outdoor site maintenance was performed as needed. This included various landscaping tasks around the plant and in the well field.
- The process pumps were rotated (two on-line, one off) three times during this period as part of the preventive maintenance task.
- The process pH probes were cleaned, inspected, calibrated, and adjusted, as necessary.
- The nozzles on the settling tanks were cleaned by backwashing with compressed air.
- Both liquid carbon adsorber vessels were back washed which included pre-sparging with low pressure air. The carbon sludge was dried in the filter press and collected in a drum.
- The monthly truck inspection was completed.
- Where possible, unnecessary copper piping was removed from various process pads and put into storage.
- The wellfield and injection wells were inspected and the pathways cleared.
- Indoor storage shelves were constructed and miscellaneous shop hardware was sorted and stowed.
- Condensate was drained from fixtures in the compressed air lines.
- The developing sinkhole at the SW corner of the plant was filled in local sand and gravel.
- The front gates were realigned.

2.0 MAINTENANCE LOGS

The following operating logbooks are currently in use:

- Site Supervisor's Daily Log CL-39
- Plant Operators Daily Log CL-40

Except for log book Nos. 36, 39 and 40, all the system log books were sent to SAIC Harrisburg to be copied into the Project Archives. They are to be returned and kept on file at the GWTP where they will be available for detailed review. All of the logbooks are identified on a master logbook inventory control file and are routinely checked as part of the site quality control program.

3.0 TECHNICAL SUPPORT ACTIVITIES

3.1 HRP Personnel

- None
- Mike Peck remotely accessed the site supervisor's computer to resolve some connectivity issues.

3.2 Sub-contractors and Manufacturing Representatives

- None

3.3 Deliveries

- Mail was delivered on 9 occasions
- UPS delivered the McMaster Carr order

3.4 Visitors

- Valerie Egan (NCDPW) was in check on the sampling schedule.

4.0 HEALTH AND SAFETY

Work at the Claremont Polychemical groundwater treatment plant (GWTP) was conducted in accordance with the approved Site Safety and Health Plan (SSHP). Site safety inspections were performed daily and the reports are filed on-site. In addition to the daily safety inspections, comprehensive safety inspections are routinely performed. These worksheets are also on file.

No safety incidents or accidents occurred during this September 2011 period.

5.0 PLANNED ACTIVITIES AND SCHEDULES

The status of project work and significant corrective maintenance activities is updated on a monthly basis. This Activities Schedule was last updated September 27 and is filed on-site.

Separate tentative schedules for equipment maintenance and sampling events are shown in the O&M Manual and the Sampling and Analysis Plan (SAP).

6.0 MONITORING WELL WATER ELEVATIONS

The quarterly groundwater sampling task was completed in August. After the event, the water level elevations and water quality data was recorded in the database. The updated database is available for review. The next GW sampling event is scheduled for October at which time the database will be further updated.

7.0 TREATMENT SYSTEM FLOWS

The volume of treated water discharged by the treatment plant to the injection well field is determined daily from readings of the magnetic flow meter on the plant effluent line. A summary of these meter readings is provided in Table 7-1. The total volume of treated water discharged in September, as measured from 0600 hours on September 1, 2011, to 0600 hours on October 1, 2011, was 15,622,346 gallons. This volume is approximately 108 percent of the monthly targeted treatment goal. The cumulative amount of treated water for this operating year (starting June 1, 2011) is 60,855,236 gallons. This is approximately 3 percent

above the targeted goal for water to be treated. A graphic representation of the daily system flows are provided in Figure 14-1.

The average discharge flow for September was 362 gallons per minute (gpm) and 520,745 gallons per day (gpd).

The flow monitoring units for the individual IW systems are fully functioning. This allows for reading the flow rate and volume discharged to each well system. The relative flows for September are indicated below:

Injection Well System	Flow Average (gpm)	Volume Discharged (gallons)
IW-1	89	3,848,149
IW-2	93	4,023,889
IW-3	109	4,694,329
IW-4	81	3,500,998
System	372	16,067,365

Flow to infiltration galleries IG-1 and IG-3 is restricted so that flow to IW-1 and IW-3 is maximized. Both galleries are draining adequately. The plant's effluent discharge flow is maximized and is limited by injection pump system capacity.

8.0 CHEMICAL CONSUMPTION

Currently, the four chemical feed systems are offline, and their future use is not anticipated. All systems have been tested and are operational. Currently, the chemical feed tanks and feed tubing contain water.

Following is the inventory of the bulk chemicals at the plant:

Chemical	Inventory	
	No. of Containers	Container Type/Size
Caustic	7	55-gallon drum
Hydrochloric Acid (HCl)	1	55-gallon drum
Citric Acid	1	55-gallon drum, (~200 lbs.)

9.0 CARBON SYSTEMS

9.1 Aqueous-Phase Carbon

The presence of volatile organic compounds (VOCs) has not been detected in the effluent streams of the liquid-phase Carbon Adsorber (CA) vessels. The influent and effluent streams of the vessels continue to be monitored on a quarterly basis.

Both carbon adsorber vessels were backwashed in September. As part of the daily monitoring, the differential pressures across the vessels are recorded.

Approximately ¾ drum of spent carbon cake was generated during the backwash operation. No carbon was added to the vessels.

9.2 Vapor-Phase Carbon

Two vapor-phase Carbon Adsorber vessels are available for the off gas treatment of the air stripping (AS) stream. Currently, VGAC-1 is online. VGAC-2 is offline and ready for service. Monitoring of VOCs in the influent and effluent air stream of the active vessel is performed weekly with a photo-ionization detector (PID). VOCs have not been detected in the effluent air stream during these weekly monitoring events.

No spent vapor-phase carbon was generated during this period, and no carbon was added to the vessels.

10.0 WASTE DISPOSAL

- No hazardous waste was generated or disposed of during this reporting period.
- Ten full drums and one partially filled drum of nonhazardous carbon sludge cake are on-site.
- Eight drums were shipped to the CWM TSD facility under the approved waste profile. Upon arrival at the TSD, the background radiation level was unacceptable and the drums were returned to Claremont and are awaiting further analysis.
- No non-hazardous sludge was disposed of in September.

11.0 MONTHLY DISCHARGE MONITORING REPORT

The plant is currently operating under an equivalency permit from the New York State Department of Environmental Conservation (NYSDEC). While this permit requires periodic submittal of discharge monitoring results, monthly discharge monitoring reporting is not required. Monitoring data will be provided to the NYSDEC upon request.

A letter requesting an extension of the authorization to discharge treated groundwater to the groundwater aquifer was submitted to Mr. Brian Baker of the NYSDEC Division of Water. The response and permit extension are pending.

12.0 OTHER OPERATIONS, MAINTENANCE, OR MANAGEMENT ISSUES

The output of influent pump 1 continues to drift as the VFD keeps the pump in the ramping mode.

The Variable Frequency Drive (VFD) for air stripper feed pump 2 continues to give earth fault errors. When active, P2 is operated through the VFD of the off-line pump.

The disposition of 8 drums of 'non-hazardous' waste is pending

Several Chevrolet dealerships were contacted regarding the mounting of the plant snow plow on the plant truck. These dealerships no longer install plows.

Several ongoing plant-wide issues include:

- Determine long term plan for process pump check valves.
- Repair leaks in injection pump discharge manifold.
- Install snow plow on plant truck.
- Ship out non-hazardous waste.
- Repair VFD of ASF P2
- Replace bathroom fan.
- Replace level transducer for IW-2
- Determine cause of drift in performance of INJ P1
- Update plant documents with recent changes to the plant operations (INJ P3, EXT well transducers)
- Complete Octobers' PD and GW sampling tasks.

13.0 PLANT DOCUMENTS

Procedures and standard forms are written, reviewed, and revised as needed. In September:

- The Extraction Well System PID (CPS-Dwg-005) was updated.
- A new chain of custody document was implemented at the request of NYSDEC.
- The comprehensive safety inspection forms (CPS-Form-002, -003, -004, -005, -015) were revised.
- The GWTP Control PID (CPS-Dwg-024) was updated.
- The Operations And Maintenance Manual is currently being revised and updated.

14.0 TREATMENT PLANT AND WELL FIELD MONITORING RESULTS

The Claremont Polychemical GWTS is monitored through the analysis of off-site laboratory analytical data and on-site field data.

14.1 Off-site Analytical Data Results

Monthly plant discharge (PD) samples are taken for organic analysis in compliance with the NYSDEC discharge permit. Quarterly groundwater (GW) samples are taken for organic and inorganic analysis, and quarterly process water (PW) samples are taken for organic, inorganic, and generic analysis.

- The PD sampling tasks were completed 9/14 and the organic samples were shipped to Test America.
- October's PD sampling is scheduled for 10/12 and the GW samples for 10/24-27.

14.2 Field Data

Treatment plant effluent is monitored for pH and temperature on a weekly basis in order to obtain a monthly average in compliance with the NYSDEC discharge permit requirements. These readings are obtained from the discharge sample in a controlled area with calibrated portable meters. A summary of these data is as follows:

Date	pH	Temperature (°C)
September 6, 2011	6.50	17
September 12, 2011	6.35	17
September 19, 2011	6.35	15
September 26, 2011	6.33	17
Monthly Average	**6.38**	**16.5**

The NYSDEC discharge permit requires the PD to have an average monthly pH greater than 5.50. The treatment plant effluent met the monthly average pH discharge requirement.

Soundings to determine the depth to the bottom of the IWs were taken on September 21. A summary of the historical data is included in Table 14-1. While the wells are stable, this data indicate that since the beginning of monitoring on June 17, 2004, there has been an accumulation of sediment in the four injection wells. IW-1 is the most severe case, with the influx of sand accounting for more than 100 feet of sediment in the bottom of the well. Of this sediment, 78 feet were deposited between April 2008 and March 2009.

Water elevations in the IWs are recorded on a daily basis as is the daily total flow discharged to the well field. These are depicted in Figure 14-1. The IW levels were generally steady while the pumps were active. The transducer for IW-2 continues to generate an erratic signal.

The injection well falling head test was performed on September 21. A graphic representation of the time required to drop the water level to a static condition is presented in Figure 14-2. Comparisons of baseline data from March 2006 to that of recent tests (Figure 14-3) indicate that all four wells are stable. The transducer for IW-2 is not functioning correctly.

Other data collected during September included:

- The plant air was sampled with PID on 4 occasions.
- The plant sound level readings were recorded twice.
- The depth-to-water readings were recorded for the injection wells.
- The flow-meter readings and the depth of water in the infiltration galleries were recorded.
- The process pump amp-load readings were recorded

15.0 PROCESS ANALYSIS, INTERPRETATIONS, AND CONCLUSIONS

15.1 Influent Process

- Currently, the three extraction well pumps are on-line. The pumps are controlled by water level set points in the wells and the E Q tank.
- Currently, the three influent pumps are operational with 2 pumps on-line at a time.
- There is some drift in the output of influent pump 1 (the discharge fluctuates 0-15 gpm).

No other new issues arose with the extraction/influent system. Routine maintenance continues.

15.2 Flow through Aeration Process

Both treatment trains are on-line for the treatment of the influent water.

The polymer, potassium permanganate, caustic, and HCl feed systems remain out of service as current water conditions make their use unnecessary. The flash and flocculation mixers at the clarifiers remain idle due to the discontinued use of the polymer and lack of solids generation. The reaction tanks and clarifier systems continue to operate as pass-through settling tanks.

15.3 Settling Filter Process

The frequency of air sparging of the discharge nozzles and screens has increased. The tanks are drained and cleaned as necessary. The system is fully functional.

15.4 Air Stripping Process

- The three ASF pumps are operational and are rotated into service two at a time.
- The VFD for ASF P2 continues to exhibit an earth ground fault. Pump 2 operates through the off line pump's VFD.
- Pump #3 emits a high pitched whine, which will require future address.

No other issues arose with the air stripping system. Routine maintenance continues.

15.5 Aqueous-Phase Carbon Treatment Process

- All three CA feed pumps are operational, with two pumps rotated into service at a time.
- Both vessels were backwashed with treated water in September.

Other routine maintenance tasks continued.

15.6 Treated Water Injection Process

The plant's total discharge flow rate and volume are measured by a magnetic flow meter on the injection pump system's main discharge line. Flow sensors and transmitters installed in the discharge line to each injection well system are on-line and connected to the MCP and HMI.

- The plant discharge system is online and fully operational.
- Water levels in the wells are stable.
- All three INJ pumps are operational, with two pumps rotated into service at a time
- The level transducer in IW-2 continues to produce and erratic signal.
- The galleries are adequately draining.

No other issues were encountered with the injection system in September. Routine maintenance tasks continue.

FIGURES

Figure 14-1 Injection Well Elevations and Daily Flow

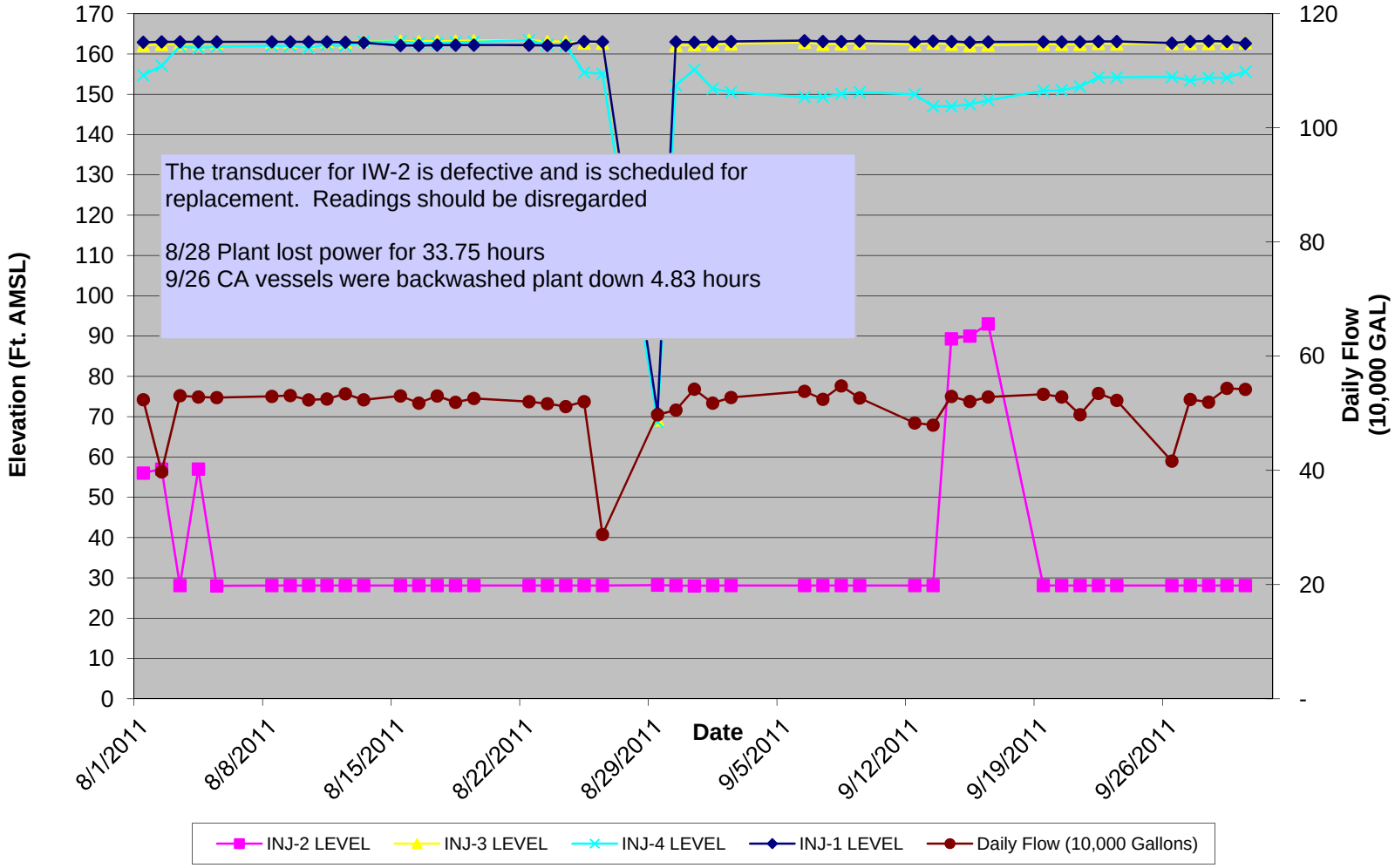


Figure 14-2 Injection Well Falling Head Test September 21, 2011

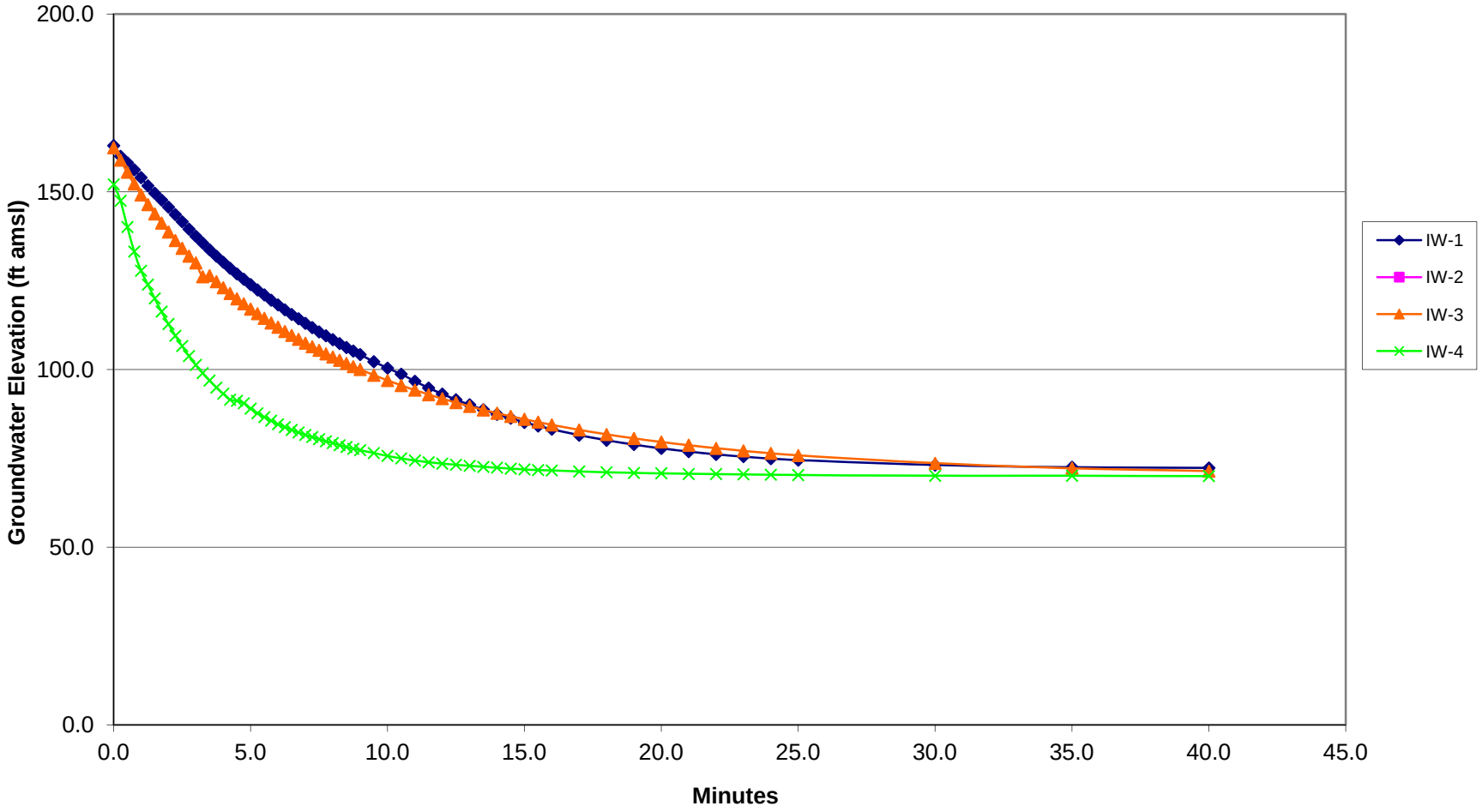
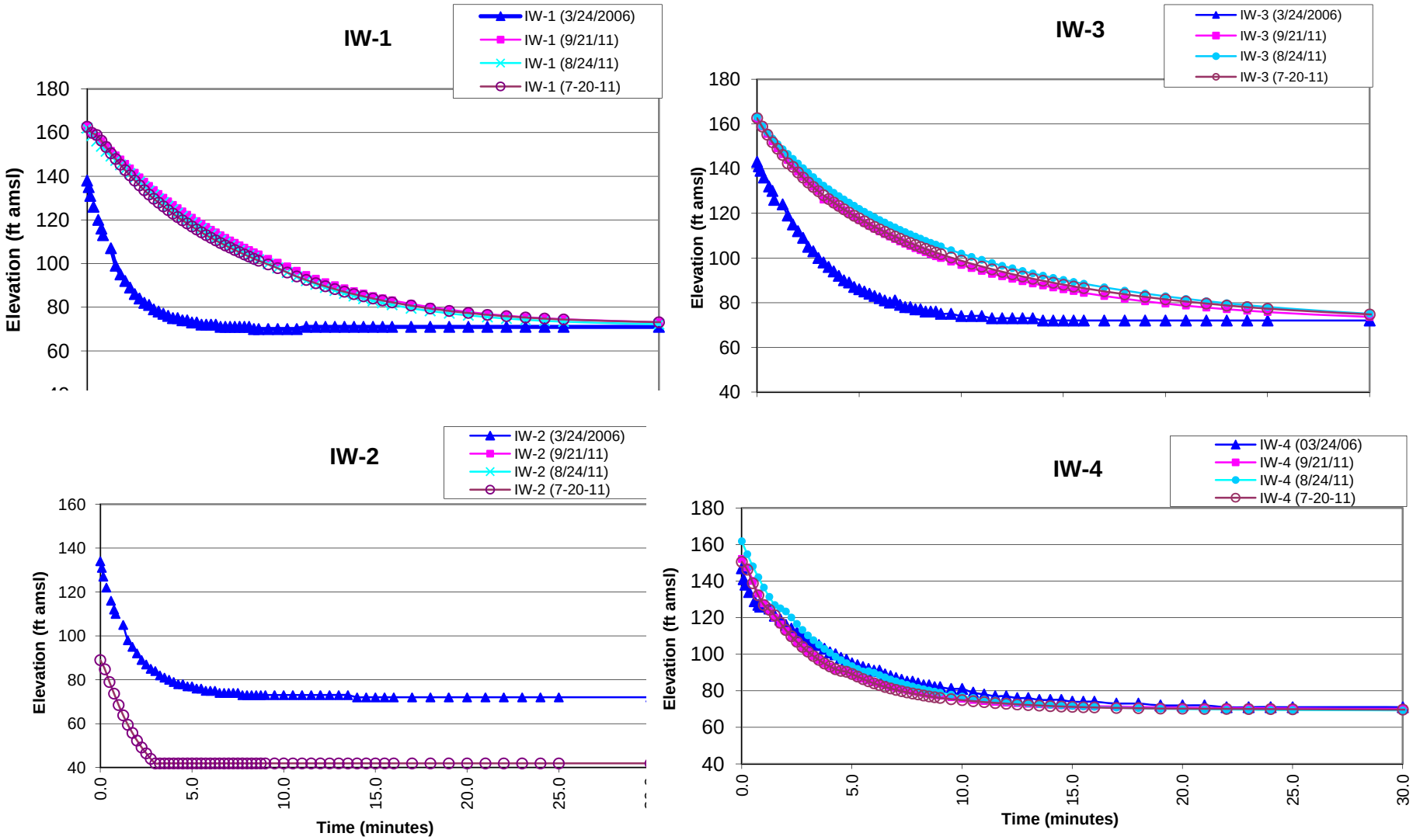


Figure 14-3 Comparison of Falling Head Tests



TABLES

TABLE 7-1
MAGNETIC FLOW METER DAILY TOTALIZER READINGS

September 2011

DATE	TOTALIZER READING	GALLONS PER DAY	GALLONS PER MINUTE
9/1/2011	412608370	551630	383
9/2/2011	413160000	2110000	366
9/6/2011	415270000	540000	375
9/7/2011	415810000	530000	368
9/8/2011	416340000	540000	375
9/9/2011	416880000	1580000	366
9/12/2011	418460000	480000	333
9/13/2011	418940000	490000	340
9/14/2011	419430000	520000	361
9/15/2011	419950000	520000	361
9/16/2011	420470000	1590000	368
9/19/2011	422060000	530000	368
9/20/2011	422590000	530000	368
9/21/2011	423120000	500000	347
9/22/2011	423620000	530000	368
9/23/2011	424150000	1560000	361
9/26/2011	425710000	420000	292
9/27/2011	426130000	530000	368
9/28/2011	426660000	520000	361
9/29/2011	427180000	540000	375
9/30/2011	427720000	510716	355
10/1/2011	428230716		
Sept. 2011 TOTAL TREATED WATER		**15,622,346**	
Sept. 2011 AVG. GALLONS PER MINUTE DISCHARGED			**362**

Table 14-1 Injection Well Soundings

	Injection Well 1		Injection Well 2		Injection Well 3		Injection Well 4	
Date	Depth to Bottom (ft)	Difference	Depth to Bottom (ft)	Difference	Depth to Bottom (ft)	Difference	Depth to Bottom (ft)	Difference
6/17/2004	248.50	--	248.50	--	253.20	--	205.00	--
7/23/2004	247.97	0.53	248.19	0.31	251.20	2.00	203.50	1.50
8/16/2004	247.90	0.07	248.18	0.01	251.00	0.20	203.40	0.10
9/14/2004	247.95	-0.05	248.15	0.03	251.10	-0.10	203.95	-0.55
10/28/2004	247.79	0.16	248.20	-0.05	251.20	-0.10	203.15	0.80
11/15/2004	247.40	0.39	248.26	-0.06	251.03	0.17	204.03	-0.88
12/29/2004	247.87	-0.47	248.33	-0.07	250.82	0.21	204.40	-0.37
1/10/2005	247.83	0.04	248.12	0.21	250.54	0.28	204.70	-0.30
2/16/2005	247.50	0.33	248.25	-0.13	250.45	0.09	204.36	0.34
3/18/2005	247.82	-0.32	248.10	0.15	250.40	0.05	204.43	-0.07
4/5/2005	247.78	0.04	248.13	-0.03	250.47	-0.07	204.20	0.23
5/10/2005	247.81	-0.03	248.14	-0.01	250.45	0.02	204.22	-0.02
6/30/2005	247.62	0.19	247.25	0.89	250.36	0.09	204.04	0.18
7/26/2005	247.67	-0.05	246.82	0.43	249.93	0.43	204.11	-0.07
8/29/2005	247.71	-0.04	246.50	0.32	249.78	0.15	204.17	-0.06
9/27/2005	247.77	-0.06	246.29	0.21	249.77	0.01	203.90	0.27
10/24/2005	247.78	-0.01	246.00	0.29	249.44	0.33	203.84	0.06
11/14/2005	247.51	0.27	246.19	-0.19	249.10	0.34	203.57	0.27
12/27/2005	247.60	-0.09	245.70	0.49	249.32	-0.22	203.83	-0.26
1/27/2006	247.51	0.09	246.09	-0.39	249.21	0.11	203.98	-0.15
2/16/2006	247.50	0.01	245.69	0.40	249.19	0.02	203.98	0.00
3/23/2006*	247.59	-0.09	245.65	0.04	249.60	-0.41	203.75	0.23
4/28/2006	247.54	0.05	243.68	1.97	249.50	0.10	203.78	-0.03
5/24/2006	247.38	0.16	243.61	0.07	249.57	-0.07	203.90	-0.12
6/20/2006	247.47	-0.09	243.70	-0.09	249.46	0.11	203.14	0.76
7/28/2006	247.44	0.03	243.37	0.33	249.52	-0.06	203.33	-0.19
8/21/2006	247.34	0.10	243.19	0.18	249.42	0.10	202.88	0.45
9/22/2006	247.36	-0.02	242.70	0.49	249.27	0.15	203.05	-0.17
10/30/2006	247.16	0.20	242.64	0.06	249.48	-0.21	203.92	-0.87
11/29/2006	247.32	-0.16	242.50	0.14	249.22	0.26	203.19	0.73
12/29/2006	247.22	0.10	242.52	-0.02	249.29	-0.07	203.15	0.04
1/30/2007	247.44	-0.22	242.60	-0.08	249.47	-0.18	203.35	-0.20
2/21/2007	247.63	-0.19	242.56	0.04	249.42	0.05	203.32	0.03
3/29/2007	247.11	0.52	242.54	0.02	249.22	0.20	201.55	1.77
4/20/2007	247.17	-0.06	242.29	0.25	249.19	0.03	201.24	0.31
5/25/2007	246.85	0.32	242.86	-0.57	249.11	0.08	201.24	0.00
6/28/2007	246.63	0.22	242.15	0.71	248.80	0.31	200.96	0.28
7/26/2007	245.88	0.75	242.13	0.02	248.78	0.02	200.80	0.16
8/23/2007	245.96	-0.08	242.03	0.10	248.73	0.05	200.22	0.58
9/27/2007	245.79	0.17	241.96	0.07	246.80	1.93	200.29	-0.07
10/25/2007	244.69	1.10	242.08	-0.12	248.73	-1.93	200.14	0.15
11/19/2007	242.20	2.49	242.00	0.08	249.60	-0.87	201.05	-0.91

12/21/2007	235.02	7.18	241.56	0.44	249.62	-0.02	200.08	0.97
1/29/2008	232.46	2.56	241.98	-0.42	249.63	-0.01	200.03	0.05
2/29/2008	226.58	5.88	242.12	-0.14	249.82	-0.19	199.52	0.51
3/27/2008	220.50	6.08	241.90	0.22	249.50	0.32	199.30	0.22
4/29/2008	222.50	-2.00	242.02	-0.12	249.60	-0.10	198.98	0.32
5/30/2008	218.55	3.95	241.90	0.12	249.47	0.13	198.65	0.33
6/26/2008	218.60	-0.05	241.95	-0.05	249.50	-0.03	198.65	0.00
7/29/2008	214.98	3.62	242.20	-0.25	249.68	-0.18	198.68	-0.03
8/26/2008	207.03	7.95	241.90	0.30	249.72	-0.04	198.65	0.03
9/26/2008	202.40	4.63	241.93	-0.03	249.52	0.20	198.60	0.05
10/27/2008	200.68	1.72	241.88	0.05	249.50	0.02	198.59	0.01
11/20/2008	198.05	2.63	242.12	-0.24	249.54	-0.04	198.64	-0.05
12/29/2008	178.29	19.76	242.10	0.02	249.15	0.39	198.30	0.34
1/26/2009	167.50	10.79	241.90	0.20	248.87	0.28	198.28	0.02
2/25/2009	151.20	16.30	242.00	-0.10	248.80	0.07	198.80	-0.52
3/13/2009	148.68	2.52	241.87	0.13	248.94	-0.14	198.28	0.52
4/17/2009	148.52	0.16	241.67	0.20	249.00	-0.06	198.10	0.18
5/15/2009	147.60	0.92	241.64	0.03	249.05	-0.05	198.10	0.00
6/8/2009	147.50	0.10	241.60	0.04	248.95	0.10	197.92	0.18
7/27/2009	147.20	0.30	242.40	-0.80	249.00	-0.05	197.90	0.02
8/13/2009	147.20	0.00	241.55	0.85	248.90	0.10	198.00	-0.10
9/16/2009	147.20	0.00	241.50	0.05	248.90	0.00	198.00	0.00
10/28/2009	147.20	0.00	241.44	0.06	248.50	0.40	197.95	0.05
11/19/2009	146.90	0.30	241.50	-0.06	248.53	-0.03	198.00	-0.05
12/10/2009	147.40	-0.50	242.50	-1.00	249.20	-0.67	198.10	-0.10
1/22/2010	147.20	0.20	241.80	0.70	248.50	0.70	198.00	0.10
3/4/2010	147.28	-0.08	241.20	0.60	245.45	3.05	198.00	0.00
3/24/2010	144.95	2.33	241.60	-0.40	248.30	-2.85	198.00	0.00
4/19/2010	147.25	-2.30	241.65	-0.05	247.70	0.60	198.00	0.00
5/26/2010	147.28	-0.03	241.80	-0.15	248.00	-0.30	198.00	0.00
6/24/2010	147.18	0.10	241.72	0.08	248.80	-0.80	198.00	0.00
7/27/2010	144.50	2.68	241.10	0.62	248.90	-0.10	198.00	0.00
8/19/2010	146.95	-2.45	241.70	-0.60	249.05	-0.15	198.00	0.00
9/14/2010	146.00	0.95	241.70	0.00	249.10	-0.05	198.00	0.00
10/14/2010	145.90	0.10	241.65	0.05	249.10	0.00	198.00	0.00
11/8/2010	144.46	1.44	241.60	0.05	249.00	0.10	198.00	0.00
12/17/2010	145.83	-1.37	241.60	0.00	249.10	-0.10	198.00	0.00
2/24/2011	144.50	1.33	241.60	0.00	249.10	0.00	197.98	0.02
3/22/2011	145.80	-1.30	241.60	0.00	248.90	0.20	198.00	-0.02
4/12/2011	145.80	0.00	241.60	0.00	248.50	0.40	197.50	0.50
5/23/2011	148.80	-3.00	241.60	0.00	248.40	0.10	197.50	0.00
6/22/2011	145.80	3.00	241.60	0.00	248.00	0.40	197.83	-0.33
7/15/2011	147.28	-1.48	241.60	0.00	247.70	0.30	197.80	0.03
8/12/2011	145.85	1.43	241.50	0.10	248.25	-0.55	197.80	0.00
9/21/2011	145.90	-0.05	241.10	0.40	248.25	0.00	197.73	0.07

Change 6/17/04 to present	**102.60**	**7.40**	**4.95**	**7.27**
Change 6-04 through 2-06	1.00	2.81	4.01	1.02
*Injection wells IW-2 and IW-3 redeveloped during week ending 3/17/2006				
Change 3-06 thru 10/07	2.90	3.57	0.87	3.61
Injection wells IW-1 and IW-3 were redeveloped during week ending 11/9/07				
Change 11-07 thru 3/08	21.70	0.10	0.10	1.75
Injection wells IW-1 and IW-3 were redeveloped during week ending 4/25/08				
Change 4/08 to present	**76.60**	**0.92**	**1.35**	**1.25**