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

MONTHLY REPORT
of the
Operations & Maintenance Activities
During
July 2011

Prepared for the:

New York State Department of Environmental Conservation

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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 July 2011. This period is defined as 0600 hours, July 1, 2011, through 0600 hours, August 1, 2011. O&M conducted during this reporting period was performed in accordance with the site O&M Manual.

The system operated for 31 days in the July reporting period. While the plant was not shut down for repairs or maintenance tasks, the influent pumps continued to trip off during a 16 day period, due to an under-voltage problem. This resulted in less water through the plant. The flow to Treatment Train 2 was shut off for an additional 139 minutes for sandfilter cleaning.

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 are kept on-file at the plant.

1.1 Daily Operations Summary Reports

The daily operations of the GWTS are 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. This 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 plant supervisor's daily plant activity notes. These documents are filed on-site.

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

- Scheduled monthly tasks were completed which 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.

- The process pumps were rotated (two on-line, one off) twice during this period as part of the preventive maintenance task.
- The process pH probes were cleaned, inspected, calibrated, and adjusted, as necessary.
- Sandfilter 2 was drained and power washed.
- The floor sump was cleaned and the carbon sludge was collected through the filter press.
- Backwashing of the sandfilter nozzles resumed.
- New wires were run between the variable frequency drive (VFD) and the motor of air stripper feed (ASF) pump 2.
- Tests continued on the operation of ASF P2. It was determined that the VFD was the problem and not the pump. The pump has been run through the VFDs of P1 and P3 successfully.
- No reliable signal is being transmitted from the transducer in IW-2 and the unit needs to be replaced.
- The influent pumps started to trip off due to an under-voltage fault. The wiring was traced and the VFD menus were reviewed. All appears to be correct. After the pumps were put into the manual mode, they seemed to reset themselves.
- The Recycle tank was drained and flushed.
- The USACE authorized the disposal of the Homelite portable generator.
- ASF P3 faulted (Fault 4 – mains imbalanced) the wiring was checked in the VFD and secured. The pump is back on-line.
- The extraction well pump control set points continue to be adjusted to balance the flows and supply sufficient water to the plant.

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. 39 and 40, all logs were sent to SAIC Harrisburg to get copied to the Project Archives. They will 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 Personnel

- Mike Peck was on-site to fix a printer problem and address other IT needs.
- Keith Gandarillas was on-site (4-days) to assist with the groundwater sampling task.
- Adam Fox, John Moss, Brian Washburn and Nancy Garry were in for a site visit and to meet with Ben Rung of the NYSDEC.

3.2 Sub-contractors and Manufacturing Representatives

None in July.

3.3 Deliveries

- Mail was delivered on 10 occasions
- UPS delivered business cards for JSJ AND PET.
- Fed Ex delivered cell phone for JSJ
- Fed Ex delivered medical insurance packages
- General Welding delivered 4 tanks of nitrogen (twice)

3.4 Visitors

- Ben Rung (NYSDEC) was onsite to observe the GW sampling operation and for a meeting with HRP.
- Reps of Nassau County Fire Department and Plainview FD were in for the annual inspection.
- Valerie Egan (NCDPW) was in to deliver a report for Ben Rung and for a site update.

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 July 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 Scheduled was last updated July 29 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 groundwater sampling task was started in July. After its completion, the water level elevations and water quality data for the monitoring wells will be recorded in the database. The current database is available for review. The next GW sampling event is tentatively 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 July, as measured from 0600 hours on July 1, 2011, to 0600 hours on August 1, 2011, was 14,743,495 gallons. This volume is approximately 99 percent of the monthly targeted treatment goal. The cumulative amount of treated water for this operating year (starting June 1, 2011) is 29,426,400 gallons. This is approximately 1 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 July was 330 gallons per minute (gpm) and 475,597 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 to each well system. The relative flows for July are indicated below:

Injection Well System	Flow Average (gpm)	Volume Discharged (gallons)
IW-1	89	3,973,480
IW-2	78	3,470,190
IW-3	102	4,566,780
IW-4	77	3,426,850
System	346	15,437,300

There is a discrepancy between the total of the individual flows with that of the plant discharge (PD) flowmeter of ~16 gpm. These errors will be addressed with the cleaning of the piping at the discharge flow elements.

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.

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 are monitored on a quarterly basis.

The differential pressure across CA-1 is increasing and a backwash operation is scheduled for August.

No spent carbon was generated and 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.
- Seven full drums and two partially filled drums of nonhazardous carbon sludge cake are on-site and awaiting a schedule for pick up.
- Waste Management has approved the updated non-hazardous waste and is working on a schedule for pick up and disposal.
- No non-hazardous sludge was disposed of in July.

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

Flow through the treatment plant was lower this period due to the under-voltage problem experienced by the influent pumps. The pumps have been reset on several occasions and the trip free period is lengthening. This situation will continue to be monitored.

The extraction system pumps are currently operating under well water level controls. The set points are being adjusted for balanced flow to the plant.

Details are being worked out on how to proceed with the purchase of replacement parts and maintenance items.

A meeting was held with NYSDEC and HRP to clarify project objectives.

Several ongoing plant-wide issues include:

- Construct and install dedicated pump systems for selected monitoring wells.
- Determine long term plan for pump check valves.
- Repair leak in PD manifold.
- Ship out non-hazardous waste drums.
- Replace belts and pulley on AS blower
- Complete August PW sampling tasks
- Repair VFD of ASF P2
- Determine cause of drift in performance of INJ P1
- Update plant documents with recent changes to the plant operations (INJ P3, EXT well transducers)

13.0 STANDARD OPERATING PROCEDURES (SOP)

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

- The Monthly Maintenance Report format was revised (CPS-Form-013)
- GW sampling field notes were updated for NYSDEC (CPS-Form-028)

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 monthly PD samples were collected and shipped to Test America on 7/19/11.
- The quarterly GW samples were collected (7/25-8/1) and shipped to Test America on 7/27/11 and 8/1/11.

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)
July 5, 2011	5.95	15
July 11, 2011	6.38	18
July 18, 2011	6.36	18
July 25, 2011	5.79	18
Monthly Average	**6.12**	**17.25**

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 July 15. A summary of the historical data is included in Table 14-1. 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. During the latter part of July, the plant experienced lower flows resulting in fluctuations in the plant effluent. 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 July 20. 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 response of the transducer for IW-2 is off and is reading lower than actual water levels.

Other data collected during July included:

- The plant air was sampled with PID on four occasions.
- The plant sound level readings were recorded
- 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.

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.
- Currently, the three influent pumps are operational with 2 pumps on-line at a time.
- The operational influent pumps started to simultaneously trip off due to an under-voltage fault. The system has been reset and is functioning correctly.
- 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 Metals Removal Process

Both treatment trains are fully operational and 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 the discharge nozzles and screens has increased.

Train 2 was shut down to drain sludge from settling tank 2 and to pressure wash the fixtures. The sludge was drained to the floor sump.

15.4 Air Stripping Process

- The 3 ASF pumps are operational and are rotated into service
- The VFD for ASF P2 continues to exhibit an earth ground fault. Pump 2 operates through the off line pump's VFD.
- The remote start-up of the ASF pumps remains troublesome as the check valves fail to operate as intended.
- 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 L-CA feed pumps are operational, with two pumps rotated into service at a time.
- The pressure through the vessels is rising and will continue to be monitored.

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 IW system is online and fully operational.
- Flow to IW-2 is currently restricted.
- 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 July. Routine maintenance tasks continue.

FIGURES

Figure 14-1 Injection Well Elevations and Daily Flow

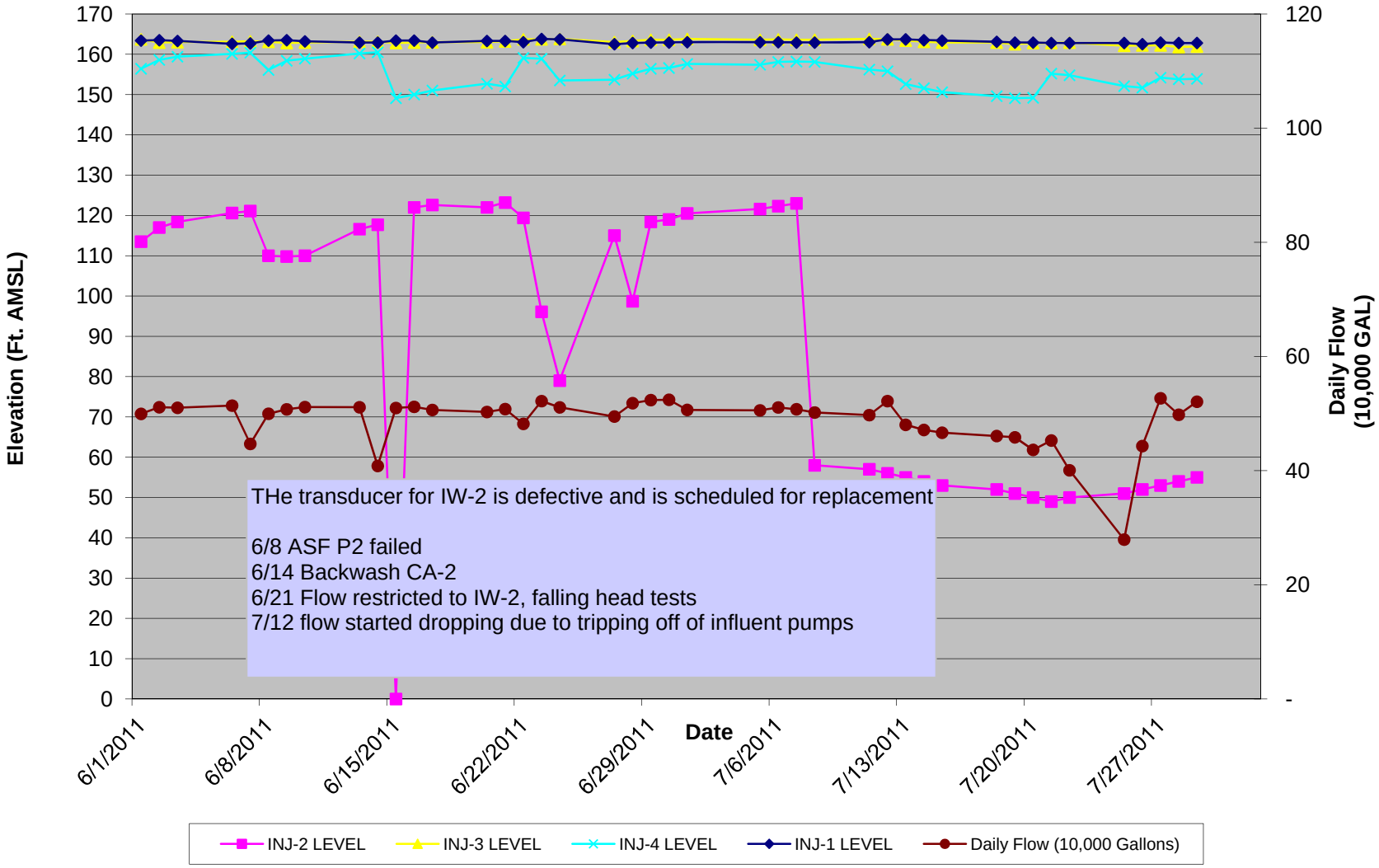


Figure 15-2 Injection Well Falling Head Test July 20, 2011

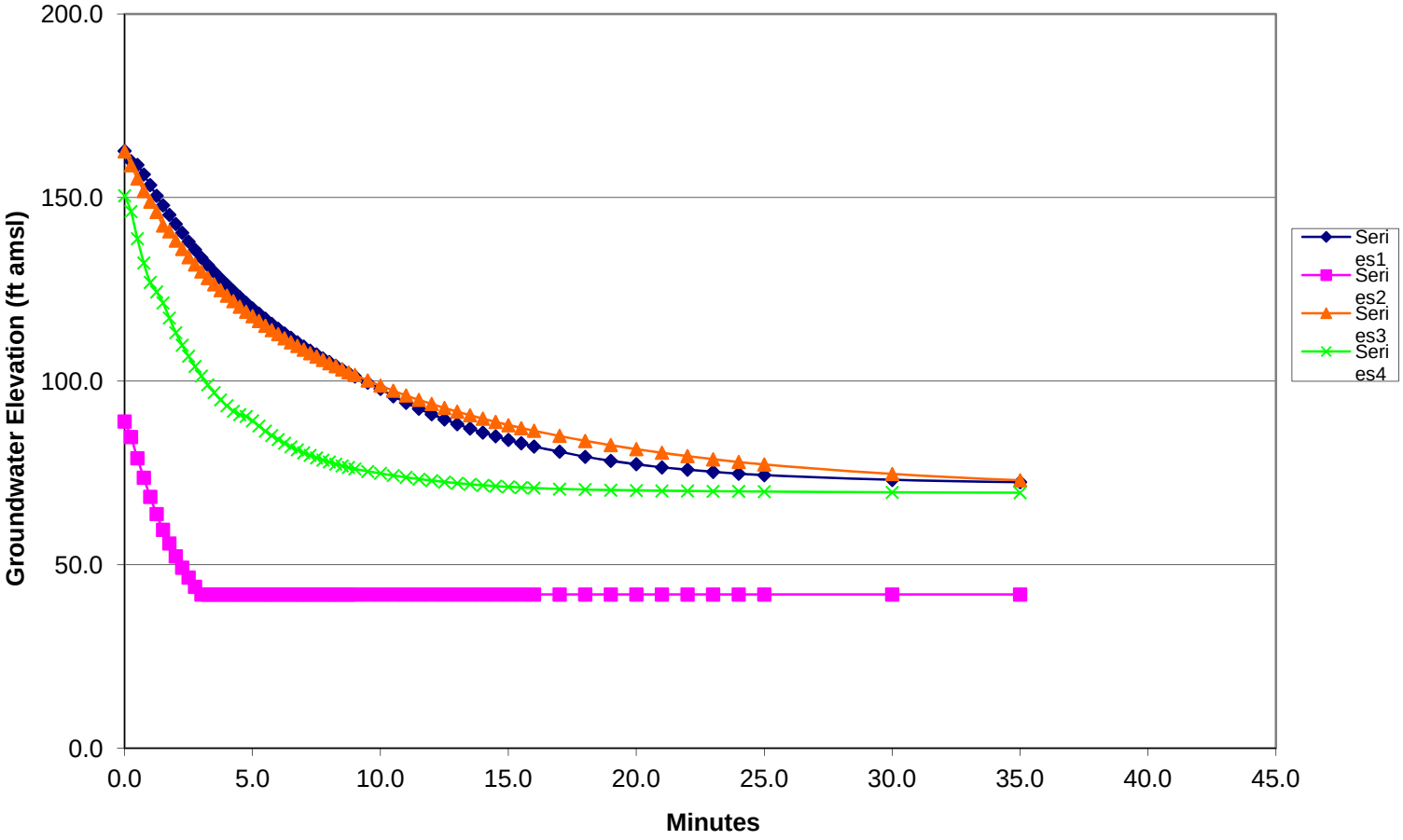
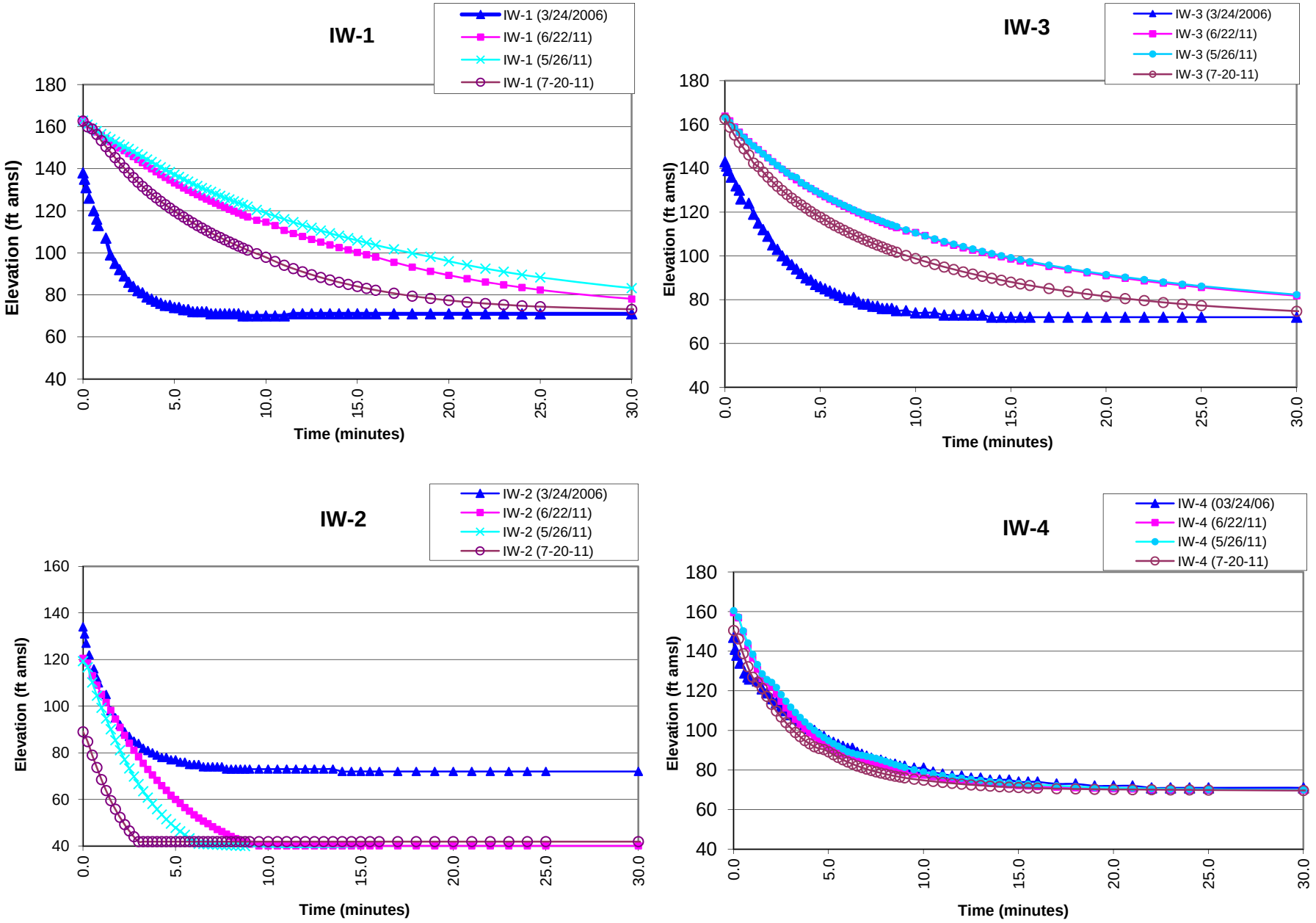


Figure 14-3 Comparison of Falling Head Tests



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TABLES

TABLE 7-1
MAGNETIC FLOW METER DAILY TOTALIZER READINGS

July 2011

DATE	TOTALIZER READING	GALLONS PER DAY	GALLONS PER MINUTE
7/1/2011	382493599	2066401	359
7/5/2011	384560000	500000	347
7/6/2011	385060000	510000	354
7/7/2011	385570000	510000	354
7/8/2011	386080000	1500000	347
7/11/2011	387580000	500000	347
7/12/2011	388080000	520000	361
7/13/2011	388600000	480000	333
7/14/2011	389080000	470000	326
7/15/2011	389550000	1400000	324
7/18/2011	390950000	460000	319
7/19/2011	391410000	460000	319
7/20/2011	391870000	440000	306
7/21/2011	392310000	450000	313
7/22/2011	392760000	1200000	278
7/25/2011	393960000	280000	194
7/26/2011	394240000	440000	306
7/27/2011	394680000	530000	368
7/28/2011	395210000	500000	347
7/29/2011	395710000	1527094	353
8/1/2011	397237094		
July 2011 TOTAL TREATED WATER		**14,743,495**	
July 2011 AVG. GALLONS PER MINUTE DISCHARGED			**330**

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

Change 6/17/04 to present	**101.22**	**6.90**	**5.50**	**7.20**
Change 6-04 through 2-	1.00	2.81	4.01	1.02

06				
*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	**75.22**	**0.42**	**1.90**	**1.18**