

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

**MONTHLY REPORT  
of the  
Operations & Maintenance Activities  
During  
July 2012**

WA D006130-19  
SITE # 130015

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
DBA	doing business as
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. dba HRP Engineering, P.C.
HVAC	heating, ventilation, and air conditioning
IG	infiltration gallery
IW	injection well
LGAC, L-CA	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
PDB	Passive Diffusion Bags
PD	plant discharge
PID	photo ionization detector
PLC	programmable logic controller
psi	pressure in pounds per square inch
PW	process water
SAIC	Science Applications International Corporation
SAP	sampling and analysis plan
SOP	standard operating procedure
SSHPP	site safety and health plan
USACE	United States Army Corps of Engineers
VGAC, V-CA	vapor-phase granular activated carbon
VFD	variable frequency drive
VOCs	volatile organic compounds

## **1.0 OPERATION AND MAINTENANCE ACTIVITIES**

HRP Associates, Inc. dba HRP Engineering, P.C. (HRP) continued its daily operation and maintenance (O&M) of the Claremont Polychemical Superfund Site and its groundwater treatment system (GWTS) for July 2012. This period is defined as 0600 hours, July 1, 2012, through 0600 hours, August 1, 2012. O&M conducted during this reporting period was performed in accordance with the site O&M Manual.

The system operated for 31 days in this reporting period with no downtime.

Each workday morning, readings of key process parameters are recorded. These readings are used to monitor the plant's performance and as a basis for adjustments to the plant operations. These readings are recorded in the Daily Database which is an electronic file maintained in monthly operating data folders.

***At the end of this report is a list of the manuals, logs, reports, and databases maintained by the treatment plant. The locations of these documents are included.***

### **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 and worksheets. These worksheets include:

Daily Operating Log – process meter readings (CPS-Form-008)

Daily Activities Summary Report - plant operator activities (CPS-Form-007)

Daily Site Safety Inspection – equipment checklist for unsafe conditions (CPS-Form-009)

Employee Sign –In Sheet – employee sign in (CPS-Form-11)

### **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 report is electronically filed 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.

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

- Scheduled routine monthly tasks which included motor amp load 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 clean up tasks and mowing the grass at the site and at selected wells.
- The process pumps were rotated (two on-line, one off) four times during this period as part of the preventive maintenance task.
- The drain screens on the settling tanks were periodically cleaned by brushing and backwashing with compressed air.
- Water was periodically drained from both V-CA vessels.
- The level monitors at the ASF tanks were isolated and flushed as a nuisance low level alarm re-occurs. The alarm continues to pause the pumps.
- The monthly truck inspection was completed.
- The Treated Water (TW) tanks, the Equalization Tank, and the Air Stripper were power washed.
- Repairs were made on the water supply line to the shop sink.
- All flow control valves were actuated. Difficult valves were loosened and lubricated.
- A drive wheel was replaced on the Billy Goat mower.
- The plant discharge pipe run was inspected for breaks and resulting sink holes. Due to vegetative overgrowth and dirt mounds no conclusions were made.
- The emergency light at the SW door was electrically tested and found to be not operating. It will be replaced.
- Adjustments were made to the level settings of EX-2 and EX-3
- A thermostat control was built and installed for the temporary heat trace wiring on the TW tank level monitors.
- Selected treatment plant wall penetrations were filled in and sealed.
- The PID was worked on to address the recent calibration problems.
- PM tasks were completed on the air compressors.
- Flow tests were re-run on the injection pumps.
- Influent flow to the infiltration galleries was revisited.
- A temporary repair was made on the water tape.

## **2.0 MAINTENANCE LOGS**

The following operating logbooks are currently in use:

- |                               |       |
|-------------------------------|-------|
| • Well Maintenance Field Log  | CL-28 |
| • Sampling support Field Log  | CL-37 |
| • Site Supervisor's Daily Log | CL-41 |
| • Plant Operator's Daily Log  | CL-42 |

The project log books were shipped to HRP-NY to copy and archive. 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**

- Tom Battles was onsite for visit and to meet with NYSDEC (7/24).
- Mike Peck remotely repaired some connectivity issues with operator's computer.
- Nancy Garry continued to assist with scheduling and communications.

#### **3.2 NYSDEC Personnel, sub-contractors and other visitors**

- Ben Rung (NYSDEC) was onsite for visit and update (7/24).
- Joe White (NYSDEC) was onsite for a tour and operations info (7/24).
- Anthony Longonigro (Neutron Electric) was in to look at several electrical jobs. These included tracing and identifying features in 2 circuit breaker panels, the wiring of the outdoor security lights, replacing a photo-electric switch, and possibly rewiring certain fixtures.

#### **3.3 Deliveries**

- Mail was delivered twice in July
- UPS delivered electric parts
- Fed Ex delivered the PDBs
- UPS delivered documents

### **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 were performed twice in July. These worksheets are also on file.

No safety incidents or accidents occurred during this July 2012 period.

## **5.0 PLANNED ACTIVITIES AND SCHEDULES**

The status of project work and significant corrective maintenance activities is updated on a monthly basis. This Project Status Report was updated July 26 and is electronically filed. In addition to this report, Table 12-1 - Summary of Maintenance Issues has been updated. This is a table of action items and maintenance issues concerning the treatment system.

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

The upcoming groundwater sampling task has been scheduled for the week of August 6. The next plant discharge samples are scheduled for August 15.

A monthly conference call between NYSDEC and HRP was conducted in July. The call for August has not been scheduled at this time.

## **6.0 MONITORING WELL WATER ELEVATIONS**

The water level elevations and water quality data for the well system was updated after the May quarterly groundwater sampling event. This database is available for review. The water level elevation data is included in the quarterly groundwater monitoring report.

The next update of this database will take place after the quarterly groundwater event scheduled for August.

## **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, 2012, to 0600 hours on August 1, 2012, was 15,921,563 gallons. This volume is approximately 106 percent of the monthly targeted treatment goal. The cumulative volume of water discharged for this contract year (June 1, 2012 to present) was 32,323,001 and is ~9% above target. A graphic representation of the daily system flows are provided in Figure 14-1. (Targeted goals are based on a treated water discharge rate of 335 gpm.)

In July, the plant discharge flow averaged 357 gallons per minute (gpm) and 513,599 gallons per day (gpd).

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



Injection Well System	Flow Average (gpm)	Volume Discharged (gallons)*
IW-1	20	866,386
IG-1	77	3,443,994
IW-2	71	3,177,370
IW-3	30	1,338,665
IG-3	87	3,890,495
IW-4	79	3,514,910
<b>System</b>	<b>364</b>	<b>16,231,820</b>

The discrepancy between the individual injection system meter readings and the total plant effluent meter readings (~7 gpm) is due in part to the type of flow meters utilized to measure the discharge (paddle wheel vs. magnetic vs. turbine), sludge build up in the piping at the flow elements, rounding factors in the meters, and the relative time the readings are taken.

Flow to IW-1 and IW-3 is maximized. As long as the field valves to the wells are open full, the flow to the galleries will remain fairly constant regardless of the valve position of the IG. Currently the ball valves to each gallery are closed at 50%. Both galleries are draining adequately but the water levels are rising.

The plant's effluent discharge is volume limited by injection pump system capacity and the ability of the wells to accept water.

## **8.0 CHEMICAL CONSUMPTION**

Currently, the four chemical feed systems are offline, and their future use is not anticipated. The systems are periodically tested and are operational. With the exception of the permanganate feed tank, the chemical feed tanks and feed tubing contain water for testing and inspection purposes. Currently the KMnO<sub>4</sub> tank needs a repair to a cracked drain flange.

There are no bulk chemicals onsite.

## **9.0 CARBON SYSTEMS**

### **9.1 Aqueous-Phase Carbon**

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

Each vessel on initial charge (May 2008) contained ~600 cu. ft. (12,000 lbs.) of carbon.

As part of the daily monitoring, the differential pressure across each vessel is recorded. Currently the differential pressure across vessel #1 is 2.0 psi and across vessel #2 is 3.0 psi.

Both of the carbon adsorber vessels were backwashed in May 2012. During each backwash operation, ~4-5 cubic feet of carbon is removed. No carbon has been added to the vessels.

## **9.2 Vapor-Phase Carbon**

Two vapor-phase Carbon Adsorber vessels (VCA) are available for the off gas treatment of the air stripping (AS) stream. Currently, VCA-1 is online. VCA-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).

Occasionally VOCs are detected in the effluent stream of the online carbon bed. When detected, a follow up test is performed to see if a false reading has occurred. If volatiles are detected a second time, corrective action is taken. If not, more frequent monitoring is undertaken. A VOC measurement was recorded this period. Follow up monitoring indicated that it was probably a false reading.

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

## **10.0 WASTE DISPOSAL**

- There was no waste removed from the facility in July.
- No waste was generated during the July period.
- There are 4 drums of non-hazardous carbon waste inside the facility

## **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 the permit requires periodic submittal of discharge monitoring results, monthly discharge monitoring reporting is not required. Review of monthly discharge sample results, which are included within Section 14.0, indicated all analyzed parameters were below noted permit limits.

The plant's water discharge permit expires December 31, 2013.

## **12.0 OTHER OPERATIONS, MAINTENANCE, OR MANAGEMENT ISSUES**

The output of influent pump 1 continues to drift as the Variable Frequency Drive (VFD) keeps the pump in the ramping mode. The VFD for air stripper feed pump 2 continues to give earth fault errors.

The transducers in IW-2, IW-3, and IW-4 are not functioning correctly

The level monitor at ASF Tank 1 is giving a temporary false low level signal and alarm. This causes the pumps to slow or shut off. In line cleaning has not helped. Next is to remove units and inspect.

Influent flow has been restricted to IW-2, lowering overall plant discharge by 20 gpm.

An emission was recorded at the discharge of VCA vessel 1. No discharge was detected the next day or since. Some problems were experienced with the PID meter.

As per John Moss (HRP) and Tom Sicilia (HRP) the water quality measurements normally taken at the monitoring wells during groundwater monitoring are no longer required as the PDBs are stabilized.

The emergency light for the SW exit door is to be replaced

A second thermostat for the outdoor heat trace wiring is to be assembled and installed.

Other on-going plant maintenance issues are summarized on Table 12-1 and in the Project Status Report (filed on-site).

### **13.0 PLANT DOCUMENTS**

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

- Form-030 (PW Chain of custody) was revised
- Hot work permits were issued 7/3 and 7/5 during pipe repair work.
- Form-002 (chemical inspection worksheet) was revised (rev. K)
- Procedure PSP-012 (PDB sampling) was revised (rev. C)

## 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 analysis, and quarterly process water (PW) samples are taken for organic, inorganic, and generic analysis. July's sampling activities included:

- The quarterly process water samples were collected 7/16-18 and shipped to TA-Edison for organic, inorganic and generic analysis.
- The quarterly GW samples are scheduled for the week of August 6.
- The next PD samples are scheduled for August 15.

On June 13, the plant discharge was sampled. The results for these samples follow:

Plant Discharge			
Parameters	Discharge Limitations	Units	Results June '12
pH (range)	5.5 – 8.5	SU	6.32
Tetrachloroethylene	5	ug/l	U
Trichloroethylene	5	ug/l	0.23 J
1,2-(cis) Dichloroethylene	5	ug/l	U
1,2-(trans)Dichloroethylene	5	ug/l	U
Methylene Chloride	5	ug/l	U
1,1 Dichloroethylene	5	ug/l	U
1,1-Dichloroethane	5	ug/l	U
Chloroform	7	ug/l	U
1,1,1-Trichloroethane	5	ug/l	U
Benzene	0.7	ug/l	U
Toluene	5	ug/l	U
Chlorobenzene	5	ug/l	U
Ethylbenzene	5	ug/l	U
Bis(2-ethylhexyl)phthalate	4200	ug/l	U
Di-n-butyl phthalate	770	ug/l	U
Antimony, Total recoverable	3	ug/l	NS
Arsenic, Total recoverable	50	ug/l	NS
Barium, Total recoverable	2000	ug/l	NS
Lead, Total recoverable	50	ug/l	NS
Selenium, Total recoverable	40	ug/l	NS
Iron, Total recoverable	500	ug/l	NS

Manganese, Total recoverable	500	ug/l	NS
Nitrogen, Total (as N)	10	mg/l	NS
Solids, Total Dissolved	1000	mg/l	NS
Chromium, Hexavalent	100	ug/l	NS
Chloride Ion	NL	mg/l	NS
Fluoride Ion	NL	mg/l	NS
Sulfate Ion	NL	mg/l	NS

**NS** not sampled                      **J** estimated value  
**U** analyzed for but not detected      **NL** monitored only

## 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 discharge samples taken from a controlled point with calibrated portable meters. A summary of these data is as follows:

Date	pH	Temperature (°C)
July 2	6.48	17
July 9	6.52	16
July 16	6.53	18
July 23	6.63	17
July 30	6.54	17
<b>July 2012 Average</b>	<b>6.54</b>	<b>17</b>

The NYSDEC discharge permit requires the PD to have an average monthly pH greater than 5.50. The treatment plant effluent pH averaged 6.54 in July and met the monthly average pH discharge requirement. A graph of the plant discharge monthly pH average over several months is provided in Table 14.1.

Weekly air monitoring readings are taken with a PID of the influent and effluent air streams to the active vapor phase carbon adsorber vessel following the air stripper. Currently vessel #1 is on-line. A summary of the results for July follows:

Date	Inlet	Outlet
July 2	0.0	<b>26.9</b>
July 3	0.0	0.0
July 9	0.0	0.0
July 20	0.0	0.0
July 23	0.0	0.0
July 30	0.0	0.0
*PID readings indicate that the VOCs in the air stream are lower than the part per million levels (ppm) of the instrument's capability.		

Measurements to determine the depth from the top of column to the bottom of the IWs were taken on July 20. A summary of the historical data is included in Table 14-2. While the wells are stable, 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. Recent sediment accumulation in IW-2 seems to have stabilized.

Water elevations in the IWs are normally 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 are active. With the exception of IW-1, the transducers in IW-2, IW-3, and IW-4 are producing unreliable signals. The water levels are physically monitored more frequently.

The injection well falling head test was performed on July 24. Due to the questionable output of the level transducers, the only data recorded was for IW-1. 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 IW-1 is stable.

Other data collected during July included:

- The plant sound level readings were recorded twice (included with daily worksheets).
- The depth-to-water readings were recorded for the injection wells. This was compared to the soundings and the transducer readings (included with daily worksheets) 7/20
- The flow-meter readings and the depth of water in the infiltration galleries were recorded in site supervisor's notebook and included with the monthly filings. (7/25)
- The process motors amp load readings were recorded (7/31)
- Weekly utility meter readings were recorded.

## **15.0 PROCESS ANALYSIS, INTERPRETATIONS, AND CONCLUSIONS**

### **15.1 Extraction and Influent Processes**

- Currently, the three extraction well pumps are on-line. The pumps are controlled by water level set points in the wells and in the EQ tank. The transducer set points are adjusted as necessary.
- Currently, the three influent pumps are operational with 2 pumps on-line at a time.
- There continues to be some drift in the signal to influent pump-1.
- The influent pumps were rotated 4 times in July

No other new issues arose with the extraction or influent systems. Routine maintenance continues.

## **15.2 Flow through Aeration Process**

Both treatment trains are on-line and the influent water is split relatively evenly to each train.

The polymer, potassium permanganate, caustic, and hydrochloric acid 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**

Air sparging of screens is performed as necessary. With lower flows through the plant, the frequency has diminished. 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. They were rotated four times in July.
- The VFD for ASF P2 continues to exhibit an earth ground fault. When on-line, Pump 2 operates through the off line pump's VFD.
- The tank level monitors were isolated and flushed in-line. This did not remove the false LL alarm.
- Pump #3 emits a high pitched whine, which will require future address.
- The vapor phase carbon beds are routinely drained of condensate.
- The blower is checked daily and is fully functional.

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

## **15.5 Aqueous-Phase Carbon Treatment Process**

- All three feed pumps are operational, with two pumps rotated into service at a time. The pumps were rotated 4 times in July.
- The pin-hole leak in the side wall of LCA-2 is stable and remains of low concern
- Currently the differential pressure across the vessels is well within operating range and backwashing will not be required for some time.

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 discharge manifold. The paddle wheel flow sensors and flow transmitters

installed in the discharge line to each injection well system are on-line and connected to the MCP and HMI. The turbine flow meters in the infiltration gallery valve boxes are fully functional.

- The plant discharge system is online and fully operational.
- All three INJ pumps are operational with 2 units generally on-line. The pumps were rotated 4 times in July.
- There is a leak in the pump discharge manifold prior to the plant effluent flow sensor. This leak is minor and no action is required.
- Except for IW-1, the injection well transducers are all producing unreliable signals.
- The galleries are adequately draining.
- Flow to IW-2 was restricted to ~65 gpm (from ~90) due to high water levels.
- Flow test were performed on the valve positions at the IG valve boxes. The Plant discharge flow is maximized as is flow to the wells.

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

## **16.0 GROUND**

Routine maintenance tasks continue outside the plant. This includes weather related clean up tasks and landscaping duties.

### **16.1 Plant Perimeter**

- General outdoor clean up continues.
- The grass was cut as necessary.

### **16.2 Well Field**

- The grass at selected wells was mowed as necessary.
- The frequency of DTW readings has increased due to the poor signals from the injection well transducers.

### **16.3 Other**

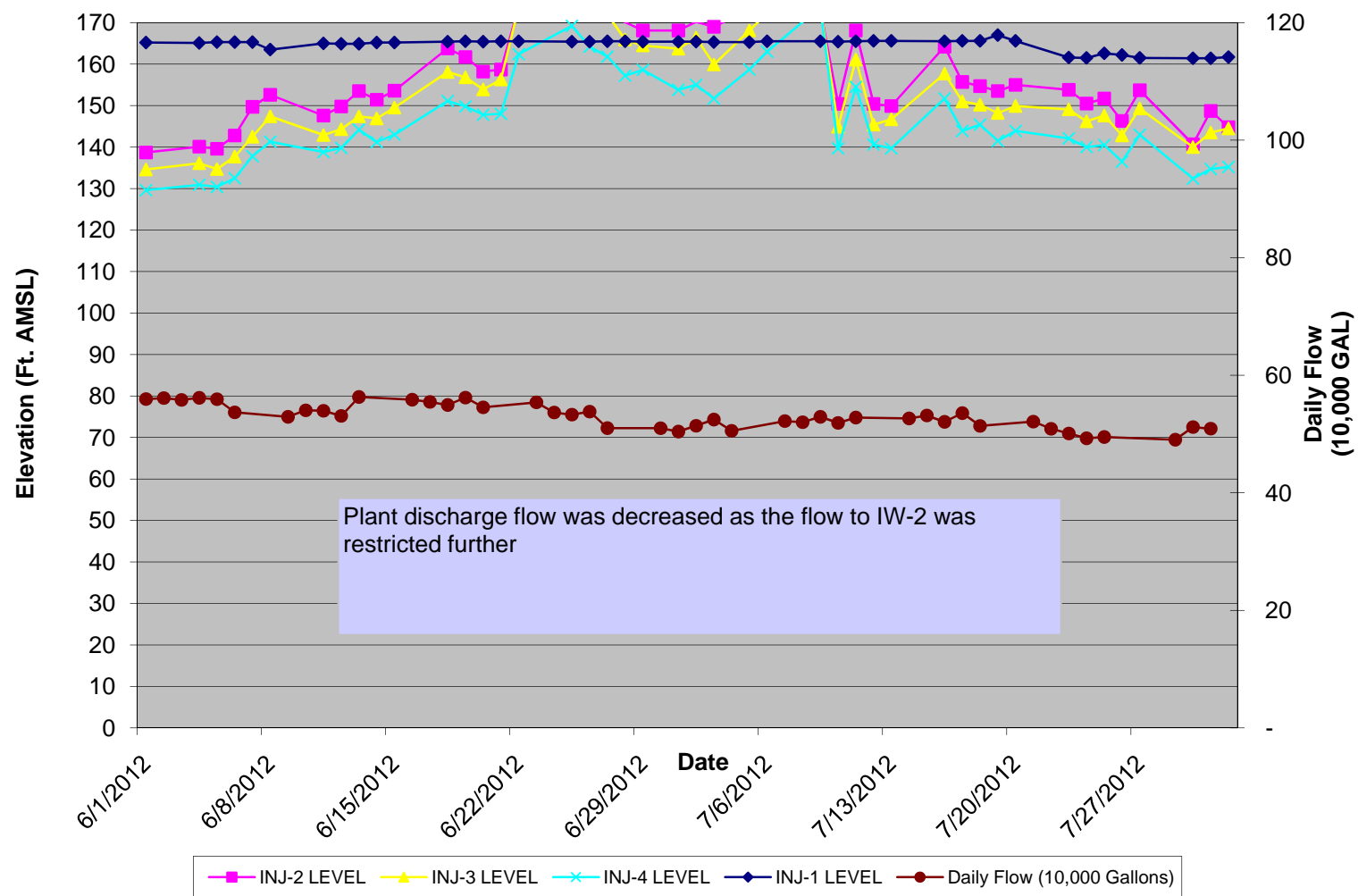
- The monthly inspection of the plant truck was completed.

There were no other significant issues outside the plant. Routine maintenance continues.

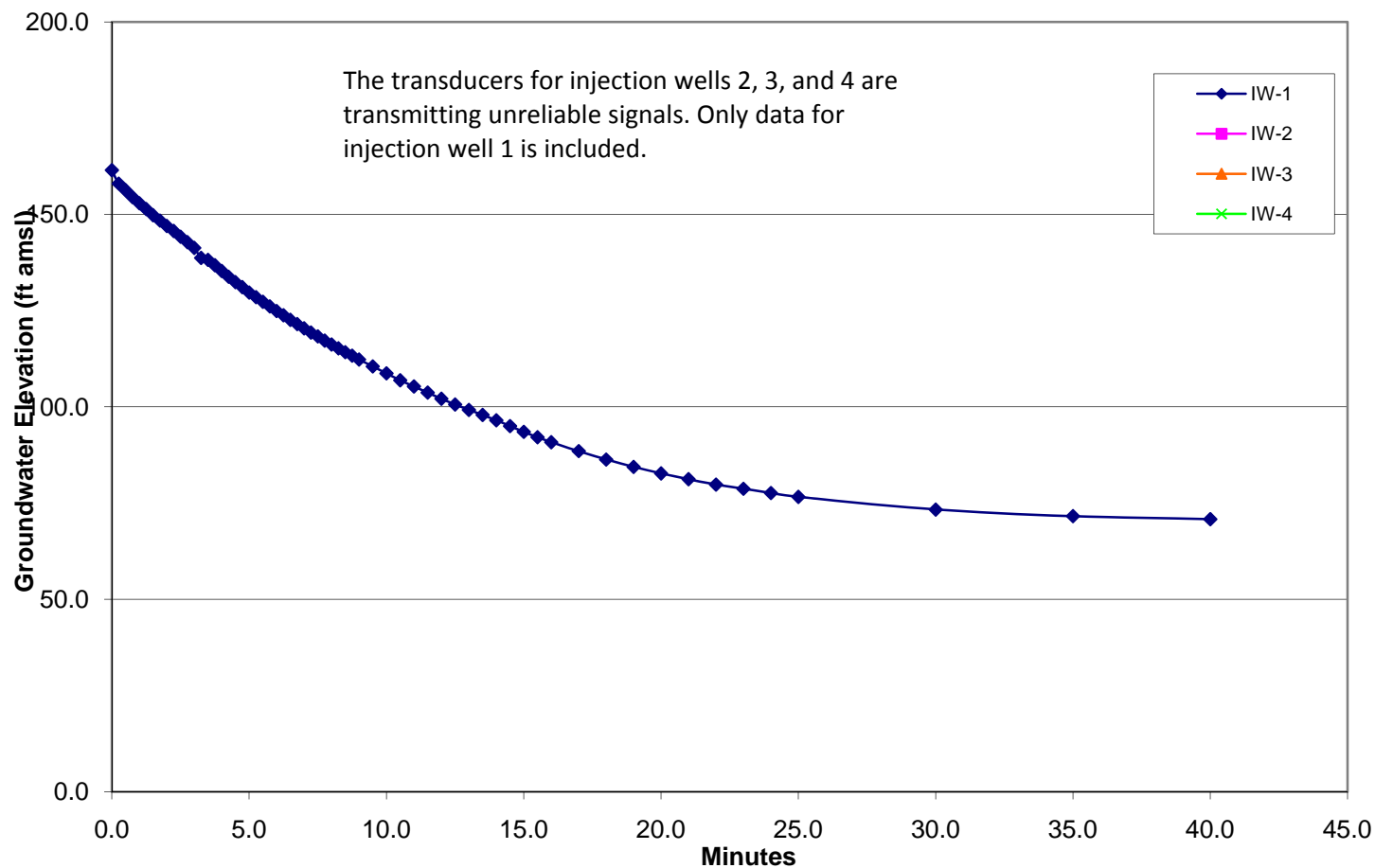


## FIGURES

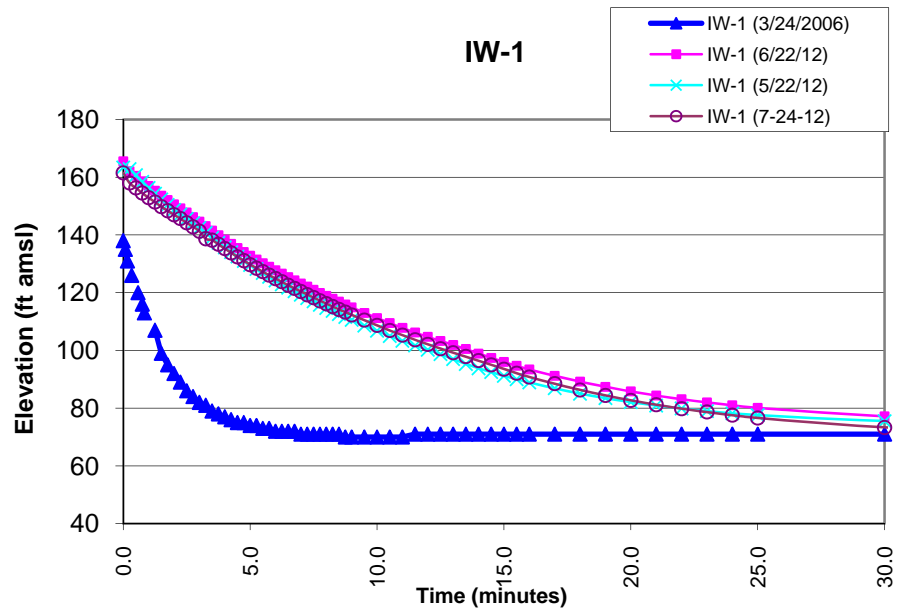
**Figure 14-1 Injection Well Elevations and Daily Flow**



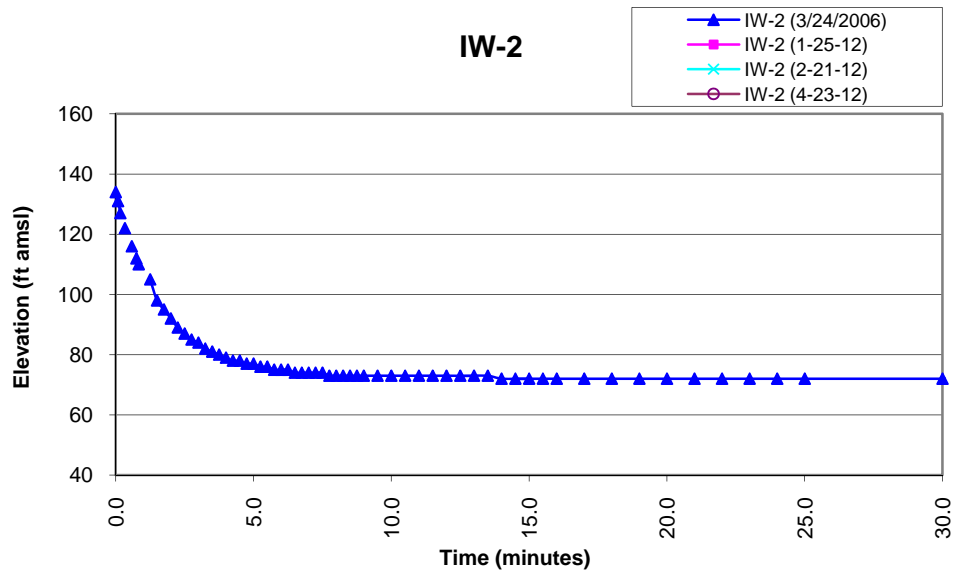
**Figure 14-2 Injection Well Falling Head Test - July 24, 2012**

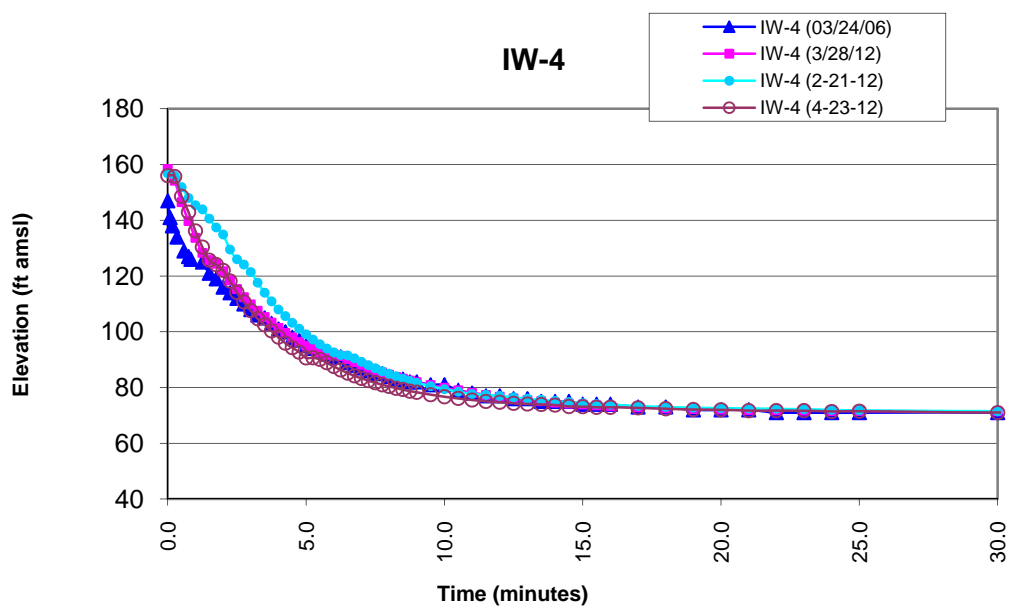
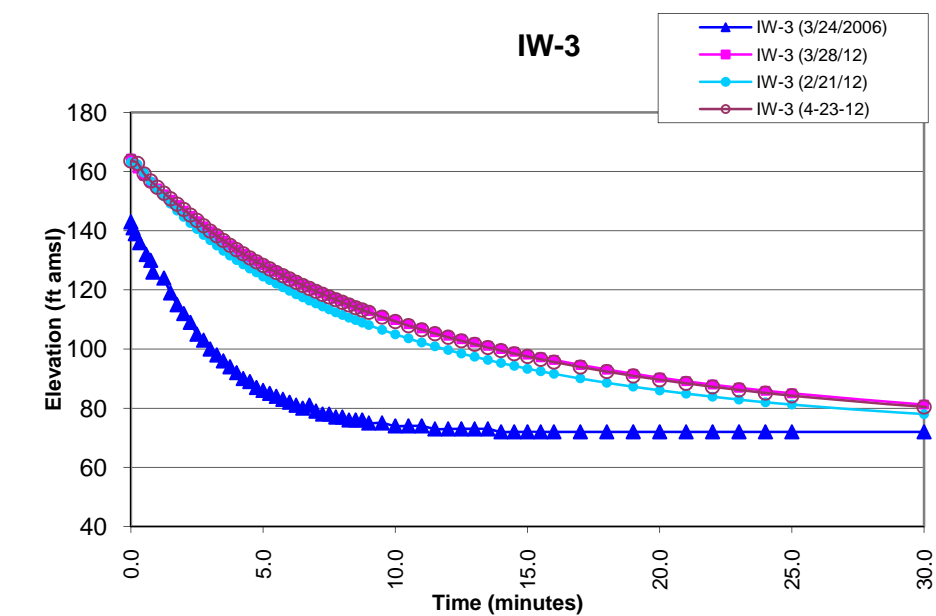


**Figure 14-3 Comparison of Falling Head Tests**



Due to the lack of reliable signals from the transducers in IW-2, IW-3, and IW-4 there are no current readings for comparison to historical data.





# TABLES

TABLE 7-1  
 MAGNETIC FLOWMETER DAILY TOTALIZER READINGS

July 2012

DATE	TOTALIZER READING	GALLONS PER DAY	GALLONS PER MINUTE
7/1/2012	575305739	544261	378
7/2/2012	575850000	500000	347
7/3/2012	576350000	1030000	358
7/5/2012	577380000	490000	340
7/6/2012	577870000	1550000	359
7/9/2012	579420000	530000	368
7/10/2012	579950000	510000	354
7/11/2012	580460000	530000	368
7/12/2012	580990000	520000	361
7/13/2012	581510000	1590000	368
7/16/2012	583100000	520000	361
7/17/2012	583620000	530000	368
7/18/2012	584150000	520000	361
7/19/2012	584670000	540000	375
7/20/2012	585210000	1540000	356
7/23/2012	586750000	520000	361
7/24/2012	587270000	510000	354
7/25/2012	587780000	510000	354
7/26/2012	588290000	490000	340
7/27/2012	588780000	1480000	343
7/30/2012	590260000	490000	340
7/31/2012	590750000	477302	166
8/1/2012	591227302		
<b>July 2012 Treated Water Volume</b>		<b>15,921,563</b>	
<b>July 2012 Avg. GPM Discharged</b>			<b>357</b>

**Table 12-1**

**Miscellaneous Outstanding Maintenance Issues at the Claremont Polychemical GWTP (updated 07-26-12)**

Date Added	Problem or Condition	Action	Cost	Option	Option Cost	Priority level
June 2011	ASF Sys Pump #3 Motor - motor bearings are making noise	Replace 10.0 hp motor when it fails	\$800	none	n/a	2
June 2011	VFD ASF-P2	Replace/service	\$?	Leave out of service	0	2
2008	INF Sys check valves (3) not operating correctly, must be manually opened and closed	Rebuild existing check valves in place (3)	\$675 ea	a-replace CV with like kind cast iron swing check b-replace CV with pvc ball check (3) c-manually control valves	\$X \$400 0	2
2008	L-CA Sys. Check valves not operating correctly, must be manually opened and closed	Rebuild existing check valves in place (3)	\$675 ea	a-replace CV with like kind cast iron swing check b-replace CV with pvc ball check c-manually control valves	\$X \$400 + 0	2
2008	INJ Pump shut off valves cannot isolate individual pumps	Replace valves (4) w/ 6" PVC valves	\$400 ea	Leave valves in place	\$0	2
2008	ASF Sys check valves not operating correctly, must be manually opened and closed	Rebuild check valves (3)	\$675 ea	a-replace CV with like kind cast iron swing check b-replace CV with pvc ball check c-manually control valves	\$X \$400+ 0	2
Aug. 2009	EQ Tank Discharge Valve Cannot isolate tank	Replace valve w/8" PVC valve	\$900	Leave valve in place (empty tank when it needs to be isolated)	\$0	3
2008	RCY Sys. Check valves not operating correctly, must be manually opened and closed	Rebuild check valves (2)	\$675 ea	a-replace CV with like kind cast iron swing check b-replace CV with pvc ball check c-manually control valves	\$X \$400+ 0	3
July 2011	VFD INF-P1 Ramping	Replace/service	\$?	Leave in Place – Control flow by throttling valves	0	2
2008	INJ Pump check valves (2) not operating correctly, must be manually opened and closed	Rebuild existing check valves in place (2)	\$800 ea	a-replace CV with like kind cast iron swing check b-replace CV with pvc swing check c-manually control valves	\$1300 \$1500+ 0	2
Dec. 2011	LCA -V2 (Pin Hole leak)	Drips -not a hazard cost \$1000 to weld and need to shut down plant	\$1000	Under enhanced inspection action taken as needed	0	3



Date Added	Problem or Condition	Action	Cost	Option	Option Cost	Priority level
Aug. 2010 April 2012	IW-2 Transducer IW-3, IW-4 Transducer	Replace transducer (may require tech support)	\$1200/ea	Manually monitor wells	0	3
2008	Discharge Manifold leak	Make repairs	\$500	Leave as is	0	3
Aug. 2008	Air Compressor system is worn and leaking and in need of an overhaul	Have system serviced	12,000	a-replace both units with one sized for current duty b-run system on as-needed basis	\$ 0	4
2009	Filter Press – control cabinet hydraulic leaks	Have system serviced	\$?	Leave as is		4
2009	Sludge Transfer Pump is undersized for filter press feed	Replace pump with M-8	\$2500	Use existing pump	\$0	4
2009	Sludge transfer piping	Re-pipe press feed	\$200	Leave piping as is use 2" hose to M-8 pump	\$0	4
	INF Pump Seals (historically, pump 2 is due to fail)	Proactively replace seals	\$300	Replace seals when needed	\$0	Budget for
Jan. 2012	INF Pump-2 Motor (1) Motor bearings are starting to make noise	Proactively Replace 5.0 hp motor	\$600	Replace motor when necessary		Budget for
April 2012	Seal leak at INJ P2	Replace seal	300	Pull pump and make repairs if possible Leave as is until repairs are required	0	3
April 2012	Drain nozzle leak on permanganate tank	Re-weld nozzle	500	-Replace nozzle with bulkhead fitting -Leave as is	100 0	4
May 2012	Tank LL alarm-pump control false signals	Have units serviced	?	Do nothing Keep flushing system	0	3
May 2012	Seasonal heat trace wiring on outdoor piping is not controlled	Install thermostats on each system	\$450	Leave as is and manually actuate	0	1
Course of action Taken - RED	Priority level – 1- Urgent and must be done 2- Not urgent but needs to be done 3 – Not urgent but should be done 4 – Would like done					

**Table 14-1 Plant Discharge pH**

Month	PD pH <sub>AVG.</sub>
May '11	6.25
June '11	6.33
July '11	6.12
Aug '11	6.39
Sept '11	6.38
Oct '11	6.22
Nov '11	6.62
Dec '11	6.60
Jan '12	6.58
Feb '12	6.50
Mar '12	6.57
Apr '12	6.52
May '12	6.28
June '12	6.32
July '12	6.54

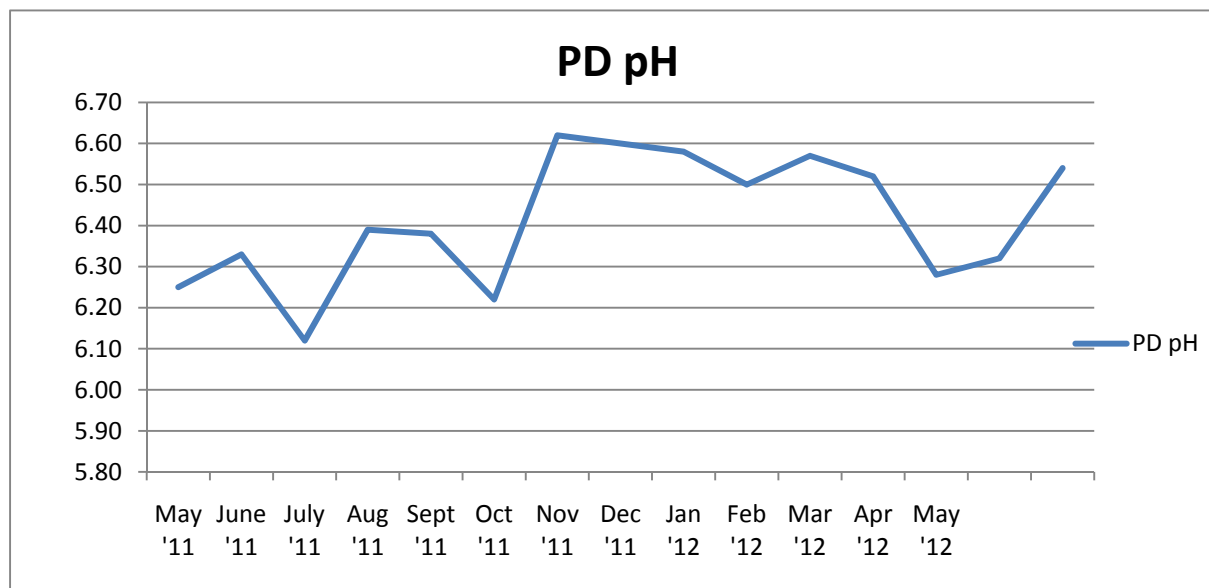


TABLE 14-2 Injection Well Soundings

Recent injection well depth readings

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
10/7/2011	144.30	-1.60	239.95	-1.15	247.90	-0.35	197.75	0.02
11/17/2011	145.70	1.40	236.70	-3.25	248.72	0.82	197.70	-0.05
12/2/2011	145.95	0.25	233.80	-2.90	248.30	-0.42	194.65	-3.05
1/5/2012	148.80	2.85	233.20	-0.60	247.98	-0.32	197.70	3.05
2/2/2012	145.85	-2.95	224.45	-8.75	248.10	0.12	197.60	-0.10
3/7/2012	147.85	2.00	223.30	-1.15	248.10	0.00	197.50	-0.10
4/2/2012	148.80	0.95	218.80	-4.50	247.97	-0.13	197.50	0.00
5/18/2012	145.80	-3.00	217.95	-0.85	247.78	-0.19	197.49	-0.01
6/26/2012	144.3	-1.50	205.70	-12.25	217.00	-30.78	197.40	-0.09
7/20/2012	145.85	1.55	205.55	-0.15	248.00	31.00	197.40	0.00
Change From 6/17/04 to Present								
		<b>-102.65</b>		<b>-</b> <b>42.95</b>		<b>-5.20</b>		<b>-1.02</b>
Change From 6-04 thru 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 from 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								
		<b>-76.65</b>		<b>-36.47</b>		<b>-1.60</b>		<b>-1.58</b>

## Associated and Referenced Documents

Document	Location
Daily Worksheets Daily Operating Log Daily activities Summary Report Daily Site Safety Inspection Employee Sign-in Sheet	Original paper copies in monthly file folders at plant. Electronic copies on Farmington Server: >Claremont Data>year>month>month daily worksheets
Supporting Worksheets Visitor/Subcontractor Sign-in Sheet Air Monitoring Log Sound Monitoring Worksheet Daily Plant Activity Notes Comprehensive Site Safety Inspections	Original paper copies in monthly file folders at plant. Electronic copies on Farmington Server: -with daily worksheets -with daily worksheets -with daily work sheets >operating data>Daily Plant Activity Notes>yr>month >Claremont Data>yr>mo>by date of inspection
Plant Operator's Daily Log Book	Current book issued to operator, completed books on file in shop cabinet
Site Supervisor's Daily Log Book	Current book issued to supervisor, completed books on file in shop cabinet
Daily Database	Current database is an Electronic file on site, in Claremont Docs/Claremont Ops Data/ monthly folder. Past docs on server: > Claremont Data>yr>month>
Daily Operations Summary Report	Current report is an Electronic file on site, in Claremont Docs/Claremont Ops Data/ monthly folder. Past docs on server: > Claremont Data>yr>month>
Monthly O&M Report	Electronic file on server: >Claremont Data>yr>month>
Monthly Maintenance Log	Electronic file on server: > Claremont Data>yr>month>
Project Status Report formerly Activities Schedule	Electronic file on server: >Claremont Data>yr>month>
Groundwater Elevation and Water Quality Database	Electronic file on server: >Operating data
Monthly Plant Truck Inspection Worksheet	Electronic file on server: >Claremont Data>yr>month>
Stand Alone Documents Claremont O&M Manual Site Safety and Health Plan Standard Operating Procedures and Instruction manual Sampling and Analysis Plan Log of Operating System Drawings	Binded copies in control room, electronic copies on server> Stand Alone Documents
Sampling forms	Electronic file on server: >Sampling> Sampling Forms
Chain of Custody Documents	Electronic File on server: >Sampling> yr>mo
Claremont Site Notebook	Electronic file on server : >Stand alone documents> Claremont notebook

Farmington Server Path: HRP CT Server: J drive/N/Newen..../Claremont Polychemical.../Operating Data (4-6-12)