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

MONTHLY REPORT
of the
Operations & Maintenance Activities
During
October 2012

WA D006130-19
SITE # 130015

Prepared for the:

New York State Department of Environmental Conservation

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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
DBA	doing business as
DOSR	daily operations summary report
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, LCA	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
SSHP	site safety and health plan
USACE	United States Army Corps of Engineers
VGAC, VCA	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 October 2012. This period is defined as 0600 hours, October 1, 2012, through 0600 hours, November 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 3653 minutes of process downtime. The downtime was due to a power outage resulting from Hurricane Sandy.

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 log 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 grounds keeping.
- The process pumps were rotated (two on-line, one off) four times during this period as part of the preventive maintenance task.
- The plant exit doors were scraped, cleaned, and painted.
- The caustic feed system was filled with water and tested. Good.
- Parts of the path to BP-3 monitoring well cluster was filled in with gravel to provide a more level road bed.
- The HCl feed system was filled with water and tested. Good.
- Covers were replaced where needed on the vents of VCA -1.
- The polymer feed system was filled with water and tested. Good.
- A phase of power was lost to the plant at 13:07 on Monday 10/29. The process pumps were manually shut down at the MCC and MCP and appropriate shut off valves were closed. The remaining 110V power was lost at 14:40.
- Measurements were taken of the top of column on the extraction wells for accurate fabrication of PDB tethers.
- Paths leading to the monitoring wells MW-8 cluster and MW-6D were partially cleared. Several large trees are down.
- The grounds were cleaned of wind-blown debris.

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

Fifteen of the 42 project log books have been scanned and both the scanned copy and the project logbook have been sent to the DEC PM. HRP-NY has the remaining 25 logbooks, except for the 4 listed above, which are on site. 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

There were no HRP personnel at the GWTP during this period but resources were put to responding to the irregularities observed in the latest groundwater analytical data.

3.2 NYSDEC Personnel, sub-contractors and other visitors

- Ken-Mar was in to inspect and service the facility fire extinguishers (10/2) and returned (10/10) with 3 recharged units.
- TestAmerica-NYC was in to pick up the PW samples for delivery to TA-Edison.

3.3 Deliveries

- Mail was delivered two times in October.
- UPS delivered the McMaster-Carr order of misc. maintenance parts.

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 October. These worksheets are also on file.

The plant operator successfully completed CPR/AED training.

No safety incidents or accidents occurred during this October 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 October 24 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 process water sampling task has been scheduled for November 15.

6.0 MONITORING WELL WATER ELEVATIONS

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

Due to the stabilized nature of PDB samples, the water quality data will no longer be recorded. The next update of the water level data will take place after the quarterly groundwater event to be scheduled for December.

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 October, as measured from 0600 hours on October 1, 2012, to 0600 hours on November 1, 2012, was 14,266,740 gallons. This volume is approximately 95 percent of the monthly targeted treatment goal. The cumulative volume of water discharged for this contract year (June 1, 2012 to present) was 76,575,741 and is ~4 % 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 October, the plant discharge flow averaged 320 gallons per minute (gpm) and 460,217 gallons per day (gpd). This flow is down considerably due the 61 hour power outage at the end of the month. Adjusted for the plant downtime, the operating flow was 348 gpm and 501,235 gpd.

Month	Flow Average (gpm)	Volume Discharged (gpd)
June	380	546,715
July	357	513,599
August	344	495,778
September	338	487,288
October	320	460,217
Goal	335	482,400

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 October are indicated below:

Injection Well System	Flow Average (gpm)	Volume Discharged to well (gallons)*
IW-1	19.3	859,862
IG-1	71.5	3,192,268
IW-2	67.4	3,006,930
IW-3	23.5	1,047,896
IG-3	81.4	3,634,392
IW-4	72.4	3,232,284
System	**335.4**	**14,973,632**

The discrepancy between the individual injection system meter readings and the total plant effluent meter readings (~15 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.

The flow to IW-1 and IW-3 is maximized and the valves to the galleries are fully open. Both galleries are draining adequately.

The plant's total effluent discharge is limited by plumbing constraints, by injection pump capacity and the ability of the wells to accept water.

8.0 CHEMICAL CONSUMPTION

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 KMnO4 tank needs a repair to a cracked drain nozzle.

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.

As part of the daily monitoring task, the differential pressure across each vessel is recorded. Based on this data and the discharge pressure of the LCA feed pumps, the vessels were last backwashed in August. Currently the differential pressure across vessel #1 is 6.0 psi and across vessel #2 is 6.0 psi. Backwashing of both vessels is scheduled for November.

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 normally performed weekly with a photo-ionization detector (PID). Currently the PID is not able to be calibrated. Plans are underway to replace the instrument.

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

10.0 WASTE DISPOSAL

Currently, there are 6 drums of non-hazardous carbon waste stored inside the facility. There was no waste removed from the facility in October.

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. A review of the monthly discharge analytical 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

On Monday, October 29, the Claremont GWTP was subject to Hurricane Sandy. The plant lost one phase at 13:07. At this time, the process pumps were manually shut down at the MCC and MCP and appropriate shut off valves were closed. The remaining 110V power was lost at 14:40. The plant remained without power until Thursday, November 1, at 10:24. The plant was manually restarted and was fully functional by 10:40. Total plant down time for this event was ~ 65 hours.

It has been determined that more extensive sampling of the extraction wells is required. In order to install passive diffusion bags (PDBs) in the wells, the plant will have to be shut down and the extraction pumps pulled. A list of maintenance tasks to be executed during the ~month long process shutdown has been compiled. This list is found as Attachment 1.

Other issues being addressed include:

- A third emergency exit light (SW exit) is not functioning correctly and will have to be replaced.
- The seals on the snow plow pump are leaking and a solenoid valve wire has been severed. Parts are to be ordered to make repairs in-house.
- The facility PID unit has failed. Due to its age and model, the unit is not serviceable. Options have been discussed and Claremont is awaiting the go ahead to replace the unit.
- The plant truck failed its biennial emission inspection due to a gas cap issue. The gas cap has been replaced. A re-test is being scheduled.
- 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. During October, the following changes were made:

- The comprehensive site safety inspection forms were revised, Form-02 (rev. L), Form-04 (rev. I), Form-05 (rev. J)
- The sampling procedure PSP-012 was revised (rev. D)
- A Statement of Work (SOW) was written for the upcoming extraction well pump work.

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. Octobers' sampling activities included:

- The quarterly PW samples were collected 10/16-17 and were shipped to TA-Edison for organic, inorganic, and generic analysis.
- The quarterly GW sampling event was postponed until the extraction well samples are collected in December.
- The next quarterly PD samples are scheduled 11/15.

On Sept 19, the plant discharge was sampled. The results for those samples follows:

Plant Discharge			
Parameters	**Discharge Limitations**	**Units**	**Results September 2012**
pH (range)	5.5 – 8.5	SU	6.20
Tetrachloroethylene	5	ug/l	U
Trichloroethylene	5	ug/l	0.42 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
U analyzed for but not detected
J estimated value
NL monitor 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)
October 1, 2012	6.59	15
October 8, 2012	6.24	17
October 15, 2012	6.49	16
October 22, 2012	5.97	14
October 29, 2012	5.45	14
October Average	**6.15**	**15**

The NYSDEC discharge permit requires the plant discharge to have an average monthly pH greater than 5.50. The treatment plant effluent pH averaged 6.15 in October and met the monthly average pH discharge requirement. A graph of the plant discharge monthly pH average trend 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 of the active vapor phase carbon adsorber vessel following the air stripping tower. Currently vessel #1 is on-line. As the PID is to be replaced, there were no readings taken in October.

Measurements to determine the well depth from the top of the injection well column to the bottom were taken on 11/1. A summary of the historical data is included in Table 14-2. Although there has been an accumulation of sediment in all four injection wells, the wells currently appear to be stable. 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. The total sediment accumulation in IW-2 is ~ 40 feet.

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 October 22. 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 the performance of IW-1 is unchanged.

Other routine data collected during October included:

- The plant sound level readings were recorded twice (10/12, 10/26), (included with daily worksheets).
- The depth-to-water readings were recorded (11/1) for the injection wells (included with daily worksheets).
- 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. (10/29)
- The process motors amp load readings were recorded (10/29)
- 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.
- The 3 extraction well flow monitors are fully functional.
- Currently, the three influent pumps are operational with 2 pumps on-line at a time.
- There continues to be some drift in the flow control signal to influent pump-1.
- The influent pumps were rotated 4 times in October.
- The 2 influent flow controllers are fully functional.

- Additional GW sampling of the extraction wells, will necessitate that the pumps be pulled and the wells inoperative for ~ one month. Tasks are to be scheduled.
- 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 the drain 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 October.
- 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.
- Pump #3 emits a high pitched whine, which will require future address.
- The vapor phase carbon beds are drained of condensate as necessary.
- 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 October.
- 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 high and backwashing is scheduled for November.
- 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 three times in October.
- 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 while slightly restricted, is flowing at 70 gpm.
- No other issues were encountered with the injection system in October. Routine maintenance tasks continue.

16.0 GROUNDS

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

16.1 Plant Perimeter

- General outdoor clean up continues. Including wind-blown debris.
- A warning sign was blown off the perimeter fence. This will be re-hanged.
- The grass was cut as necessary.

16.2 Well Field

- The frequency of DTW readings has increased due to the poor signals from the injection well transducers.
- A section of the path to the BP-3 well cluster was filled in with gravel to level out the road.
- The extraction well area were checked and cleared for truck access.
- Paths to the off-site monitoring wells were inspected for access. Several trees will have to be removed at the MW-8 cluster and on the path to MW-6

16.3 Other

- The plant truck was brought to Connecticut for the emission test. The truck failed and will be re-tested.

- The monthly in-house inspection of the plant truck was completed.
- Miscellaneous trips for local purchases were made.

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

FIGURES

Figure 14-1 Injection Well Elevations and Daily Flow

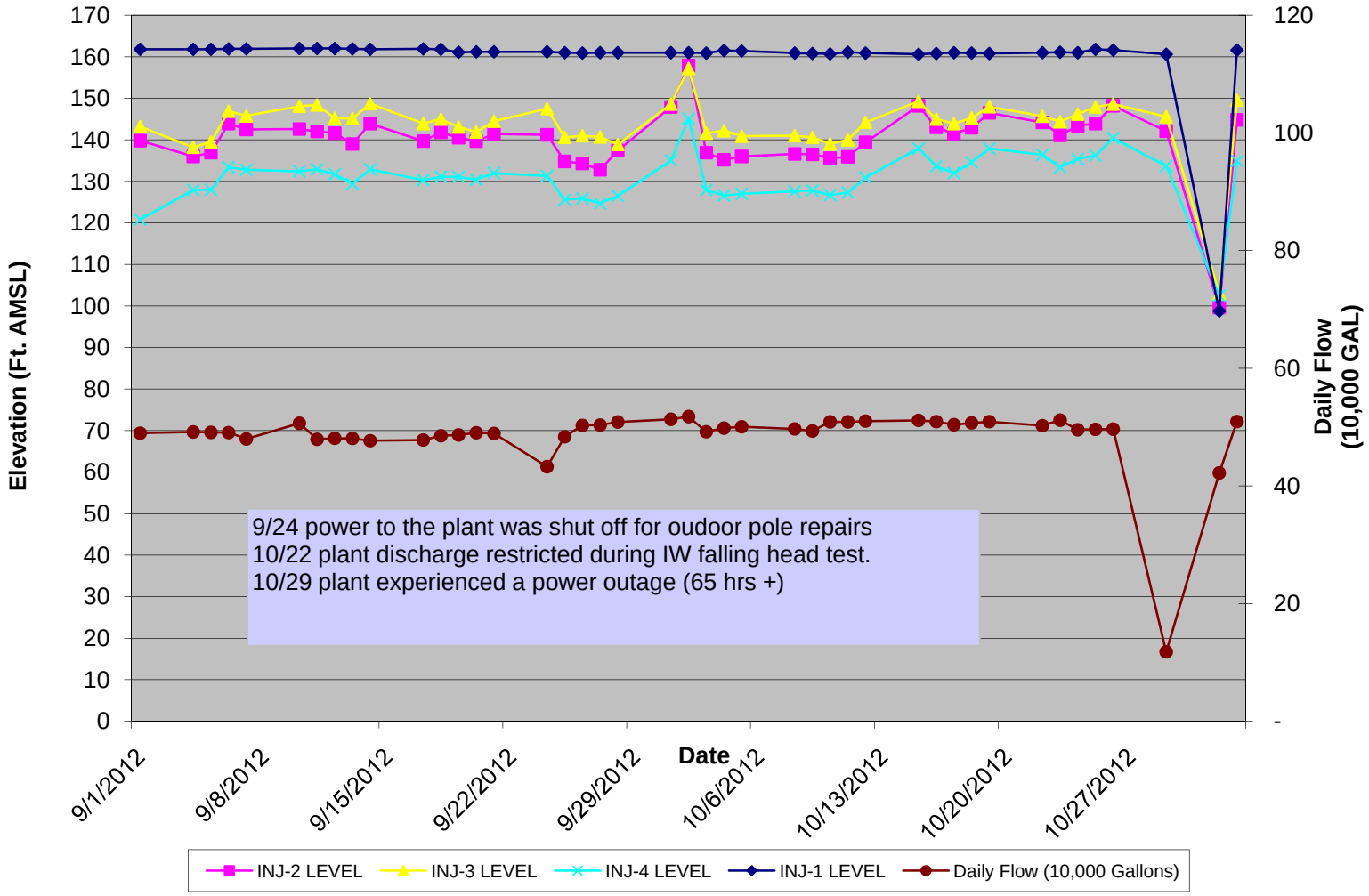


Figure 14-2 Injection Well Falling Head Test - October 21, 2012

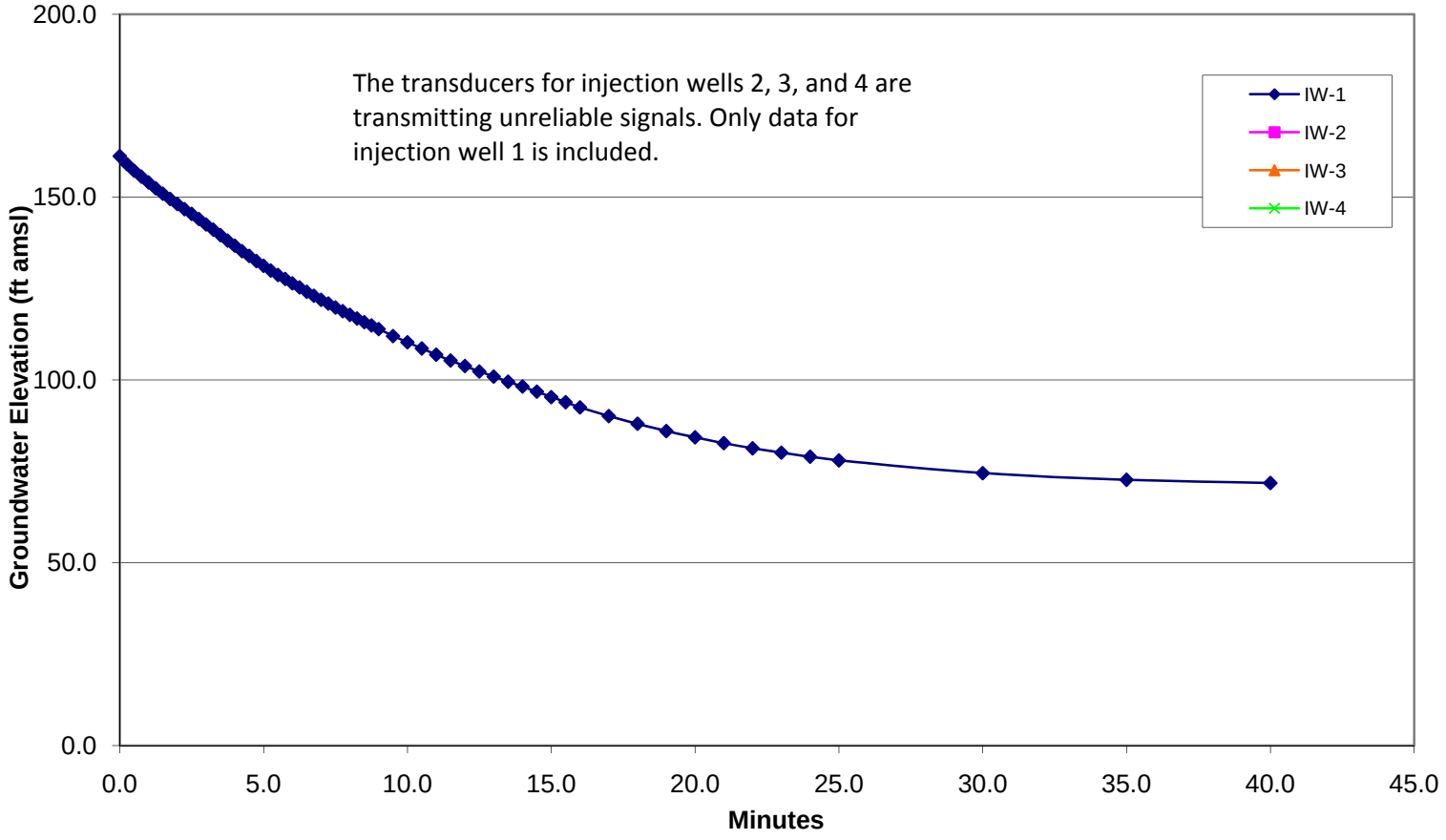
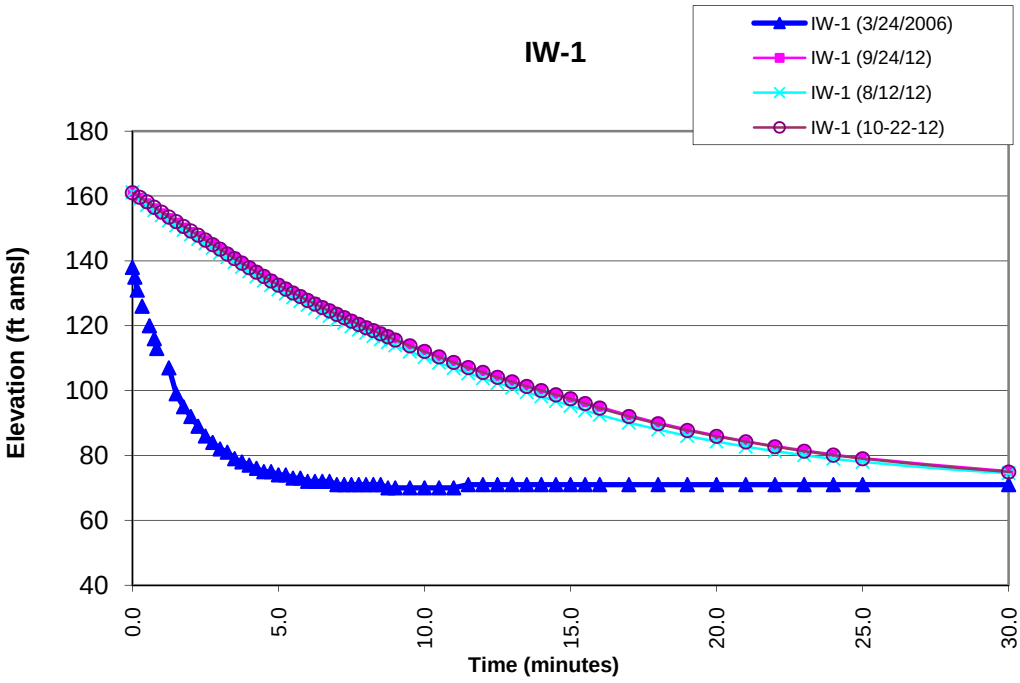
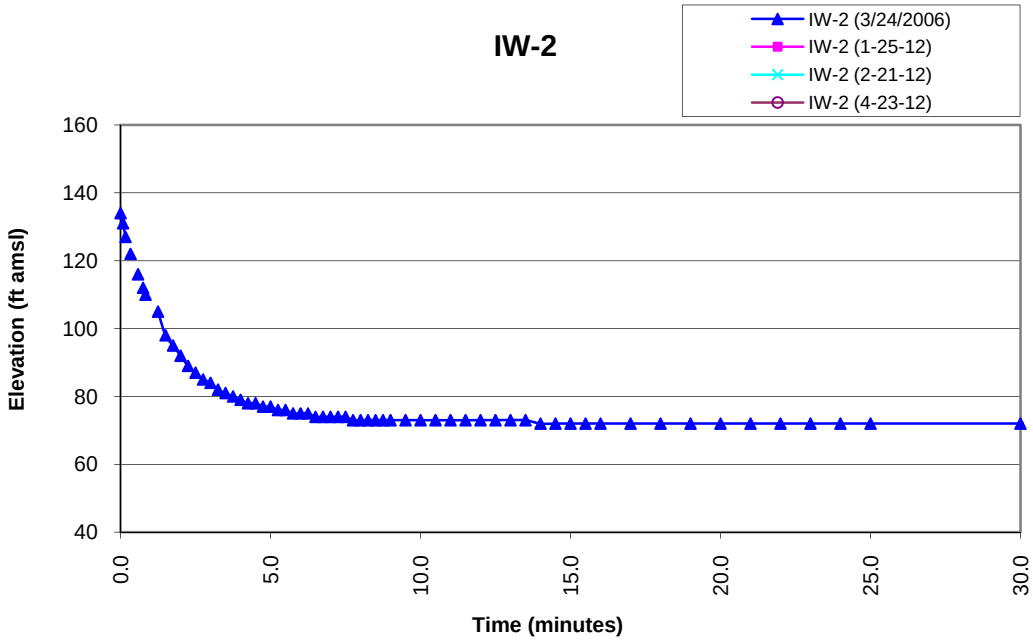
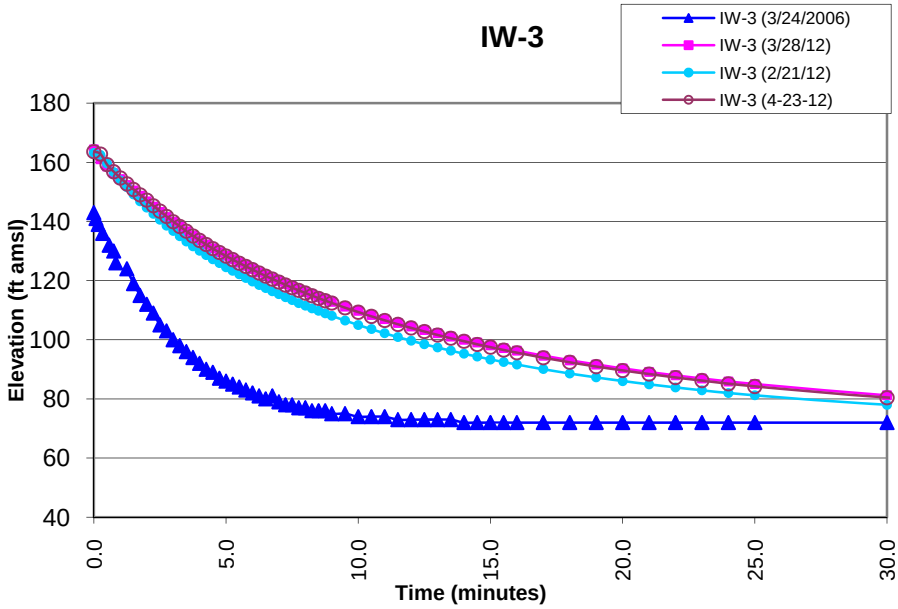
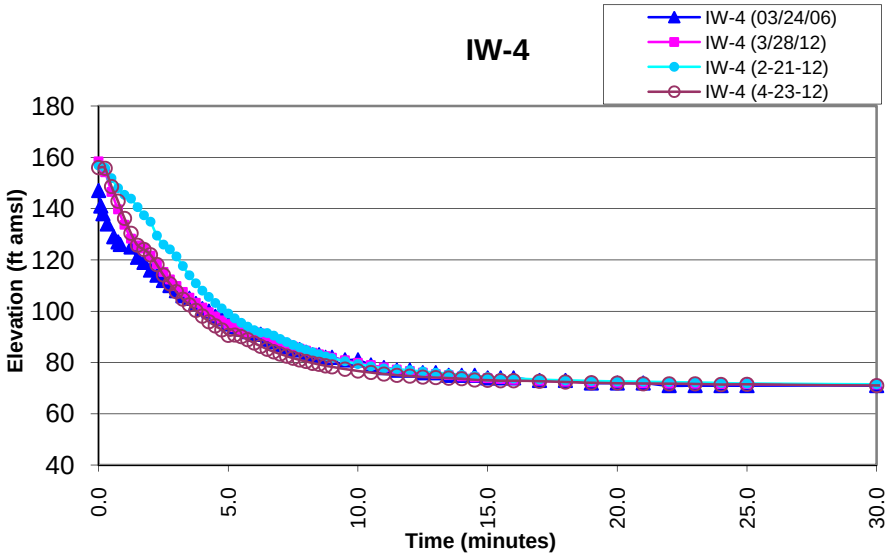


Figure 14-3 Comparison of Falling Head Tests






IW-3
IW-3 (3/24/2006)
IW-3 (3/28/12)
IW-3 (2/21/12)
IW-3 (4-23-12)
Elevation (ft amsl)
180
160
140
120
100
80
60
40
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Time (minutes)


IW-4
IW-4 (03/24/06)
IW-4 (3/28/12)
IW-4 (2-21-12)
IW-4 (4-23-12)
Elevation (ft amsl)
180
160
140
120
100
80
60
40
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Time (minutes)

TABLES

TABLE 7-1

MAGNETIC FLOWMETER DAILY TOTALIZER READINGS

October 2012

DATE	TOTALIZER READING	GALLONS PER DAY	GALLONS PER MINUTE
10/1/2012	621213260	546740	380
10/2/2012	621760000	520000	361
10/3/2012	622280000	490000	340
10/4/2012	622770000	500000	347
10/5/2012	623270000	1450000	336
10/8/2012	624720000	550000	382
10/9/2012	625270000	490000	340
10/10/2012	625760000	510000	354
10/11/2012	626270000	510000	354
10/12/2012	626780000	1530000	354
10/15/2012	628310000	510000	354
10/16/2012	628820000	510000	354
10/17/2012	629330000	460000	319
10/18/2012	629790000	550000	382
10/19/2012	630340000	1540000	356
10/22/2012	631880000	490000	340
10/23/2012	632370000	510000	354
10/24/2012	632880000	490000	340
10/25/2012	633370000	500000	347
10/26/2012	633870000	1490000	345
10/29/2012	635360000	120000	83
11/1/2012	635480000		
Oct. '12 Treated Water Volume	**14,266,740**		
Oct. '12 Avg. GPM Discharged			**320**

Table 12-1
Miscellaneous Outstanding Maintenance Issues at the Claremont Polychemical GWTP (updated 10-24-12)

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
Dec. '11	Pump seal leak on snow plow, solenoid coil failure	Purchase parts and make repairs in-house	$250	Send truck to mechanic for repairs	$500	2
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
Sept. 2012	Injection pump flow does not meet design specifications	Cut back on required discharge flows	$0	Leave as is Replace INJ pump impellers Return system flowmeter piping to 3" pvc Re-plumb discharge manifold to 4"	$0 ~$2500 ea $175 ea $250 ea	

Date Added	Problem or Condition	Action	Cost	Option	Option Cost	Priority level
Sept. 2012	Well IW-2 is not readily accepting re-injection water	Run as is	$0	Redevelop well Install, new injection well Install new infiltration gallery		
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					

Month	Mo. $pH_{AVG.}$
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
Aug '12	6.32
Sept '12	6.20
Oct '12	6.15

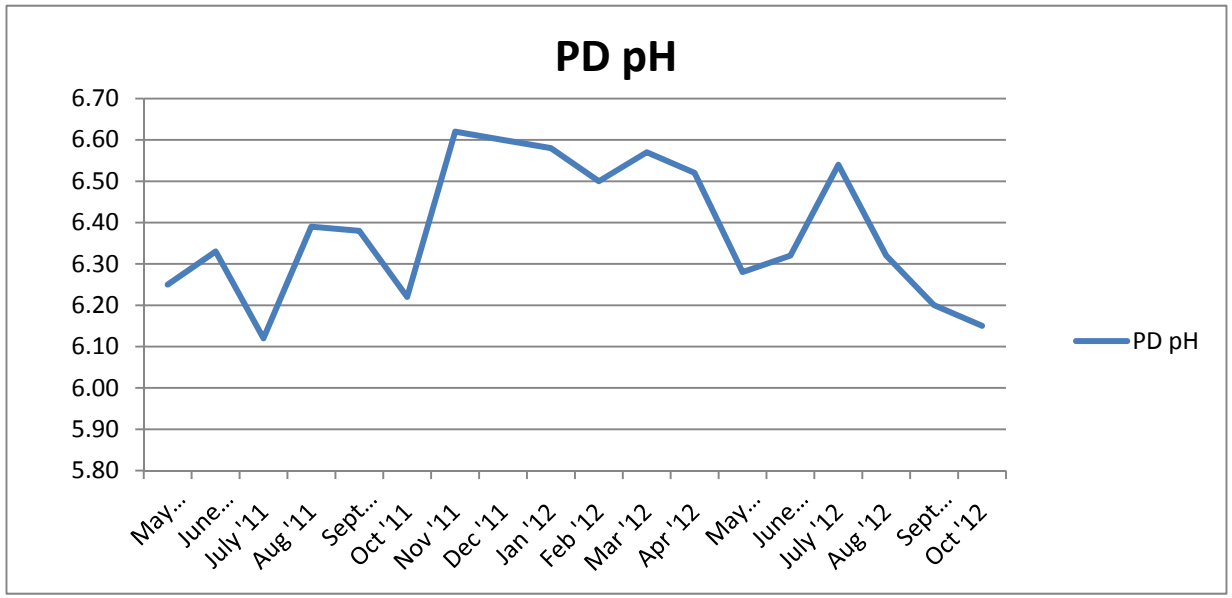


TABLE 14-2 Injection Well Soundings

This table contains selected dates and data

	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
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
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
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
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	144.30	-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
8/16/2012	144.90	-0.95	205.70	0.15	248.10	0.10	197.20	-0.20
9/20/2012	145.84	0.94	205.70	0.00	248.09	-0.01	197.10	-0.10
11/1/2012	145.95	0.11	205.15	-0.55	248.00	-0.09	197.00	-0.10

Change From 6/17/04 to Present	**-102.55**	**-43.35**	**-5.20**	**-8.00**
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	**-76.55**	**-36.87**	**-1.60**	**-1.98**

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	Bindered 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)

ATTACHMENT 1

Maintenance and project tasks proposed for the upcoming extended plant process shutdown:

Task	Equipment	Sub tasks
Clean Process Flow Sensors	Plant Discharge Injection well Influent Extraction well	Isolate units Remove flow sensor element Remove pipe section Clean pipe Reassemble Calibrate as necessary
Clean Process tanks	Train 1 Train 2 ASF if necessary GACF if necessary VCA	Empty tanks and Flush/vacuum to sump Clean clarifier baffles and pump out sludge Power wash screens on settling tank drains
Backwash LCA Vessels	LCA-1 LCA-2	Perform multiple cycles for each vessel over several days to allow for water volume disposition
Evaluate leak at INJ P2	Determine if gasket leak or mechanical seal issue (Seal will need to be purchased ~$300)	Remove motor Remove pump head Evaluate surfaces.
PM check valves	ASF GACF INF INJ	Remove covers Clean an lubricate surfaces Note what more extensive work is required.
Refurbish isolation valves on INJ Pumps	P1 and P2	Remove valve Evaluate Clean as possible
Clean EQ tank Strainer	EQ Tank	Isolate and remove strainer Clean unit reinstall
Evaluate ASF Tank level monitors	LAHH-2-1-1-1 LAHH-2-1-1-2	Remove units Clean as possible reinstall
Evaluate AS Tower Media		Open tower man-ways Inspect media Determine further action

<u>Items not requiring shutdown</u>:

- Install motor at ASF P-3 using motor taken from P2 in 2011
- Cut grass at monitoring wells
- Post storm – clean paths to monitoring wells
- Clean mold on metal surfaces
- General plant and equipment painting
- Remove actuators from discharge valves of settling tanks
- Continuing adding fill to BP-3 well path