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

MONTHLY REPORT
of the
Operations & Maintenance Activities
During
December 2013

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 groundwater treatment system (GWTS) for December 2013. This period is defined as 0600 hours, December 1, 2013, through 0600 hours, January 1, 2014. O&M conducted during this reporting period was performed in accordance with the site O&M Manual.

The plant, grounds, and well system were maintained for 31 days in this reporting period. During this period, the treatment system was generally stable with steady flows. In December, the groundwater treatment system experienced over 7 hours of downtime due to maintenance activities.

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

1.1 Daily Operations Summary Reports

The 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 – Site 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.

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.

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

- General maintenance activities continued, including outdoor clean up and landscaping tasks, housekeeping, system inspections and system monitoring.
- Scheduled 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.
- The process pumps were rotated from 1&2 to 1&3 to 2&3.
- The hydraulic fluid reservoir in the filter press was recharged.
- The lid hinge on the chest freezer was repaired.
- The drum storage area was cleared and cleaned.
- The LCA vessels were backwashed through several cycles each.
- The control room and shop were cleaned after the GW sampling event. The equipment and supplies were stowed as appropriate.
- The path to well MW-6D was cleared of a down tree.
- The compressed air system in-line filters were drained of accumulated water condensate.
- The M-4 press pump was lubricated. The diaphragm clamps appear to be leaking.
- The sump pump discharge hose was reattached to the pump
- Temporary repairs were made to the cover of an electrical vault damaged in the wellfield.
- Dried carbon cake was removed from the filter press and drummed.
- The in-house truck inspection was completed
- The light bulbs around the plant were changed as necessary.

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-45
- Plant Operator's Daily Log CL-46

Of the completed project logbooks, 40 are in the process of being scanned and delivered to the NYSDEC and 4 are on file at Claremont. 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

- Other than the plant operators, there were no HRP personnel at the site in November.
- Jennifer Kotch and Nancy Garry continue to oversee the project from HRP-NY.

3.2 NYSDEC Personnel, sub-contractors and other visitors

- Backflow Specialists were on-site to test the 2 water main backflow preventer devices (12/3),
- Veolia Environmental was on-site to pick up the 8 carbon waste drums (12/10),
- TA-NY was on-site to pick up the PD samples (12/12),
- Jennifer Becker and Sean Bean (HDR) were on-site after completing their sampling (12/13),
- Mike Flaherty (NCDPW) was onsite to pick up the split samples from the BP-3 well cluster (12/16),
- William Dood (MANA) was in to drop off the main gate key (12/17),
- TA-NY was onsite to pick up the GW samples (12/19),
- Din Weng (TOB lab) was in to pick up the TOB split samples (12/19)

3.3 Deliveries

- Mail was delivered four times.
- Federal Express delivered the EON order (12/11)

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 three times in December. These worksheets are also on file.

- The Site Safety and Health Plan for Claremont is currently being reviewed.
- Comprehensive site safety inspections were completed 12/3, 12/13, and 12/27

No safety incidents or accidents occurred during this December 2013 period.

5.0 PLANNED ACTIVITIES AND SCHEDULES

The status of project work and significant corrective maintenance activities is updated on a monthly basis. This status of plant conditions and concerns was updated December 30 and is electronically filed. It can be found at the end of this report as Table 12-1 – Claremont Corrective Action Summary.

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

- The January PD samples are scheduled for 1/15
- The preparation and painting of the EQ tank shell continues when conditions permit
- The revised SSHP is being reviewed.
- When feasible, INJ P2 is to be pulled and the mechanical seal checked.
- The INF P3 switch issues are to be investigated.
- The level control floats for the sump pump are to be reattached to the sump wall.
- The next backwashing of the LCA vessels is to be scheduled.
- The M-4 pump is to be rebuilt

6.0 MONITORING WELL WATER ELEVATIONS

The monitoring well system water level elevation data table was updated after the December 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 is no longer collected. The next water level recording event is tentatively scheduled for March 2014.

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 for December is provided in Table 7-1. The total volume of treated water discharged in December, as measured from 0600 hours on December 1, to 0600 hours on January 1, was 15,094,309 gallons. The cumulative volume of water discharged for this contract year (June 1, 2013 to January 1, 2014) was 102,701,725 gallons. A graphic representation of the system's daily flows is provided in Figure 14-1. The plant experienced 430 minutes of downtime in December and has been offline ~185 hours this contract year.

In December, the plant discharge flow averaged 338 gallons per minute (gpm) and 486,913 gallons per day (gpd). These flow numbers are lower than November primarily due to INJ P3 being off line most of the month.

Month	Flow Average (gpm)	Volume Discharged (gpd)
June '12	380	546,715
July '12	357	513,599
August '12	344	495,778
September '12	338	487,288
October '12	320	460,217
November '12	343	493,409
December '12	47	68,314
January '13	0	0
February '13	0	0
March '13	0	0
April '13	0	0
May '13	152	219,330
June '13	333	480,205
July '13	282	406,545
August '13	356	512,480
September '13	342	493,022
October '13	338	486,258
November '13	344	494,895
December '13	338	486,913
Historic Target	**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 December are indicated below:

Injection Well System	Flow Average (gpm)	Volume Discharged to well (gallons)
IW-1	18.6	831,154
IG-1	81.8	3,649,461
IW-2	55.8	2,492,277
IW-3	37.7	1,683,833
IG-3	80.9	3,611,240
IW-4	83.6	3,731,235
System	**358**	**15,999,201**

The discrepancy between the individual injection system meter readings and the total plant effluent meter readings (~23 gpm) is due in part to the type of flow meters utilized to measure the discharge (paddle wheel vs. magnetic vs. turbine), the plumbing configurations,

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 not in service. 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 cracked drain nozzle repaired.

There are no bulk chemicals onsite.

9.0 CARBON SYSTEMS

9.1 Aqueous-Phase Carbon

The influent water to and the effluent water from the liquid-phase Carbon Adsorber (LCA) vessels is monitored on a quarterly basis for volatile organic (VOA) and semi volatile organic (BNA) compounds. In previous sampling of these streams, minimal VOA or BNA compounds have been detected in the effluent. The vessels were last sampled in November and results indicate that the compounds of interest are below acceptable limits.

As part of the daily monitoring task, the differential pressure across each vessel is recorded. This data along with the discharge pressures of the LCA feed pumps are used to determine whether backwashing of the carbon beds is necessary. The vessels were backwashed through several cycles each in December. Currently, the differential pressure across both vessels is rising indicating that backwashing again will be needed.

The spent carbon recovered from the backwashing operation is stored on-site indoors. This carbon is generally listed as non-hazardous waste. On December 11, Veolia Environmental picked up 8 drums of the spent carbon cake for disposal. A routine scan of the drums upon delivery at the TSD facility indicated that trace levels of radioactivity was detected. The disposition of the carbon is yet to be determined.

No carbon was added to the vessels in December.

9.2 Vapor-Phase Carbon

Two vapor-phase Carbon Adsorber vessels (VCA) are available for the off gas treatment of the air stripping (AS) air 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). No emissions from the vessel air stream were observed in December.

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

10.0 WASTE DISPOSAL

Eight drums of dried carbon waste from the LCA backwash operation were shipped by Veolia Environmental to their TSD facility in Flanders, NJ, (USEPA ID No.: NJD980336593)

11.0 MONTHLY DISCHARGE MONITORING REPORT

The GWTS is currently operating under an equivalency permit from the New York State Department of Environmental Conservation (NYSDEC). This permit does not require monthly reporting, however, a review of the monthly plant discharge analytical results, (included within Section 14.0), indicated all analyzed parameters were below noted permit limits.

The plant's water discharge permit expired December 31, 2013. The permit renewal/extension process is underway.

12.0 OTHER OPERATIONS, MAINTENANCE, OR MANAGEMENT ISSUES

The discharge from extraction wells 1 and 2 remain restricted by the globe valves at the mixing manifold. In December, EX-1 averaged 83 gpm, EX-2 averaged 104 gpm, and EX-3 averaged 120 gpm. (These gpm readings are averages over 24-hrs, the pump's actual on-time is 16-19 hours per 24 hours).

All three extraction well pumps have been cycling off due to changes in the water level in the wells. Adjustments have been made to the pump control transducer set points to increase the pump on-time.

The deposit of material into IW-2 seems to have slowed. Due to this blockage of a length of the well screen, water infiltration has slowed. The water level in the well is high but stable at the current plant discharge flows.

Other on-going plant maintenance issues are summarized on Table 12-1.

13.0 PLANT DOCUMENTS

Procedures and standard forms are written, reviewed, and revised as needed. In December, no revisions were required.

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. December's sampling activities included:

- The monthly PD samples were collected 12/12 and shipped to TA Edison for organic analysis.
- The monitoring system groundwater levels were collected 12/12.
- The quarterly GW samples were collected 12/16-18 and shipped 12/19 to TA-Edison for organic analysis.
- The January PD samples are scheduled for 1/15.

The plant discharge was sampled December 12. Following are the results for those samples:

Plant Discharge			
Parameters	**Discharge Limitations**	**Units**	**Results December '13**
pH (range)	5.5 – 8.5	SU	6.37
Tetrachloroethylene	5	ug/l	U
Trichloroethylene	5	ug/l	U
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 the plant effluent taken from a controlled point with calibrated portable meters. A summary of this data is as follows:

Date	pH	Temperature (°C)
Dec. 2	6.10	13
Dec. 9	6.36	13
Dec. 16	6.34	13
Dec. 23	6.50	14
Dec. 30	6.57	12
December Average	**6.37**	**13**

The NYSDEC discharge permit requires the plant discharge to have an average monthly pH greater than 5.50 su. The treatment plant effluent pH averaged 6.37 su in December 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.

Using a calibrated PID meter, weekly air monitoring readings are taken 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.

Date	Inlet	Outlet
Dec. 2	0.0	0.0
Dec. 9	0.0	0.0
Dec. 16	0.0	0.0
Dec. 23	0.0	0.0
Dec. 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.		

No emissions were observed in the discharge of the active vessel (VCA-1) in December.

Measurements to determine the well depth from the top of the injection well column to the bottom were taken on 12/30. 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 rate of infiltration appears to have stabilized. The flow of injected water into IW-2 remains restricted.

Water elevations in the IWs are recorded on a daily basis from the well's transducer output. Although depicted in Figure 14-1, these water levels are from faulty instruments and are questionable. However, the IW levels were generally steady and are physically monitored. On 12/30 the DTW readings for the injection wells were recorded.

	Sounding Depth (ft)	Transducer	Depth to Water (ft)
IW-1	145.65	135.1	4.70
IW-2	154.60	116.3	17.00
IW-3	247.7	133.1	5.50
IW-4	191.9	131.9	11.90

nr – not recorded

Water level data from the injection well falling head test analysis was collected. Although the output of the level transducers is questionable, the data for all four wells was recorded. 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 the wells is unchanged. With the exception of IW-2, the wells appear to be draining adequately.

Other routine data collected during December included:

- The plant sound level readings were recorded twice (12/13 and 12/27)
- 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. (12/31)
- Weekly utility meter readings were recorded.

- The extraction well packer pressures were recorded on several occasions (see Sec. 15.1)
- The process motor amp loads were measured and recorded 12/30.
- The water levels of the monitoring wells were recorded 12/13.

15.0 PROCESS ANALYSIS, INTERPRETATIONS, AND CONCLUSIONS

15.1 Extraction and Influent Processes

- Discharge flows from EX-1 and EX-2 remain restricted.
- The transducer pump control for each EX well was adjusted to increase pump on-time.
- The pump motor amp load readings were recorded 12/30
- The three extraction well pumps are fully functional and are on-line.
- The three influent pumps are operational and 2 are on-line. The control panels indicate that P-3 does not readily shut off with the panel switches (HMI, MCP).
- There continues to be some drift in the VFD control of influent pump-1.
- The influent pumps were rotated twice in December.
- The 2 influent flow controllers are fully functional.
- Routine maintenance continues.

Extraction Well packer pressure readings:

Date	EX-1 (psi)	EX-2 (psi)
12/2	36	48
12/5	37	47
12/10	34	47
12/16	30	46
12/19	29	46
12/27	26	46
12/31	26	46

15.2 Flow through Aeration Process

- Both treatment trains are on-line and the process water is balanced between them.
- 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 lack of solids generation.
- The reaction tanks and clarifier systems continue to operate as pass-through settling tanks.

15.3 Settling Filter Process

- The system is fully functional and draining adequately.
- Maintenance is performed as required.

15.4 Air Stripping Process

- The three ASF pumps are operational and are rotated into service two at a time. They were rotated two times in December.
- The motor amp load readings were recorded 12/30.
- The VFD for ASF P2 exhibits an earth ground fault. When on-line, Pump 2 operates through the off line pump's VFD.
- The blower is checked daily and is fully functional. Blower PM tasks were completed 12/30.
- 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 two times in December.
- Both carbon vessels were backwashed through several cycles each.
- The pump motor amp load readings were recorded 12/30.
- Differential pressures indicate the vessels should be backwashed soon.
- Other routine maintenance tasks continued.

15.6 Treated Water Injection Process

- The plant discharge system is online and operational.
- The injection pumps were rotated once in December.
- The influent flow to IW-2 remains restricted. At current flow levels (~55 gpm) the well adequately drains.
- The pump motor amp load readings were recorded 12/30.
- There appears to be a mechanical seal leak on pump 2.
- There continues to be a significant discrepancy between the PD and IW flow sensors.
- The galleries are adequately draining.
- No other issues were encountered with the injection system in December. Routine maintenance tasks continue.

16.0 GROUNDS

16.1 Plant Perimeter

- General outdoor clean up continues. This includes landscaping and snow removal tasks.

- The warning signs and fencing is in good shape and the gates are clear.
- The fire hydrant is clear and accessible.

16.2 Well Field

- Manual DTW readings of the IWs continued.
- Groundwater sampling proceeded with no remarkable events.
- EX well packer pressure readings continue.
- The well sites were kept clear of overgrowth and fallen trees.
- Maintenance workers (?) trimming trees in the wellfield inadvertently broke through a cover for one of the electrical vaults. A temporary plywood cover was fabricated and installed.

16.3 Other

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

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

FIGURES

Figure 14-1 Injection Well Elevations and Daily Flow

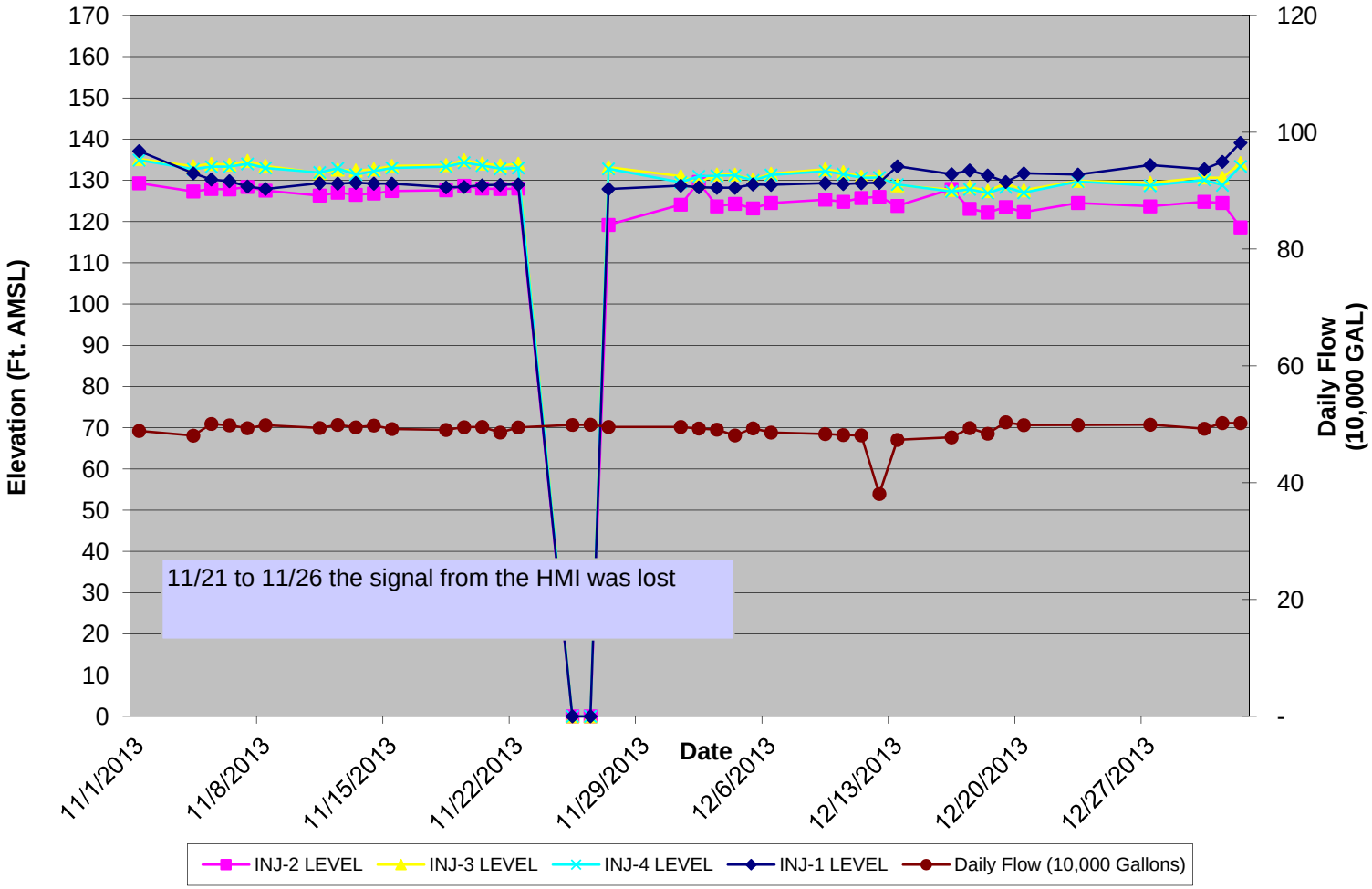


Figure 14-2 Injection Well Falling Head Test - December 30, 2013

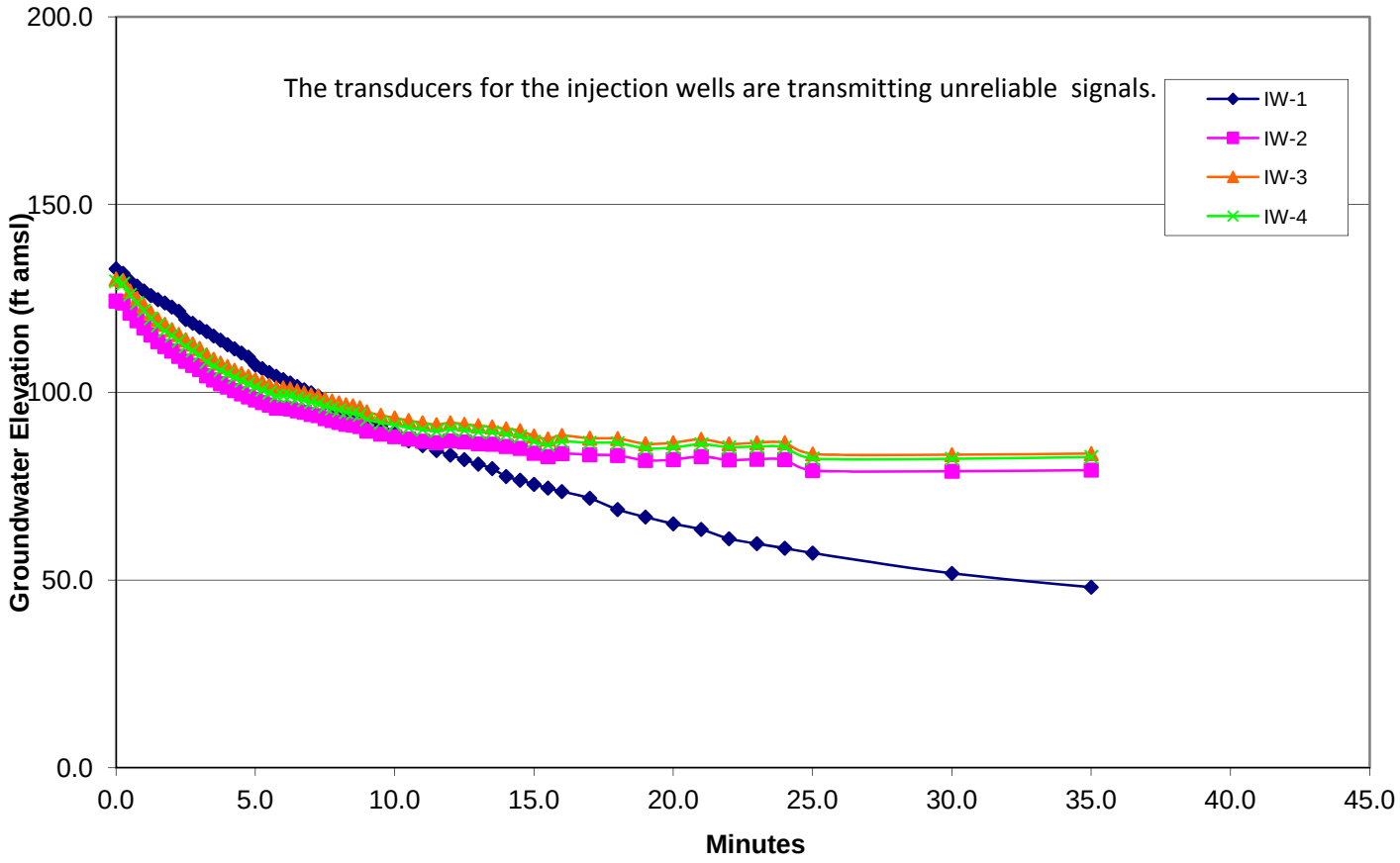
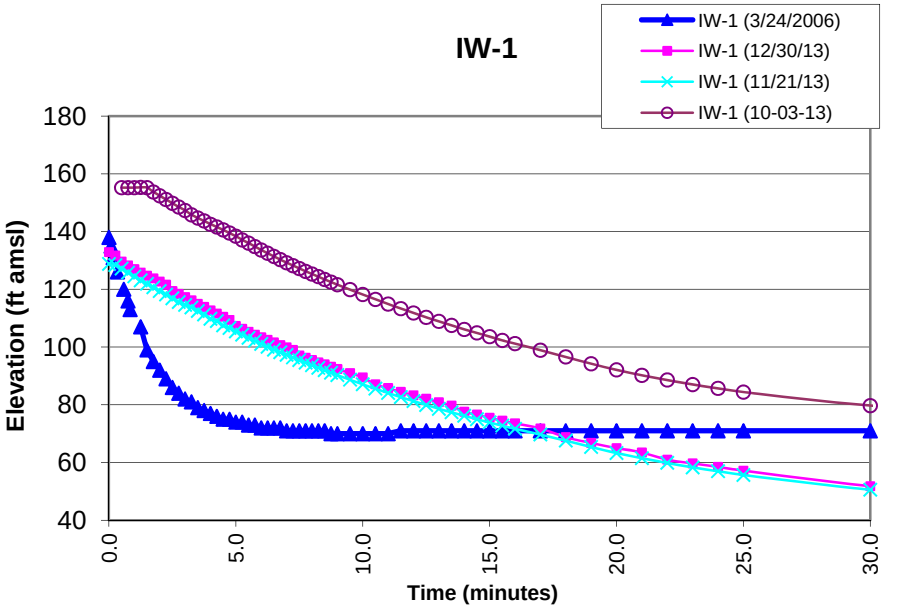
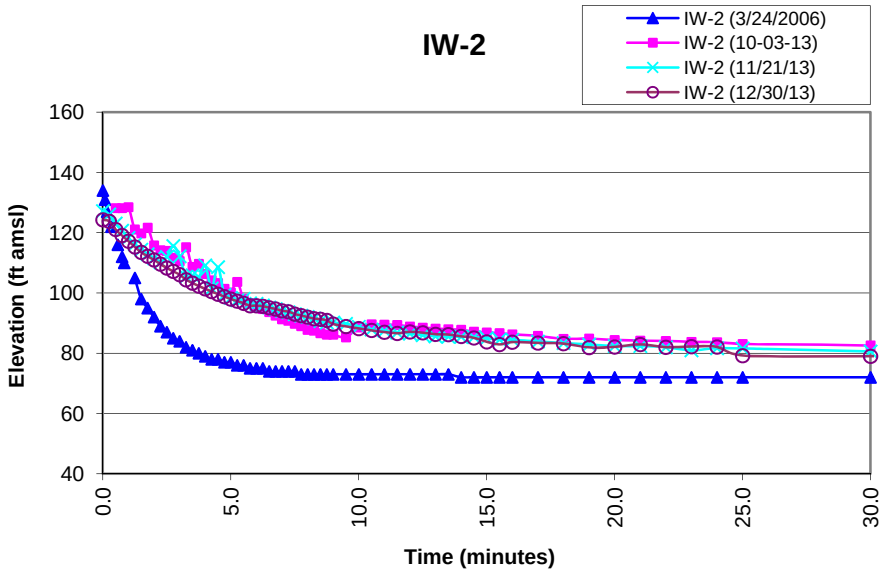
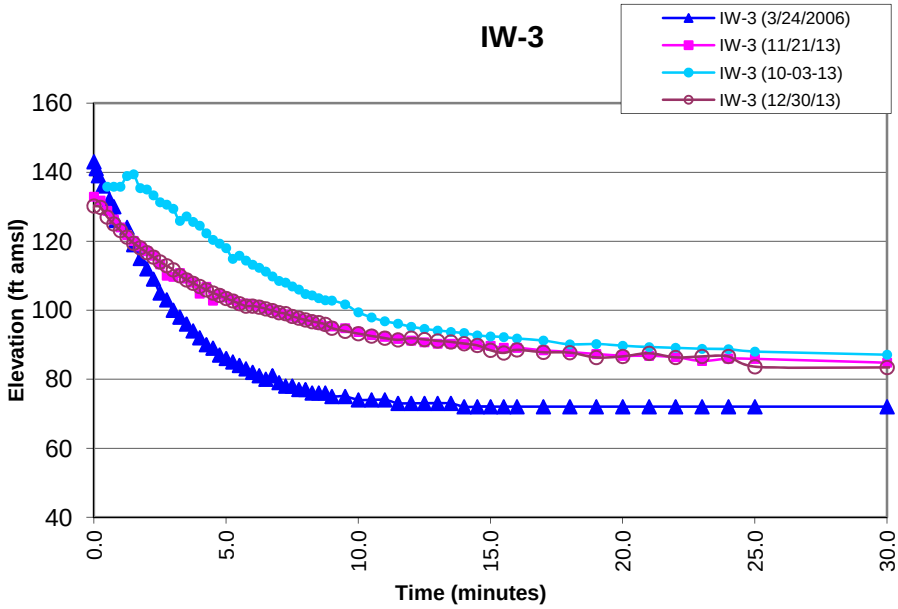
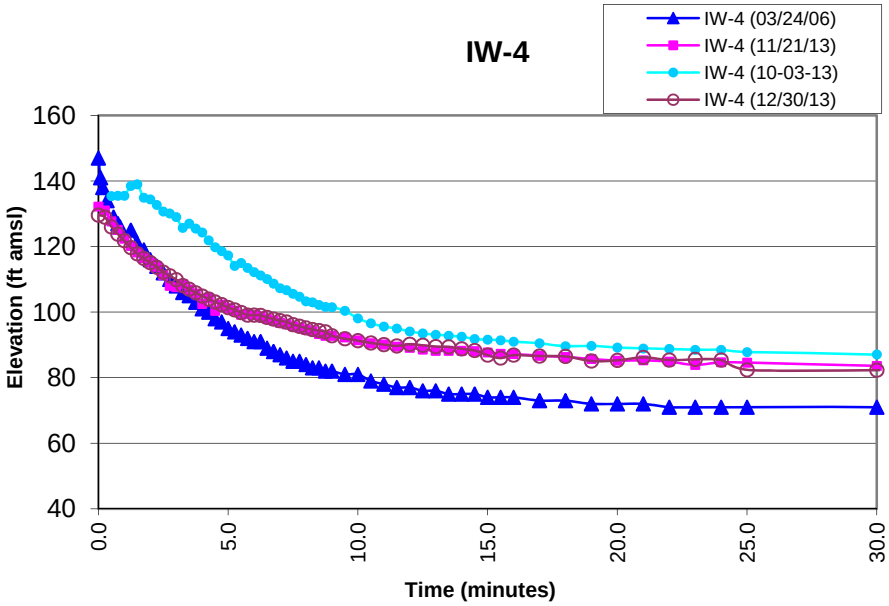


Figure 14-3 Comparison of Falling Head Tests






IW-3
IW-3 (3/24/2006)
IW-3 (11/21/13)
IW-3 (10-03-13)
IW-3 (12/30/13)
Elevation (ft amsl)
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 (11/21/13)
IW-4 (10-03-13)
IW-4 (12/30/13)
Elevation (ft amsl)
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

December 2013

DATE	TOTALIZER READING	GALLONS PER DAY	GALLONS PER MINUTE
12/1/2013	746836646	543354	377
12/2/2013	747380000	500000	347
12/3/2013	747880000	480000	333
12/4/2013	748360000	490000	340
12/5/2013	748850000	490000	340
12/6/2013	749340000	1450000	336
12/9/2013	750790000	470000	326
12/10/2013	751260000	490000	340
12/11/2013	751750000	470000	326
12/12/2013	752220000	400000	278
12/13/2013	752620000	1400000	324
12/16/2013	754020000	480000	333
12/17/2013	754500000	450000	313
12/18/2013	754950000	530000	368
12/19/2013	755480000	500000	347
12/20/2013	755980000	1480000	343
12/23/2013	757460000	2030000	352
12/27/2013	759490000	1480000	343
12/30/2013	760970000	500000	347
12/31/2013	761470000	460955	320
1/1/2014	761930955		
Dec '13 Treated Water Volume		**15,094,309**	
Dec '13 Avg. GPM Discharged			**338**

Table 12-1

Plant conditions and concerns (updated 12/30/13)

Date	Condition to be corrected	Status	Priority	Notes
2007	PD manifold leak	Leave as is and monitor	3	Leak is monitored and deemed to be not serious
2008	Check Valve failures	Valves are manually controlled	2	Plant wide – 13 units, this situation creates problems for any remote control of the processes.
2008	Injection Pump 1&2 shut off valve failures	Leave as is	2	Minimum 4 units. Pumps cannot be isolated
Aug '08	Air Compressor overhaul	Run system on an 'as needed' basis	4	This method has been working well. A failure may prevent some tasks.
2009	EQ tank isolation valve failure	Leave as is	2	The tank cannot be isolated
2009	Filter press hydraulic fluid leak	Add fluid as needed	4	The hydraulic pump system will require outside service.
Aug '10	IWs transducer replacement	Leave as is and manually measure water levels	3	all 4 units give unreliable signals
Aug '10	Access stairs from plant to wellfield	Leave as is	4	Need to generate a plan with costs
May '11	pH meter failures at RX1, 2, and ASF	Leave as is	4	pH control is no longer required
June '11	ASF P2 VFD repair	Leave out of service	2	P-2 is run on off-line pump's VFD
July '11	INF P1 VFD repair	Leave as is	2	Pump flow is controlled by throttling the P-1 discharge valve
Jan '12	INF P2 motor noise	Await failure	4	Replace motor at failure
Apr '12	INJ P2 leak	Leave as is	2	Shut down item – replace seal
Apr '12	Permanganate tank repair	Leave as is	4	Off line, tank is not needed
June '12	ASF Level Monitor	Operate as is	3	Monitor give false LL conditions which cycles the pump
Sept '12	Optimize PD flow	Leave as is	4	-Change extraction containment flow requirements -change discharge & manifold plumbing -change out pump impellers -resize pumps
Nov. '12	Clean Process tanks	Clean when possible EQ , TW, ASF	4	Plant shutdown items: See below for completed tanks
Ongoing	Non-Hazardous Waste Accumulation	Indoor storage – ongoing Analytical results submitted PO is being written **Drums shipped 12/11**	3	Waste removal will be scheduled when sufficient quantity is accumulated.
Jan '13	Rust spots on storage tank shells	Project has started, lower sections of the TW and EQ tanks have been prepped and spot primed	2	Rusted areas are to be abraded clean and spot painted
May '13	Sump pump level control mountings are loose	float is secured to a submersed pipe until a tank entry is made	3	
July '13	Well caps (drive-over) are missing or damaged at EW-6c and EW-2c	Cap for EW- 2c fabricated and installed **Covers at EW-6 laid in**	**2**	one well is on golf course and one at the paper processor fabricate or purchase caps
Aug '13	Sediment depositing in IW-2	Flow restricted to well	3	Continue to restrict flow as necessary Monitor the well sounding for changes

Sept '13	INF P3 does not respond to control switches	manually shut down and isolate pump	2	pump continues to run after shut off, even with opened switches at both MCP and HMI
Nov. '13	HMI computer to monitor communication has broken down	Various aspects of the system checked. Computer sent to HRP-CT for testing **Bad power supply replaced and unit returned to service 11/26**	1	Upon restart of computer after an automatic software update, the monitor to computer link reads a power save mode and cannot readily re-establish communication (?)
Recently completed Tasks	Condition	Remedy		
Sept '12	Emergency light failure NE door	New unit installed 1/30/13	2	Fully functional
Nov. '12	Clean process flow monitoring systems	Ex cleaned 12/12 PD cleaned 1/3 IW cleaned12/11	3	Plant shutdown items: PD, INJ, INF, EX
Dec. '12	AST media evaluation	Tower opened and media inspected 1/14	4	Iron sludge coating, media open - OK
Dec. '12	Valve Actuators on Settling tanks are a potential hazard	Actuators removed 1/18	3	Controllers disconnected, actuators stowed
Dec '11	LCA vessel 2 - pin hole leaks	Repaired 2/14	3	Fully functional Feb '13
Nov. '12	Clean Process tanks	Clean when possible EQ , RX-1, RX-2, ST-1	4	Tanks cleaned during shutdown: RX-1, RX2, CL1, CL2, ST1, ST2, GACF1 ASF1
Dec '12	Plant heater failure	The heater was adjusted and is now functional	3	Fully Functional Feb '13
Dec. '12	LCA vessel 1 pinhole leaks	Repaired 2/15	3	Fully functional
Dec. '12	EQ tank pin hole leaks	Repaired 2/19	2	Fully functional
March '13	More EQ tank pin-hole leaks	Welder has been contacted to provide quote prior to NYSDEC approvals – Tank repaired(5/16)	1	5 leaks have been observed
May '13	EX well Blockers – leaking air	Periodically charging bladders. The pumps and packers were pulled, repairs were made, and then were re-installed (6/17). EX-2 holds pressure EX-1 loses pressure over time. Bladder recharged as needed.	**1**	Charged system affects the transducer activity.
May '13	EX well capacity testing	Pump tests completed 6/227	2	Equipment may not support the tests as designed
May '13	INJ P2 is not functioning	Repairs made 7/2	3	Further testing is required
June '13	Flow control on EX discharge lines is not adequate.	Butterfly valves are shut off valves not control valves Globe valves were installed. Flanged connections replaced BF valve immediately downstream of flow element. BF shut off valve was moved as far down stream as possible.	1	Install globe upstream of flow elements. Re-plumb as possible to move disturbances away from flow element
July '13	INF P2 motor to pump	Replace coupling coupling replaced and pump	2	Take pump out of service and replace element.

	coupling failure	returned to service 7/23		
July '13	Rotation of motors was reversed when repairs to broken power leads was made	Reverse wires in MCC Repairs made 7/17	1	possible damage to motors and impellers as well as low output
Aug '13	Cracked flange on EX-3 flow meter piping	parts have been received Repairs Completed 8/28	2	in-house repair when practicable
Aug'13	mower pull start snapped	parts and service have been ordered, repairs made 8/28	3	in-house reassembly when parts are received
Aug '13	heat trace and insulation exposed on sum discharge piping	Enclosure fabricated and installed 9/11	3	collect needed parts and tools.
Sept '13	Leak in housing of INF P1	pump taken out of service 9/17 Pump housing welded, and reinstalled. Slight leak at shoulder facing - ok	3	requested prices on seal and housing
Oct '13	Electrical Vault at EX-1 is cracked and debris is getting into box	a barrier around breach is to be constructed	3	concrete or other materials is to be used
May '13	VFD for ASF P1 – not tracking tank levels	system seems to be tracking better (Dec '13)	2	Need electronics tech to look at control system

Priority Level 1- urgent and must be done
2- not urgent but must be done
3- not urgent but should be done
4- not urgent but would like done

Table 14-1

Month	$pH_{AVG.}$
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
Nov '12	6.39
Dec '12	6.11
Jan '13	6.35
Feb '13	nr
Mar '13	nr
Apr '13	nr
May '13	6.05
June '13	6.33
July '13	6.59
Aug '13	6.63
Sept '13	6.57
Oct '13	6.39
Nov `13	6.30
Dec '13	6.37

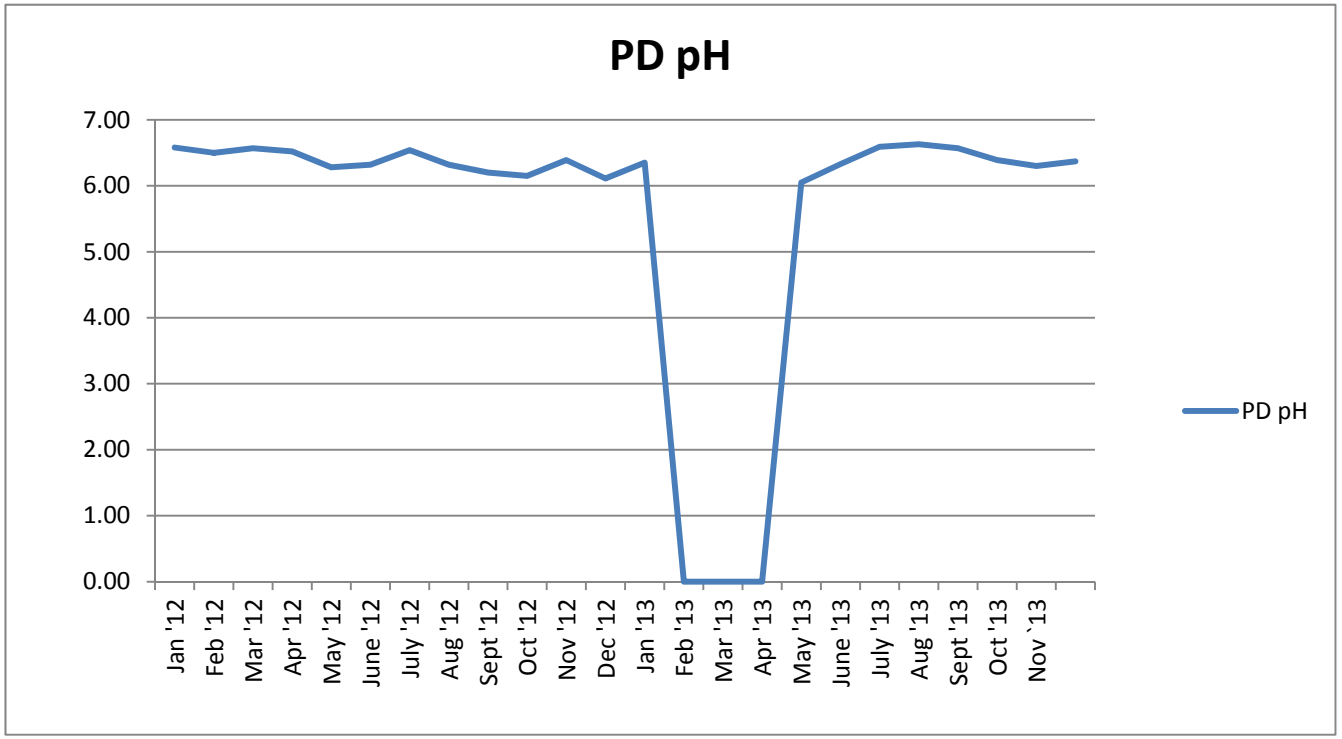
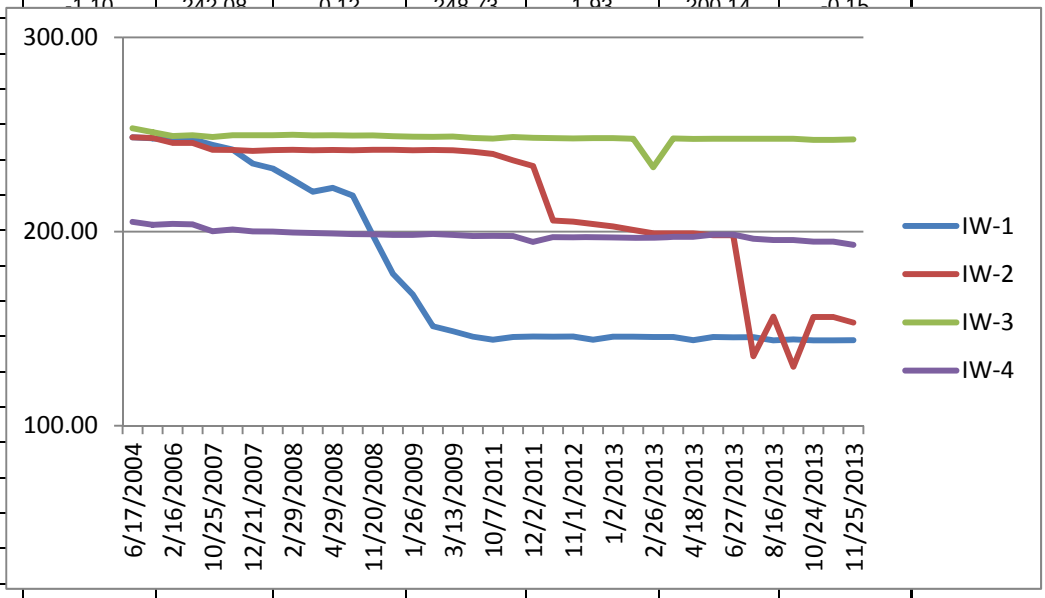


TABLE 14-2 Injection Well Soundings

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							
12/21/2007	235.02							
1/29/2008	232.46							
2/29/2008	226.58							
3/27/2008	220.50							
4/29/2008	222.50							
5/30/2008	218.55							
11/20/2008	198.05							
12/29/2008	178.29							
1/26/2009	167.50							
2/25/2009	151.20							
3/13/2009	148.68							
9/21/2011	145.90							
10/7/2011	144.30							
11/17/2011	145.70							
12/2/2011	145.95							
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
11/16/2012	144.30	-1.65	203.90	-1.25	248.15	0.15	197.00	0.00
1/2/2013	145.90	1.60	202.65	-1.25	248.10	-0.05	197.05	0.05
1/29/2013	145.90	0.00	200.80	-1.85	247.78	-0.32	196.78	-0.27
2/26/2013	145.70	-0.20	199.10	-1.70	233.10	-14.68	196.76	-0.02
3/18/2013	145.70	0.00	199.10	0.00	247.95	14.85	197.30	0.54
4/18/2013	144.05	-1.65	199.10	0.00	247.70	-0.25	197.25	-0.05
5/14/2013	145.70	1.65	198.10	-1.00	247.80	0.10	198.43	1.18
6/27/2013	145.55	-0.15	198.10	0.00	247.80	0.00	198.43	0.00
7/29/2013	145.60	0.05	135.80	-62.30	247.80	0.00	196.27	-2.16
8/16/2013	144.00	-1.60	156.20	20.40	247.84	0.04	195.60	-0.67
9/25/2013	144.50	0.50	130.34	-25.86	247.84	0.00	195.60	0.00
10/24/2013	144.00	-0.50	156.00	25.66	247.20	-0.64	194.80	-0.80
10/24/2013	144.00	0.00	156.00	0.00	247.20	0.00	194.80	0.00
11/25/2013	144.05	0.05	153.14	-2.86	247.50	0.30	193.20	-1.60
12/30/2014	145.65	1.60	154.60	1.46	247.70	0.20	191.90	-1.30



		DTB Well	Changes		
June ' 04 to	Present	**-102.85**	**-93.90**	**-5.50**	**-13.10**
Injection wells IW-1 and IW-3 were redeveloped during week ending 11/9/07					
Nov '07 to	Mar '08	-21.70	-0.10	-0.10	-1.75

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
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

Associated documents and worksheets used to generate this report can also be found on shared folder' CPC Monthly Logs from Plant'