1Q 2008 Quarterly GW Sampling

PENNY BASSETT

"Rite in the Rain"®

ALL-WEATHER

JOURNAL

No. 391

3/11/08 TUESDAY

07:00 Meet on Site for installation of bladder pumps. Safety meeting, prep pumps + controllers
PERSONNEL: Penny Bassett
Matt Renaud
Tara Richards
Royanne Barringer
Tom Judy (QED)
WEATHER: Clear, sunny

09:00 Set up at B/W-25S
install pump
Pump SETTINGS: CPM 2
Refill: 24.0
Disch: 6.0
ID: 46
PSI: 80

1000 set up @ B/W-25I
install pump @ 115'
Pump settings: CPM 2
Refill: 20
flow: 250 mL/stroke Discharge: 10
ID: 50
500 mL/min PSI: 85

11:25 set up @ B/W-25D
INSTALL pump 50.5'
Pump SETTINGS: CPM 2
Refill 23.0
Flowrate: 500 mL Discharge: 7
ID 49
500 mL min PSI: 50

P Bassett

3/12/08 WEDNESDAY

0700 Arrive on site, safety meeting, calibrate meters, organize supplies
PERSONNEL : P Bassett
R Barringer
Corey Strauss
M. Renaud
T Richards
WEATHER : overcast, ~60°, not windy

10:00 P Bassett + R Barringer mobilize to sample PW wells. Found that 1 liter bottles from TA Richland were shipped unpreserved. Found old preserved bottles to use until we can get more

10:15 PW-02

10:50 PW-03
Collect orig + duplicate
Orig = PW-03D-1
Dup = PW-03D-2

11:30 Ron + Gary reported that PW-04 is down + needs repair. Skipped + will come back.
PW-05 – MS/MSD

12:00 Pickup Tara + Corey's samples B/W-27S + B/W-27D
Pack + mail ~~##~~ Samples

15:00 Assist Matt w/ installing add'l pumps

18:00 Back at lab, unpack, check YSI calibration
19:30 off Site

Wells Sampled 3/12 :

PW-02, PW-03, PW-05 } PB/RB (preserv)

B/W-9 S,I,D
B/W-10 S,D
B/W-25 S,I
B/W-27 S,D
} TR CS (preserv)

P Bassett

12 wells

3/13/08 THURSDAY

07:00 PERSONNEL: P Bassett
M Renaud
T Richards
C Strauss
R Barringer

WEATHER: Overcast, windy (30 mph)
Temp ~ 50°

Calibrate 3 YSI meters + 1 Oakton
3 turbidity meters

4 sample teams out in a.m.
Penny - Bumpback wells
Matt - Gas comp (int)
Tara - Elec comp (shallow)
Corey - Gas comp (int)

08:30 Setup at PW-04
Sample collected 9:25

10:00 PW-06 collect sample

10:30 PW-07 collect sample

11:15 PW-08 collect sample

12:00 PW-09 collect sample

12:15 Check in w/other crews, collect samples, replenish supplies, help pack, lunch, etc.

14:45 PW-01 Collect sample

15:30 Dispose of collected purge water in lined pond by Phase IV Heap Leach

16:00 PW-10 Collect sample
water is v. turbid w/red sediment

16:50 PW-11 Collect sample

NOTE: TA Richland lab delivered only unpreserved 1 L bottles. Discussed w/ lab + they suggested sending samples to them unpreserved + they would add the preservative at the lab. Erika Jordan discussed w/ Eric Lahr (ESD) if this is ok, Eric said it would be allright. All samples collected on 3/12 were in older bottles w/ preservative. Samples collected by Matt Renaud today were preserved + all others unpreserved.

3/13 CONT'D

Wells sampled 3/13:

PW-01	PW-08	PB (unpreserv)
PW-04	PW-09	
PW-06	PW-10	
PW-07	PW-11	
B/W-3S		TR (unpreserv)
B/W-5S		
B/W-11S		
MW 2002-2		
BW-3I		CS (unpres.)
BW-5I		
BW-11D1		
MW-2002-2I		
B/W-7D		MR (preserv)
B/W-8S, D		
B/W-19S		

19 wells

FB-01 Field Blank all samples 3/12 - 3/13

QC Samples:

FB-01 - Field Blank associated with all samples collected 3/12 + 3/13 (unfiltered sample)

FILB-01, FILB-02 Filter Blanks, one from each box

Samples collected by pumping lab grade water thru 0.45μ filter w/peristaltic

P. Bassett

3/14/08 FRIDAY

0700 Arrive at site, safety meeting, field plan review.

PERSONNEL: P Bassett
M Renaud
T Richards
C Strauss
R Barringer

WEATHER: Clear, Sunny, cool (~50°C) wind has stopped for now

- 3 sampling crews out in a.m.
  Matt w/gas comp., Corey - gas comp.
  Tara - elec comp.
  Penny will continue to install pumps
  Royanne pack samples
- Calibrate 3 YSIs + 3 turbidity meters
- Will work until 1:00pm collecting samples in order to ship all samples today

Pumps installed:

PA-MW-1	WW-1 (did not go all way)
PA-MW-2	B/W-21
PA-MW-3	

3/14 CONT'D

Wells Sampled 3/14:

BW-3D
BW-5D } MR
BW-19I

BW-15
BW-20 } TR

BW-29S
BW-29I1 } CS
BW-29I2

8 wells

Patty Mata (TA Irvine) called to say that several coolers arrived above temp + more ice is needed. Will use 3 bags of ice each cooler.

She received 2 filter blanks + we decided only need to run metals not water chem

She received 1 field blank which we did not filter before sending but put metals in preserved bottle. Therefor she will have to run as total metals since it cannot be filtered after preserved. We will filter future FBs + will discontinue FILB since it will be the same thing.

P Bassett

3/17/08 MONDAY

0630 Arrive on site, calibrate meters, gather supplies, Safety meeting

PERSONNEL: P Bassett
M Renaud
C Strauss
R Barringer

WEATHER: Clear, sunny temp ~50° calm.

0730 Matt + Corey out sampling w/ gas compressors. Penny set additional pumps, sample several wells w/ prod. pumps + generator.

Pumps installed
MW-04

~~Well~~ W5AA3 - TD = 22.5 btoc Pump depth = 21.2
WL = 20.0
measured incl. 3.5-4' stickup

Installed short pump w/ long screen, came w/ 4" cap but is a 2" well

⊛ needs a small sample tube, none in box

D5AC-1 TD = 35.45 btoc
DTW = 25.95 btoc
Pump depth = 32.4 btoc
(*long screen on short pump)
(*) missing sampling tube, needs narrow tube

Collect samples: Using Oakton #2 + Hach 2100 turbid. meter (#1012/0405000359 19)

1130 - Setup generator at WW-59 and begin purging. Need to purge ~ 4.5 hrs to achieve 3x volume. Use dedicated pump in well, cannot measure water level

1230 - Setup at MW-1 w/ second generator connected to dedicated electric pump in well. Purge at ~8-10 gpm. Monitor parameters & collect sample

1630 Collect sample at WW-59. Purged 5 hrs

Wells Sampled 3/17:

MW-1
WW-36 } PB
WW-59

BW-6S
BW-6D
BW-13D } MR
BW-21
BW-22D

BW-4SID } CS
BW-28 SID

WELLS TODAY = 14
WELL TOTAL = 55

FB-02 - Field Blank all samples 3/14 + 3/17

P Barrett

3/18/08 TUESDAY

0640 Arrive on site, Calibrate meters, gather supplies, safety meeting
PERSONNEL: P Bassett
M Renaud
C Strauss
R Barringer
T Richards
Briana Wright
WEATHER: Sunny, clear, calm
Temps ~60-65°

0700 Corey Strauss calibrated all 3 YSIs
Royanne Barringer calibrated the Oakton + 4 turbidity meters.

0800 Start generator + begin purging WW-40. Needs to purge 8hrs to achieve 2x volume

1000 Check water Qual parameters at WW-~~#~~40
Check pit lake water level on survey post in pit
WL = ~ 4214.6

1100 Install pump at BW-11D3

1230 Meet w/ Kevin Calcagno, TestAmerica BP account manager. Show him around site, review lab reqmts

1500 Decon geosquirt pump thoroughly at lab area w/ alconox, dilute nitric, DI ~3-5 minutes in each solution.

1615 Collect sample at WW-40 after 8hrs purge (=2x well volume)

1700 All sample teams back, unload samples; drift checks on meters, organize + pack samples

Wells Sampled 3/18:

BW-1S, BW-1I, BW-1D, BW-16D } CS
BW-18S, BW-18I, BW-18D, BW-2I } MR
12 wells

FB-03 - Field Blank all samp 3/18

BW-14, D4BC-1, W5AA-1 } TR/BW
WW-40 - PB/RB

TODAY = 12 wells
TOTAL = 67

P Bassett

3/19/08 WED

0645 Arrive at site, calibrate meters, gather supplies, safety meeting
PERSONNEL: P Bassett - Geosquirt
M Renaud - Gas Comp
C Strauss - Nitrogen
T Richards - Slug/Transd.
R Barringer
B Wright - DC comp
WEATHER: Sunny, clear, temp 55-65°
Calm in a.m. but rainshowers + wind predicted in p.m.

0830 - Briana reports she is unable to sample W5AA3 w/ DC comp because only 1.5' water above pump intake. Will have to pull pump + sample w/ geosquirt

0900 Work on changing out hosing on Rediflo 3 pump w/ new teflon lined poly hose. Pump planned to be used in only one well (WW-1) so hose was cut to length + marked to set in well. Tape @ 55' total hose length 80'

1015 Royanne checked water level in USEPA-2. There is 1' standing water in well

1030 Set up at W4CB-1 + begin purging + monitoring parameters. Purge using deconned geosquirt single stage, pump @ 1.5 gpm for 50 min. + collect sample
- Decon pump at site w/ 3 step
1. Alconox 2. dilute HNO_3 3. DI Water

1130 Move over + set up on USGS-2B (~20' N of W4CB-1). This is a 2" well w/ ~22' standing water but low recharge rate. Pump dry 3x + collect sample

1400 Set up at USEPA-2. Measured ~12" standing water in 4" casing. Able to purge > 3x volume (20 gal) w/ geosquirt, did not run dry.

1610 Set up at W5AA-3. Was supposed to be sampled w/ bladder pump but not enough water, pump intake didn't appear to be submerged. Pulled bladder pump + sampled w/ geosquirt

3/19 CONT

WELLS SAMPLED 3/19:

BW-2D
MW-2002-1
BW-11D3
BW-25D
} MR - gas compressor bladder pumps (ded)

PA-MW-1
PA-MW-2
PA-MW-3
BW-23D
BW-29D
} CS - nitrogen gas cyl. bladder pumps

W4CB-1
W5AA-3
USGS-2B
USEPA-2
} PB - geosquirt non-ded. decomned
→ EQ-01 Equip blank on Geosquirt, Collected following morning

D5AC-1
W5AB-2
W5AB-3
} BW - DC compressor bladder pumps

16 wells

FB-04 - Field Blank all samp 3/19

TODAY = 16 wells
TOTAL TO DATE = 83 wells

3/20/08 THURSDAY

0700 Arrive on site, calibrate meters, gathersupplies, safety meeting

PERSONNEL: P Bassett - Rediflo
M Renaud - Gascomp
C Strauss - Nitr. cyl
T Richards } DC Comp
B Wright }
R Barringer

WEATHER: Clear, sunny, calm (winds predicted in p.m.) Temp ~55-60°

0900 Install pump at WB55, had to replace cap because cap was cutoff. Purchase car battery for sampling USGS-13 because mud makes it inaccessible for vehicles

12:30 Mobilize to WW-2 for sampling w/ Rediflo 3

Well kept pumping dry, pump for 5 min + recharge for 10 min Collect sample at 1425, unable to put filter on discharge hose so collected unfiltered + filtered back in field office w/ peristaltic

15:30 All sample teams done, all wells sampled except:

P-1 } Not req'd per CZ imm.
WDW-019

B/W-1I2 } wells to be redrilled + reinstalled next week, will sample when done
B/W-19D

Pack up samples, drift check equip, clean up field office + supplies, organize pumps/equip for long-term storage.

Wells Sampled 3/20:

W4CB-2
WW-1
MW-2
UW-1 } Corey w/ gas comp.

FB-05 - Field Blank all samples 3/20

W5DB
MW-4
W32DC } Matt w/ gas comp.

MW-5
USGS-13 } Tara/Briana w/ DC Comp.
W5BB

WW-2 - Penny w/ Redi-flo 3

11 wells

EQ-02 - Equip rinsate blank on Redi-flo after sampling

1ST QUARTER 2008 Groundwater Sampling event complete (except BW-1I2 + BW19D)

P Barrett