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YERINGTON GROUNDWATER
TEAM 1: PENNY BASSETT

"Rite in the Rain"®
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PAGE	REFERENCE	DATE
	2008Q2 Qtrly GW Sampling	
	June 9 – 18 2008	
	Team 1 – Penny Bassett Brown + Caldwell	

Mon 6/9/08

0600 - Arrive at site + meet BC field crew

BC crew - Penny Bassett (Team 1)
Tara Richards (Team 2)
Briana Wright (Team 3)
Royanne Barringer

Weather: Sunny, clear, no breeze
80-90°F

0630-0900 - Safety meeting
- Calibrate meters
- organize supplies

0900 - Mobilize to B/W-3S
WL = 23.96 (previous 23.86)
* Using YSI #3 + DC compressor
Turbidity #2

0950 Start pumping + adjust settings
1030 Collect sample

1115 Mobilize to B/W-1S
WL = 28.36 (May = 26.68)
1142 Begin pumping + adjust setting
1230 Collect sample

1315 LUNCH BREAK

1345 Mobilize to B/W-28S
WL = 50.43 (May 08 = 51.0)
1409 Begin pumping @ 500 ml/min
1440 Collect sample + duplicate

1515 Mobilize to B/W-18S
WL = 22.25
1615 Begin pumping @ 500 ml/min
1650 Collect sample

Samples Collected 6/9:

PB: B/W-3S, B/W-1S, B/W-28S, B/W-18S

TR: B/W-19S, B/W-8D, B/W-19I, B/W-8S

BW: PA-MW-2, PA-MW-3, PA-MW-1, MW-4

RB: PW-5, PW-6, PW-7, PW-9, PW-10, PW-11

P Bassett

Tues 6/10/08

0600 Arrive at site + meet field crew
BC Crew: Team 1 - P. Bassett
2 - T. Richards
3 - B Wright
- R Barringer

Weather: Sunny, clear, calm, expected high ~ 85°F - winds + dust pick up at 11am (15-20 mph)

Calibrate field meters, Tara training Briana on calibration procedure.
Royanne calibrated turbidity meters.
YSI #1 + Turb #1 - Tara
" #2 " #2 - Penny
" #3 " #3 - Briana
} assigned users

Meters are calibrated to the conductivity and/or pH stds closest to planned wells for the day (ie wells w/low cond calibr to 447 high cond to 8970 uS, otherwise most cal to 2000 uS.)

Safety meeting:
- fire extinguishers, gasoline generator refueling
- back/muscle strain
- work at waist ht.
- review starting procedure for gas comp.

0800 Mobilize to B/W-9S
WL = 16.78
0844 Begin pump, adj flow to 500 ml/min
0915 Collect sample (double volume for MS/MSD)

+ Using YSI #2 + Turb #2
DO sensor on YSI is fluctuating alot, needs to be replaced. Recorded reading measured at high end of fluctuation range.

1015 Mobilize to W4CB-2
WL = 21.51
1042 Begin pumping, adj flow 500 ml/min
1122 Collect sample ... - D1
1150 Collect duplicate ... - D2
+ water is reddish, dirty looking, has an odor

1220 - 1245 LUNCH

1245 Mobilize to D4/BC-1 [redacted] WL =
1312 Begin pumping
1341 Collect sample

 6/10/08 cont

1320 Mobilize to W5AA-1
WL = 17.57 no drawdown during pumping
1448 Begin pumping. 500 ml/min
1521 Collect sample ... -D1
" duplicate ... -D2

~~1615~~ Mobilize to [redacted] W5AB-2
WL = 16.11 no drawdown
1652 Begin pumping
1722 Collect Sample

1800 Return to lab and unload
Drift check meters.
⊛ Turbidity meter reading out-of-cal on 1000NTU std.

Samples collected 6/10:

PB: B/W-9S, W4CB-2, D4BC-1, W5AA-1, W5AB-2

TR: B/W-5RI, B/W-5RD, B/W-19D, B/W-19I, B/W-9D

BW: MW-2002-2I, UW-1, W5AB-3, W5BB

QC Sample:
FB-01 Field blank

PBassett

Wed 6/11/08

0600 Arrive at Site
BC crew: P Bassett - Team #1, YSI #1, TM #2
T Richards - " #2, YSI #2, TM #1
B Wright " #3, YSI 3, TM3
Weather: Predicted temp 70-75°, minor wind 5-10mph, cooler than previous days
Calibrate field meters:
YSIs - Tara + Briana calibrating
Tara replaced O_2 sensor in YSI #2 because it does not get down to near 0 on the 0 std + because it was fluctuating a lot yesterday on well readings
TMs - Royanne calibrated
Safety Meeting:
- Heat stress symptoms + response
- Reporting procedures to report to ARC + BC
- BC has on call Dr. to help w/ incident mgmt + determine if medical treatment req'd.

0800 Mobilize to [W5AA-3]
Sample using Geosquirt pump. Decon before first use (Alconox + DI water rinse, no nitric acid rinse)

0912 Begin pumping, steady flow @ ~0.5 gpm, did not pump dry, well recharges quickly

0930 Collect sample
Total purge vol ~5.5 gal (1.2 gal req'd to achieve 3x casing volume)
Using YSI for parameters, Cannot use flow cell but use 1L bottle w/ discharge hose pushed to bottom.

1020 Mobilize to [USGS-2B]
Geosquirt pump, Deconned after last sample.
Pumped well dry 3x + sampled after 3rd recharge took ~15-20 min to recharge
Total purge vol ~7 gal (6.6 gal req'd for 3x casing volume)

1230 Collect sample

1200 Collect sample at [PW-1]

1345 lunch

1

1415 Mobilize to [USEPA-2]
WL = 19.33 TD = 19.8
not much standing water in well but put pump in to see if it could be sampled. Only able to pump <1L before pump sucked air + well dry. Pulled pump + deconned
⟹ No sample collected

1500 Mobilize to [PW-8]

1520 Collect sample

1600 Mobilize to [PW-2]

1630 Collect sample ... -D1

1640 Collect duplicate ... -D2

1700 Back to field office
- Dump purge water in pumpback pond
- Drift check meters

Samples Collected 6/11:

PW-1
PW-2
PW-8
USGS-2B
W5AA-3
USEPA-2 — tried but no water, no sample

PB YSI 1 / TM 2

B/W-25S
B/W-25I
B/W-25D
B/W-27S
B/W-27D

BW YSI 3 / TM 3

B/W-2I
B/W-2D
MW2002-1
W32DC
USGS-13

TR YSI 2 / TM 1

QC Samples:
FB-02 Field blank
EQ-01 Equip Blank on Geosquirt

Penny Bassett

Thur 6/12/08

0600 Arrive at site
BC crew: P Bassett YSI #1 TM #2
T Richards YSI #2 TM #1
B Wright YSI #3 TM #3
R Barringer

Weather: Predicted temp ~80° v. light wind. out of NW.
⊛ Peri Farms notified us that they are planning on spraying onion fields w/pesticide today + tomorrow. Will not collect any samples from wells near fields.

Calibrate Field Meters:
YSIs - Briana + Tara
Turb. - Royanne

Safety meeting:
Work schedule
Pesticides / chemicals
Acid burns

0800 Mobilize to B/W-14
0836 Start pump, adj flow
0910 Collect sample

0940 Mobilize to B/W-20
1020 Start pump, adj flow
1105 Collect sample

1140 Mobilize to B/W-15
1205 Start pump
1230 Collect sample

1300 Lunch

1330 Mobilize to B/W-10S
1405 Start pump
1435 Collect sample

1505 Mobilize to B/W-5S
1542 Start pump
1610 Collect sample

1640 Return to field office, drift check meters, dump purge water, unload

Samples collected 6/12:

B/W-5RS
B/W-10S
B/W-14
B/W-15
B/W-20
} PB YSI #1 TM #2

B/W-4S
B/W-4I
B/W-4D
B/W-6S
B/W-6D
B/W-22
} TR YSI #2 TM #1

B/W-10D
B/W-21
B/W-28I
B/W-28D
WW-1
} BW YSI #3 TM #3

QC sample:
FB-03

P Barrett

Fri 6/13/08

0830 Arrive at Site
BC Crew: P. Bassett
R Barringer
No sampling today
Planned activities:
- pack + ship yesterday samples
- decon bladder pump removed from B/W-5D + install in WW-2
- add nitric acid preservative to unpreserved 1L bottles for Richland lab, rad analysis (5ml conc. HNO_3 per 1L bottle, lab grade acid supplied by Richland)
- Clean pH/ORP sensors on all YSIs with probe cleaning soln.
- Clean all turbidity meter sample vials w/ muriatic acid.

1130 Off site

P Bassett

Mon 6/16/08

0600 Arrive at site
BC Crew: P Bassett
R Barringer
T Richards
B Wright
Weather: Predicted hot high 90-95° maybe some afternoon breeze but no wind storm.
Calibrate field meters:
YSIs - Tara + Briana
TM - Royanne
Safety Meeting:
Compressed gas safety
Heat stress, hot weather
Sunscreen, shade umbrella

0740 Set up generator at WW-40 + begin purging.

Using YSI #1 cal to 8970 Conduct.
TM #1

0846 Mobilize to MW-5
0917 Begin pumping
0947 Collect sample
- Bubbles appear on walls of flow cell during early purge but get less after 15 min. No bubbles visible in sample discharge line + likely caused by off gassing reaction of water.
- Water has slightly greenish color which became even more distinctly green when added to bottles w/ HNO_3 acid. Checked preserved sample + confirmed <2 pH.

1050 Mobilize to D5AC-1
1129 Begin pumping
1205 Collect sample
- Had to purge at 200 ml/min to minimize drawdown

1300 Recalibrate YSI to 2000 uS cond. std.

1400 Mobilize to MW2002-2
1434 Begin pumping
1500 Collect sample

1600 Collect sample at WW-40 after 8 hr purge.
1630 Return to field office, drift check meters, dump purge water

Samples Collected 6/16:

MW-5, D5AC-1, MW2002-2, WW-40	PB
B/W-7, B/W-13, B/W-16, B/W-23	TR
W5DB, B/W-29S, B/W-29I2, B/W-29D	BW

QC Sample: FB-04

P Barrett

Tues 6/17

0600 Arrive at site
BC Crew: P. Bassett
T Richards
B Wright
R Barringer
Weather: Hot (~94°), afternoon mod wind, sunny
Calibrate field meters, load supplies
Safety meeting:
First aid procedures

0700 Mobilize to MW-1
Connect generator to dedicated production pump + purge for 20 min. Unable to ~~filter~~ connect .45μ filter to discharge so collected in unpreserved bottles + filtered w/peristaltic at field office.
0720 Collect sample

0800 Set up generator at WW-59 + begin purging @ 30 gpm

0820 Mobilize to WW-36
Attach sample hose to sample tap in well house + run for ~5 min. Well is active for Weed Hts water supply so purge time is not necessary + not possible.
0845 Collect sample

~~Not~~
0900 Mobilize to PW-3
1000 Collect sample

1035 Collect sample at PW-4
- Water is slightly effervescent, bubbles collect on sides of sample containers

1220 Collect domestic well sample DW-43. Allow tap to run ~5 min. Gave information page to homeowner (Giraud)

6/17/08 Cont

1300 Collect sample at WW-59 after 5hr purge.

1330 Lunch

1430 Briana reported that she accidentally mislabeled yesterdays sample from B/W-29I1 as B/W-29I2. Samples had already been shipped. Called labs and reported error, faxed corrected COCs

Samples Collected 6/17:

MW-1
WW-36
WW-59
PW-3
PW-4
} PB

B/W-11S
B/W-11D
MW-2
} BW

B/W-3I
B/W-3D
B/W-1I1
B/W-1I2
B/W-1D
} TR

FB-05 (used field preserved 1L bottles)

P Bassett

Wed 6/18/08

0600 Arrive at site

BC crew: P Bassett
T Richards
B Wright
R Barringer

Weather: Sunny, clear, afternoon breeze, ~90°F

Calibrate field meters

Safety meeting

Penny sampling domestic wells today, All dom well samples unfiltered and analyzed for total metals

0830 Sample Tribe's Well

Well 4

Cond 445 uS
pH 7.64

0900 DW-02 Paul Lunsford

Outside tap by back porch steps

Let hose run ~4 min

Cond 1202 uS
PH 7.75

0945 Install bladder pump in WW-2. TD of well = 91 ft bmp set pump intake at 75'. Well diagram indicates 5' sump w/ 20' screen interval.
Measured WW-1 TD = 64'
Note: The well diagrams for these two wells appear to be swapped
Diagram indicates WW1 TD=91 (W-1)
WW2 TD = 63 (W-2)

1115 Collect DW-50 Clark, not home tap next to pump house
Cond - 1146 uS
pH - 7.97

Collect TW06 Arrowhead Mkt
Royanne B collected sample
Cond - 546 uS
pH - 7.48

1145 Collect DW-48
Cond - 1143 uS
pH - 7.51
Collect from end of 50' hose extension in horse pasture. Hose comes from inside well house, but homeowner not home + did not enter well house.

1215 Collect DW-18
Cond - 1347 uS
pH - 7.57
Collect from outdoor tap next to pump house.

1430 Collect DW-41 Pardick
Cond - 1310 uS
pH - 7.64
owner would like copy of results

1500 Collect DW-46
Cond - 981 uS
pH - 7.70
remove hose, outside tap
same owners as previous year

1515 DW-46
Cond - 1546
pH - 7.83

1530 DW-10 + duplicate
Cond - 1147
pH - 7.74

1545 DW-36 Same owner Carl Sandgren
Cond - 746 uS
pH - 7.81

1600 DW-4 Same owner, been here 28 yrs. Dogs run loose in gated yard.
Cond - 1328
pH - 7.85

1610 DW-45
Cond - 821 uS
pH - 7.80

1620 DW-52 * works graveyard, do not knock during day, just go ahead + sample
Cond - 316 uS
pH - 8.10

1630 DW-39 Jeff + Peggy Pauly
Cond - 647 uS
pH - 8.16

1645 DW-38 Owners not at home
Cond - 1334 uS
pH - 7.85

1650 DW-49 New owner Dennis Allen
Cond - 996 uS
pH - 7.90

1700 DW-47 Owner not home
Cond - 1291 uS
pH - 7.90
duplicate sample collected

1715 WDW018 tap next to barn, spoke w/owner + she said mail to same address
Cond - 743 uS
pH - 8.17

1730 Return to field office + drift check YSI

6/18

Wells Sampled 6/18:

B/W-18I
B/W-18D } TR
WW-2

B/W-29I2
B/W-11D3 } BW

Domestic Wells:

Well 4	DW-36
DW-02	DW-04
DW-50	DW-45
TW06	DW-52
DW-48	DW-39
DW-18	DW-38
DW-41	DW-49
DW-40	DW-47
DW-46	WDW018
DW-10	

} PB + BW

PBarrett

Thurs 6/19/08

0900 - Arrive at site.
No monitor well sampling today, sampling was completed yesterday. Only need to collect 2 remaining domestic well samples + pack + ship to lab.

0915 Collect sample WDW019
Peri's ag well off Sunset. Well was pumping at the time of collection. Collected sample from small spigot on main line
cond - 1567uS
pH - 7.28