

**HBDIC Recharge Project
Water Quality Monitoring Plan
For
2005-6 Recharge Season**

11/1/2005 to 5/15/2006

**Prepared: Bob Bower, Hydrologist
12/1/2005**

Overview:

As was set up for the 2004-5 Recharge season, the WWBWC will collect water quality samples at two designated periods during the operation window. They are:

1. Within a week from the beginning of the first extended operating period, samples will be collected at the HBDIC Intake facility (surface water) and the HBDIC OBS Well #1 (primary obs well, showing groundwater conditions). (TWO SAMPLES TOTAL)
2. Within a 7-14 days after the recharge project is turned off for the season, a water quality sample will be collected at HBDIC OBS Well #1 (ONE SAMPLE TOTAL).

Additional sampling may be conducted if either there are detections of any of the analytes (listed below) or an event or issue arises on or related to the operation of the HBDIC recharge project. Additional samples may also be collected if requested by Oregon Department of Environmental Quality. ODEQ consultation should be sought with Pendleton, ODEQ and the contact information:

Phil Richerson

Nonpoint Source Hydrogeologist
Oregon Dept of Environmental Quality
700 SE Emigrant, Suite 330
Pendleton, OR 97801
(541) 278-4604
(541) 278-0168 fax
Richerson.Phil@deq.state.or.us

What will be collected:

1. Fecal E. Coli (plate count method) for concentrations
2. Baseline Chemistry:
 - a. Chemical Oxygen Demand
 - b. TKN as Nitrogen
 - c. Nitrate as Nitrogen
 - d. Chloride
 - e. Total Dissolved Solids (TDS)
 - f. Orthophosphate
3. Soluble Organic Compounds Tested to the Environmental Protection Agencies Drinking Water Standards. (E.G. Pesticides, Herbicides, Fungicides, etc.). 85 separate analytes.

*Additional Fecal E. Coli sampling may be conducted if routine testing show values above drinking water standard. In the first two seasons of the project, fecal hits in surrounding wells have suggested a background presence of fecal bacteria in the groundwater.

Materials and Methodology:

Surface Samples: Will be collected by the technician after he/she sterilizes his/hers hands with disinfectant soap. Opening the bottle cap, making sure to keep cap in hand as a sample is collected as near to the thalweg of the intake flow as possible. Field notes will be taken identifying the:

1. Time
2. Location
3. Water Temperature
4. Specific Conductivity
5. Turbidity
6. Weather conditions
7. Recharge Project Notes (e.g. operating at 20 cfs, overflow at 2 cfs)

All sample bottles are labeled with location, time, and the samplers' name.

Observation Well Samples: Will be collected by the technician opening the well head protection and removing all obstacles around the well head that may touch the sampling equipment. The caps for all the sample bottles are then to be removed and set in a clean place (bottle side up). A sterilized Eco-bailer is then removed from its sterile sleeve and secured to the well sampling equipment. Using the sterile sleeve to handle the Eco-bailer, the technician will sample the reel the Eco-bailer down and gather a sample from the observation well. After all the bottles are full (making sure not to overfill the sample bottles), caps are replaced on the sample bottles. All sample bottles are labeled with location, time, and the samplers name. Technician will then secure the well head protection.

Laboratory Delivery and Processing:

Unlike the 2004-5 seasons, samples will be processed by different certified labs. This move will save a dramatic amount of money and hopefully decrease the time between collection and processing.

Remember to pre-order the bottles at least two week prior to sampling to allow time to arrive at WWBWC offices. They samples will be processed as follows:

Baseline Chemicals:

Kuo Testing, CONTACT: Renay in Othello Lab Where: Drop box at Touchet Gas Station (near right side of building). Call head to KUO Labs in Othello (at least 48 hours ahead) to get a pick up scheduled. **REMEMBER TO PACK SAMPLES IN ICE!**

Othello Headquarters	Umatilla Division
337 S., 1st Avenue	1300 Sixth St., Suite J
Othello, WA 99344	Umatilla, OR 97882
1-800-328-0112	1-541-922-6435
1-509-488-0112	1-541-922-6436 (fax)
1-509-488-0118 (fax)	
1-509-488-6865 (fax)	
Email: kuotest@atnet.net	

Fecal E. Coli Samples:

City of Walla Walla Water Plant, Contact: Tom Krebs (Phone 522-3775).

Where: Walla Walla Water Plant 581 Mill Creek Road, Walla Walla WA. 99362

Coming up Mill Creek road (left side) (call Tom Krebs for directions)

* Call for bottles at least 4 days prior to sampling, **Sampling best done on Tuesday, Wednesday or Thursday for laboratory needs.** Fecal E. Coli samples need to get to the laboratory **within 8 hours** from the sample is collected to insure accurate values in the results. **Coordination with Walla Walla City Water Plant lab technicians** is key for this portion of the water quality sampling to go smoothly.

Soluble Organic Compounds (to EPA Drinking Water Standards):

Edge Analytical
11525 Knudsen Road
Burlington, WA 98233
Tel: 360.757.1400
Tel: 800.755.9295
Fax: 360.757.1402

Our contact there is:

Allen French
Director of Business Development
Edge Analytical, Inc
(800)755-9295

QA/QC for HBDIC Recharge Sampling

The WWBWC ODEQ Water Quality Monitoring plan (Approved 1999) discusses a general 10% repeatability for all WWBWC sampling. This means that for every 10 samples collected, an extra sample is also collected to test for repeatability and lab quality control. For the HBDIC Recharge project we implement that 10% rule on the Fecal E. Coli as well as the baseline chemistry sampling. However, due to the high cost of the SOC sampling, the WWBWC will rely on the EDGE Analytical in-house QA/QC protocols and certification process to insure our samples are accurate and representative of what we are measuring.