

**Department of Energy, Office of Legacy Management
Monticello Mill Tailings Site Operable Unit III (MMTS OU III)**

Summary of Program Directive #: MSG-06-01

Subject: Biomonitoring – sediment and surface water sample collection from the constructed wetlands and sediment retention pond.

Directive/Task Changes: Conduct sediment and surface water sample collection and analysis for selenium in accordance with the requirements of Program Directive MSG-04-01, 10/01/04, except that sample aliquots of filtered water will not be collected. Unfiltered aliquots will be collected to provide the necessary information for biomonitoring risk evaluation. Attachment A to Program Directive MSG-06-01 depicts the relationship between selenium concentration in filtered and not filtered aliquots among water samples analyzed to date for the biomonitoring task. Filtering is shown to remove a fraction of the total recoverable quantity of selenium in the bulk sample.

Affected Program Documents: Monticello Mill Tailings Operable Unit III Post-Record of Decision Monitoring Plan

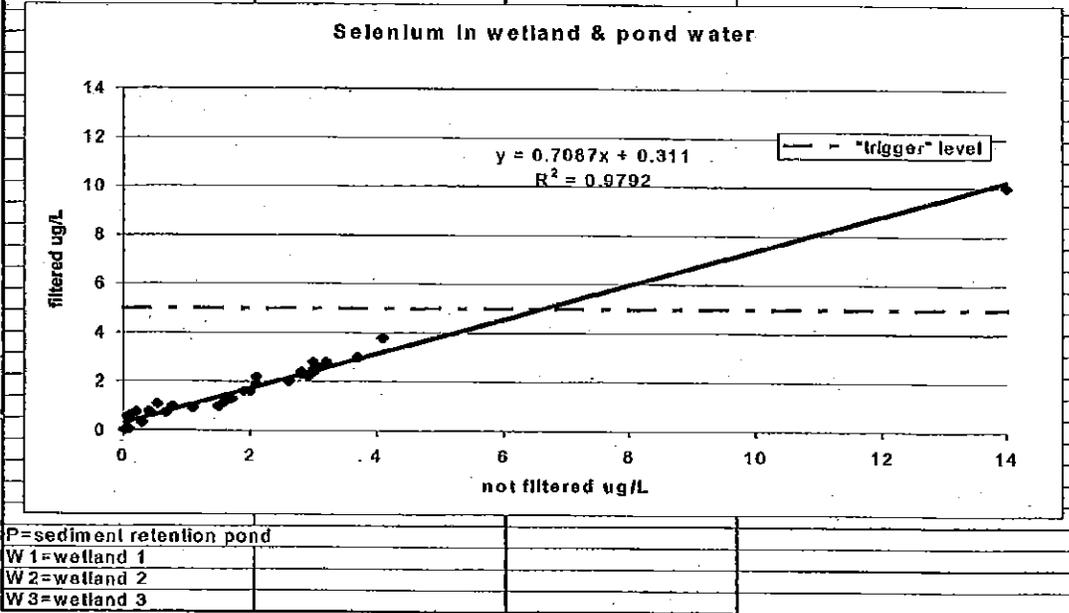
Justification: Selenium concentration data collected under Program Directive MSG-06-01 will support the biomonitoring task as required by the Record of Decision for OU III.

Effective Date: April 14, 2006

Expiration Date: September 30, 2006, extended by memorandum to September 30, 2007

Attachment A

Monticello OU III Biomonitoring: selenium concentrations in filtered and not filtered aliquots			
LOCATION_CODE	DATE_SAMPLED	filtered ug/L	not filtered result ug/L
P-S1	4/6/2005	2.2	2.9
P-S1	10/11/2005	2.8	3
P-S1	10/6/2004	3	3.7
P-S2	10/6/2004	1.2	1.6
P-S2	4/5/2005	2.4	2.8
P-S2	10/11/2005	2.8	3.2
P-S3	10/6/2004	1.6	2
P-S3	4/5/2005	2.5	3
P-S3	10/11/2005	2.6	3.1
W1-S1	10/11/2006	0.75	0.67
W1-S1	10/6/2004	2.3	2.8
W1-S1	4/5/2005	3.8	4.1
W1-S2	10/11/2005	0.73	0.44
W1-S2	10/6/2004	1	1.5
W1-S2	4/5/2005	1.9	2.1
W1-S3	10/11/2005	0.39	0.29
W1-S3	10/6/2004	1.3	1.7
W1-S3	4/5/2005	1.6	1.9
W2-S1	10/6/2004	0.029	0.023
W2-S1	4/5/2005	0.068	0.045
W2-S1	10/11/2006	0.59	0.068
W2-S2	10/6/2004	0.041	0.03
W2-S2	4/5/2005	0.068	0.068
W2-S2	10/11/2005	0.64	0.11
W2-S3	10/6/2004	0.068	0.093
W2-S3	10/11/2005	0.58	0.1
W2-S3	4/5/2005	0.99	0.78
W3-S1	10/11/2005	1.1	0.54
W3-S1	4/5/2005	2.4	3
W3-S1	10/6/2004	10	14
W3-S2	10/6/2004	0.8	0.4
W3-S2	10/11/2006	0.93	1.1
W3-S2	4/5/2005	2.2	2.1
W3-S3	10/11/2005	0.77	0.21
W3-S3	10/6/2004	1	1.5
W3-S3	4/5/2005	2	2.6



**Department of Energy, Office of Legacy Management
Monticello Mill Tailings Site Operable Unit III (MMTS OU III)**

Summary of Program Directive #: MSG-06-02

Subject: Waterfowl survey at the constructed wetlands and sediment retention pond.

Directive/Task Changes: Conduct waterfowl surveys for OU III biomonitoring in accordance with the attached statement of work. The scope of work and methodology was developed in consultation with the Biological Technical Assistance Group (BTAG) for OU III biomonitoring. Protocols and rationale for waterfowl surveys to be conducted under Program Directive MSG-06-02 are similar to those established for the avian wetland species survey conducted in 2005 and documented in Monticello OU III Program Directive MSG-05-01 and *Final Report, 2005 Avian Wetland Surveys at the Monticello Mill Tailings Site*" (DOE Office of Legacy Management, October 2005).

Affected Program Documents: Monticello Mill Tailings Operable Unit III Post-Record of Decision Monitoring Plan

Justification: Waterfowl surveys are components of the OU III biomonitoring program in progress to evaluate selenium accumulation in the wetland environments at OU III, as required by the Record of Decision for Operable Unit III, signed in May 2004.

Effective Date: April 14, 2006

Expiration Date: September 30, 2006

STATEMENT OF WORK
MONTICELLO MILL TAILINGS SITE
OPERABLE UNIT III BIOMONITORING
2006 WATERFOWL SURVEY

I. Introduction

A visual and auditory survey for ducks will be conducted during May and June 2006 to primarily establish the presence and frequency of duck use of three constructed wetland ponds at the former millsite and of the constructed sediment retention pond located about 1-mile farther east. Although the surveys will focus on ducks, other avian species using the wetlands and sediment pond will be observed and recorded. One survey date will include a survey for duck nesting use of areas surrounding the easternmost wetland on the former millsite identified as wetland 3 and the sediment retention pond. The waterfowl survey conducted under this statement of work is a follow-up to the survey conducted in 2005 and will assist in evaluating base-line conditions. The avian wetland species surveys complement other biomonitoring tasks that include evaluating selenium accumulation in sediment, surface water, and aquatic insects in the wetlands and sediment pond.

II. Background Information

A comprehensive avian wetland survey was conducted between April 20 and August 28 (2005) on a bi-weekly basis. The results of that survey indicated that the most common avian species noted included cliff swallows and the red-winged blackbird; dabbling ducks were present at all pond areas in much lesser numbers. The majority of ducks were observed between April 20 and the end of June. Based on the results of biomonitoring activities conducted in 2005, members of the biological assistance technical group (BTAG) for OU III agreed to conduct a follow-up survey in 2006 to focus on waterfowl (particularly dabbling ducks) but to include notations of other birds casually observed present.

III. Survey Approach

In general, the protocols for the 2006 survey will be the same as those developed for the 2005 survey, as documented in Monticello OU III Program Directive MSG-05-01 and *Final Report, 2005 Avian Wetland Surveys at the Monticello Mill Tailings Site* (US Department of Energy Office of Legacy Management, October 2005). In 2005, two observation points were identified for each wetland and pond. The 2006 survey will use the same observation locations. Surveys will consist of twice daily observations on alternate weeks for the period of May through June 2006. Field observations will be conducted for 10-15 minutes at each location. The surveys will begin approximately one-half hour before sunrise and again after 6 PM and prior to sunset. Adult and fledgling ducks will be identified as to species and counted. One of the surveys will include a survey for duck nests and eggs around Wetland Pond No.3 and the sedimentation pond. Observations of other birds present will be noted.

Background materials (e.g. protected and migratory species lists) developed for the 2005 survey will be reviewed prior to the 2006 field season. All ducks, nests, and eggs will be noted in a field log. The field survey forms developed for 2005 will be used. Other bird species observed during the duck survey will be noted in a field log. It is anticipated that a summary report of the results of the 2006 survey will be completed within 30 days of the last observation and distributed among the BTAG.

**Department of Energy, Office of Legacy Management
Monticello Mill Tailings Site Operable Unit III (MMTS OU III)**

Summary of Program Directive #: MSG-06-03

Subject: Aquatic macroinvertebrate sampling and analysis for OU III biomonitoring.

Directive/Task Changes: Implement a second event of macroinvertebrate sampling and analysis for OU III biomonitoring in accordance with the attached statement of work. The scope of work and methodology was developed in consultation with the Biological Technical Assistance Group (BTAG) for OU III biomonitoring. Protocols and rationale for macroinvertebrate sampling and analysis conducted under this directive are similar to those established in Monticello OU III Program Directive MSG-05-03 and *Final Report, Monticello Mill Tailings Site Macroinvertebrate Sampling for 2005* (DOE Office of Legacy Management, September 2005), which directed and documented OU III macroinvertebrate monitoring conducted in 2005.

Affected Program Documents: Monticello Mill Tailings Operable Unit III Post-Record of Decision Monitoring Plan

Justification: Collection of aquatic macroinvertebrates for chemical analysis is a component of the OU III biomonitoring program in progress to evaluate selenium accumulation in the wetland environments at OU III, as required by the Record of Decision for Operable Unit III, signed in May 2004.

Effective Date: April 14, 2006

Expiration Date: September 30, 2006, extended by memorandum to September 30, 2007

Statement of Work for Macroinvertebrate Sampling at Monticello, Post-ROD Biomonitoring for OUIII, 2006 Sampling Activities

1.0 Introduction

Biomonitoring for selenium in macroinvertebrates was conducted in fiscal year 2005. This proposal is for continuing the monitoring of macroinvertebrates in wetland 3 and the sediment pond, where the selenium concentrations were highest the previous year. The Biomonitoring plan for the post-ROD Monticello Operable Unit III includes monitoring of macroinvertebrates if water and sediment samples start to exceed trigger limits.

This Statement of Work is only for 2006 activities. All work will be in accordance with Program Directive MSG 05-03, the macroinvertebrate sampling and analysis plan.

2.0 Field sampling, laboratory analyses and report preparations

Field sampling includes: procurement of field equipment not already available (e.g., sampling jars); preparation for field activities (e.g., acid washing equipment); travel to the field site; and field sampling. Samples using kick nets will be collected in wetland 3 and the sediment pond; samples using Hester-Dendy samplers will be collected in the sediment pond. The goal of the sampling effort is to collect three (3) samples with kick nets from wetland 3 and the sediment pond; and to collect three (3) samples using Hester-Dendy samplers from the sediment pond. The Hester-Dendy samplers will be deployed by Stoller. Collection of the Hester-Dendy samplers will be either during the field sampling effort or at a latter date. Laboratory analyses will involve analysis of aquatic macroinvertebrate and field blank samples collected during field activities. Results of laboratory analyses will be provided in an electronic data deliverable as specified by the program.

A report documenting all field activities and laboratory results will be prepared. Interpretation of the results will consider results of sampling efforts in the past and current regulatory benchmarks. Finalization of the report will include incorporation of responses received from Stoller, DOE and the Biological Technical Assistance Group.

Pacific Northwest Division staff will include: Amoret Bunn (technical lead for program directive and report preparation), Robert Mueller (field leader), Corey Duberstein (field sampler), Ann Miracle (technical peer reviewer), John Platt (health and safety) and Jill Brandenberger (technical lead for chemical analyses).

3.0 Schedule

- Hester-Dendy samplers will be put in place by Stoller the week of April 17, 2006.
- Field sampling will take place the week of May 15, 2006.
- Analytical results of macroinvertebrates will be provided to Stoller week of July 24, 2006.
- Draft report to Stoller week of August 21, 2006.
- Final report to Stoller week of September 30, 2006.

4.0 Assumptions

- This proposal is being submitted for review in a timely fashion. The proposal has not yet been reviewed by Pacific Northwest Division management, finance or contract specialists.
- All work will be in accordance with Program Directive MSG 05-03, the Macroinvertebrate Sampling and Analysis Plan.
- Stoller will deploy Hester-Dendy samplers. If after the samplers require more time for colonization beyond the field sampling effort, then Stoller will retrieve the samplers and mail them to Richland, WA for collection of the macroinvertebrates.
- Health and Safety plan for field activities will be in accordance with all Battelle policies and those developed specifically for work at the Monticello Mill Tailings Site.
- Statement of work prepared for only 2006 activities.