

## ATTACHMENT 3

DOCUMENT REVIEW: STANDARD OPERATING PROCEDURES, ECOLOGY 5.0  
ROCKY FLATS PLANT, MAY 1991

## GENERAL COMMENTS:

1. Equipment lists should be more consistent and reflect the data requirements defined in the filed survey sheets. If water quality parameters are required at each aquatic sampling location, it would be appropriate to repeat the equipment required to perform this function.
2. It is not evident that trip blanks are included in the aquatic sampling procedures. It is recommended that blank slides, tiles, or other substrate be scraped with a clean blade before being placed in a preservative. The trip blank would then serve a function analogous to the blanks used in Resource Conservation and Recovery Act (RCRA) field analyses.
3. The sample methods do not make a distinction between distilled and clean water. It is unclear if the two are being used interchangeably.
4. Coyotes, foxes, and weasels are mentioned under the section on large mammals but are not discussed. It would be appropriate to indicate why these mammals were excluded from investigation.
5. The reference section in each Standard Operating Procedure (SOP) does not contain information specific to the Rocky Flats Plant (RFP) environment. References to annual monitoring and surveillance reports, environmental impact statements, and other studies performed on or adjacent to the RFP should be included.

## SPECIFIC COMMENTS:

1. Section 0, p. 0: It is recommended that the first sentence of the second paragraph indicate that data on ecological impacts of human activities is for evaluation of historical disturbance (perturbation) resulting from human activities, such as agricultural, construction, or waste disposal practices. This information will be used to assess the baseline characteristics of the individual Solid Waste Management Units (SWMUs) and Operable Units (OUs) with allowances for the potential impacts associated with hazardous and radiological contamination.
2. Section 5.1, p. 3: The established procedures for performance of periodic audits should be references to the Quality Assurance Project Plan (QAPP) or other appropriate documents.
3. Section 5.1, p. 4: Additional references that would contribute to this list include:

Platts, W.S., W.F. Megahan, and G. W. Minshall. 1983. *Methods for Evaluating Streams, Riparian, and Biotic Conditions*. U.S. Forest Service General Technical report INT-138. Intermountain Forest and Range Experiment Station, Ogden, UT. 70 pp.

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Bain, M.B., J.T. Finn, and H.E. Brooke. 1985. *Quantifying Stream Substrate for Habitat Analysis Studies*. N. Am. J. Fish Mgmt. 5:499-500.

4. Section 5.1, p. 7: It is not clear at what time the stream current velocities at the reference areas must be equal to  $\pm 50\%$  of the study site current velocity. If reference area velocities are outside the proposed range, the potential effect on data quality or utility has not been defined.

The last paragraph in subsection 6.2.1 indicates that the EG&G project manager must approve new sites, it would also be appropriate if the decision were documented in the field record along with justification for the action.

5. Section 5.1, p. 7: When setting and checking samplers, it is recommended that activities commence with the downstream samplers and proceed upstream.

It would be appropriate to indicate how light measurements will be performed.

6. Section 5.1, p. 9: It is recommended that artificial substrates have an embossed grid on the surface to assist the field investigator to estimate 70% coverage of the available surface area.

The last sentence of the first paragraph is unclear. It is not evident whether all sample apparatus are to be set on the same day, or on the same day of the week, or 2 or 3 weeks following placement.

7. Section 5.1, p. 10: The text refers to 5 x 5 cm square and 5 cm square. It is not clear whether the area was intended to be 5 cm<sup>2</sup> or 25 cm<sup>2</sup>.
8. Section 5.1, Fig. 1, p. 11: The box on the tile portion (right hand side) of the logic diagram should reference tile not slides.
9. Section 5.1, p. 11: The first bullet indicates that temperature measurements should be taken upstream of each sampling apparatus, the logic for this requirement is not evident. Temperature measurements for ponds environments is not addressed and should be mentioned.

It would be appropriate to indicate the type and sensitivity of the proposed temperature sensing equipment. Equipment calibration procedures and quality assurance/quality control (QA/QC) program requirements should be identified in the text.

10. Section 5.1, p. 13: It would be useful to describe or give examples of significant site changes that would be recorded on the pond habitat description form.
11. Section 5.2, p. 12: Disposal of distilled water used to decontaminate sampling equipment is not discussed. The decontamination rinsate should be managed in accordance with

hazardous waste management procedures. Containers and sampling materials should be reflected in the equipment list and the QAPP.

The last paragraph indicates that clean water will be used to rinse the sample. The source of clean water is not indicated and disposal of the rinsate is not discussed. It would be appropriate to discuss both aspects of the sampling protocol.

12. Section 5.2., p. 15: It is not how long the field contractor should be required to retain copies of the field sample forms. If a time period is specified in the data management requirements of the QAPP, this should be indicated in the text.
13. Section 5.4, p. 4: A boat might be added to the list recommended equipment.
14. Section 5.5: The importance of the large mammal investigation is not evident. Indications of the use of this information in the overall analysis process would be appropriate. The text does not indicate if tissue samples will be taken from this segment of the food web. This SOP would benefit from a more through description of its role in the environmental evaluation process.
15. Section 5.6, p. 6: Small carnivores are not addressed in SOP 5.5.
16. Section 5.7: The SOP does not indicate how the information obtained in the bird survey relates to contamination at the Rocky Flats Plant site. It is unclear how data results relate to reference area investigations.

The survey does not appear to include consideration of waterfowl that may inhabit the ponds and represent a potential risk to human health. It would be appropriate to indicate how these birds will be evaluated.

17. Section 5.8: This SOP does not indicate if turtles will be collected for tissue samples. Turtle populations in ponds and the potential role of turtles in transport of radionuclides should be considered.
18. Section 5.9, p. 7: The execution of protocols should indicate the sampling frequency or minimum number of samples required for each survey.
19. Section 5.9, p. 10: Use of metal containers for pitfall traps may result in heavy metal contamination of terrestrial arthropods. Glass pitfall traps may be a more appropriate collection device.
20. Section 5.13, p. 5: Additional information that should be reviewed includes RFI/RI workplans and reports, permits, and biological surveys.
21. Section 5.13, p. 6: The first bullet should be a review of existing information. The second bullet should be a definition of the Field Sampling Plan (FSP) structure.

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