

This is a RED Stamp

**ROCKY FLATS PLANT  
 EMD OPERATING  
 PROCEDURES MANUAL**

**Manual No.: 5-21000-OPS-GT  
 Procedure No.: Table of Contents, Rev 33  
 Page: 1 of 3  
 Effective Date: 01/18/93  
 Organization: Environmental Management**

**THIS IS ONE VOLUME OF A SIX VOLUME SET  
 WHICH INCLUDES:**

- VOLUME I: FIELD OPERATIONS (FO)**
- VOLUME II: GROUNDWATER (GW)**
- VOLUME III: GEOTECHNICAL (GT)**
- VOLUME IV: SURFACE WATER (SW)**
- VOLUME V: ECOLOGY (EE)**
- VOLUME VI: AIR (AP)**

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 FOR VOLUME III: GEOTECHNICAL**

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GT.01	Logging Alluvial and Bedrock Material	2	05/12/92
DCN 92.01	Specialized Logging Form	2	11/13/92
*DCN 93.01	Logging	2	01/15/93
GT.02	Drilling and Sampling Using Hollow Stem Auger Techniques	2	05/12/92
DCN 92.01	Superseded by DCN 92.03	2	07/27/92
DCN 92.02	Superseded by DCN 92.03	2	07/27/92
DCN 92.03	Addition of the Drum Characterization	2	07/27/92
DCN 92.04	Prevention of Down Hole Contamination	2	08/26/92
DCN 92.05	Field Modification	2	12/04/92
GT.03	Isolating Bedrock from Alluvium with Grouted Surface Casing	2	05/12/92
DCN 92.03	Expired	2	09/03/92
GT.04	Rotary Drilling and Rock Coring	2	05/12/92
GT.05	Plugging and Abandonment of Boreholes	2	05/12/92
DCN 92.01	Field Modification	2	12/09/92

ADMIN RECORD

**DOCUMENT CLASSIFICATION REVIEW WAIVER  
 PER R.B. HOFFMAN, CLASSIFICATION OFFICE  
 JUNE 11, 1991**

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GT.06	Monitoring Wells and Piezometer Installation	2	05/12/92
DCN 92.05	Schematic Diagram Land Fill Methane Wells	2	06/04/92
DCN 92.06	Field Modification	2	11/12/92
DCN 92.07	Provide Consistency	2	12/17/92
DCN 93.01	Borehole Advancement	2	01/04/93
GT.07	Logging and Sampling of Test Pits and Trenches	2	05/12/92
GT.08	Surface Soil Sampling	2	05/12/92
DCN 92.01	Clarification of Soil Sampling	2	09/03/92
DCN 92.02	Consistency Change	2	10/12/92
DCN 93.01	Work Plan Consistency	2	01/05/93
*DCN 93.02	New Section-Surficial Profiling	2	01/15/93
GT.09	Soil Gas Sampling and Field Analysis	2	05/12/92
GT.10	Borehole Clearing	2	05/12/92
GT.11	Plugging and Abandonment of Wells	2	05/12/92
GT.15	Geophysical Borehole Logging	2	05/12/92
GT.17	Land Surveying	2	05/12/92
GT.18	Surface Geophysical Surveys	2	05/12/92
DCN 92.01	Surface Magnetic Surveys Procedure	2	09/30/92
DCN 92.02	Modification to Stacking Requirements	2	10/15/92
DCN 92.03	Modification to Method of Taking Readings	2	10/15/92
GT.19	Field Gas Chromatographs	2	05/12/92
GT.20	Procedures for Soil Interstitial Water Sampling and Sampler Installation	2	05/12/92

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GT.21	Cone Penetrometer Testing	1	05/12/92
*DCN 93.01	CPT Rods	1	01/15/93
GT.24	Approval Process for Construction Activities on or Near Individual Hazardous Substance Sites (IHSSs)	0	05/12/92

EA 11/20/93 This is a #22  
 ENVIRONMENTAL MANAGEMENT  
 Procedure Number 5-21000-OPS-GT.8, Rev.2  
 This is a RED Stamp

ENVIRONMENTAL MANAGEMENT  
 DOCUMENT CHANGE NOTICE (DCN)

Title Surface Soil Sampling	Date 1/15/93 -10/20/92 MCB	DCN Number 5-21000-OPS- GT.8-92.R2-93.02
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Expires ~~10/20/92~~ 93 *1-15-94 ed* Procedure Revision Required  Yes  No  
 Scope Limitation: None

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for additional space)
1	4	5.0	Change "3" to "4" in the first line and revise end of first sentence to read: ".....(RF) method, (3) the "grab method", and (4) surficial profiling method."
2	5	5.0	Add to the end of second bullet: "Place surficial profiling samples (method 4) in 500 ml polyurethane bottles." <i>GLASS OR PLASTIC 9L</i>
3	5	5.0	Add after 3rd sentence of the last paragraph: "For surficial profiling samples, the sampler will collect representative samples, including <del>plants</del> <i>organic material</i> and coarse material."
4	15	5.2.5	Change numbering of Section 5.2.5 to Section 5.2.6. <i>del</i>
5	15	<u>new sect.</u> 5.2.5	Add <u>new</u> text as follows:  <b>5.2.5 Surficial Profiling</b>  The surficial profiling method is used to obtain discrete soil samples from depths up to six inches. Each discrete sample represents soil from an interval of two inches depth, i.e., 0 ft (surface) to 2", 2-4", and 4-6". There are three procedures for obtaining these samples: (1) collection from the surface downward, (2) collection from the sidewall of a small excavation, and (3) collection from coring. Use any of the following procedures, depending upon sampling conditions:

Justification (Reason for change - Provide numbers to reference corresponding items above.)  
 Items 1-5: to include a method not previously addressed in OP-GT.8.

Concurrence	Organization	Req.	Date	Concurrence	Organization	Req.	Date
<i>[Signature]</i>	QAPM	X	1/11/93	<i>[Signature]</i>	User		10/23/92
<i>[Signature]</i>	EDM	X	12/23/92				
<i>[Signature]</i>	ERS		1-12-93				

Approval of Responsible Manager <i>[Signature]</i>	Date 11/2/92	Is Posting required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, by what date? upon receipt <i>[Signature]</i>	Date posted _____
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DOCUMENT CHANGE CLASSIFICATION REVIEW WAIVER  
 PER R.B. HOFFMAN, CLASSIFICATION OFFICE  
 JUNE 11, 1991

JAN 15 1993

Procedure no. 5-21000-OPS-GT.8, Rev. 2	Title Surface Soil Sampling
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Scope Limitation: None

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for additional space)
5 (cont'd)	15	<u>new sect.</u> 5.2.5	<p>5.2.5.1 sampling from surface downward: <i>NOTE: DECONTAMINATE SCOOP BETWEEN STEPS.</i></p> <ol style="list-style-type: none"> <li>1. Use a stainless scoop/trowel to collect enough soil from top 2" of soil to fill a 500 ml <del>polyurethane</del> sample container; include organic material and coarse sample material. Collect sample uniformly in thickness.</li> <li>2. Collect next sample from depth interval 2-4" below first sample (0-2"), using method in Step #1 above.</li> <li>3. Collect last sample from depth interval 4-6" below second sample (2-4"), using method in Step #1 above.</li> </ol> <p>5.2.5.2 sidewall sampling (use when large soil components prevent excavation from surface downward): <i>NOTE: DECONTAMINATE SCOOP BETWEEN STEPS.</i></p> <ol style="list-style-type: none"> <li>1. Dig a small excavation (maximum depth = 12 in.). Stockpile excavated material near excavation.</li> <li>2. Scrape upper few inches (0-3") of one side of pit with stainless steel scoop/trowel to expose fresh surface and prevent cross-contamination.</li> <li>3. Collect top 2" (0-2") of soil with stainless steel scoop/trowel from the sidewall to fill a 500 ml <del>polyurethane</del> sample container; include organic material and coarse sample material. Collect sample uniformly in thickness.</li> <li>4. Scrape next lower few inches (2-5") of side of pit with stainless steel scoop/trowel, below first sample (0-2").</li> <li>5. Collect next sidewall sample from depth interval 2-4" below first sample (0-2"), following Step #3 above.</li> <li>6. Scrape last lower few inches (4-7") of side of pit with stainless steel scoop/trowel, below second sample (2-4").</li> </ol>

Justification (Reason for change - Provide numbers to reference corresponding items above.)

Procedure no. 5-21000-OPS-GT.8, Rev. 2	Title Surficial Soil Sampling
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Scope Limitation: None

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for additional space)
5 (cont'd.)	15	new sect. 5.2.5	7. Collect last sidewall sample from depth interval 4-6" below second sample (2-4"), using method in Step #3 above. 8. Backfill excavated material on same day as excavation and sampling.  5.2.5.3 coring: <i>NOTE: DECONTAMINATE HANDLER BETWEEN STEPS.</i> 1. Use a hand-powered, stainless steel "cookie cutter" style corer to collect top 2" of soil to fill a 500 ml <u>polyurethane</u> sample container; include organic material and coarse sample material. Collect sample uniformly from the surface to 2" depth. 2. Collect next core sample from depth interval 2-4" below first sample (0-2"), using method in Step #1 above. 3. Collect last core sample from depth interval 4-6" immediately below second sample (2-4"), using method in Step #1 above.

Justification (Reason for change - Provide numbers to reference corresponding items above.)