

ROCKY FLATS PLANT
EMD OPERATING
PROCEDURES MANUAL
VOLUME III: GEOTECHNICAL

Manual No.: 5-21000-OPS-GT
Procedure No.: Table of Contents, Rev 50
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Effective Date: 01/10/94
Organization: Environmental Management

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

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VOLUME III: GEOTECHNICAL (GT)
VOLUME IV: SURFACE WATER (SW)
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EG&G
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DOCUMENT

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DCN 92.01	Specialized Logging Form	2	11/13/92
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DCN 93.02	Logging Deliverables Standard Practices	2	01/25/93
DCN 93.03	Core Log QC Change	2	06/18/93
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DCN 92.01	Superseded by DCN 92.03 07/27/92	2	EXPIRED
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•DCN 92.05	EXPIRED	2	EXPIRED
•DCN 93.01	INCORPORATED	2	01/10/94
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•DCN 93.03	INCORPORATED	2	01/10/94
•DCN 93.04	INCORPORATED	2	01/10/94
•93-DMR-000955	Form GT.2A Modification	2	01/10/94
•93-DMR-000960	QC Sample Collection Modification	2	01/10/94

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

ADMINISTRATIVE

A-SW-001358

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GT.03	Isolating Bedrock from Alluvium with Grouted Surface Casing	2	05/12/92
DCN 92.03	EXPIRED	2	EXPIRED
DCN 93.01	Data Quality Objectives for PLF Investigations	2	02/10/93
•DCN 93.02	INCORPORATED	2	01/10/94
•DCN 93.03	INCORPORATED	2	01/10/94
•DCN 93.04	INCORPORATED	2	01/10/94
•93-DMR-000956	Form GT.3A Modification	2	01/10/94
GT.04	Rotary Drilling and Rock Coring	2	05/12/92
•93-DMR-000957	FORM GT.4A Modification	2	01/10/94
GT.05	Plugging and Abandonment of Boreholes	2	05/12/92
•DCN 92.01	INCORPORATED	2	01/10/94
•DCN 93.01	INCORPORATED	2	01/10/94
•93-DMR-000961	Form GT.5A Modification	2	01/10/94
GT.06	Monitoring Wells and Piezometer Installation	2	05/12/92
DCN 92.05	EXPIRED	2	EXPIRED
DCN 92.06	EXPIRED (replaced with DCN 93.01)	2	EXPIRED
•DCN92.07	EXPIRED Provide Consistency	2	EXPIRED
•DCN 93.01	EXPIRED Borehole Advancement	2	EXPIRED
DCN 93.02	Well Point Installation	2	01/28/93
DCN 93.03	Piezometer Logging Modification	2	02/04/93
DCN 93.04	Wells - 5.3.2.2 Revised	2	02/10/93
DCN 93.05	Temperatures - 5.3.2.3 Revised	2	02/10/93
DCN 93.06	Provide Numbers to Reference Corresponding Items	2	02/23/93
DCN 93.07	DCN 93.01 Modification	2	03/17/93
DCN 93.08	PVC Schedule Change	2	05/10/93
DCN 93.09	Change to PVC Casing Thickness	2	05/11/93
DCN 93.10	SVE Bentonite Chips	2	08/20/93
DCN 93.11	SVE Well Specifications	2	08/20/93
DCN 93.12	Riser Installation	2	09/02/93
DCN 93.13	Cancel DCN 93.11, Item #! for OU 2 SVE Study	2	10/06/93
DCN 93.14	Revision of Figure GT.6-3	2	10/06/93
GT.07	Logging and Sampling of Test Pits and Trenches	2	05/12/92

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GT.08	Surface Soil Sampling	2	05/12/92
DCN 92.01	EXPIRED	2	EXPIRED
DCN 92.02	EXPIRED Consistency Change	2	EXPIRED
DCN 93.01	EXPIRED Work Plan Consistency	2	EXPIRED
DCN 93.02	New Section-Surficial Profiling	2	01/15/93
DCN 93.03	CDH Compliance	2	01/25/93
DCN 93.04	Site Identification	2	04/13/93
DCN 93.05	Sample Volumes	2	04/13/93
DCN 93.06	Data Form Replacement	2	10/06/93
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
•93-DMR-000962	Form GT.11A Modification	2	01/10/94
GT.15	Geophysical Borehole Logging	2	05/12/92
GT.17	Land Surveying	2	05/12/92
DCN 93.01	Land Surveying Clarification	2	09/02/93
GT.18	Surface Geophysical Surveys	2	05/12/92
•DCN 92.01	Surface Magnetic Surveys Procedure	2	EXPIRED
•DCN 92.02	Modification to Stacking Requirements	2	EXPIRED
•DCN 92.03	Modification to Method of Taking Readings	2	EXPIRED
DCN 93.01	5.4 Field Procedure Revisions	2	01/25/93
DCN 93.02	5.5 Time Domain Electromagnetic Metal Detection	2	11/22/93
GT.19	Field Gas Chromatographs	2	05/12/92
GT.20	Procedures for Soil Interstitial Water Sampling and Sampler Installation	2	05/12/92
GT.21	Cone Penetrometer Testing	1	05/12/92
DCN 93.01	CPT Rods	1	01/15/93
DCN 93.02	Offsets	1	03/17/93

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Procedure No.	Title	Rev. No.	Effective Date
GT.24	Approval Process for Construction Activities on or Near Individual Hazardous Substance Sites (IHSSs)	0	05/12/92

DOCUMENT MODIFICATION REQUEST (DMR)

Refer to 1-A01-PPG-001 for Processing Instructions.
Print or Type All Information (Except Signatures).

1. Date 11-18-93	25. DMR No. 93-DMR-000962
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2. Existing Document Number/Revision 5-21000-OPS-GT.11 R2	3. New Document Number or Document Number if it is to be changed with this Revision N/A
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4. Originator's Name/Phone/Pager/Location P. A. Kiefer, X8698, 080	5. Document Title Plugging and Abandonment of Wells
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6. Document Type <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Other	7. Document Modification Type (Check only one) <input type="checkbox"/> New <input type="checkbox"/> Revision <input checked="" type="checkbox"/> Intent Change <input checked="" type="checkbox"/> Nonintent Change <input type="checkbox"/> Editorial Correction <input type="checkbox"/> Cancellation SEP 12-16-93
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8. Item	9. Page	10. Step	11. Proposed Modifications
1	3	4.2	Add reference as identified on attached.
2	12	9.0	Change requirements of Well/Borehole Abandonment Form as identified on attached
3	FORM GT.11A (rev.2)		Eliminate. Information will be recorded on GT.5A (rev.3)

12. Justification (Reason for Modification, EJO #, TP #, etc.)

Eliminate GT.11A (rev.2), as all information will be recorded on GT.5A (rev.3) which is a combination of GT.5A(rev.2) , and GT.11A(rev.2).

DOCUMENT CLASSIFICATION REVIEW WAIVER
FOR G.D. HOFFMAN, CLASSIFICATION OFFICE
JUNE 11, 1991

If modification is for a new procedure or a revision, list concurring disciplines in Block 13, and enter N/A in Blocks 14 and 15. If modification is for any type of change or a cancellation, organizations are listed in Block 13, then Concurrors prints, and signs in Block 14, and dates in Block 15.

13. Organization	14. Print, Sign (if applicable)	15. Date (if applicable)
SME	T. P. Lovseth <i>T. P. Lovseth</i>	11-22-93
SM	P. A. Kiefer <i>P. A. Kiefer</i>	11-18-93
EQS	M. G. Brooks <i>M. G. Brooks</i>	12-3-93

16. Originator's Supervisor (print/sign/date)
D. D. Stagg *D. D. Stagg* 22 Nov 93

17. Assigned SME/Phone/Pager/Location T. P. Lovseth	18. Cost Center 3003	19. Charge Number ENV-GT	20. Requested Completion Date 12/17/93	21. Effective Date 1-10-94
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22. Accelerated Review? Yes No 23. ORC Review
ORC Review Not Required

24. Responsible Manager (print/sign/date)
Stephen H. Singer *Stephen H. Singer* 12/17/93

PLUGGING AND ABANDONMENT OF WELLS

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Category 2

- SOP FO.7, Handling of Decontamination Water and Wash Water
- SOP FO.8, Handling of Drilling Fluids and Cuttings
- SOP FO.10, Receiving, Labeling, and Handling Environmental Materials Containers
- SOP FO.11, Field Communications
- SOP FO.14, Field Data Management
- SOP GT.2, Drilling and Sampling Using Hollow-Stem Auger Techniques
- SOP GT.3, Isolating Bedrock from the Alluvium with Grouted Surface Casing
- SOP GT.4, Rotary Drilling and Rock Coring
- SOP GT.5, Plugging and Abandonment of Boreholes
- SOP GT.10, Borehole Clearing

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PLUGGING AND ABANDONMENT OF WELLS

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8.0 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance (QA) and quality control (QC) activities will be accomplished according to applicable project plans as well as quality requirements presented in this SOP.

9.0 DOCUMENTATION

Information required by this SOP will be documented on the ~~Well Plugging and Abandonment Form (Form GT.11A), and Drilling Field Activity Daily Log or logbook~~ Well/Borehole Abandonment Form (Form GT.5A). Environmental materials handling will be documented according to SOP FO.8, Handling of Drilling Fluids and Cuttings. The information will be recorded in a logbook. The Well/Borehole Abandonment Form will include, but not be limited to, the following information:

- Project, crew and ~~borehole identifications~~ location code
- Weather conditions
- Equipment descriptions (rig, tremie, pump, etc.)
- Water level in borehole prior to abandonment (if any)
- Borehole depth/diameter
- Volume of grout placed
- Type/length/diameter of casing/screen removed
- Type/depth/diameter of casing/screen left in place
- ~~End of day status (i.e., partially complete, cap set, etc.)~~
- Chronological record of activities

Information on Form GT.5A shall be entered into the field data capture program (Datacap) when released. See procedure FO.14, Field Data Management. Copies of the completed Well Abandonment Forms, signed by the task manager, will be delivered to the EG&G project manager.

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WELL PLUGGING AND ABANDONMENT FORM

1. Well Specifics:

- a. Well Id. No. _____
- b. Reported Well Depth (feet) _____
- c. Field Well Depth (feet) _____
- d. Number of Screens _____
- e. Screened Interval(s) (feet) _____
- f. Screen Diameter(s) (in.) _____
- g. Screen Type(s) (SS or PVC, etc.) _____
- h. Casing Diameter(s) (in.) _____
- i. Casing Type (PVC, steel, etc.) _____
- j. Stickup or Flush Mount _____
- k. Penetrates Confining Layer(s) (Y or N) _____
- l. Aquifer(s) Monitored _____

2. Reason for Abandonment:

3. Abandonment Specifics:

- a. Date Abandonment Started _____
- b. Date Abandonment Completed _____
- c. ID Number of Field Book Used _____
- d. Site Personnel _____
- e. Drilling Method Used _____
- f. Grout Used _____
- g. Casing Removed (Y or N) _____
- h. Metal Detection Plate Installed (Y or N) _____
- i. Concrete Pad Inscription _____
- j. Briefly Describe Abandonment Method:

k. Disposition of Materials Removed From Well: _____

4. Comments or Problems Encountered: _____

Completed By: _____
Print Name Signature Date

Subcontractor: _____

Attach one copy of Well Abandonment Log to this form when completed. Attach one copy of the Well Construction Log (if available) to this form when completed.

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