

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

This is a
CONTROLLED DOCUMENT
EG&G — ROCKY FLATS PLANT
ENVIRONMENTAL MANAGEMENT DEPARTMENT

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)

Stamp
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FOR VOLUME III: GEOTECHNICAL**

<u>New Proc. No.</u>	<u>Old Proc. No.</u>	<u>Title</u>	<u>Rev. No.</u>	<u>Effective Date</u>
GT.01	3.1	Logging Alluvial and Bedrock Material	1	8/30/91
GT.02	3.2	Drilling and Sampling Using Hollow Stem Auger Techniques	1	8/30/91
GT.03	3.3	Isolating Bedrock From the Alluvium with Grouted Surface Casing	1	8/30/91
DCN 91.01		Change in criteria for cement grouting	1	10/02/91
DCN 91.02		Grout procedure clarification	1	10/28/91
GT.04	3.4	Rotary Drilling and Rock Coring	1	8/30/91
DCN 91.01		Core barrel decontamination	1	10/22/91
GT.05	3.5	Plugging and Abandonment of Boreholes	1	8/30/91
DCN 91.01		Surface casing classification	1	10/22/91
GT.06	3.6	Monitoring Wells and Piezometer Installation	1	8/30/91
DCN 91.01		Industry Standard is 1 foot into Bedrock	1	10/15/91
DCN 91.02		For the Sitewide Program, Claystone Smearing does not seem to be a problem	1	10/15/91

**ROCKY FLATS PLANT
EMD OPERATING
PROCEDURES MANUAL**

**Manual No.: 5-21000-OPS-GT
Procedure No.: Table of Contents, Rev 3
Page: 2 of 2
Effective Date: 10/28/91
Organization: Environmental Management**

<u>New Proc. No.</u>	<u>Old Proc. No.</u>	<u>Title</u>	<u>Rev. No.</u>	<u>Effective Date</u>
GT.07	3.7	Logging and Sampling of Test Pits and Trenches	1	8/30/91
GT.08	3.8	Surface Soil Sampling	1	8/30/91
GT.09	3.9	Soil Gas Sampling and Field Analysis	1	8/30/91
GT.10	3.10	Borehole Clearing	1	8/30/91
GT.11	3.11	Plugging and Abandonment of Wells	1	8/30/91
GT.15	3.15	Geophysical Borehole Logging	1	8/30/91
DCN 91.01		No Hole will be left Unlogged at the end of the day	1	10/15/91
GT.17	3.17	Land Surveying	1	8/30/91
GT.18	3.18	Surface Geophysical Surveys	1	8/30/91
GT.19	3.19	Field Gas Chromatographs	1	8/30/91
GT.20	3.20	Procedures for Soil Interstitial Water Sampling and Sampler Installation	1	8/30/91

ENVIRONMENTAL MANAGEMENT DOCUMENT CHANGE NOTICE (DCN)

Procedure Number 5-21000-OPS-GT.3 Rev. 1

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This is a

Title CONTROLLED DOCUMENT Isolating Bedrock from Alluvium with Grouted Surface Casing <small>EG&C ROCKY FLATS PLANT</small>	Date 10-22-91	DCN Number 5-21000-OPS-GT.03 91-02
Expires ENVIRONMENTAL Procedure Revision Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Scope Limitation <u>Sitewide</u>		

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
1	6 of 9	5.3 paragraph 1	Replace the first sentence with: Surface casing will be installed by placing the casing into the borehole, filling the casing with cement and then forcing the cement from within the casing by pushing a rubber plug down the casing thus displacing the cement out through cement ports at the bottom of the casing.
2	8 of 9	5.3 part 2	Delete this section.
3	8 of 9	5.3 part 3	Renumber this to part 2.
4	8 of 9	5.3 part 4	Renumber this to part 3. Insert "through the augers" at the end of the first sentence.
5	8 of 9		Insert as part 4: Remove the augers and pump the cement mixture into the casing using a tremie pipe until undiluted cement is present at the top of the casing.
6	8 of 9	5.3 part 5	Remove the first part of the first sentence where it states: "Once the casing is at the bottom of the borehole,". Change "force it down to the bottom of the casing by using drill rods..." to "force it down to the bottom of the casing by using drill rods or water pressure." Add to the end of the paragraph "Enough cement will be used to ensure that cement will rise to ground level when displaced from casing."

Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above)

Pumping grout down the hole after placing casing ensures that casing is at the bottom of the borehole, and minimizes borehole and casing problems.

Concurrence	Organization	Req	Date	Concurrence	Organization	Req	Date
<i>J. W. Langford</i>	QAPM	X	10/25/91	<i>J. W. Langford</i>	User	X	10/23/91
				<i>A. L. Primrose</i>	USER		10/23/91
Approval of Responsible Manager <i>M. C. Broward</i>			Date 10-24-91	Is Posting Req'd? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, By What Date?		Date Posted