

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

25.
DMR No. 93-DMR-002349
1/29/94

2. or 2. Deleted Number/Version			1. Document Title
3. Para	4. Page	1a. Step	11. Proposed Modification
			<p>and sampling Using Hollow-Stem Auger Techniques ^{new 12/2/94}</p> <p>4. Lower 0.5-inch inner-diameter, factory slotted (0.70") PVC screen & PVC flush threaded casing into borehole. Advance well to total depth of borehole, or backfill bottom of borehole with pure gold Bentonite pellets so that the desired interval is properly screened, ^{16:40 new 9/21/94}</p> <p>5. Place 10/20 silica sand filter pack to approximately 6-inches to 2-3 - above the top of the screen.</p> <p>6. Place a minimum of 6 inches of pure gold pellets above filter pack to seal the well.</p> <p>7. Install a 12-inch diameter concrete pad at ground surface surrounding the mini-well.</p> <p>8. Install a four-foot long, steel post adjacent to the mini-well to act as a marker. Post should be installed such that 3-feet are above ground.</p>
4	10		<p>Change item # 7 to read; Install four-foot long steel post adjacent to</p>
12. Justification (Reason for Modification, EOC, TRF, etc.)			
<p>Required for Installation of mini wells in OUS for groundwater investigation. USE LIMITATION: OUS</p> <p>Not training required</p>			

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1. Date 9/22/94		23. DMR. No. 93-DMR-002349 1/29/64	
2. Existing Document Number/Revision 5-21000-0MS-07.6 Rev. 2		3. New Document Number or Document Number if it is to be changed with this Revision	
18. Originator's Signature (print/sign/initial) Carol Bisher <i>CB</i> 10/13/94			
17. Assigned Name/Number/Project/Location CARRA 9100/080	18. Com. Center 3120	19. Charge Number 98647900	20. Requested Completion Date 10/7/94
22. Approved Request Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	21. CSC Review Not Required	23. Effective Date 12/22-94	
24. Responsible Manager (print, sign, date) Ed Mast <i>EM</i> 12/14/94 <i>EM</i>			

REVIEWED FOR CLASSIFICATION/DCNI
 BY NA
 DATE NA

MONITORING WELL AND PIEZOMETER INSTALLATION

**EG&G ROCKY FLATS PLANT
EMD MANUAL OPERATION SOP**

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7	05/11/93	DCN 93 09	
9	09/23/93	DCN 93 06	
10	03/17/93	DCN 93 07	
13	02/10/93	DCN 93 04	
15	02/10/93	DCN 93 04	
15, 15C	02/10/93	DCN 93 05	
15, 15B, 15C	09/02/93	DCN 93 12	EXPIRED
15A	10/01/93	DCN 93 14	
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15D-16	01/29/93	DCN 93 02	
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6.4 WELL POINT/MINI-WELL INSTALLATION

This Section describes the procedures used for installing well points. Before installation, sites will be located, numbered, and identified using stakes (or paint sticks on paved surfaces). Refer to SOP GT 10, Borehole Clearing, for more information regarding clearing the sites of underground obstructions.

6.4.1 Well Point Installation

After test sites have been located and cleared, an exclusion zone will be established according to the project Health and Safety Plan. The procedure for installing well points at a specific location is as follows:

- 1 Decontaminate the rig and downhole equipment. See SOP FO 3, General Equipment Decontamination for specific details regarding decontamination.
- 2 Set up the rig to obtain a thrust direction as close to vertical as possible.
- 3 Advance threaded expendable point by either hydraulically pushing or hammering to desired depth.
- 4 At locations within an IHSS, monitor the breathing zone near the rig for volatile organic compounds.
- 5 Insert the end of the hand-perforated tubing (Polyethylene or Teflon) with a threaded stud attached into the probe rods. Thread this into the expendable drive point. Length of perforated tubing will range between one and five feet based upon magnitude of anticipated water level fluctuations.
- 6 Hydraulically withdraw probe rods from hole.

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7 Place 10/20 silica sand filter pack to approximately six inches above the top of the screen while keeping tension on the tubing Place at least six inches of granular bentonite seal above filter pack

8 Install four-inch long, one-inch diameter PVC casing with threaded or slip cap as protective well-point surface casing Protective casing will be nearly flush with the ground surface

9 Install four-foot long, ~~three-inch diameter~~ steel post adjacent to protective casing to act as marker and traffic barrier Post should be installed such that three feet are above ground

10 Develop well point with peristaltic or inertia pump Since these well points are only for measuring water levels, it is not necessary to measure all the parameters referenced in SOP GW 4, Well Development

11 Survey top protection casing because well-point tubing is too flexible Refer to SOP GT 17, Land Surveying, for more information regarding site surveying procedures

6 4.2. Mini-Well Installation

1 Decontaminate the rig and downhole equipment See SOP FO 3, General Equipment Decontamination for specific details regarding decontamination

2 Set up the rig to obtain a thrust direction as close to vertical as possible

3 Advance a Kansas Sampler, hydraulically installing a 1-3/8-inch diameter borehole in accordance with SOP GT 2, Drilling and Sampling Using Hollow-Stem Auger Techniques

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- 4 Lower 0 5-inch inner-diameter, factory slotted (0 01) PVC screen and PVC flush threaded casing into borehole Advance well to total depth of borehole, or backfill bottom of borehole with Pure Gold bentonite pellets so that the desired interval is properly screened
- 5 Place 10/20 or 16-40 silica sand filter pack to approximately six-inches to two feet above the top of the screen
- 6 Place a minimum of six inches of Pure Gold pellets above filter pack to seal the well
- 7 Install a 12-inch diameter concrete pad at ground surface surrounding the mini-well
- 8 Install a four-foot-long, steel post adjacent to the mini-well to act as a marker Post should be installed such that three feet are above ground

7.0 DOCUMENTATION

Provide the WIN form to the Geosciences Division as instructed in 5 1 1 Submit copies of applicable (Sections 5 1 6 and 8 0) records related to this administrative procedure to Geosciences Division

The installation of monitoring wells and piezometers will be documented on groundwater monitoring well and piezometer report forms Drilling information will be documented on the Rocky Flats Plant Borehole Log form (Form GT 1A) and on the Hollow-Stem Auger Drilling form (Form GT 2A), or on the Rotary/Core Drilling form (Form GT 4A) Besides the drilling and