APPENDIX D

Field Forms

Form 1: Typical Bore Log Form Used to Describe Split Spoon Samples

Form 2: The Unified Soil Classification System (USCS)

Form 3: Well Abandonment Form

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Form 1. Typical Bore Log Form used to Describe Split-Spoon Samples

HTRW DRILLING LOG	DISTRICT	HOLE NUMBER
1.COMPANY NAME	2.DRILL SUBCONTRACTOR	SHEET 1 OF SHEETS

3.DATE	4.LOCATION
5.NAME OF DRILLER	6.MANUFACTURER'S DESIGNATION OF DRILL
7.SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8.HOLE LOCATION
	9.SURFACE ELEVATION
	10.DATE STARTED / 11.DATE COMPLETED
12.OVERBURDEN THICKNESS	13.DEPTH GROUNDWATER ENCOUNTERED
13.DEPTH DRILLED INTO ROCK	15.DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14.TOTAL DEPTH OF HOLE	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES

20.SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	SVOC	Pest/PCB	Cyanide/TRPH	21.TOTAL CORE RECOVERY %
	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23.SIGNATURE OF INSPECTOR:		

22.DISPOSITION OF HOLE	SCALE 1 inch = 1 foot

LOCATION SKETCH/COMMENTS

PROJECT	HOLE NO.

Form 1. Typical Bore Log Form used to Describe Split-Spoon Samples (Concluded)

HTRW DRILLING LOG	SITE	LOCATION	HOLE NUMBER
PROJECT #	DISTRICT	INSPECTOR PATRICIA WESTON	SHEET 2 OF SHEETS

ELEV. (a)	DEPTH (ft.) (b)	DESCRIPTION OF MATERIALS (c)	USCS CLASS. (d)	FIELD SCREEN RESULTS (e)	REMARKS (f)
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
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	16				
	17				
	18				
	19				
	20				

Form 2. The Unified Soil Classification System (USCS)

Revised 07-12-02

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)		
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	
	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	
	GM	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	
	SW	Well-graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)		
SILTS AND CLAYS Liquid limit less than 50%	ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils

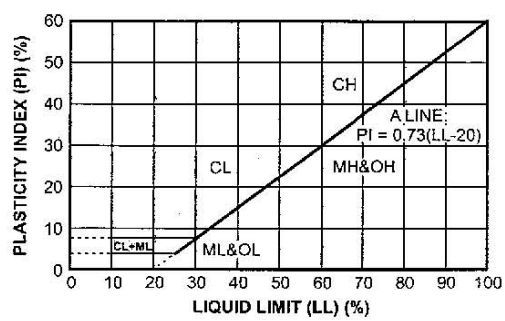
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent ..... GW, GP, SW, SP
More than 12 percent ..... GM, GC, SM, SC
5 to 12 percent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



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Form 3. Well Abandonment Form

Well Abandonment Form	Project Name	Borehole Number
	Location	Well Number
	Project Number	Page _____ of _____

Logged By	Checked By	Reason For Abandonment	
Driller			
Drilling Method		Measured Depth of Well	Depth to Water
Sampling Method		Was Old Well Removed? Yes No Partial	
Start Date	End Date	Drilled Diameter	Quality of Backfill (Gal)

DEPTH (feet)	SAMPLE NUMBER	MATERIAL DESCRIPTION	BACKFILL DESCRIPTION	WELL CONSTRUCTION DETAILS	WELL SCHEMATIC
				TOP OF SEAL	
				TOP OF SAND	
				TOP OF SCREEN	
				WATER LEVEL	
				DEPTH OF WELL	
				DEPTH OF HOLE	

Form 3. Well Abandonment Form (Concluded)

Denver Federal Center Boring Log	Project Name Contractor Project Number	Boring Number Page _____ of _____

Depth (ft-bgs)	Blows/6" (recovery)	PID (ppm)	Graphic Log	MATERIAL DESCRIPTION	REMARKS