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Soil Characterization Database for the Area 3 Radioactive Waste Management Site, Nevada Test Site, Nye County, Nevada

by

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Abstract

Soils were characterized in an investigation at the Area 3 Radioactive Waste Management Site at the U.S. Department of Energy Nevada Test Site in Nye County, Nevada. Data from the investigation are presented in four parameter groups: sample and site characteristics, U.S. Department of Agriculture (USDA) particle size fractions, chemical parameters, and American Society for Testing Materials-Unified Soil Classification System (ASTM-USCS) particle size fractions. Spread-sheet workbooks based on these parameter groups are presented to evaluate data quality, conduct database updates, and set data structures and formats for later extraction and analysis. This document does not include analysis or interpretation of presented data.

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List of Acronyms and Abbreviations

ASTM	American Society for Testing and Materials
QA	quality assurance
RWSM	Radioactive Waste Management Site
USCS	Unified Soil Classification System
USDA	U.S. Department of Agriculture

1. INTRODUCTION

This document presents the database of a soil characterization study conducted at the Area 3 Radioactive Waste Management Site (RWMS) on the U.S. Department of Energy Nevada Test Site in Nye County, Nevada. The database is maintained in a Microsoft® Excel Version 5.0 for Windows™ spreadsheet framework that is suitable for transfer into other spreadsheet or database formats. Column fields (parameters) include both descriptive field data and analytical laboratory data. Methods used to produce the analytical laboratory data are described in Snyder et al. (1996). Quality assurance (QA) criteria used to evaluate the quality of the data are described in Byers et al. (1996).

2. DATABASE STRUCTURE

The Excel Version 5.0 spreadsheet framework uses a workbook and worksheet data file structure. A workbook is made up of one or more worksheets, each containing data on a particular parameter, batch, or other characteristic.

The analytical laboratory constructed a batch workbook for each analytical batch of RWMS soil samples. The general naming convention for a batch workbook is "batch#.xls" (e.g., *601.xls* for Batch 601). Within a batch workbook are several worksheets containing batch-wide data grouped by parameter (e.g., particle size analysis or pH). The batch workbooks were submitted by the laboratory to the QA staff for data evaluation and analysis. Alphanumeric code trailing the batch number (e.g., *601psa.xls*) denotes a workbook that contains data for a laboratory rerun of the batch for a specific parameter or group of parameters (e.g., particle size analysis). The rerun workbook supersedes the parameter data already in the database from the initial batch data submission.

The QA staff created a central database workbook (i.e., *A3_data.xls* which the parameter data from all batch workbooks were brought together using Excel formula linkages established between workbooks, or between two or more worksheets within a workbook. This database workbook uses a structure of parameter fields in sequential columns and specific sample records in sequential rows sorted by batch and sample numbers. This workbook is used for evaluating data quality, conducting database updates, and setting data structures and formats for later extraction. Field and record cells are locked after editing to prevent errors from being entered into the database. This workbook is not suitable for routine user data analysis because of its linkages.

Data in the database workbook are available for extraction as non-linked (hard-data) values into a user workbook suitable for analysis purposes. The *A3_user.xls* workbook may include multiple worksheets, each containing selected hard-data values extracted from the database workbook. It should be considered the repository for appropriate final parameter data and must have undergone formatting, rounding, and thorough QA evaluation. As of February 1997, the user database had not yet been created.

A primary label variable for the database and user workbooks is *Field Sample Code*. Its value is unique and illustrative to each record and sufficient to identify any sample in the database. Secondary label variables are *Batch* and *Sample*, which link an individual sample to the batch workbooks submitted by the laboratory. Field descriptive data, including horizon, designation, sampling depths, and field texture, have been added to the database workbook for interpretive purposes. The remainder of the data represent the

final reported, values for the physical and chemical characteristics of the samples. Each physical and chemical parameter is reported in the units specified by the analytical method. Within, the database, Batches 601, 602, 603, 605, and 606 encompass data for core samples from Area 3 boreholes, whereas Batch 604 contains data for soil samples collected from several small excavations.

3. DATABASE PARAMETERS

The following column fields (parameters) represent the label variables and the physical and chemical soil characteristics in the Area 3 RWMS database. Appendix A contains data for the soil sample and site characteristics. Appendix B contains data for the U.S. Department of Agriculture (USDA) particle size fractions. Appendix C contains data for other physical and chemical parameters. Appendix D contains data for the American Society for Testing Materials (ASTM) Unified Soil Classification System (USCS) particle size fractions. Specific parameters, in the order of their appearance in the database workbook, are:

Parameter	**Description or Definition**
Batch	Laboratory batch number
Sample	Laboratory sample number within a batch
Field Sample Code	Code assigned in the field identifying the sample. For borehole core samples, the numeric code includes the batch number and the approximate depth (in feet) of sampling. For routine soil samples the alphanumeric code includes: (1) a 4-character location element; (2) a 3-character profile element, and (3) a 3-character sample sequence element. For QA samples, the code begins with a 2- or 3-letter alpha element followed by one of several possible identifiers that identify the source of the sample; the alpha elements are DBD for double-blind duplicate and RM for reference material.
Horizon	Soil horizon designation of the sample (Table 1)
Upper Depth	Upper depth (centimeters) of soil horizon below ground surface
Lower Depth	Lower depth (centimeters) of soil horizon below ground surface
Location	Type of sampling site: EX = soil excavation; U### = borehole.
Profile	Profile number (P##) described and sampled
Allostratigraphic Unit	Allostratigraphic unit (A#) of the sample (not yet determined)
Allostratigraphic Subunit	Allostratigraphic subunit of the sample (not yet determined)
Lithofacies	Lithofacies designation of the sample (Table 2) (not yet determined)
Geomorphic Surface	Geomorphic surface at the sampling location
Soil Texture - Lab	USDA texture class estimated using analytical laboratory data; free of carbonate and organic matter

Parameter	Description or Definition
Soil Texture - Field	USDA textural class estimated by field personnel (Table 3)
Texture Modifier-Field	USDA rock fragment volume textural modifier estimated by field personnel (Table 4)
Air-Dry Sample Weight	Total air-dry weight (grams) of sample before sieving
Air-Dry Fine Earth Weight	Air-dry weight (grams) of the >2-millimeter (mm) sample
Ground Elevation	Elevation (feet) at ground surface of sampling location (not yet determined)
Northing	Nevada State Plane northing coordinate (feet) of sampling location (not yet determined)
Easting	Nevada State Plane easting coordinate (feet) of sample location (not yet determined)
Total Pebbles	USDA total pebbles (air-dry weight percent) ranging from 75 mm to 2 mm within the <75-mm. (<3-inch) sample; large fragments (cobble size and larger) were left in the field
Coarse Pebbles	USDA coarse pebbles (air-dry weight percent) ranging from 75 mm to 20 mm within the <75-mm (<3-inch) sample
Medium Pebbles	USDA medium pebbles (air-dry weight percent) ranging from 20 mm to 5 mm within the <75-mm (<3-inch) sample
Fine Pebbles	USDA fine pebbles (air-dry weight percent) ranging from 5 mm to 2 mm within the <75-mm (<3-inch) sample
Total Sand	USDA total sand content (oven-dry weight percent) ranging from 2.0 mm to 0.05 mm within the <2-mm sample
Very Coarse Sand	USDA very coarse sand (oven-dry weight percent) ranging from 2.0 mm to 1.0 mm within the <2-mm sample
Coarse Sand	USDA coarse sand (oven-dry weight percent) ranging from 1.0 mm to 0.50 mm within the <2-mm sample
Medium Sand	USDA medium sand (oven-dry weight percent) ranging from 0.50 mm to 0.25 mm within the <2-mm sample
Fine Sand	USDA fine sand (oven-dry weight percent) ranging from 0.25 mm to 0.10 mm within the <2-mm sample
Very Fine Sand	USDA very fine sand (oven-dry weight percent) ranging from 0.10 mm to 0.05 mm within the <2-mm sample

Parameter	Description or Definition
Total Silt	USDA total silt content (oven-dry weight percent) ranging from 50 micrometers (μm) to 2 μm within the <2-mm sample
Coarse Silt	USDA coarse silt (oven-dry weight percent) ranging from 50 μm to 20 μm within the <2-mm sample
Fine Silt	USDA fine silt (oven-dry weight percent) ranging from 20 μm to 2 μm within the <2-mm sample
Total Clay	USDA total clay (oven-dry weight percent) less than 2 μm within the <2-mm sample
Moist	Air-to-oven-dry moisture content (oven-dry weight percent) of the <2-mm sample
pH	Soil pH in deionized water of the <2-mm sample
CaCO3_Eq	Calcium carbonate ($CaCO_3$) equivalent (oven-dry weight percent) of the <2-mm sample
CBD_Fe	Iron extracted by citrate-bicarbonate-dithionite (oven-dry weight percent) from the <2-mm sample
CBD_Si	Silicon extracted by citrate-bicarbonate-dithionite (oven-dry weight percent) from the <2-mm sample
Chloride	Chloride extracted from a water-saturated soil paste (milligrams per kilogram soil) using the <2-mm sample
Particle density	Average density or specific gravity of the soil particles (grams per cubic centimeter) within the <2-mm sample
USCS Group-Lab	ASTM - USCS group symbol, using laboratory data for the <3-inch (<75-mm) sample, including carbonate (Table 5); based on D2488 classification criteria.
Gravel_USCS	ASTM - USCS gravel content (air-dry weight percent) ranging from 5 mm to 75 mm within the <3-inch (<75-mm) sample; based on D2488 classification criteria
Sand_USCS	ASTM - USCS sand content (oven-dry weight percent) within the <3-inch (<75-mm) sample; based on D2488 classification criteria
Silt+Clay_USCS	ASTM - USCS total silt and clay content (oven-dry weight percent) within the <3-inch (<75-mm) sample, including carbonate; based on D2488 classification criteria
P <3-inch	Calculated cumulative weight percentage of particles passing 3-inch sieve, reported on a <3-inch base.

Parameter	Description or Definition
P <2-inch	Calculated cumulative weight percentage of particles passing 2-inch sieve, reported on a <3-inch base.
P <1½-inch	Calculated cumulative weight percentage of particles passing 1 ½-inch sieve, reported on a <3-inch base.
P <1-inch	Calculated cumulative weight percentage of particles passing 1-inch sieve, reported on a <3-inch base.
P <¾-inch	Calculated cumulative weight percentage of particles passing ¾-inch sieve, reported on a <3-inch base.
P < **d** -inch	Calculated cumulative weight percentage of particles passing **d** -inch sieve, reported on a <3-inch base.
P <#4	Calculated cumulative weight percentage of particles passing No, 4 (4.75-mm) sieve, reported on a <3-inch base.
P <#10	Calculated cumulative weight percentage of particles passing No. 10 (2.0-mm) sieve, reported on a <3-inch base.
P <#40	Calculated cumulative weight percentage of particles passing No. 40 (0.42-mm) sieve, reported on a <3-inch base.
P <#200	Calculated cumulative weight percentage of particles passing No. 200 (0.074-mm) sieve, reported on a <3-inch base.

Table 1. Soil Horizon Designations

Master Horizon or Suffix	Description
A	A horizon
B	B horizon
C	C horizon
b	Buried horizon
k	Accumulation of secondary carbonate
q	Accumulation of secondary silica
t	Accumulation of clay
w	Color or textural B horizon

Note: Leading numerals indicate a discontinuity from overlying materials. Trailing numerals indicate a sequence of similar horizons. Dual letters indicate transitional characteristics. A virgule (/) separating 2 horizon designations indicates sample contains distinct parts of each horizon.

Table 2. Lithofacies Designations (not yet determined for samples in this database)

Lithofacies	Description
a	Observable pedogenic development
b	Fine-grained (pebbles and smaller); no bedding; moderately to poor sorting
c	Coarse-grained (medium pebbles and larger); no bedding; moderately to well sorted
d	Fine-grained; bedded; moderately to poorly sorted
e	Fine-grained; bedded; moderately to well sorted
f	Coarse-grained with 25 to 50% clasts >75-mm; little to no bedding; poorly sorted
g	Coarse-grained with 50 to 75% clasts >75-mm; little to no bedding; poorly sorted
h	Coarse-grained with >75% clasts >75-mm; little to no bedding; poorly sorted
i	Pebbly; bedded; moderately sorted

Table 3. USDA Texture Class - Laboratory and Field

Abbreviation	Definition
S	Sand
COS	Coarse sand
LS	Loamy sand
LCOS	Loamy coarse sand
LFS	Loamy fine sand
LVFS	Loamy very fine sand
SL	Sandy loam
COSL	Coarse sandy loam
FSL	Fine sandy loam
VFSL	Very fine sandy loam
L	Loam

Table 4. USDA Texture Modifier - Field

Abbreviation	Definition
GR	Gravelly
CB	Cobbly
CN	Channery
GRV	Very gravelly
CBV	Very cobbly
CNV	Very channery
GRX	Extremely gravelly
CBX	Extremely cobbly
CNX	Extremely channery

Table 5. USCS Group Symbol - Laboratory

Group Symbol	Group Name
ML	Sandy silt (with gravel)
SM	Silty sand (with gravel)
SW-SM	Well-graded sand with silt (and gravel)

4. REFERENCES

Byers, G.E., R.D. Van Remortel, and K.E. Snyder, 1996. Quality Assurance Report for a Soil Characterization Study at the Area 5 Radioactive Waste Management Facility, Nevada Test Site, Nye County, Nevada. U.S. Department of Energy, Las Vegas, NV.

Snyder, K.E., G.E. Byers, and R.D. Van Remortel, 1996. Handbook of Laboratory Methods of Soil Analysis. U.S. Department of Energy, Las Vegas, NV.

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APPENDIX A

Sample and Site Characteristics

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
601	1	RM601-002	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1216.0	1154.1	nd	nd	nd
601	2	601-005	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	951.6	856.9	nd	nd	nd
601	3	601-011	nd	nd	nd	U3bh	na	nd	nd	nd	na	LCOS	nd	nd	1118.0	833.4	nd	nd	nd
601	4	601-015	nd	nd	nd	U3bh	na	nd	nd	nd	na	FSL	nd	nd	1171.3	1039.7	nd	nd	nd
601	5	601-020	nd	nd	nd	U3bh	na	nd	nd	nd	na	LCOS	nd	nd	1083.2	858.6	nd	nd	nd
601	6	601-025	nd	nd	nd	U3bh	na	nd	nd	nd	na	LCOS	nd	nd	1130.8	825.1	nd	nd	nd
601	7	601-031	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1302.6	1196.7	nd	nd	nd
601	8	RM601-035	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1221.7	1149.9	nd	nd	nd
601	9	601-042	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1210.5	1066.5	nd	nd	nd
601	10	601-050	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1138.6	986.6	nd	nd	nd
601	11	601-061	nd	nd	nd	U3bh	na	nd	nd	nd	na	LCOS	nd	nd	1273.9	638.6	nd	nd	nd
601	12	601-070	nd	nd	nd	U3bh	na	nd	nd	nd	na	FSL	nd	nd	1347.7	1132.8	nd	nd	nd
601	13	601-081	nd	nd	nd	U3bh	na	nd	nd	nd	na	COS	nd	nd	1103.5	483.1	nd	nd	nd
601	14	601-090	nd	nd	nd	U3bh	na	nd	nd	nd	na	LCOS	nd	nd	1099.8	787.0	nd	nd	nd
601	15	601-100	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1231.4	1037.7	nd	nd	nd
601	16	601-111	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1178.0	1000.4	nd	nd	nd
601	17	601-121	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1183.5	1064.9	nd	nd	nd
601	18	601-131	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1174.0	1030.3	nd	nd	nd
601	19	601-140	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1268.6	988.8	nd	nd	nd
601	20	601-150	nd	nd	nd	U3bh	na	nd	nd	nd	na	LFS	nd	nd	1105.8	1015.9	nd	nd	nd
601	21	601-161	nd	nd	nd	U3bh	na	nd	nd	nd	na	COS	nd	nd	1452.9	770.1	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
601	22	601-172	nd	nd	nd	U3bh	na	nd	nd	nd	na	LS	nd	nd	1165.2	1079.7	nd	nd	nd
601	23	601-181	nd	nd	nd	U3bh	na	nd	nd	nd	na	L	nd	nd	1110.9	910.0	nd	nd	nd
601	24	601-191	nd	nd	nd	U3bh	na	nd	nd	nd	na	LCOS	nd	nd	1275.0	706.1	nd	nd	nd
601	25	601-200	nd	nd	nd	U3bh	na	nd	nd	nd	na	FSL	nd	nd	1135.2	855.1	nd	nd	nd
601	26	RM601-205	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1233.1	1160.9	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
602	1	RM602-001	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1254.5	1175.0	nd	nd	nd
602	2	602-005	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1176.4	892.5	nd	nd	nd
602	3	602-011	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1183.3	1075.0	nd	nd	nd
602	4	602-015	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1197.6	1099.7	nd	nd	nd
602	5	602-021	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1235.1	1086.4	nd	nd	nd
602	6	602-026	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1261.4	1149.5	nd	nd	nd
602	7	602-031	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LFS	nd	nd	1276.8	1209.3	nd	nd	nd
602	8	RM602-035	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1232.4	1161.9	nd	nd	nd
602	9	602-042	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1326.1	1167.0	nd	nd	nd
602	10	602-051	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LCOS	nd	nd	1262.9	513.1	nd	nd	nd
602	11	602-060	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LCOS	nd	nd	1237.4	655.5	nd	nd	nd
602	12	602-071	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1003.6	839.3	nd	nd	nd
602	13	602-081	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1182.3	1074.6	nd	nd	nd
602	14	602-091	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1169.4	1044.7	nd	nd	nd
602	15	602-101	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1192.1	1143.5	nd	nd	nd
602	16	602-111	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1175.5	1075.6	nd	nd	nd
602	17	602-120	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1111.4	960.9	nd	nd	nd
602	18	602-130	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1179.1	1049.5	nd	nd	nd
602	19	602-140	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1178.7	963.2	nd	nd	nd
602	20	602-152	nd	nd	nd	U3bh2	na	nd	nd	nd	na	FSL	nd	nd	1119.2	971.6	nd	nd	nd
602	21	602-161	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LS	nd	nd	1200.4	871.1	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
602	22	602-171	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LCOS	nd	nd	1410.4	402.3	nd	nd	nd
602	23	602-181	nd	nd	nd	U3bh2	na	nd	nd	nd	na	LFS	nd	nd	1248.3	956.8	nd	nd	nd
602	24	602-191	nd	nd	nd	U3bh2	na	nd	nd	nd	na	COS	nd	nd	1322.5	973.9	nd	nd	nd
602	25	RM602-205	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1243.5	1174.6	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
603	1	603-201	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COS	nd	nd	1393.2	863.7	nd	nd	nd
603	2	603-212	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1442.8	1111.7	nd	nd	nd
603	3	603-220	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	SL	nd	nd	662.1	280.5	nd	nd	nd
603	4	RM603-225	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1235.8	1168.3	nd	nd	nd
603	5	603-230	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COSL	nd	nd	1192.7	774.8	nd	nd	nd
603	6	603-241	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COS	nd	nd	1241.7	772.9	nd	nd	nd
603	7	603-250	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	SL	nd	nd	1070.1	926.6	nd	nd	nd
603	8	603-260	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1253.5	1043.7	nd	nd	nd
603	9	603-270	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	SL	nd	nd	1161.2	900.0	nd	nd	nd
603	10	603-280	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	VFSL	nd	nd	1128.3	1112.3	nd	nd	nd
603	11	603-291	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	FSL	nd	nd	1131.0	1043.4	nd	nd	nd
603	12	603-301	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1199.7	1059.5	nd	nd	nd
603	13	603-311	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	FSL	nd	nd	1044.1	922.2	nd	nd	nd
603	14	603-320	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LCOS	nd	nd	1374.2	799.0	nd	nd	nd
603	15	603-330	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1064.8	882.5	nd	nd	nd
603	16	603-340	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COS	nd	nd	1455.2	359.7	nd	nd	nd
603	17	603-351	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	SL	nd	nd	1090.0	804.1	nd	nd	nd
603	18	603-361	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COSL	nd	nd	1435.7	599.3	nd	nd	nd
603	19	603-371	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	FSL	nd	nd	1184.4	1014.8	nd	nd	nd
603	20	603-381	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LFS	nd	nd	1174.2	1099.7	nd	nd	nd
603	21	603-390	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COS	nd	nd	1336.4	801.2	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
603	22	603-401	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COS	nd	nd	1337.1	827.2	nd	nd	nd
603	23	603-410	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1087.0	1011.4	nd	nd	nd
603	24	603-420	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	FSL	nd	nd	1091.3	847.7	nd	nd	nd
603	25	603-431	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	COS	nd	nd	1452.1	730.8	nd	nd	nd
603	26	603-441	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LCOS	nd	nd	1283.1	900.4	nd	nd	nd
603	27	603-451	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1041.9	900.8	nd	nd	nd
603	28	603-461	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1138.5	966.2	nd	nd	nd
603	29	603-471	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LS	nd	nd	1301.2	1211.9	nd	nd	nd
603	30	603-481	nd	nd	nd	UE-3bl-D2	na	nd	nd	nd	na	LCOS	nd	nd	1129.4	861.0	nd	nd	nd
603	31	RM603-490	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1237.4	1160.3	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
604	1	EX08P01a05	BCqk	64	90	EX08	P01	nd	nd	nd	S5a	COS	S	GRX	9253.5	4363.1	nd	nd	nd
604	2	EX01P01a02	BA	7	21	EX01	P01	nd	nd	nd	S4	LS	SL	na	4746.5	4431.8	nd	nd	nd
604	3	EX02P01a03	Bk	25	47	EX02	P01	nd	nd	nd	S5a	COS	S	GRV	7132.0	5260.3	nd	nd	nd
604	4	EX03P01a01	A/BAq	0	17	EX03	P01	nd	nd	nd	S4	L	VFSL/L	GRX/GR	8224.6	4943.6	nd	nd	nd
604	5	EX05P01a02	2BCqkb	24	55	EX05	P01	nd	nd	nd	S7	LCOS	S	GRX	8412.4	2827.6	nd	nd	nd
604	6	EX07P01a02	Bw	9	37	EX07	P01	nd	nd	nd	S5b	LS	LS	GRX	10446.9	5106.4	nd	nd	nd
604	7	RM	na	na	na	na	na	na	na	na	na	nd	nd	nd	5343.4	2713.9	nd	nd	nd
604	8	EX08P01a02	Bqk	8	25	EX08	P01	nd	nd	nd	S5a	LS	LS	GR	8737.5	6366.8	nd	nd	nd
604	9	EX01P01a04	2Btkb	34	42	EX01	P01	nd	nd	nd	S4	LS	L	na	4364.6	4001.4	nd	nd	nd
604	10	EX02P01a02	BA	9	25	EX02	P01	nd	nd	nd	S5a	LS	S	GR	6447.6	5430.1	nd	nd	nd
604	11	EX03P01a03	2Bk1	32	60	EX03	P01	nd	nd	nd	S4	LCOS	LS	GRV	7836.8	2388.8	nd	nd	nd
604	12	EX07P01a04	Bk2	63	86	EX07	P01	nd	nd	nd	S5b	LS	S	GRV	11368.8	5342.6	nd	nd	nd
604	13	EX05P01a01	C1/C2	0	24	EX05	P01	nd	nd	nd	S7	COS	S	GRV	10299.9	4760.6	nd	nd	nd
604	14	EX07P01a05	BCk	86	100	EX07	P01	nd	nd	nd	S5b	COS	S	GRX	9653.1	3272.8	nd	nd	nd
604	15	EX08P01a01	A	0	8	EX08	P01	nd	nd	nd	S5a	LS	LS	GRV	5809.4	3772.5	nd	nd	nd
604	16	DBD401_1RM	na	na	na	na	na	nd	nd	nd	S5a	nd	nd	nd	4275.9	1972.6	nd	nd	nd
604	17	EX01P01a03	2Bk	21	34	EX01	P01	nd	nd	nd	S4	LS	SL	na	4506.0	4258.9	nd	nd	nd
604	18	EX02P01a01	A	0	9	EX02	P01	nd	nd	nd	S5a	LS	LS	GR	6351.6	5318.7	nd	nd	nd
604	19	EX03P01a04	2Bk2	60	87	EX03	P01	nd	nd	nd	S4	LCOS	SL	GRX	9117.7	2729.5	nd	nd	nd
604	20	EX06P01a02	Bw	7	16	EX06	P01	nd	nd	nd	S6	LCOS	S	GRV	10071.3	4783.2	nd	nd	nd
604	21	EX07P01a01	A	0	9	EX07	P01	nd	nd	nd	S5b	LS	LS	GRV	9758.6	5637.8	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
604	22	EX08P01a04	Bk2	43	64	EX08	P01	nd	nd	nd	S5a	LS	LS	GRV	10132.3	5525.3	nd	nd	nd
604	23	RM	na	na	na	na	na	na	na	na	na	nd	nd	nd	6758.4	3446.6	nd	nd	nd
604	24	EX01P01a01	A1/A2	0	7	EX01	P01	nd	nd	nd	S4	LS	LS/SL	na	6126.7	5499.3	nd	nd	nd
604	25	EX03P01a02	2Btk	17	32	EX03	P01	nd	nd	nd	S4	COSL	SL	GRX	8250.1	2465.5	nd	nd	nd
604	26	EX06P01a03	BCk	16	40	EX06	P01	nd	nd	nd	S6	LCOS	S	GRV	9647.3	2470.1	nd	nd	nd
604	27	EX07P01a03	Bk1	37	63	EX07	P01	nd	nd	nd	S5b	LS	LS	GRV	10331.9	6470.6	nd	nd	nd
604	28	EX08P01a03	Bk1	25	43	EX08	P01	nd	nd	nd	S5a	LS	SL	GRV	8757.6	5910.8	nd	nd	nd
604	29	EX01P01a05	2Bkb	42	60	EX01	P01	nd	nd	nd	S4	LS	SL	na	6317.9	5312.5	nd	nd	nd
604	30	EX06P01a01	AC	0	7	EX06	P01	nd	nd	nd	S6	LCOS	S	GRV	10384.5	3703.7	nd	nd	nd
604	31	EX02P01a04	BCk	47	60	EX02	P01	nd	nd	nd	S5a	COS	COS	GRV	9225.2	6023.0	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
605	1	RM605-010	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1261.5	1185.5	nd	nd	nd
605	2	605-020	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1456.5	536.0	nd	nd	nd
605	3	605-029	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1338.6	928.6	nd	nd	nd
605	4	605-041	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1240.6	1043.5	nd	nd	nd
605	5	605-050	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1229.0	930.3	nd	nd	nd
605	6	605-058	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1251.9	964.5	nd	nd	nd
605	7	605-068	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COSL	nd	nd	1283.3	895.9	nd	nd	nd
605	8	605-078	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COSL	nd	nd	1475.0	783.6	nd	nd	nd
605	9	605-088	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1450.8	535.6	nd	nd	nd
605	10	605-097	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COSL	nd	nd	1296.4	506.0	nd	nd	nd
605	11	605-108	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1527.6	467.5	nd	nd	nd
605	12	605-117	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COSL	nd	nd	1324.6	786.7	nd	nd	nd
605	13	605-127	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1430.4	1038.4	nd	nd	nd
605	14	605-136	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1280.5	842.5	nd	nd	nd
605	15	605-155	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1476.1	772.0	nd	nd	nd
605	16	605-166	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1317.8	343.8	nd	nd	nd
605	17	605-181	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	SL	nd	nd	1394.7	784.4	nd	nd	nd
605	18	605-190	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1259.2	999.1	nd	nd	nd
605	19	605-201	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	SL	nd	nd	1233.2	1152.5	nd	nd	nd
605	20	605-211	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1394.7	686.0	nd	nd	nd
605	21	605-221	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	SL	nd	nd	1246.5	734.1	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
605	22	605-229	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COSL	nd	nd	1388.2	238.7	nd	nd	nd
605	23	605-240	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1087.2	669.5	nd	nd	nd
605	24	RM605-250	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1236.0	1165.8	nd	nd	nd
605	25	605-261	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	FSL	nd	nd	1142.4	1020.3	nd	nd	nd
605	26	605-264	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1247.9	1032.6	nd	nd	nd
605	27	605-270	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	FSL	nd	nd	1254.0	1038.9	nd	nd	nd
605	28	605-280	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	SL	nd	nd	1201.4	768.3	nd	nd	nd
605	29	605-291	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	S	nd	nd	1320.2	1147.4	nd	nd	nd
605	30	605-301	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COSL	nd	nd	1644.4	790.6	nd	nd	nd
605	31	605-311	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	FSL	nd	nd	1266.9	915.5	nd	nd	nd
605	32	605-320	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1453.3	879.1	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
606	1	606-181	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	LS	nd	nd	1287.7	1137.3	nd	nd	nd
606	2	606-192	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	LCOS	nd	nd	1272.8	794.0	nd	nd	nd
606	3	606-202	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	SL	nd	nd	1310.5	885.6	nd	nd	nd
606	4	606-211	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	LCOS	nd	nd	1484.4	651.1	nd	nd	nd
606	5	606-222	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	LS	nd	nd	1239.3	994.8	nd	nd	nd
606	6	606-232	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	COSL	nd	nd	1485.4	538.0	nd	nd	nd
606	7	606-242	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	VFSL	nd	nd	1139.4	1019.0	nd	nd	nd
606	8	606-251	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	FSL	nd	nd	1157.3	992.4	nd	nd	nd
606	9	606-261	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	COSL	nd	nd	1391.2	463.2	nd	nd	nd
606	10	606-272	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	FSL	nd	nd	1201.0	1114.9	nd	nd	nd
606	11	606-282	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	LFS	nd	nd	1118.7	1075.0	nd	nd	nd
606	12	606-291	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	LCOS	nd	nd	1413.2	714.6	nd	nd	nd
606	13	606-297	nd	nd	nd	UE-3at-D2	na	nd	nd	nd	na	COSL	nd	nd	1405.5	818.0	nd	nd	nd
606	14	606-330	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	SCL	nd	nd	1317.2	348.1	nd	nd	nd
606	15	606-340	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1251.1	976.2	nd	nd	nd
606	16	606-351	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1221.3	946.9	nd	nd	nd
606	17	606-361	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1322.2	963.8	nd	nd	nd
606	18	606-371	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1271.0	1104.6	nd	nd	nd
606	19	606-381	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1183.4	1024.3	nd	nd	nd
606	20	606-390	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1379.5	711.6	nd	nd	nd
606	21	606-401	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1329.5	932.5	nd	nd	nd

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Location	Profile	Allostratigraphic Unit	Allostratigraphic Subunit	Lithofacies	Geomorphic Surface	Soil Texture - Lab	Soil Texture - Field	Texture Modifier - Field	Air-Dry Sample Wt. (g)	Air-Dry Fine Earth Wt. (g)	Ground Elevation (ft)	Northing (ft)	Easting (ft)
606	22	RM606-411	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1241.2	1165.3	nd	nd	nd
606	23	606-421	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1376.0	684.8	nd	nd	nd
606	24	606-431	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	FSL	nd	nd	1288.6	1249.8	nd	nd	nd
606	25	606-441	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	VFSL	nd	nd	1036.0	982.1	nd	nd	nd
606	26	606-451	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1216.7	1089.5	nd	nd	nd
606	27	606-461	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	SL	nd	nd	1225.7	1101.1	nd	nd	nd
606	28	606-471	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COSL	nd	nd	1536.6	480.0	nd	nd	nd
606	29	606-481	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	SCL	nd	nd	1244.7	920.9	nd	nd	nd
606	30	606-491	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	FSL	nd	nd	1287.9	1086.1	nd	nd	nd
606	31	606-501	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1494.2	645.6	nd	nd	nd
606	32	606-511	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1441.3	1128.0	nd	nd	nd
606	33	606-521	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LS	nd	nd	1378.8	912.0	nd	nd	nd
606	34	606-531	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1272.6	1207.6	nd	nd	nd
606	35	RM606-541	nd	nd	nd	na	na	nd	nd	nd	na	nd	nd	nd	1244.1	1167.3	nd	nd	nd
606	36	606-551	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1390.9	1060.5	nd	nd	nd
606	37	606-561	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1290.7	1108.5	nd	nd	nd
606	38	606-571	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	S	nd	nd	1321.5	1033.2	nd	nd	nd
606	39	606-580	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	LCOS	nd	nd	1201.0	853.9	nd	nd	nd
606	40	606-591	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	S	nd	nd	1271.4	1188.8	nd	nd	nd
606	41	606-597	nd	nd	nd	UE-3at-D1	na	nd	nd	nd	na	COS	nd	nd	1490.6	690.9	nd	nd	nd

na = not applicable
nd = not determined

APPENDIX B

U.S. Department of Agriculture Particle Size Fractions

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
601	1	RM601-002	nd	nd	nd	5.1	0.0	1.0	4.1	84.1	8.5	9.0	9.4	33.7	23.4	9.4	4.9	4.5	6.5
601	2	601-005	nd	nd	nd	10.0	0.0	4.9	5.0	81.8	5.2	11.5	16.0	31.2	17.9	9.0	2.8	6.2	9.2
601	3	601-011	nd	nd	nd	25.5	6.7	9.4	9.4	83.2	11.0	15.6	18.3	24.9	13.3	9.3	3.1	6.2	7.5
601	4	601-015	nd	nd	nd	11.2	0.0	5.0	6.2	77.8	7.8	11.8	13.5	26.1	18.6	11.0	3.7	7.3	11.2
601	5	601-020	nd	nd	nd	20.7	0.0	10.3	10.4	81.9	12.4	14.9	17.6	23.7	13.3	8.7	2.7	6.0	9.4
601	6	601-025	nd	nd	nd	27.0	1.9	13.2	12.0	83.3	14.8	17.0	17.1	21.4	13.1	8.0	2.6	5.4	8.7
601	7	601-031	nd	nd	nd	8.1	0.0	4.0	4.1	79.1	5.1	8.8	14.6	30.8	19.8	15.3	6.7	8.6	5.6
601	8	RM601-035	nd	nd	nd	5.9	0.0	3.7	2.2	83.6	7.9	8.4	9.8	31.8	25.7	10.1	5.1	5.0	6.3
601	9	601-042	nd	nd	nd	11.9	0.0	3.1	8.8	84.5	5.7	10.1	18.4	33.7	16.5	7.1	2.4	4.7	8.4
601	10	601-050	nd	nd	nd	13.3	2.1	0.7	10.5	82.0	5.9	10.6	15.9	30.5	19.1	8.6	3.6	5.0	9.4
601	11	601-061	nd	nd	nd	49.8	3.3	25.7	20.9	86.3	33.0	28.0	15.6	7.3	2.4	3.0	0.0	3.0	10.7
601	12	601-070	nd	nd	nd	15.9	0.0	5.6	10.3	75.0	8.0	11.1	15.9	26.3	13.6	13.7	4.3	9.4	11.3
601	13	601-081	nd	nd	nd	56.2	10.3	29.6	16.3	89.9	24.5	27.3	26.9	10.0	1.3	2.4	0.0	2.4	7.7
601	14	601-090	nd	nd	nd	28.4	9.8	10.3	8.3	82.2	9.0	20.4	25.7	20.4	6.7	4.6	0.3	4.3	13.2
601	15	601-100	nd	nd	nd	15.7	1.5	6.8	7.5	85.8	9.2	10.7	14.2	35.2	16.4	7.6	2.7	4.9	6.6
601	16	601-111	nd	nd	nd	15.1	3.1	7.3	4.7	78.7	5.5	9.7	15.8	29.3	18.5	12.6	5.7	6.9	8.7
601	17	601-121	nd	nd	nd	10.0	0.0	5.2	4.8	87.6	5.7	11.1	19.6	34.2	16.9	6.3	2.8	3.5	6.1
601	18	601-131	nd	nd	nd	12.2	0.0	5.1	7.1	86.1	8.7	10.1	15.8	32.2	19.2	8.5	4.8	3.7	5.4
601	19	601-140	nd	nd	nd	22.0	5.6	8.2	8.3	84.3	10.2	11.5	15.8	30.7	16.1	7.3	2.3	5.0	8.4
601	20	601-150	nd	nd	nd	8.1	0.0	3.5	4.6	81.3	5.2	6.2	9.3	29.0	31.7	12.7	4.0	8.7	6.0
601	21	601-161	nd	nd	nd	46.9	0.6	29.7	16.7	91.1	23.8	24.7	22.3	15.0	5.3	3.7	0.8	2.9	5.2

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
601	22	601-172	nd	nd	nd	7.3	0.0	2.3	5.0	83.1	3.8	5.8	16.3	37.6	19.6	10.6	3.7	6.9	6.3
601	23	601-181	nd	nd	nd	18.1	8.3	5.9	3.9	47.1	2.2	5.4	9.7	14.6	15.3	44.8	16.4	28.4	8.1
601	24	601-191	nd	nd	nd	44.6	6.5	27.3	10.8	87.2	15.9	20.2	30.7	16.5	3.9	4.2	0.5	3.7	8.6
601	25	601-200	nd	nd	nd	24.6	6.5	15.2	3.0	69.4	4.0	6.1	13.7	27.6	18.0	21.2	7.5	13.7	9.4
601	26	RM601-205	nd	nd	nd	5.9	0.0	2.4	3.4	83.1	6.8	7.0	9.9	34.3	25.1	11.0	6.0	5.0	5.9

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
602	1	RM602-001	nd	nd	nd	6.3	0.0	2.5	3.8	83.6	7.0	6.9	10.0	34.5	25.3	10.1	5.6	4.5	6.3
602	2	602-005	nd	nd	nd	24.1	0.0	14.1	10.0	77.3	7.9	8.8	13.4	28.0	19.2	11.8	4.8	7.0	10.9
602	3	602-011	nd	nd	nd	9.1	0.0	4.6	4.5	76.7	4.3	7.6	13.9	28.2	22.6	15.3	7.3	8.0	8.0
602	4	602-015	nd	nd	nd	8.2	0.0	4.2	4.0	71.5	3.0	4.8	11.4	28.8	23.6	21.1	10.4	10.7	7.4
602	5	602-021	nd	nd	nd	12.0	0.0	6.0	6.1	78.0	5.8	7.8	14.9	30.0	19.5	13.4	6.2	7.2	8.6
602	6	602-026	nd	nd	nd	8.9	0.0	2.8	6.1	77.7	5.7	9.7	16.5	27.2	18.7	13.3	5.7	7.6	9.0
602	7	602-031	nd	nd	nd	5.3	0.0	1.8	3.5	78.3	4.6	6.4	12.6	31.8	22.9	14.0	6.4	7.6	7.7
602	8	RM602-035	nd	nd	nd	5.7	0.0	1.4	4.3	83.4	7.9	7.3	10.1	31.9	26.2	10.7	6.3	4.4	5.9
602	9	602-042	nd	nd	nd	12.0	0.0	5.1	6.9	80.6	6.6	11.2	18.7	28.4	15.7	8.1	3.0	5.1	11.3
602	10	602-051	nd	nd	nd	59.3	4.9	33.2	21.3	83.7	25.2	25.4	19.0	10.3	3.8	5.3	0.6	4.7	11.0
602	11	602-060	nd	nd	nd	46.9	0.0	19.3	27.6	87.4	31.0	21.9	20.5	11.3	2.7	2.4	0.0	2.4	10.2
602	12	602-071	nd	nd	nd	16.4	1.7	8.9	5.8	82.6	5.2	8.1	16.1	34.7	18.5	8.2	3.5	4.7	9.2
602	13	602-081	nd	nd	nd	9.1	1.3	3.3	4.5	86.4	3.7	7.9	20.6	37.9	16.3	5.7	2.4	3.3	7.9
602	14	602-091	nd	nd	nd	10.6	2.9	3.0	4.8	89.7	4.6	8.0	18.4	41.5	17.2	5.4	2.0	3.4	4.9
602	15	602-101	nd	nd	nd	4.1	0.0	1.4	2.7	71.6	7.9	8.0	11.9	29.5	14.4	12.3	3.5	8.8	16.1
602	16	602-111	nd	nd	nd	8.5	2.5	3.2	2.8	74.1	2.2	5.1	13.6	28.0	25.2	20.5	12.3	8.2	5.4
602	17	602-120	nd	nd	nd	13.5	4.1	3.3	6.1	84.5	6.0	8.2	16.7	35.3	18.3	7.6	2.2	5.4	7.9
602	18	602-130	nd	nd	nd	11.0	0.9	4.7	5.4	84.4	7.3	8.5	16.1	33.3	19.2	8.4	2.8	5.6	7.2
602	19	602-140	nd	nd	nd	18.2	1.3	6.1	10.8	81.6	6.0	10.1	20.6	32.1	12.8	4.9	0.9	4.0	13.5
602	20	602-152	nd	nd	nd	13.2	0.0	3.7	9.4	70.1	3.3	5.4	12.1	27.0	22.3	17.0	5.3	11.7	12.9
602	21	602-161	nd	nd	nd	27.4	4.6	13.8	8.9	80.5	5.8	6.8	13.9	32.5	21.5	9.6	4.1	5.5	9.9

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602	22	602-171	nd	nd	nd	71.4	1.4	38.7	31.3	88.8	52.5	18.9	8.4	6.0	2.9	4.4	1.7	2.7	6.8
602	23	602-181	nd	nd	nd	23.4	7.6	12.2	3.5	76.8	2.4	4.4	12.4	32.0	25.6	18.7	9.9	8.8	4.5
602	24	602-191	nd	nd	nd	26.3	1.0	11.4	14.0	93.8	16.1	20.1	26.2	25.6	5.9	3.0	1.3	1.7	3.2
602	25	RM602-205	nd	nd	nd	5.5	0.0	1.7	3.9	82.9	6.1	6.5	10.1	32.3	27.9	11.3	6.2	5.1	5.8

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
603	1	603-201	nd	nd	nd	38.0	4.6	20.5	13.0	88.6	15.1	15.9	22.6	25.9	9.1	5.3	0.5	4.8	6.1
603	2	603-212	nd	nd	nd	23.0	0.0	15.3	7.7	81.8	7.8	8.9	17.8	30.1	17.2	11.3	4.9	6.4	6.9
603	3	603-220	nd	nd	nd	57.6	12.9	33.8	10.9	70.4	9.4	11.8	13.9	17.9	17.3	22.9	8.3	14.6	6.7
603	4	RM603-225	nd	nd	nd	5.5	0.0	1.6	3.9	83.9	7.2	6.8	10.5	32.8	26.6	9.6	4.5	5.1	6.5
603	5	603-230	nd	nd	nd	35.0	7.9	17.1	10.1	82.2	10.3	15.4	26.6	21.9	8.0	5.0	0.6	4.4	12.8
603	6	603-241	nd	nd	nd	37.7	2.8	20.7	14.2	91.3	22.3	21.6	25.4	18.5	3.5	1.9	0.0	1.9	6.8
603	7	603-250	nd	nd	nd	13.4	0.0	7.2	6.2	69.7	6.8	9.8	18.4	24.0	10.7	17.3	3.1	14.2	13.0
603	8	603-260	nd	nd	nd	16.7	0.0	10.9	5.8	80.4	6.5	8.1	16.1	30.9	18.8	10.5	3.1	7.4	9.1
603	9	603-270	nd	nd	nd	22.5	8.5	6.8	7.2	70.4	7.1	7.4	16.6	27.0	12.2	15.5	2.4	13.1	14.1
603	10	603-280	nd	nd	nd	1.4	0.0	0.5	0.9	73.8	1.0	2.3	9.5	29.8	31.2	22.6	12.5	10.1	3.6
603	11	603-291	nd	nd	nd	7.7	0.0	3.2	4.6	72.3	5.1	6.3	15.3	30.9	14.8	16.2	1.3	14.9	11.5
603	12	603-301	nd	nd	nd	11.7	0.0	5.6	6.1	80.1	6.9	9.6	19.8	29.9	13.8	10.1	2.7	7.4	9.8
603	13	603-311	nd	nd	nd	11.6	0.0	6.6	5.1	60.8	3.4	3.4	9.3	25.1	19.6	29.0	6.6	22.4	10.2
603	14	603-320	nd	nd	nd	41.7	4.1	20.2	17.4	86.8	29.2	33.0	18.2	4.7	1.7	1.3	0.0	1.3	11.9
603	15	603-330	nd	nd	nd	17.1	0.9	8.0	8.2	80.5	7.7	11.0	21.2	28.5	12.2	10.2	3.3	6.9	9.3
603	16	603-340	nd	nd	nd	75.1	16.9	44.2	14.0	90.6	29.9	18.1	20.6	16.0	6.0	5.1	1.6	3.5	4.3
603	17	603-351	nd	nd	nd	26.1	0.8	16.0	9.3	73.8	10.2	13.5	18.7	21.8	9.5	9.3	2.0	7.3	16.9
603	18	603-361	nd	nd	nd	58.1	8.1	34.4	15.6	77.4	18.6	20.4	21.8	11.2	5.4	6.4	2.3	4.1	16.2
603	19	603-371	nd	nd	nd	14.3	0.0	8.2	6.1	75.2	5.7	8.7	15.8	27.3	17.7	14.2	4.6	9.6	10.6
603	20	603-381	nd	nd	nd	6.3	0.0	3.1	3.3	79.1	3.9	5.8	14.9	33.4	21.0	13.3	5.0	8.3	7.6
603	21	603-390	nd	nd	nd	39.9	3.3	24.9	11.7	89.4	13.4	13.9	23.2	30.9	8.1	3.8	1.0	2.8	6.8

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603	22	603-401	nd	nd	nd	38.1	1.6	20.6	15.9	94.5	26.7	25.7	28.1	11.4	2.6	2.9	1.4	1.5	2.6
603	23	603-410	nd	nd	nd	6.9	0.0	2.0	4.9	83.3	5.8	7.1	16.7	35.1	18.6	11.0	5.3	5.7	5.7
603	24	603-420	nd	nd	nd	22.3	0.0	14.3	8.0	73.5	4.2	8.2	16.2	29.2	15.6	12.2	3.9	8.3	14.3
603	25	603-431	nd	nd	nd	49.5	4.7	25.0	19.9	91.5	31.4	24.0	19.5	12.7	4.1	4.7	1.8	2.9	3.8
603	26	603-441	nd	nd	nd	29.7	2.8	13.5	13.5	86.3	20.7	24.9	24.6	13.3	2.7	5.4	0.8	4.6	8.3
603	27	603-451	nd	nd	nd	13.5	0.0	2.6	10.9	79.3	14.1	6.8	10.1	25.5	22.8	11.1	4.1	7.0	9.6
603	28	603-461	nd	nd	nd	15.1	1.2	5.2	8.7	81.1	10.7	11.5	17.5	25.6	15.9	11.3	4.3	7.0	7.6
603	29	603-471	nd	nd	nd	6.9	0.0	2.5	4.3	81.2	7.1	9.1	18.6	30.8	15.7	9.2	3.6	5.6	9.6
603	30	603-481	nd	nd	nd	23.8	2.8	12.6	8.4	87.2	12.5	14.3	25.9	28.2	6.4	4.4	1.5	2.9	8.4
603	31	RM603-490	nd	nd	nd	6.2	0.0	4.0	2.3	83.0	7.5	6.5	10.5	32.0	26.6	10.7	6.0	4.7	6.3

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604	1	EX08P01a05	BCqk	64	90	52.8	11.3	28.3	13.3	88.1	15.0	18.6	20.2	21.2	13.1	7.8	4.6	3.2	4.1
604	2	EX01P01a02	BA	7	21	6.6	1.8	2.5	2.3	81.6	3.2	8.3	21.4	31.0	17.6	7.4	2.7	4.7	11.0
604	3	EX02P01a03	Bk	25	47	26.2	0.5	11.6	14.1	88.3	11.5	18.1	26.5	21.4	10.8	6.2	2.6	3.6	5.5
604	4	EX03P01a01	A/BAq	0	17	39.8	15.6	19.3	4.9	47.7	2.5	4.9	8.3	14.5	17.5	35.2	14.8	20.4	17.1
604	5	EX05P01a02	2BCqkb	24	55	66.4	11.6	39.5	15.3	85.3	19.7	20.4	18.1	16.2	10.9	8.6	4.3	4.3	6.1
604	6	EX07P01a02	Bw	9	37	51.1	35.3	11.4	4.4	82.3	6.9	11.9	18.2	24.9	20.4	11.9	7.1	4.8	5.8
604	7	RM	na	na	na	49.2	2.0	31.5	15.7	83.2	7.0	7.0	10.7	34.6	24.0	10.4	5.0	5.4	6.4
604	8	EX08P01a02	Bqk	8	25	27.1	4.6	15.0	7.6	82.0	7.8	10.4	17.2	24.4	22.2	11.8	6.1	5.7	6.2
604	9	EX01P01a04	2Btkb	34	42	8.3	1.8	3.1	3.5	84.4	3.0	7.5	21.1	33.7	19.1	6.9	2.5	4.4	8.7
604	10	EX02P01a02	BA	9	25	15.7	0.8	6.7	8.3	84.8	7.4	13.7	23.8	23.1	16.7	9.7	5.0	4.7	5.5
604	11	EX03P01a03	2Bk1	32	60	69.4	32.6	28.3	8.6	85.7	11.9	18.2	21.0	23.0	11.5	9.8	4.2	5.6	4.5
604	12	EX07P01a04	Bk2	63	86	53.0	30.9	17.1	5.0	84.6	6.8	13.5	19.0	25.7	19.6	10.3	5.9	4.4	5.1
604	13	EX05P01a01	C1/C2	0	24	53.8	1.9	30.9	21.0	87.0	15.9	25.7	21.5	15.6	8.3	8.5	4.7	3.8	4.5
604	14	EX07P01a05	BCk	86	100	66.1	45.4	16.3	4.4	88.3	10.5	15.9	21.9	26.4	13.6	7.5	4.1	3.4	4.2
604	15	EX08P01a01	A	0	8	35.1	12.3	15.6	7.2	79.7	6.4	9.9	12.6	22.1	28.7	14.9	9.4	5.5	5.4
604	16	DBD401_1RM	na	na	na	53.8	3.6	49.9	0.3	81.8	7.7	7.3	9.9	32.9	24.0	10.6	5.3	5.3	7.6
604	17	EX01P01a03	2Bk	21	34	5.5	0.3	2.3	2.9	84.4	3.8	8.8	21.5	31.4	18.8	7.2	2.8	4.4	8.4
604	18	EX02P01a01	A	0	9	16.3	0.3	7.5	8.5	82.3	6.1	11.9	20.8	24.4	19.2	11.7	6.7	5.0	6.0
604	19	EX03P01a04	2Bk2	60	87	70.1	24.4	35.1	10.6	80.4	10.6	15.1	18.6	21.7	14.3	11.8	4.9	6.9	7.8
604	20	EX06P01a02	Bw	7	16	52.5	14.6	25.9	12.0	84.0	16.9	23.2	20.8	14.6	8.6	10.2	4.8	5.4	5.8
604	21	EX07P01a01	A	0	9	42.2	14.0	22.0	6.2	77.2	6.4	9.5	14.3	23.4	23.5	15.2	8.4	6.8	7.6

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
604	22	EX08P01a04	Bk2	43	64	45.5	10.9	24.1	10.5	84.2	9.5	13.7	17.9	24.3	18.8	10.4	5.8	4.6	5.4
604	23	RM	na	na	na	49.0	2.2	29.3	17.6	81.4	8.1	6.9	10.1	31.3	24.9	10.7	5.3	5.4	7.9
604	24	EX01P01a01	A1/A2	0	7	10.2	4.2	3.4	2.7	79.9	4.1	8.9	22.0	30.6	14.3	10.4	2.8	7.6	9.7
604	25	EX03P01a02	2Btk	17	32	70.1	31.0	29.6	9.5	75.1	12.0	15.5	16.2	17.7	13.8	14.2	6.4	7.8	10.7
604	26	EX06P01a03	BCk	16	40	74.4	20.6	44.1	9.7	86.0	18.7	24.1	20.7	14.3	8.3	9.1	4.7	4.4	4.9
604	27	EX07P01a03	Bk1	37	63	37.4	18.8	13.5	5.1	80.1	5.4	10.4	17.0	26.2	21.2	13.9	8.7	5.2	6.0
604	28	EX08P01a03	Bk1	25	43	32.5	5.2	17.6	9.7	82.9	9.5	12.4	16.4	24.3	20.3	11.2	6.4	4.8	5.9
604	29	EX01P01a05	2Bkb	42	60	15.9	3.4	7.0	5.5	84.1	4.1	9.3	21.3	29.2	20.2	8.3	4.7	3.6	7.6
604	30	EX06P01a01	AC	0	7	64.3	7.4	44.3	12.7	86.3	13.8	22.9	22.8	16.7	10.1	8.3	4.5	3.8	5.4
604	31	EX02P01a04	BCk	47	60	34.7	2.6	15.6	16.5	91.0	11.5	26.1	30.8	16.5	6.2	4.1	1.4	2.7	4.9

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
605	1	RM605-010	nd	nd	nd	6.0	0.0	2.5	3.5	82.8	6.3	6.9	10.6	34.8	24.1	11.2	6.0	5.2	6.0
605	2	605-020	nd	nd	nd	63.2	0.0	42.4	20.7	88.9	30.3	25.2	17.1	11.2	5.1	5.1	2.2	2.9	6.0
605	3	605-029	nd	nd	nd	30.6	0.0	16.3	14.4	93.9	18.0	30.7	28.6	14.1	2.5	2.4	1.1	1.3	3.7
605	4	605-041	nd	nd	nd	15.9	2.7	7.8	5.4	84.5	4.6	7.4	17.2	35.9	19.4	7.6	3.2	4.4	7.9
605	5	605-050	nd	nd	nd	24.3	0.0	14.2	10.1	80.5	11.3	13.2	17.7	25.5	12.7	9.6	3.5	6.1	9.9
605	6	605-058	nd	nd	nd	22.9	0.0	11.4	11.5	92.9	12.8	18.1	29.9	26.2	6.0	2.9	1.4	1.5	4.2
605	7	605-068	nd	nd	nd	30.2	0.7	17.4	12.1	74.0	11.5	14.1	17.4	20.8	10.2	13.5	3.6	9.9	12.5
605	8	605-078	nd	nd	nd	46.9	0.0	22.8	24.1	75.5	23.2	19.1	15.7	11.8	5.7	8.1	1.5	6.6	16.4
605	9	605-088	nd	nd	nd	63.1	1.6	41.0	20.5	85.8	25.8	24.9	19.6	11.9	3.6	4.5	1.3	3.2	9.7
605	10	605-097	nd	nd	nd	60.9	0.0	30.0	30.8	72.0	27.6	17.6	10.6	9.2	7.1	14.7	4.1	10.6	13.3
605	11	605-108	nd	nd	nd	69.3	9.6	43.9	15.8	90.1	25.6	20.8	22.0	16.4	5.3	5.0	1.8	3.2	4.9
605	12	605-117	nd	nd	nd	40.6	5.8	21.9	13.0	71.0	11.9	20.0	23.4	11.0	4.7	9.0	1.3	7.7	20.0
605	13	605-127	nd	nd	nd	27.4	0.0	8.0	19.4	85.2	27.5	31.1	15.4	8.0	3.1	2.7	0.7	2.0	12.1
605	14	605-136	nd	nd	nd	34.1	3.4	18.1	12.5	86.8	14.3	19.6	25.7	21.5	5.6	5.6	1.6	4.0	7.6
605	15	605-155	nd	nd	nd	47.3	0.7	17.6	29.0	93.6	40.3	32.3	9.9	8.0	3.1	2.3	1.1	1.2	4.1
605	16	605-166	nd	nd	nd	74.1	4.1	44.4	25.7	91.2	48.2	24.4	11.3	5.3	1.9	4.6	1.4	3.2	4.2
605	17	605-181	nd	nd	nd	43.9	8.5	23.4	12.0	73.8	11.1	12.0	17.9	22.2	10.6	12.6	2.4	10.2	13.6
605	18	605-190	nd	nd	nd	20.7	0.0	12.9	7.9	82.9	5.2	7.2	19.1	36.5	14.8	6.6	1.5	5.1	10.5
605	19	605-201	nd	nd	nd	6.6	0.0	2.5	4.0	67.9	2.3	5.0	13.4	29.0	18.3	17.3	5.0	12.3	14.8
605	20	605-211	nd	nd	nd	51.0	16.0	25.6	9.4	83.0	12.7	13.8	23.0	25.1	8.4	9.6	2.9	6.7	7.4
605	21	605-221	nd	nd	nd	40.9	2.5	27.3	11.2	63.4	8.6	10.0	12.0	17.0	15.9	22.2	7.2	15.0	14.4

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
605	22	605-229	nd	nd	nd	82.6	34.5	39.7	8.4	76.5	22.9	17.4	16.0	14.8	5.4	9.6	2.3	7.3	13.9
605	23	605-240	nd	nd	nd	38.4	0.0	22.5	15.8	89.5	17.1	22.3	30.4	15.9	3.8	4.1	1.4	2.7	6.4
605	24	RM605-250	nd	nd	nd	5.7	0.0	2.4	3.3	80.5	6.6	6.7	10.2	32.7	24.3	11.7	5.8	5.9	7.8
605	25	605-261	nd	nd	nd	10.7	0.0	4.7	6.0	74.0	4.7	6.4	13.7	28.9	20.3	15.6	4.5	11.1	10.4
605	26	605-264	nd	nd	nd	17.2	0.0	9.7	7.5	85.7	8.1	13.3	25.2	29.0	10.1	8.0	2.8	5.2	6.3
605	27	605-270	nd	nd	nd	17.1	0.9	8.6	7.6	69.3	3.7	6.2	14.9	28.3	16.3	15.0	4.2	10.8	15.7
605	28	605-280	nd	nd	nd	35.9	1.5	19.6	14.8	66.5	7.4	7.6	13.8	25.0	12.6	14.8	4.0	10.8	18.7
605	29	605-291	nd	nd	nd	13.1	0.0	7.5	5.6	89.7	5.9	16.6	31.8	28.4	7.0	5.2	1.6	3.6	5.1
605	30	605-301	nd	nd	nd	51.8	10.9	27.2	13.7	75.1	14.4	16.5	18.7	16.9	8.7	11.1	2.6	8.5	13.8
605	31	605-311	nd	nd	nd	27.7	2.6	15.8	9.3	68.2	5.4	6.4	11.4	22.6	22.3	20.9	7.4	13.5	10.9
605	32	605-320	nd	nd	nd	39.5	8.4	19.6	11.5	80.9	15.8	17.8	22.5	18.3	6.5	9.6	3.1	6.5	9.5

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
606	1	606-181	nd	nd	nd	11.7	0.0	4.1	7.6	82.8	9.9	12.2	20.2	28.2	12.3	8.1	2.0	6.1	9.1
606	2	606-192	nd	nd	nd	37.5	0.0	19.2	18.3	84.4	22.1	19.6	22.9	14.2	5.6	5.3	1.8	3.5	10.3
606	3	606-202	nd	nd	nd	32.4	3.1	16.8	12.5	73.6	8.7	10.8	17.3	24.8	12.1	13.0	3.8	9.2	13.4
606	4	606-211	nd	nd	nd	56.1	1.2	37.8	17.1	84.8	30.2	27.5	12.9	9.6	4.7	3.8	0.4	3.4	11.4
606	5	606-222	nd	nd	nd	19.7	0.0	11.6	8.1	81.1	5.4	6.7	16.2	34.4	18.4	9.7	3.4	6.3	9.2
606	6	606-232	nd	nd	nd	63.8	3.8	39.6	20.4	83.4	29.1	24.4	17.1	8.6	4.1	4.5	0.9	3.6	12.1
606	7	606-242	nd	nd	nd	10.5	0.0	3.9	6.7	55.3	3.1	2.8	6.6	19.4	23.6	36.9	15.4	21.5	7.8
606	8	606-251	nd	nd	nd	14.2	0.0	6.6	7.7	69.5	3.3	6.9	16.5	27.7	15.1	15.1	4.5	10.6	15.4
606	9	606-261	nd	nd	nd	66.5	9.8	44.7	12.0	77.1	13.1	19.6	26.4	12.3	5.8	7.0	1.3	5.7	15.9
606	10	606-272	nd	nd	nd	7.2	0.0	2.0	5.2	69.3	4.0	5.6	12.5	27.0	20.2	18.1	4.1	14.0	12.6
606	11	606-282	nd	nd	nd	3.9	0.0	1.2	2.8	77.1	2.4	4.7	11.9	32.5	25.6	17.3	8.1	9.2	5.6
606	12	606-291	nd	nd	nd	49.3	2.6	26.4	20.3	87.2	28.9	25.3	22.1	8.8	2.1	3.5	0.0	3.5	9.3
606	13	606-297	nd	nd	nd	41.8	0.0	20.9	20.9	71.0	17.1	14.5	14.4	13.8	11.3	15.2	3.3	11.9	13.8
606	14	606-330	nd	nd	nd	73.6	19.2	41.7	12.7	65.1	19.9	17.9	13.1	9.4	4.9	7.3	1.4	5.9	27.6
606	15	606-340	nd	nd	nd	22.0	0.0	12.2	9.8	87.5	9.1	14.6	21.9	30.1	11.9	5.2	1.4	3.8	7.3
606	16	606-351	nd	nd	nd	22.5	3.4	11.7	7.4	78.7	4.8	8.4	16.9	32.7	15.8	13.3	5.2	8.1	8.0
606	17	606-361	nd	nd	nd	27.1	5.0	13.9	8.1	84.7	8.0	11.5	20.7	29.6	14.9	7.4	2.8	4.6	7.9
606	18	606-371	nd	nd	nd	13.1	0.8	6.8	5.5	78.6	3.9	7.3	16.4	32.9	17.9	13.4	4.0	9.4	8.0
606	19	606-381	nd	nd	nd	13.4	0.0	7.7	5.7	82.8	5.3	10.0	21.5	31.6	14.4	9.1	2.9	6.2	8.1
606	20	606-390	nd	nd	nd	48.4	10.0	26.6	11.8	86.2	11.9	13.6	20.5	28.0	12.2	7.9	2.7	5.2	5.9
606	21	606-401	nd	nd	nd	29.9	1.0	13.6	15.2	94.4	19.0	24.2	29.4	17.1	4.7	3.1	0.5	2.6	2.5

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Total Pebbles (wt%)	Coarse Pebbles (wt%)	Medium Pebbles (wt%)	Fine Pebbles (wt%)	Total Sand (wt%)	Very Coarse Sand (wt%)	Coarse Sand (wt%)	Medium Sand (wt%)	Fine Sand (wt%)	Very Fine Sand (wt%)	Total Silt (wt%)	Coarse Silt (wt%)	Fine Silt (wt%)	Total Clay (wt%)
606	22	RM606-411	nd	nd	nd	6.1	0.0	2.0	4.1	83.4	5.4	6.8	10.9	35.4	24.8	10.1	5.1	5.0	6.5
606	23	606-421	nd	nd	nd	50.2	5.0	29.2	16.0	82.4	17.4	21.7	23.3	13.8	6.2	7.2	0.8	6.4	10.4
606	24	606-431	nd	nd	nd	3.0	0.0	1.4	1.7	65.0	1.6	2.8	9.7	30.5	20.4	28.3	10.2	18.1	6.7
606	25	606-441	nd	nd	nd	5.2	0.0	1.6	3.6	60.7	2.0	3.1	8.0	23.5	24.1	28.2	6.8	21.4	11.1
606	26	606-451	nd	nd	nd	10.5	0.0	5.2	5.3	90.6	9.6	16.0	27.6	28.4	9.0	5.1	1.8	3.3	4.3
606	27	606-461	nd	nd	nd	10.2	0.0	3.5	6.7	79.8	4.1	8.7	21.6	29.7	15.8	9.9	3.8	6.1	10.3
606	28	606-471	nd	nd	nd	68.8	17.4	38.6	12.8	83.7	17.3	21.5	22.6	16.5	5.7	4.4	1.1	3.3	11.9
606	29	606-481	nd	nd	nd	26.0	0.0	9.2	16.8	65.5	4.2	6.5	15.1	24.5	15.2	14.5	3.3	11.2	20.0
606	30	606-491	nd	nd	nd	15.7	0.0	8.2	7.5	72.9	3.7	6.3	18.1	31.9	12.9	13.2	2.5	10.7	13.9
606	31	606-501	nd	nd	nd	56.8	14.0	25.8	17.0	90.0	26.0	23.8	22.9	13.9	3.5	3.6	0.6	3.0	6.4
606	32	606-511	nd	nd	nd	21.7	0.0	11.9	9.8	82.5	8.1	13.4	21.0	25.3	14.6	10.2	4.6	5.6	7.3
606	33	606-521	nd	nd	nd	33.9	1.7	22.6	9.6	82.5	7.9	10.8	17.9	28.6	17.3	9.9	4.1	5.8	7.6
606	34	606-531	nd	nd	nd	5.1	0.0	2.0	3.2	92.9	6.9	31.4	40.8	11.3	2.4	3.2	0.6	2.6	3.9
606	35	RM606-541	nd	nd	nd	6.2	0.0	1.0	5.2	82.6	6.6	6.9	10.7	32.0	26.4	10.9	5.7	5.2	6.5
606	36	606-551	nd	nd	nd	23.8	1.3	8.7	13.8	88.9	18.0	20.3	25.8	19.1	5.8	6.4	2.0	4.4	4.7
606	37	606-561	nd	nd	nd	14.1	0.0	5.5	8.6	90.6	10.5	17.8	31.1	23.5	7.7	4.1	1.4	2.7	5.3
606	38	606-571	nd	nd	nd	21.8	2.5	11.8	7.5	89.9	9.1	14.8	26.7	29.7	9.7	6.0	2.7	3.3	4.1
606	39	606-580	nd	nd	nd	28.9	3.2	13.7	12.0	83.5	14.3	15.3	20.7	22.6	10.5	9.4	3.1	6.3	7.1
606	40	606-591	nd	nd	nd	6.5	0.0	3.4	3.1	89.2	4.3	8.5	22.5	38.6	15.3	4.9	1.9	3.0	5.9
606	41	606-597	nd	nd	nd	53.7	8.3	30.0	15.4	91.5	35.0	28.3	18.8	7.5	1.8	3.1	1.0	2.1	5.4

na = not applicable
nd = not determined

APPENDIX C

Physical and Chemical Parameters

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
601	1	RM601-002	nd	nd	nd	1.11	nd	3.36		nd	nd	48.5	2.56
601	2	601-005	nd	nd	nd	1.63	nd	2.36		nd	nd	24.6	2.48
601	3	601-011	nd	nd	nd	1.52	nd	1.80		nd	nd	12.4	2.51
601	4	601-015	nd	nd	nd	1.94	nd	2.93		nd	nd	2.9	2.52
601	5	601-020	nd	nd	nd	1.63	nd	2.25		nd	nd	9.9	2.49
601	6	601-025	nd	nd	nd	1.42	nd	2.89		nd	nd	28.9	2.45
601	7	601-031	nd	nd	nd	1.73	nd	1.83		nd	nd	177.2	2.54
601	8	RM601-035	nd	nd	nd	1.21	nd	3.65		nd	nd	22.6	2.57
601	9	601-042	nd	nd	nd	1.63	nd	10.97		nd	nd	106.3	2.50
601	10	601-050	nd	nd	nd	1.73	nd	2.49		nd	nd	273.8	2.50
601	11	601-061	nd	nd	nd	1.52	nd	0.31	#	nd	nd	83.6	2.50
601	12	601-070	nd	nd	nd	2.56	nd	2.04		nd	nd	154.7	2.39
601	13	601-081	nd	nd	nd	1.52	nd	1.08		nd	nd	75.9	2.45
601	14	601-090	nd	nd	nd	2.25	nd	3.17		nd	nd	40.5	2.38
601	15	601-100	nd	nd	nd	1.83	nd	5.33		nd	nd	78.3	2.47
601	16	601-111	nd	nd	nd	1.94	nd	7.23		nd	nd	81.5	2.47
601	17	601-121	nd	nd	nd	1.42	nd	12.65		nd	nd	74.0	2.49
601	18	601-131	nd	nd	nd	1.42	nd	1.95		nd	nd	110.7	2.40
601	19	601-140	nd	nd	nd	1.83	nd	7.13		nd	nd	78.6	2.48
601	20	601-150	nd	nd	nd	2.04	nd	9.56		nd	nd	102.6	2.39
601	21	601-161	nd	nd	nd	1.63	nd	2.38		nd	nd	0.8	2.44

na = not applicable
nd = not determined
# = value less than lowest verifiable value in calibration curve

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
601	22	601-172	nd	nd	nd	2.04	nd	3.15		nd	nd	0.9	2.51
601	23	601-181	nd	nd	nd	2.56	nd	4.71		nd	nd	0.4	2.51
601	24	601-191	nd	nd	nd	1.73	nd	3.81		nd	nd	0.5	2.48
601	25	601-200	nd	nd	nd	2.35	nd	4.74		nd	nd	0.6	2.52
601	26	RM601-205	nd	nd	nd	1.11	nd	3.29		nd	nd	35.3	2.57

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nd = not determined
# = value less than lowest verifiable value in calibration curve

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
602	1	RM602-001	nd	nd	nd	1.73	nd	3.80		nd	nd	34.8	2.54
602	2	602-005	nd	nd	nd	4.28	nd	3.41		nd	nd	2.7	2.38
602	3	602-011	nd	nd	nd	2.46	nd	2.59		nd	nd	1.0	2.45
602	4	602-015	nd	nd	nd	2.88	nd	2.58		nd	nd	1.5	2.47
602	5	602-021	nd	nd	nd	2.46	nd	3.35		nd	nd	1.7	2.48
602	6	602-026	nd	nd	nd	2.56	nd	3.53		nd	nd	3.5	2.47
602	7	602-031	nd	nd	nd	2.67	nd	2.00		nd	nd	6.4	2.44
602	8	RM602-035	nd	nd	nd	1.52	nd	3.67		nd	nd	42.9	2.50
602	9	602-042	nd	nd	nd	2.04	nd	11.15		nd	nd	11.4	2.52
602	10	602-051	nd	nd	nd	2.46	nd	11.83		nd	nd	26.8	2.51
602	11	602-060	nd	nd	nd	1.52	nd	1.97		nd	nd	60.9	2.47
602	12	602-071	nd	nd	nd	2.46	nd	14.16		nd	nd	147.7	2.41
602	13	602-081	nd	nd	nd	1.73	nd	4.66		nd	nd	27.7	2.36
602	14	602-091	nd	nd	nd	1.63	nd	5.90		nd	nd	0.5	2.33
602	15	602-101	nd	nd	nd	2.99	nd	1.03		nd	nd	0.9	2.36
602	16	602-111	nd	nd	nd	1.73	nd	4.15		nd	nd	2.4	2.38
602	17	602-120	nd	nd	nd	1.94	nd	8.16		nd	nd	20.4	2.41
602	18	602-130	nd	nd	nd	1.83	nd	6.75		nd	nd	4.1	2.34
602	19	602-140	nd	nd	nd	2.46	nd	12.03		nd	nd	0.9	2.32
602	20	602-152	nd	nd	nd	2.88	nd	13.14		nd	nd	7.8	2.30
602	21	602-161	nd	nd	nd	1.94	nd	9.58		nd	nd	0.4	2.33

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
602	22	602-171	nd	nd	nd	1.32	nd	1.90		nd	nd	0.3	2.41
602	23	602-181	nd	nd	nd	1.73	nd	1.10		nd	nd	0.2	2.40
602	24	602-191	nd	nd	nd	0.91	nd	2.20		nd	nd	0.2	2.37
602	25	RM602-205	nd	nd	nd	1.21	nd	3.49		nd	nd	36.2	2.48

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
603	1	603-201	nd	nd	nd	1.42	nd	11.09		nd	nd	0.8	2.35
603	2	603-212	nd	nd	nd	1.52	nd	5.16		nd	nd	0.6	2.43
603	3	603-220	nd	nd	nd	1.32	nd	15.57		nd	nd	0.7	2.43
603	4	RM603-225	nd	nd	nd	1.11	nd	3.65		nd	nd	42.5	2.46
603	5	603-230	nd	nd	nd	2.04	nd	0.07	#	nd	nd	0.8	2.33
603	6	603-241	nd	nd	nd	1.42	nd	0.00	#	nd	nd	0.7	2.41
603	7	603-250	nd	nd	nd	2.56	nd	0.00	#	nd	nd	0.7	2.31
603	8	603-260	nd	nd	nd	1.83	nd	1.20		nd	nd	0.7	2.39
603	9	603-270	nd	nd	nd	2.77	nd	0.48	#	nd	nd	0.9	2.46
603	10	603-280	nd	nd	nd	2.04	nd	2.60		nd	nd	0.5	2.25
603	11	603-291	nd	nd	nd	2.35	nd	8.94		nd	nd	0.7	2.36
603	12	603-301	nd	nd	nd	2.15	nd	1.92		nd	nd	0.7	2.27
603	13	603-311	nd	nd	nd	2.15	nd	12.81		nd	nd	0.9	2.33
603	14	603-320	nd	nd	nd	1.52	nd	0.48	#	nd	nd	0.7	2.42
603	15	603-330	nd	nd	nd	1.94	nd	0.80	#	nd	nd	0.4	2.31
603	16	603-340	nd	nd	nd	1.01	nd	0.61	#	nd	nd	0.5	2.40
603	17	603-351	nd	nd	nd	2.46	nd	3.23		nd	nd	0.6	2.21
603	18	603-361	nd	nd	nd	1.73	nd	0.30	#	nd	nd	0.4	2.38
603	19	603-371	nd	nd	nd	1.83	nd	4.76		nd	nd	0.4	2.30
603	20	603-381	nd	nd	nd	1.63	nd	8.75		nd	nd	0.3	2.34
603	21	603-390	nd	nd	nd	1.01	nd	3.09		nd	nd	0.4	2.41

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
603	22	603-401	nd	nd	nd	0.81	nd	2.08		nd	nd	0.3	2.41
603	23	603-410	nd	nd	nd	1.63	nd	3.25		nd	nd	0.3	2.27
603	24	603-420	nd	nd	nd	1.94	nd	8.46		nd	nd	52.4	2.30
603	25	603-431	nd	nd	nd	0.81	nd	4.33		nd	nd	0.4	2.44
603	26	603-441	nd	nd	nd	1.11	nd	1.78		nd	nd	0.4	2.44
603	27	603-451	nd	nd	nd	2.04	nd	4.65		nd	nd	1.1	2.29
603	28	603-461	nd	nd	nd	1.42	nd	3.91		nd	nd	0.4	2.28
603	29	603-471	nd	nd	nd	1.42	nd	5.60		nd	nd	0.9	2.39
603	30	603-481	nd	nd	nd	1.21	nd	1.59		nd	nd	0.4	2.38
603	31	RM603-490	nd	nd	nd	1.21	nd	3.38		nd	nd	17.9	2.46

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
604	1	EX08P01a05	BCqk	64	90	1.11	8.93	15.50		0.216	0.042	nd	nd
604	2	EX01P01a02	BA	7	21	1.63	9.08	3.28		0.235	0.061	nd	nd
604	3	EX02P01a03	Bk	25	47	1.32	9.05	5.61		0.160	0.048	nd	nd
604	4	EX03P01a01	A/BAq	0	17	1.32	9.28	20.70		0.367	0.070	nd	nd
604	5	EX05P01a02	2BCqkb	24	55	1.21	9.02	16.54		0.285	0.044	nd	nd
604	6	EX07P01a02	Bw	9	37	1.01	8.96	11.65		0.348	0.051	nd	nd
604	7	RM	na	na	na	1.11	8.99	3.41		0.253	0.068	nd	nd
604	8	EX08P01a02	Bqk	8	25	1.11	8.92	11.39		0.321	0.053	nd	nd
604	9	EX01P01a04	2Btkb	34	42	1.63	9.02	5.58		0.240	0.063	nd	nd
604	10	EX02P01a02	BA	9	25	1.32	9.13	3.98		0.233	0.047	nd	nd
604	11	EX03P01a03	2Bk1	32	60	1.21	8.63	31.77		0.129	0.066	nd	nd
604	12	EX07P01a04	Bk2	63	86	1.21	9.04	13.13		0.306	0.049	nd	nd
604	13	EX05P01a01	C1/C2	0	24	0.81	9.17	14.95		0.413	0.044	nd	nd
604	14	EX07P01a05	BCk	86	100	1.21	9.11	12.77		0.321	0.050	nd	nd
604	15	EX08P01a01	A	0	8	1.01	8.70	8.14		0.417	0.052	nd	nd
604	16	DBD401_1RM	na	na	na	1.42	9.13	3.23		0.283	0.065	nd	nd
604	17	EX01P01a03	2Bk	21	34	1.42	9.12	4.54		0.233	0.057	nd	nd
604	18	EX02P01a01	A	0	9	1.21	8.85	3.04		0.259	0.049	nd	nd
604	19	EX03P01a04	2Bk2	60	87	1.42	8.35	27.87		0.145	0.064	nd	nd
604	20	EX06P01a02	Bw	7	16	0.81	9.13	13.69		0.365	0.044	nd	nd
604	21	EX07P01a01	A	0	9	0.81	8.75	10.20		0.490	0.064	nd	nd

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Sl (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
604	22	EX08P01a04	Bk2	43	64	0.81	9.02	13.36		0.327	0.053	nd	nd
604	23	RM	na	na	na	0.81	9.19	3.09		0.261	0.064	nd	nd
604	24	EX01P01a01	A1/A2	0	7	1.11	9.14	1.89		0.303	0.075	nd	nd
604	25	EX03P01a02	2Btk	17	32	1.21	9.02	26.69		0.229	0.064	nd	nd
604	26	EX06P01a03	BCk	16	40	0.91	9.13	17.34		0.367	0.045	nd	nd
604	27	EX07P01a03	Bk1	37	63	1.11	9.10	11.34		0.372	0.055	nd	nd
604	28	EX08P01a03	Bk1	25	43	0.91	8.98	13.26		0.318	0.052	nd	nd
604	29	EX01P01a05	2Bkb	42	60	1.21	9.14	5.11		0.228	0.061	nd	nd
604	30	EX06P01a01	AC	0	7	0.60	8.94	14.53		0.380	0.049	nd	nd
604	31	EX02P01a04	BCk	47	60	1.11	9.14	4.93		0.135	0.043	nd	nd

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
605	1	RM605-010	nd	nd	nd	1.94	nd	3.30		nd	nd	23.3	2.53
605	2	605-020	nd	nd	nd	1.52	nd	0.38	#	nd	nd	74.2	2.47
605	3	605-029	nd	nd	nd	1.21	nd	0.33	#	nd	nd	27.5	2.44
605	4	605-041	nd	nd	nd	2.04	nd	1.76		nd	nd	7.2	2.43
605	5	605-050	nd	nd	nd	2.35	nd	3.60		nd	nd	3.4	2.38
605	6	605-058	nd	nd	nd	1.73	nd	2.50		nd	nd	1.9	2.42
605	7	605-068	nd	nd	nd	3.52	nd	4.32		nd	nd	3.9	2.38
605	8	605-078	nd	nd	nd	3.09	nd	3.96		nd	nd	3.6	2.38
605	9	605-088	nd	nd	nd	2.04	nd	0.47	#	nd	nd	2.0	2.35
605	10	605-097	nd	nd	nd	3.63	nd	2.51		nd	nd	2.3	2.22
605	11	605-108	nd	nd	nd	1.73	nd	4.49		nd	nd	1.5	2.31
605	12	605-117	nd	nd	nd	3.73	nd	12.06		nd	nd	2.6	2.24
605	13	605-127	nd	nd	nd	2.04	nd	0.60	#	nd	nd	1.6	2.39
605	14	605-136	nd	nd	nd	1.83	nd	4.43		nd	nd	1.4	2.32
605	15	605-155	nd	nd	nd	0.81	nd	1.08		nd	nd	0.8	2.47
605	16	605-166	nd	nd	nd	1.01	nd	1.52		nd	nd	0.7	2.48
605	17	605-181	nd	nd	nd	2.56	nd	0.74	#	nd	nd	1.5	2.31
605	18	605-190	nd	nd	nd	2.77	nd	2.61		nd	nd	2.0	2.29
605	19	605-201	nd	nd	nd	3.63	nd	7.54		nd	nd	2.3	2.24
605	20	605-211	nd	nd	nd	2.04	nd	3.70		nd	nd	1.4	2.36
605	21	605-221	nd	nd	nd	2.88	nd	1.10		nd	nd	1.7	2.29

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
605	22	605-229	nd	nd	nd	2.46	nd	1.68		nd	nd	1.9	2.26
605	23	605-240	nd	nd	nd	1.21	nd	1.52		nd	nd	0.9	2.39
605	24	RM605-250	nd	nd	nd	1.32	nd	3.59		nd	nd	21.0	2.39
605	25	605-261	nd	nd	nd	2.46	nd	0.83	#	nd	nd	1.9	2.28
605	26	605-264	nd	nd	nd	1.42	nd	4.47		nd	nd	0.7	2.41
605	27	605-270	nd	nd	nd	3.63	nd	6.55		nd	nd	1.2	2.32
605	28	605-280	nd	nd	nd	3.73	nd	4.42		nd	nd	1.8	2.48
605	29	605-291	nd	nd	nd	1.21	nd	1.97		nd	nd	0.7	2.47
605	30	605-301	nd	nd	nd	2.77	nd	4.36		nd	nd	1.3	2.54
605	31	605-311	nd	nd	nd	2.25	nd	4.89		nd	nd	1.3	2.41
605	32	605-320	nd	nd	nd	1.42	nd	2.10		nd	nd	3.3	2.49

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
606	1	606-181	nd	nd	nd	2.25	nd	2.95		nd	nd	3.2	2.36
606	2	606-192	nd	nd	nd	2.46	nd	1.76		nd	nd	1.7	2.26
606	3	606-202	nd	nd	nd	3.09	nd	7.52		nd	nd	1.4	2.39
606	4	606-211	nd	nd	nd	2.04	nd	3.40		nd	nd	1.0	2.52
606	5	606-222	nd	nd	nd	2.35	nd	1.99		nd	nd	0.8	2.39
606	6	606-232	nd	nd	nd	1.83	nd	2.63		nd	nd	0.7	2.44
606	7	606-242	nd	nd	nd	2.56	nd	6.21		nd	nd	1.0	2.37
606	8	606-251	nd	nd	nd	3.95	nd	2.87		nd	nd	1.4	2.42
606	9	606-261	nd	nd	nd	3.20	nd	7.76		nd	nd	1.2	2.47
606	10	606-272	nd	nd	nd	3.09	nd	9.18		nd	nd	1.1	2.41
606	11	606-282	nd	nd	nd	2.35	nd	3.94		nd	nd	0.7	2.37
606	12	606-291	nd	nd	nd	1.83	nd	4.52		nd	nd	0.5	2.42
606	13	606-297	nd	nd	nd	2.99	nd	1.86		nd	nd	1.2	2.43
606	14	606-330	nd	nd	nd	3.63	nd	6.67		nd	nd	1.4	2.45
606	15	606-340	nd	nd	nd	1.63	nd	1.75		nd	nd	1.3	2.49
606	16	606-351	nd	nd	nd	2.15	nd	4.12		nd	nd	0.8	2.42
606	17	606-361	nd	nd	nd	1.94	nd	6.74		nd	nd	0.7	2.40
606	18	606-371	nd	nd	nd	1.94	nd	6.42		nd	nd	0.7	2.43
606	19	606-381	nd	nd	nd	1.73	nd	1.11		nd	nd	0.6	2.41
606	20	606-390	nd	nd	nd	1.73	nd	4.60		nd	nd	0.9	2.36
606	21	606-401	nd	nd	nd	1.52	nd	2.39		nd	nd	0.6	2.34

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Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	Moist (wt%)	pH	CaCO3_Eq (wt%)	CaCO3_Eq Flag	CBD_Fe (wt%)	CBD_Si (wt%)	Chloride (mg/Kg)	Particle Density (g/cm^3)
606	22	RM606-411	nd	nd	nd	1.32	nd	3.11		nd	nd	35.4	2.54
606	23	606-421	nd	nd	nd	2.04	nd	0.84	#	nd	nd	0.8	2.41
606	24	606-431	nd	nd	nd	2.15	nd	2.07		nd	nd	1.0	2.44
606	25	606-441	nd	nd	nd	3.09	nd	3.13		nd	nd	1.0	2.41
606	26	606-451	nd	nd	nd	1.94	nd	3.31		nd	nd	0.6	2.32
606	27	606-461	nd	nd	nd	2.15	nd	4.64		nd	nd	1.0	2.37
606	28	606-471	nd	nd	nd	2.04	nd	3.29		nd	nd	0.9	2.47
606	29	606-481	nd	nd	nd	3.52	nd	12.55		nd	nd	2.1	2.50
606	30	606-491	nd	nd	nd	2.99	nd	2.89		nd	nd	1.5	2.40
606	31	606-501	nd	nd	nd	1.11	nd	2.52		nd	nd	0.8	2.48
606	32	606-511	nd	nd	nd	2.25	nd	1.57		nd	nd	1.0	2.44
606	33	606-521	nd	nd	nd	1.83	nd	4.47		nd	nd	1.4	2.40
606	34	606-531	nd	nd	nd	0.81	nd	0.92	#	nd	nd	2.2	2.43
606	35	RM606-541	nd	nd	nd	1.21	nd	3.37		nd	nd	49.3	2.50
606	36	606-551	nd	nd	nd	1.42	nd	2.53		nd	nd	4.2	2.37
606	37	606-561	nd	nd	nd	1.21	nd	1.56		nd	nd	7.3	2.32
606	38	606-571	nd	nd	nd	1.32	nd	2.46		nd	nd	20.7	2.38
606	39	606-580	nd	nd	nd	2.88	nd	4.65		nd	nd	11.3	2.18
606	40	606-591	nd	nd	nd	1.52	nd	2.38		nd	nd	13.5	2.39
606	41	606-597	nd	nd	nd	1.01	nd	0.92	#	nd	nd	1.7	2.45

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APPENDIX D

American Society for Materials and Testing - Unified Soil Classification System
Particle Size Fractions

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
601	1	RM601-002	nd	nd	nd	SM	1.0	70.4	28.5		100	100	100	100	100	99	99	95	76	28
601	2	601-005	nd	nd	nd	SM	4.4	69.3	26.3		100	100	100	100	100	98	95	90	71	25
601	3	601-011	nd	nd	nd	SM	12.6	67.5	19.8		100	98	97	95	93	88	84	75	52	18
601	4	601-015	nd	nd	nd	SM	4.4	65.5	30.2		100	100	100	100	100	98	95	89	69	29
601	5	601-020	nd	nd	nd	SM	8.4	69.7	22.0		100	100	100	100	100	95	90	79	54	20
601	6	601-025	nd	nd	nd	SM	11.6	68.4	20.1		100	99	99	99	98	91	85	73	47	18
601	7	601-031	nd	nd	nd	SM	3.6	66.7	29.7		100	100	100	100	100	98	96	92	76	30
601	8	RM601-035	nd	nd	nd	SM	3.4	66.6	30.0		100	100	100	100	100	98	96	94	76	29
601	9	601-042	nd	nd	nd	SM	2.5	69.1	28.3		100	100	100	100	100	98	97	88	70	22
601	10	601-050	nd	nd	nd	SM	2.4	71.7	25.9		100	99	99	98	98	98	97	87	69	25
601	11	601-061	nd	nd	nd	SW-SM	19.3	70.6	10.1		100	99	98	97	97	84	71	50	18	8
601	12	601-070	nd	nd	nd	SM	4.8	66.5	28.7		100	100	100	100	100	97	94	84	65	27
601	13	601-081	nd	nd	nd	SW-SM	25.3	67.2	7.5		100	97	95	92	90	75	60	44	18	5
601	14	601-090	nd	nd	nd	SM	15.2	66.3	18.5		100	97	95	92	90	85	80	72	46	16
601	15	601-100	nd	nd	nd	SM	6.8	70.2	22.9		100	100	99	99	99	96	92	84	64	20
601	16	601-111	nd	nd	nd	SM	8.5	60.7	30.9		100	99	98	98	97	93	90	85	69	27
601	17	601-121	nd	nd	nd	SM	4.2	68.4	27.3		100	100	100	100	100	97	95	90	70	20
601	18	601-131	nd	nd	nd	SM	4.5	73.2	22.3		100	100	100	100	100	97	95	88	68	22
601	19	601-140	nd	nd	nd	SM	10.7	65.4	23.9		100	98	97	96	94	90	86	78	58	19
601	20	601-150	nd	nd	nd	SM	3.0	59.6	37.5		100	100	100	100	100	98	96	92	79	34
601	21	601-161	nd	nd	nd	SW-SM	20.3	70.4	9.3		100	100	100	100	99	84	70	53	24	6

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
601	22	601-172	nd	nd	nd	SM	2.1	70.9	27.0		100	100	100	100	100	99	98	93	80	26
601	23	601-181	nd	nd	nd	ML	11.6	35.4	53.2		100	98	96	93	92	89	86	82	74	50
601	24	601-191	nd	nd	nd	SW-SM	22.8	64.7	12.5		100	98	97	95	93	79	66	55	31	8
601	25	601-200	nd	nd	nd	SM	16.8	49.0	34.3		100	98	97	95	93	85	78	75	65	31
601	26	RM601-205	nd	nd	nd	SM	2.2	67.8	30.0		100	100	100	100	100	99	98	94	79	29

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
602	1	RM602-001	nd	nd	nd	SM	2.3	68.0	29.8		100	100	100	100	100	99	98	94	79	29
602	2	602-005	nd	nd	nd	SM	11.0	61.0	28.0		100	100	100	100	100	93	86	76	61	26
602	3	602-011	nd	nd	nd	SM	4.1	62.5	33.3		100	100	100	100	100	98	95	91	77	33
602	4	602-015	nd	nd	nd	SM	3.8	57.6	38.7		100	100	100	100	100	98	96	92	82	39
602	5	602-021	nd	nd	nd	SM	5.2	64.4	30.4		100	100	100	100	100	97	94	88	73	29
602	6	602-026	nd	nd	nd	SM	2.5	66.3	31.3		100	100	100	100	100	99	97	91	73	30
602	7	602-031	nd	nd	nd	SM	1.6	65.6	32.8		100	100	100	100	100	99	98	95	82	33
602	8	RM602-035	nd	nd	nd	SM	1.3	68.2	30.5		100	100	100	100	100	99	99	94	77	30
602	9	602-042	nd	nd	nd	SM	4.1	64.7	31.2		100	100	100	100	100	97	95	88	68	25
602	10	602-051	nd	nd	nd	SM	22.2	60.2	17.5		100	99	98	96	95	79	62	41	18	8
602	11	602-060	nd	nd	nd	SW-SM	13.0	76.3	10.7		100	100	100	100	100	90	81	53	22	7
602	12	602-071	nd	nd	nd	SM	8.1	60.7	31.3		100	100	99	99	98	94	89	84	69	23
602	13	602-081	nd	nd	nd	SM	4.0	72.7	23.2		100	100	99	99	99	97	95	91	76	21
602	14	602-091	nd	nd	nd	SM	5.0	73.7	21.3		100	99	99	98	97	96	94	89	74	18
602	15	602-101	nd	nd	nd	SM	1.3	63.9	34.9		100	100	100	100	100	99	99	96	78	35
602	16	602-111	nd	nd	nd	SM	5.0	57.1	37.9		100	99	99	98	97	95	94	92	82	37
602	17	602-120	nd	nd	nd	SM	6.1	67.0	27.0		100	99	98	97	96	94	93	86	70	22
602	18	602-130	nd	nd	nd	SM	4.7	68.1	27.1		100	100	100	99	99	97	94	89	71	24
602	19	602-140	nd	nd	nd	SM	5.7	66.0	28.3		100	100	99	99	99	96	93	82	65	21
602	20	602-152	nd	nd	nd	SM	2.9	54.1	42.9		100	100	100	100	100	98	96	87	77	37
602	21	602-161	nd	nd	nd	SM	13.5	57.4	29.1		100	99	98	96	95	88	82	73	61	23

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
602	22	602-171	nd	nd	nd	SW-SM	23.1	68.4	8.4		100	100	99	99	99	80	60	29	8	4
602	23	602-181	nd	nd	nd	SM	16.0	54.2	29.8		100	98	96	94	92	86	80	77	69	29
602	24	602-191	nd	nd	nd	SW-SM	9.6	81.6	8.8		100	100	100	99	99	93	88	74	42	7
602	25	RM602-205	nd	nd	nd	SM	1.6	66.8	31.7		100	100	100	100	100	99	98	94	80	31

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-In	P < #4	P < #10	P < #40	P < #200
603	1	603-201	nd	nd	nd	SM	16.8	65.1	18.1		100	99	98	96	95	85	75	62	39	10
603	2	603-212	nd	nd	nd	SM	11.9	63.1	24.9		100	100	100	100	100	92	85	77	61	22
603	3	603-220	nd	nd	nd	SM	27.0	41.9	31.1		100	96	94	90	87	70	53	42	32	17
603	4	RM603-225	nd	nd	nd	SM	1.4	68.3	30.3		100	100	100	100	100	99	98	95	79	30
603	5	603-230	nd	nd	nd	SM	18.5	65.4	16.2		100	98	96	94	92	84	75	65	44	15
603	6	603-241	nd	nd	nd	SW-SM	17.1	75.3	7.6		100	99	99	98	97	87	76	62	31	7
603	7	603-250	nd	nd	nd	SM	6.3	62.3	31.4		100	100	100	100	100	96	93	87	69	32
603	8	603-260	nd	nd	nd	SM	9.2	65.2	25.6		100	100	100	100	100	95	89	83	68	25
603	9	603-270	nd	nd	nd	SM	12.4	58.1	29.4		100	98	96	93	92	89	85	78	63	28
603	10	603-280	nd	nd	nd	SM	0.5	56.8	42.7		100	100	100	100	100	100	99	99	93	43
603	11	603-291	nd	nd	nd	SM	2.7	59.6	37.7		100	100	100	100	100	98	97	92	78	33
603	12	603-301	nd	nd	nd	SM	4.9	69.7	25.3		100	100	100	100	100	97	94	88	69	24
603	13	603-311	nd	nd	nd	SM	5.3	45.0	49.7		100	100	100	100	100	97	93	88	80	44
603	14	603-320	nd	nd	nd	SW-SM	17.1	72.7	10.2		100	99	98	97	96	86	76	58	19	8
603	15	603-330	nd	nd	nd	SM	7.5	70.1	22.4		100	100	100	99	99	95	91	83	63	22
603	16	603-340	nd	nd	nd	SW-SM	34.8	57.8	7.4		100	95	92	87	83	61	39	25	12	3
603	17	603-351	nd	nd	nd	SM	13.0	60.5	26.4		100	100	100	99	99	91	83	74	53	23
603	18	603-361	nd	nd	nd	SM	26.8	57.0	16.2		100	98	96	94	92	75	58	42	23	11
603	19	603-371	nd	nd	nd	SM	6.9	60.8	32.3		100	100	100	100	100	96	92	86	70	30
603	20	603-381	nd	nd	nd	SM	2.7	62.4	34.9		100	100	100	100	100	98	97	94	81	31
603	21	603-390	nd	nd	nd	SW-SM	19.7	67.9	12.4		100	99	98	97	97	85	72	60	40	9

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
603	22	603-401	nd	nd	nd	SW-SM	15.8	77.8	6.3		100	100	99	99	98	88	78	62	25	4
603	23	603-410	nd	nd	nd	SM	1.8	71.6	26.5		100	100	100	100	100	99	98	93	77	25
603	24	603-420	nd	nd	nd	SM	10.9	56.3	32.7		100	100	100	100	100	93	86	78	65	28
603	25	603-431	nd	nd	nd	SW-SM	19.3	71.2	9.7		100	99	98	96	95	83	70	50	20	5
603	26	603-441	nd	nd	nd	SW-SM	12.4	74.8	12.8		100	99	99	98	97	90	84	70	34	11
603	27	603-451	nd	nd	nd	SM	2.2	66.7	31.1		100	100	100	100	100	99	97	86	66	29
603	28	603-461	nd	nd	nd	SM	5.4	68.9	25.8		100	100	99	99	99	96	94	85	62	24
603	29	603-471	nd	nd	nd	SM	2.2	69.2	28.7		100	100	100	100	100	99	97	93	74	26
603	30	603-481	nd	nd	nd	SW-SM	12.3	73.8	14.0		100	99	99	98	97	91	85	76	51	12
603	31	RM603-490	nd	nd	nd	SM	3.6	65.8	30.7		100	100	100	100	100	98	96	94	78	30

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
604	1	EX08P01a05	BCqk	64	90	SM	23.5	56.3	20.2		100	97	94	91	89	75	60	47	29	9
604	2	EX01P01a02	BA	7	21	SM	3.9	68.2	27.7		100	99	99	99	98	97	96	93	77	26
604	3	EX02P01a03	Bk	25	47	SM	9.2	73.6	17.2		100	100	100	100	100	94	88	74	47	13
604	4	EX03P01a01	A/BAq	0	17	ML	21.7	27.3	50.9		100	95	92	88	84	74	65	60	54	37
604	5	EX05P01a02	2BCqkb	24	55	SM	27.9	52.0	20.1		100	97	94	91	88	68	49	34	19	7
604	6	EX07P01a02	Bw	9	37	SM	28.7	47.0	24.3		100	90	82	72	65	59	53	49	38	14
604	7	RM	na	na	na	SM	21.9	57.0	21.1		100	99	99	98	98	82	67	51	42	15
604	8	EX08P01a02	Bqk	8	25	SM	14.1	56.6	29.2		100	99	98	96	95	88	80	73	57	22
604	9	EX01P01a04	2Btkb	34	42	SM	4.2	68.8	27.0		100	99	99	99	98	96	95	92	77	24
604	10	EX02P01a02	BA	9	25	SM	6.2	70.7	23.0		100	100	100	99	99	96	93	84	61	21
604	11	EX03P01a03	2Bk1	32	60	SM	30.2	43.9	25.8		100	91	84	74	67	53	39	31	20	6
604	12	EX07P01a04	Bk2	63	86	SM	28.9	48.0	23.1		100	91	85	76	69	60	52	47	35	12
604	13	EX05P01a01	C1/C2	0	24	SM	19.5	61.5	19.0		100	99	99	98	98	83	67	46	24	8
604	14	EX07P01a05	BCk	86	100	SM	34.5	48.0	17.5		100	87	77	64	55	47	38	34	23	7
604	15	EX08P01a01	A	0	8	SM	19.5	50.6	29.9		100	96	94	90	88	80	72	65	52	24
604	16	DBD401_1RM	na	na	na	SM	34.1	44.6	21.3		100	99	98	97	96	71	46	46	38	15
604	17	EX01P01a03	2Bk	21	34	SM	2.4	70.7	26.8		100	100	100	100	100	99	97	95	78	25
604	18	EX02P01a01	A	0	9	SM	6.5	68.1	25.4		100	100	100	100	100	96	92	84	64	24
604	19	EX03P01a04	2Bk2	60	87	SM	30.1	42.3	27.6		100	93	88	81	76	59	41	30	21	8
604	20	EX06P01a02	Bw	7	16	SM	24.3	55.3	20.5		100	96	93	88	85	72	60	48	26	10
604	21	EX07P01a01	A	0	9	SM	23.6	47.0	29.4		100	96	93	89	86	75	64	58	47	21

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
604	22	EX08P01a04	Bk2	43	64	SM	22.0	53.7	24.3		100	97	95	91	89	77	65	55	40	15
604	23	RM	na	na	na	SM	20.7	56.8	22.4		100	99	99	98	98	83	69	51	42	17
604	24	EX01P01a01	A1/A2	0	7	SM	6.7	67.3	26.0		100	99	98	97	96	94	92	90	73	25
604	25	EX03P01a02	2Btk	17	32	SM	30.8	39.5	29.7		100	91	85	75	69	54	39	30	21	10
604	26	EX06P01a03	BCk	16	40	SM	33.8	47.8	18.5		100	94	90	84	79	57	35	26	14	5
604	27	EX07P01a03	Bk1	37	63	SM	21.7	50.2	28.1		100	95	91	85	81	74	68	63	50	20
604	28	EX08P01a03	Bk1	25	43	SM	15.6	56.6	27.8		100	98	97	96	95	86	77	68	50	19
604	29	EX01P01a05	2Bkb	42	60	SM	8.6	65.7	25.7		100	99	98	97	97	94	90	84	68	23
604	30	EX06P01a01	AC	0	7	SM	28.9	52.5	18.6		100	98	96	94	93	71	48	36	21	7
604	31	EX02P01a04	BCk	47	60	SW-SM	13.1	74.8	12.2		100	99	99	98	97	89	82	65	36	8

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
605	1	RM605-010	nd	nd	nd	SM	2.3	67.9	29.8		100	100	100	100	100	99	98	94	79	29
605	2	605-020	nd	nd	nd	SW-SM	25.9	65.5	8.6		100	100	100	100	100	79	58	37	15	5
605	3	605-029	nd	nd	nd	SW-SM	12.4	81.7	5.9		100	100	100	100	100	92	84	69	30	5
605	4	605-041	nd	nd	nd	SM	8.9	68.2	22.9		100	99	99	98	97	93	90	84	70	22
605	5	605-050	nd	nd	nd	SM	11.1	65.8	23.0		100	100	100	100	100	93	86	76	54	20
605	6	605-058	nd	nd	nd	SW-SM	9.1	80.9	10.0		100	100	100	100	100	94	89	77	47	8
605	7	605-068	nd	nd	nd	SM	13.5	60.2	26.3		100	100	100	99	99	90	82	70	49	22
605	8	605-078	nd	nd	nd	SM	15.1	64.1	20.8		100	100	100	100	100	89	77	53	28	15
605	9	605-088	nd	nd	nd	SW-SM	26.0	63.9	10.1		100	100	99	99	98	78	57	37	16	6
605	10	605-097	nd	nd	nd	SM	18.4	60.8	20.8		100	100	100	100	100	85	70	39	20	12
605	11	605-108	nd	nd	nd	SW-SM	30.8	59.4	9.8		100	97	95	92	90	68	47	31	15	4
605	12	605-117	nd	nd	nd	SM	18.1	53.4	28.4		100	98	97	95	94	83	72	59	37	19
605	13	605-127	nd	nd	nd	SW-SM	6.3	80.4	13.2		100	100	100	100	100	96	92	73	27	12
605	14	605-136	nd	nd	nd	SW-SM	15.5	69.6	14.8		100	99	98	97	97	88	78	66	39	11
605	15	605-155	nd	nd	nd	SW-SM	12.3	81.6	6.1		100	100	100	99	99	90	82	53	13	4
605	16	605-166	nd	nd	nd	SW-SM	27.6	65.9	6.4		100	99	98	97	96	74	52	26	6	3
605	17	605-181	nd	nd	nd	SM	22.1	55.6	22.3		100	98	96	93	91	79	68	56	41	18
605	18	605-190	nd	nd	nd	SM	10.4	67.5	22.0		100	100	100	100	100	94	87	79	65	20
605	19	605-201	nd	nd	nd	SM	2.2	55.1	42.8		100	100	100	100	100	99	97	93	83	39
605	20	605-211	nd	nd	nd	SM	26.9	57.0	16.1		100	95	92	87	84	71	58	49	33	11
605	21	605-221	nd	nd	nd	SM	21.0	47.0	32.1		100	99	99	98	98	84	70	59	46	27

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
605	22	605-229	nd	nd	nd	SM	40.3	44.6	15.1		100	90	83	73	65	45	26	17	9	5
605	23	605-240	nd	nd	nd	SW-SM	16.1	73.9	10.0		100	100	100	100	100	89	77	62	33	8
605	24	RM605-250	nd	nd	nd	SM	2.2	65.6	32.3		100	100	100	100	100	99	98	94	79	31
605	25	605-261	nd	nd	nd	SM	4.2	62.6	33.2		100	100	100	100	100	98	95	89	76	33
605	26	605-264	nd	nd	nd	SM	8.0	72.4	19.6		100	100	100	100	100	95	90	83	60	17
605	27	605-270	nd	nd	nd	SM	7.6	55.7	36.7		100	100	100	99	99	95	91	83	72	33
605	28	605-280	nd	nd	nd	SM	15.0	53.4	31.5		100	100	99	99	99	89	79	64	52	26
605	29	605-291	nd	nd	nd	SW-SM	6.5	79.8	13.7		100	100	100	100	100	96	92	87	60	12
605	30	605-301	nd	nd	nd	SM	24.4	54.1	21.5		100	97	95	91	89	75	62	48	31	14
605	31	605-311	nd	nd	nd	SM	13.9	50.0	36.1		100	99	99	98	97	89	82	72	61	32
605	32	605-320	nd	nd	nd	SM	19.8	63.0	17.3		100	98	96	93	92	82	72	61	37	14

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
606	1	606-181	nd	nd	nd	SM	3.6	73.5	22.9		100	100	100	100	100	98	96	88	64	21
606	2	606-192	nd	nd	nd	SW-SM	13.8	71.7	14.5		100	100	100	100	100	90	81	62	33	12
606	3	606-202	nd	nd	nd	SM	14.2	57.3	28.6		100	99	98	98	97	89	80	68	52	23
606	4	606-211	nd	nd	nd	SW-SM	24.5	62.5	13.1		100	100	99	99	99	80	61	44	17	8
606	5	606-222	nd	nd	nd	SM	9.5	65.8	24.7		100	100	100	100	100	94	88	80	67	23
606	6	606-232	nd	nd	nd	SW-SM	26.0	61.1	12.8		100	99	98	97	96	76	57	36	15	7
606	7	606-242	nd	nd	nd	ML	3.3	43.1	53.7		100	100	100	100	100	98	96	89	82	52
606	8	606-251	nd	nd	nd	SM	5.6	59.4	34.9		100	100	100	100	100	97	93	86	74	34
606	9	606-261	nd	nd	nd	SM	31.3	49.5	19.3		100	97	95	92	90	68	46	33	20	9
606	10	606-272	nd	nd	nd	SM	1.7	55.3	43.0		100	100	100	100	100	99	98	93	81	39
606	11	606-282	nd	nd	nd	SM	1.1	62.2	36.8		100	100	100	100	100	99	99	96	86	36
606	12	606-291	nd	nd	nd	SW-SM	18.8	69.2	11.9		100	99	99	98	97	84	71	51	21	7
606	13	606-297	nd	nd	nd	SM	14.6	60.1	25.4		100	100	100	100	100	90	79	58	38	21
606	14	606-330	nd	nd	nd	SM	33.8	41.8	24.4		100	94	90	85	81	60	39	26	15	10
606	15	606-340	nd	nd	nd	SM	9.8	73.9	16.3		100	100	100	100	100	94	88	78	55	15
606	16	606-351	nd	nd	nd	SM	11.9	61.7	26.3		100	99	98	97	97	91	85	78	64	24
606	17	606-361	nd	nd	nd	SM	14.2	63.8	22.0		100	99	97	96	95	88	81	73	55	17
606	18	606-371	nd	nd	nd	SM	6.4	62.7	30.8		100	100	100	99	99	96	92	87	74	27
606	19	606-381	nd	nd	nd	SM	6.7	71.0	22.3		100	100	100	100	100	96	92	87	69	22
606	20	606-390	nd	nd	nd	SM	23.9	60.1	16.0		100	97	95	92	90	77	63	52	36	11
606	21	606-401	nd	nd	nd	SW-SM	11.1	81.1	7.8		100	100	99	99	99	92	85	70	35	6

na = not applicable
nd = not determined

Batch	Sample	Field Sample Code	Horizon	Upper Depth (cm)	Lower Depth (cm)	USCS Group-Lab	Gravel_USCS (wt%)	Sand_USCS (wt%)	Silt+Clay_USCS (wt%)		P < 3-in	P < 2-in	P < 1 1/2-in	P < 1-in	P < 3/4-in	P < 3/8-in	P < #4	P < #10	P < #40	P < #200
606	22	RM606-411	nd	nd	nd	SM	1.8	68.7	29.4		100	100	100	100	100	99	98	94	80	29
606	23	606-421	nd	nd	nd	SW-SM	22.6	63.1	14.3		100	99	97	96	95	81	66	50	28	11
606	24	606-431	nd	nd	nd	SM	1.3	53.7	45.0		100	100	100	100	100	99	99	97	90	45
606	25	606-441	nd	nd	nd	ML	1.5	48.2	50.3		100	100	100	100	100	99	98	95	88	50
606	26	606-451	nd	nd	nd	SM	4.5	80.3	15.1		100	100	100	100	100	97	95	90	61	13
606	27	606-461	nd	nd	nd	SM	3.0	68.5	28.5		100	100	100	100	100	98	97	90	74	26
606	28	606-471	nd	nd	nd	SW-SM	32.5	54.4	13.0		100	95	91	86	83	64	44	31	17	6
606	29	606-481	nd	nd	nd	SM	6.7	53.9	39.4		100	100	100	100	100	95	91	74	63	32
606	30	606-491	nd	nd	nd	SM	6.9	62.4	30.7		100	100	100	100	100	96	92	84	72	29
606	31	606-501	nd	nd	nd	SW-SM	25.0	66.1	9.0		100	96	93	89	86	73	60	43	19	5
606	32	606-511	nd	nd	nd	SM	9.7	68.9	21.4		100	100	100	100	100	94	88	78	57	20
606	33	606-521	nd	nd	nd	SM	17.6	60.3	22.1		100	100	99	99	98	87	76	66	51	18
606	34	606-531	nd	nd	nd	SW-SM	1.8	89.4	8.7		100	100	100	100	100	99	98	95	49	8
606	35	RM606-541	nd	nd	nd	SM	0.9	68.1	31.0		100	100	100	100	100	99	99	94	79	30
606	36	606-551	nd	nd	nd	SW-SM	7.9	79.1	13.1		100	100	99	99	99	95	90	76	42	11
606	37	606-561	nd	nd	nd	SW-SM	4.8	82.4	12.8		100	100	100	100	100	97	95	86	55	12
606	38	606-571	nd	nd	nd	SW-SM	11.5	74.6	14.0		100	99	99	98	97	91	86	78	54	12
606	39	606-580	nd	nd	nd	SM	12.6	67.5	19.8		100	99	98	98	97	90	83	71	46	16
606	40	606-591	nd	nd	nd	SM	3.1	77.8	19.1		100	100	100	100	100	98	97	94	77	18
606	41	606-597	nd	nd	nd	SW-SM	24.7	68.5	6.7		100	98	96	93	92	77	62	46	15	4

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