# SANDIA REPORT

SAND88—0811 • UC—814
Unlimited Release
Printed February 1990

## Yucca Mountain Project

# SNL Yucca Mountain Project Data Report: Density and Porosity Data for Tuffs From the Unsaturated Zone at Yucca Mountain, Nevada

Barry M. Schwartz

**Prepared by**
**Sandia National Laboratories**
**Albuquerque, New Mexico 87185 and Livermore, California 94550**
**for the United States Department of Energy**
**under Contract DE-AC04-76DP00789**

HYDROLOGY DOCUMENT NUMBER 587

"Prepared by Yucca Mountain Project (YMP) participants as part of the Civilian Radioactive Waste Management Program (CRWM). The YMP is managed by the Yucca Mountain Project Office of the U.S. Department of Energy, Nevada Operations Office (DOE/NV). YMP work is sponsored by the Office of Geologic Repositories (OGR) of the DOE Office of Civilian Radioactive Waste Management (OCRWM)."

Issued by Sandia National Laboratories, operated for the United States Department of Energy by Sandia Corporation.

**NOTICE:** This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government, any agency thereof or any of their contractors or subcontractors. The views and opinions expressed herein do not necessarily state or reflect those of the United States Government, any agency thereof or any of their contractors.

Printed in the United States of America. This report has been reproduced directly from the best available copy.

Available to DOE and DOE contractors from
Office of Scientific and Technical Information
PO Box 62
Oak Ridge, TN 37831

Prices available from (615) 576-8401, FTS 626-8401

Available to the public from
National Technical Information Service
US Department of Commerce
5285 Port Royal Rd
Springfield, VA 22161

NTIS price codes
Printed copy: A13
Microfiche copy: A01

Distribution
Category UC-814

SAND88-0811
Unlimited Release
Printed February 1990

# SNL YUCCA MOUNTAIN PROJECT DATA REPORT: DENSITY AND POROSITY DATA FOR TUFFS FROM THE UNSATURATED ZONE AT YUCCA MOUNTAIN, NEVADA

Barry M. Schwartz
Geotechnical Projects Division
Sandia National Laboratories
Albuquerque, New Mexico 87185

## ABSTRACT

Experiment results are presented for density and porosity measurements of tuffaceous rocks from the unsaturated zone at Yucca Mountain, Nevada. The data have been compiled for the Yucca Mountain Project Site and Engineering Properties Data Base. Data were obtained for grain density and saturated, natural state, and dry bulk density. In addition, matrix porosity was calculated from dry bulk-density and grain-density values. Estimates of experiment uncertainties are included for each experiment technique (and for matrix porosity).

## QUALITY ASSURANCE LEVEL(S)

All data in this report (including Appendix A) were collected before approval of QA level assignments by the Yucca Mountain Project. Therefore, the QA levels of these data-gathering activities have not been determined and are designated TBD.

CONTENTS


| | Page |
|---|---|
| 1.0 INTRODUCTION | 1 |
| 2.0 TECHNIQUES AND EXPERIMENT UNCERTAINTIES | 5 |
| 2.1 Experiment Techniques | 5 |
| 2.1.1 Saturated Bulk Density | 5 |
| 2.1.2 Natural State Bulk Density | 6 |
| 2.1.3 Dry Bulk Density | 6 |
| 2.1.4 Grain Density Using a Water-Immersion Pycnometer | 7 |
| 2.1.5 Grain Density Using a Gas-Intrusion Pycnometer | 8 |
| 2.1.6 Matrix Porosity | 9 |
| 2.2 Experiment Uncertainties | 10 |
| 2.2.1 Saturated Bulk Density | 10 |
| 2.2.2 Natural State Bulk Density | 14 |
| 2.2.3 Dry Bulk Density | 15 |
| 2.2.4 Grain Density Using a Water-Immersion Pycnometer | 15 |
| 2.2.5 Grain Density Using a Gas-Intrusion Pycnometer | 18 |
| 2.2.6 Matrix Porosity | 18 |
| 3.0 REFERENCES | 19 |
| APPENDIX A. Data Compilation Forms for Drillhole UE-25a#1 | A-1 |
| APPENDIX B. Data Compilation Forms for Drillhole USW G-1 | B-1 |
| APPENDIX C. Data Compilation Forms for Drillhole USW G-2 | C-1 |
| APPENDIX D. Data Compilation Forms for Drillhole USW GU-3 | D-1 |
| APPENDIX E. Data Compilation Forms for Drillhole USW G-4 | E-1 |
| APPENDIX F. Data Compilation Forms for Busted Butte Outcrop | F-1 |
| APPENDIX G. Applicability to the Site and Engineering Properties Data Base (SEPDB) and the Reference Information Base (RIB) | G-1 |

## FIGURES


| Figure | | Page |
|---|---|---|
| 1 | Locations of the Nevada Test Site, Yucca Mountain, and Drillholes | 2 |
| 2 | Correlation Between the Thermal/Mechanical Stratigraphy and the Geologic Stratigraphy | 3 |

TABLES


| Table | | Page |
|---|---|---|
| 1 | Precision of Bulk-Density Calibration Checks | 13 |
| 2 | Volume Reductions in Tuff Samples During Time-Dependent Thermal Expansion Tests | 16 |
| 3 | Precision of Grain Density (Water-Immersion) Calibration Checks Using Alpha Quartz | 17 |

# 1.0 INTRODUCTION

Yucca Mountain, located on and adjacent to the Nevada Test Site (NTS) in southern Nevada, is being evaluated as a potential site for underground disposal of nuclear wastes. At present, the physical, thermal, and mechanical properties of tuffaceous rocks from Yucca Mountain are being determined as part of the Yucca Mountain Project (YMP), which is administered by the Nevada Operations Office of the U.S. Department of Energy (DOE). Figure 1 shows the geographic locations of the NTS and of Yucca Mountain.

This report documents experiment data, which have been obtained by Sandia National Laboratories (SNL) or its contractors, for the density and porosity of tuffaceous rocks that lie above the water table at Yucca Mountain. Many of the data have been reported previously; however, there are a number of reasons for publishing the data again:

1. For some of the previously published data, no supporting documentation for the experiment results are available; republishing the previous data without those unsupported results creates a compilation consisting only of data that are suitable for future use, therefore the data were omitted from this report.
2. For some samples, supporting documentation indicates a value different from that reported.
3. Previous discussions of experiment methods and associated uncertainties have in many cases been incomplete or absent.

Each sample in this report has been assigned to a thermal/mechanical unit; these units compose a thermal/mechanical stratigraphy. A comparison of this stratigraphy with the formal geologic stratigraphy is presented in Figure 2. Each of the thermal/mechanical units has been defined based on thermal properties and/or mechanical properties that are statistically distinguishable from the same properties in adjacent units. More detailed discussions of the thermal/mechanical stratigraphy are provided by Ortiz et al. (1985) and Nimick and Schwartz (1987).

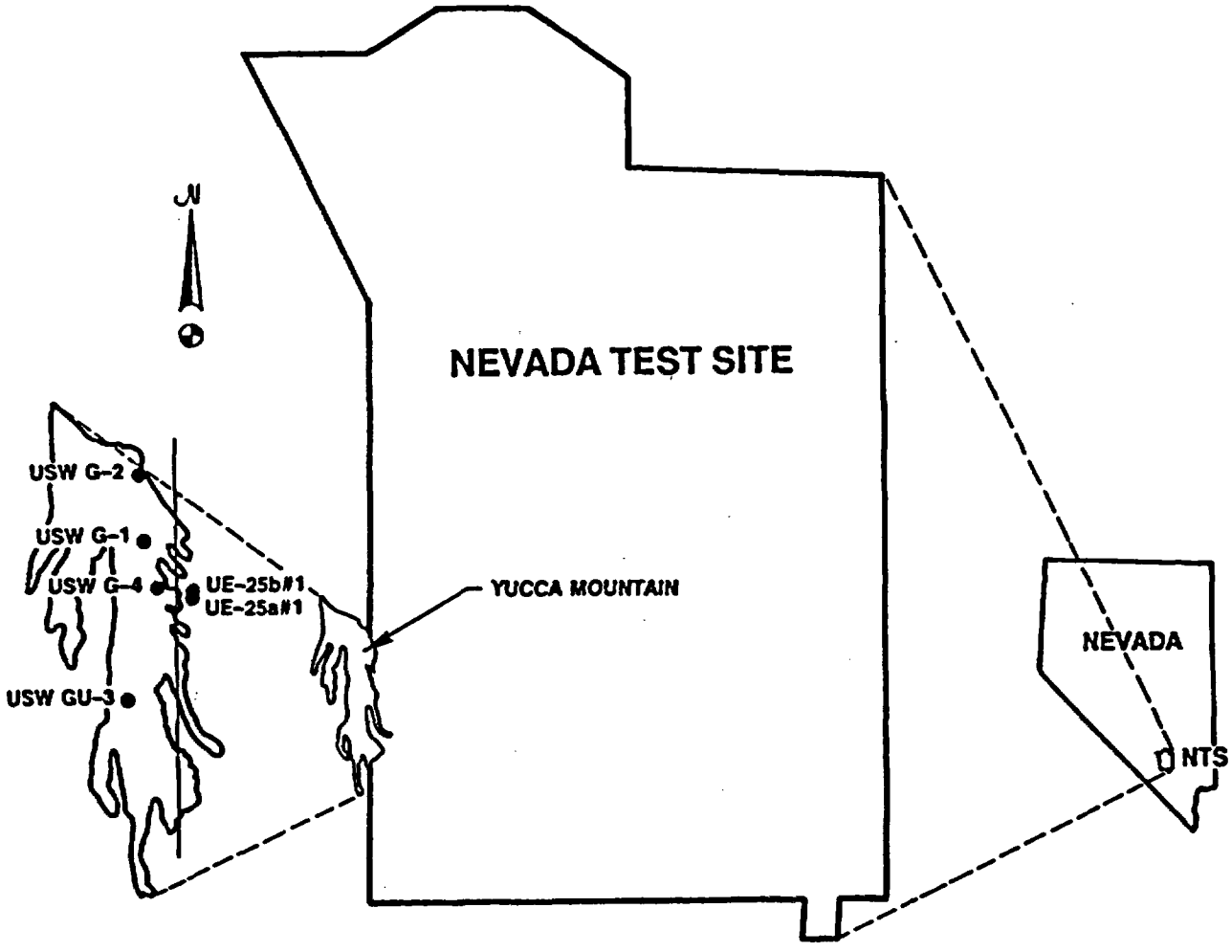


Figure 1. Locations of the Nevada Test Site, Yucca Mountain, Drillholes, and Busted Butte Outcrop

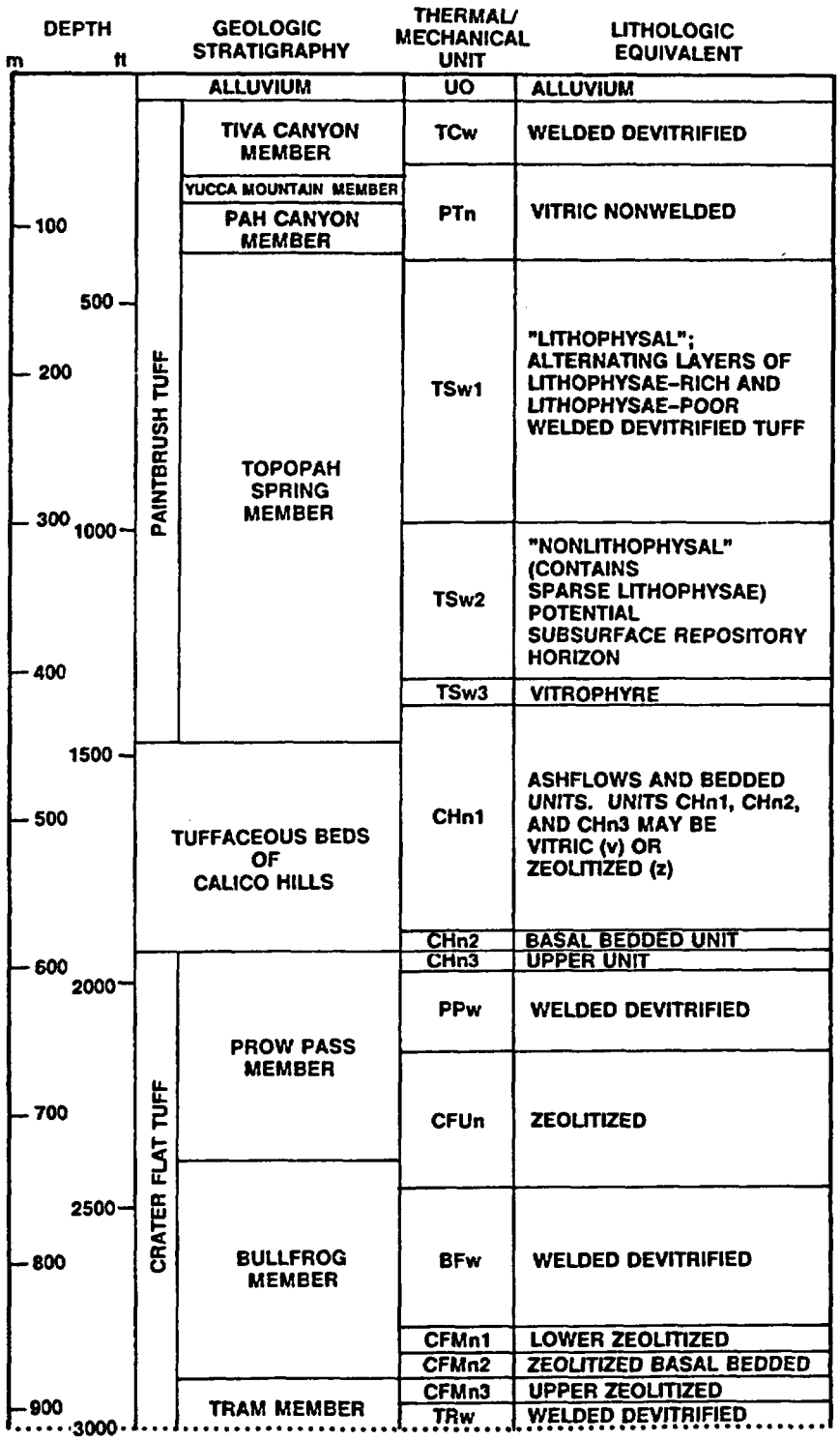


Figure 2. Correlation Between the Thermal/Mechanical Stratigraphy and the Geologic Stratigraphy

Section 2 describes the experiment methods and the data-reduction process used to obtain the data and discusses experiment uncertainties (accuracy of measured values) and applicability of techniques. In some cases, it has been necessary to modify sample IDs so that data reported by SNL and other YMP participants would not inadvertently have the same sample ID.

Appendix A presents experiment data on a series of Data Compilation Forms (DCFs) that have been completed after examination of all pertinent records stored in the SNL YMP Data Records Management System (DRMS). Because of the extensive examination of supporting documentation of bulk-properties values performed for this report, previously published bulk-properties data should be replaced by the data published herein. If bulk properties data for thermal/mechanical units CHn2 and above that were gathered by SNL and its contractors are not contained in this report, they should be considered to be unreliable [in the sense of not being adequately documented in the SNL YMP DRMS] and should not be used in the future. The data on these DCFs will be entered in the YMP Site and Engineering Properties Data Base (SEPDB). The SEPDB should be the Project's primary data source; other data can also be used as long as Project requirements for qualification of data are satisfied.

# 2.0 TECHNIQUES AND EXPERIMENT UNCERTAINTIES

Techniques for obtaining data on saturated, natural state, and dry bulk density, grain density, and porosity are discussed here. Grain densities were obtained using both water-immersion and gas-intrusion techniques. The brief descriptions of procedures provided in Section 2.1 are summarized from Nimick and Schwartz (1987). Natural state bulk-density data were not reported by Nimick and Schwartz; therefore, this report will provide the first description of the procedures used to obtain these data. Section 2.2 discusses the uncertainties associated with each of the techniques.

## 2.1 Experiment Techniques

### 2.1.1 Saturated Bulk Density

To completely saturate samples, they were either submerged in distilled water or water from NTS Well J-13 for ≥ 72 hr at ambient temperature and pressure or they were submerged as stated above and then vacuum saturated. In the vacuum saturation technique, samples were either vacuum saturated for a certain time period--typically 24 to 48 hr--or samples were saturated until they reached constant weight; constant weight was defined as a change in sample weight of ≤ 0.05% in about 24 hr, during which time the sample is saturated in water at ambient temperature using both vacuum saturation and ambient pressure submersion. Sample masses ranged from about 2.5 to 61,236 g.

After the sample was saturated, the sample was weighed in air. Because the sample was typically of irregular shape, the sample volume was determined by weighing the sample in water and subtracting the value from the weight of the sample in air. The difference is equal to the mass of water that the sample displaced. When corrected for temperature, the mass of water that was displaced by the sample was converted to volume of water displaced (Weast, 1971). Applying the Principle of Archimides, the volume

of water that is displaced when an object is placed in the water is equal to the object's volume. The saturated bulk density was determined by dividing saturated sample mass by sample volume. Saturated bulk density is reported in grams per cubic centimeter ($g/cm^3$).

Calibration checks consisted of measuring the density of either a magnesium bar or stainless steel ball.

### 2.1.2 Natural State Bulk Density

A wrapped and waxed core was unwrapped, and a sample with a mass from about 35 to 610 g was either broken off by impact or sliced using a cutting saw with water used as a cooling agent. In either case, attempts were made to minimize changes in the as-received moisture content of the sample. The sample was then weighed on a top-loading analytical balance, typically within 1 min of the sample being removed from the wrapping and waxed coating. The sample was then dipped in water for about 1 s (to limit wax infiltration and sample dehydration) and submerged in molten beeswax. Next, the sample was reweighed to determine the mass of wax. The density of the wax was known; therefore, the volume of the wax could be calculated. The volume of the waxed sample was determined using the process described in Section 2.1.1. The volume of the wax was subtracted from the volume of the waxed sample, with the net volume being the volume of the rock sample. The natural state bulk density was determined by dividing the sample mass by the sample volume. Natural state bulk density is reported in grams per cubic centimeter ($g/cm^3$).

Calibration checks consisted of measuring the density of either a magnesium bar or stainless steel ball.

### 2.1.3 Dry Bulk Density

The same sample used to determine the saturated or the natural state bulk density was used to determine dry bulk density. Samples tested for

natural state bulk density had the wax removed before the samples were dried. Samples were dried at ambient pressure at about 110°C for ≥ 48 hr. During the time that dry bulk density data were collected, the drying procedure was modified so that samples would meet a minimum weight change requirement before they were tested. Samples tested after the procedure was modified were first dried for 120 hr at about 110°C. The samples were then weighed and placed in the oven for another 24 to 36 hr at the same temperature. After that time, they were reweighed. If their weights were decreased by ≤ 0.05% of their previous weight, they had met the specification for "constant weight," and the last weight was used as the dry sample mass. The process was repeated until the weight-change specification was met. The sample volume used is the same volume determined in either its saturated or natural state condition. (A discussion of saturation effects on volume is found in Section 2.2.3.) The dry bulk density was determined by dividing the dry sample mass by either its saturated or natural state volume. Dry bulk density is reported in grams per cubic centimeter ($g/cm^3$).

Calibration checks again consisted of measuring the density of either a magnesium bar or stainless steel ball.

### 2.1.4 Grain Density Using a Water-Immersion Pycnometer

Sample preparation for grain-density measurements consisted of grinding a sample to a powder of about minus 100 mesh (≤ 0.015-cm particle size). In some cases, the volume of commercially available 100-ml glass volumetric flasks (pycnometers) was verified before grain-density measurements were made. If the volume of a pycnometer was not checked, the nominal value of 100 ml was assumed. About 30 g (about 10% of the volume of the pycnometer) of the powder was then placed in the preweighed pycnometer. The pycnometer containing the sample was then dried at ambient pressure at about 110°C for ≥ 48 hr and weighed. The grain mass of the sample was measured on a top-loading analytical balance by mass increase from the mass of the empty pycnometer. After allowing the pycnometer to cool, water was added to just below the fill line (100-ml scribe mark) and

deaerated under vacuum conditions until no air bubbles were observed when the pycnometer was swirled. A small amount of water was then added until the pycnometer was filled to the 100-ml scribe mark. The pycnometer was reweighed, with the increase in mass equal to the mass of water used to fill the pycnometer to the 100-ml scribe mark. The temperature of the water was then measured, allowing the volume of water in the pycnometer to be calculated from its mass and density. The density of air-free water was obtained from Table 2 of ASTM C693-84 (1985a). The grain volume of the powder was determined by subtracting the volume of water in the pycnometer from the volume of the 100-ml pycnometer. The grain density was determined by dividing the grain mass by the grain volume. Grain density using the water-immersion technique is reported in grams per cubic centimeter ($g/cm^3$).

Calibration checks consisted of measuring the grain density of powdered quartz using the same procedures used for the powdered rock sample.

### 2.1.5 Grain Density Using a Gas-Intrusion Pycnometer

Sample preparation for grain-density measurements consisted of grinding a sample to a powder of about minus 50 mesh ($\leq$ 0.025-cm particle size). About 30 g of the powder were dried at ambient pressure at about 110°C for $\geq$ 48 hr, then placed into a dessicator, which was either under vacuum or contained a commercial dessicant.

The gas-intrusion pycnometer operates on the principle that changes in the pressure of a nonadsorbing, pure gas (helium in these tests) in an enclosed vessel accompanying a discrete change in the volume of the vessel are a function of the volume of any material in the vessel. The pycnometer consists of a sample chamber that is connected to a variable volume chamber, a sealed bellows with an electrical contact on its top, and a pressure detector that touches the electrical contact when the sealed bellows is at full extension.

The operation of the pycnometer consists of placing an empty preweighed sample cup into the sample chamber, applying a vacuum to the sample chamber and variable volume chamber, and then backfilling the sample chamber, variable vacuum chamber, and the area housing the sealed bellows with helium gas at ambient pressure. The variable volume is then adjusted so that a slight pressure increase is achieved. This compresses the sealed bellows just enough to break the electrical contact between the bellows and the pressure detector. The change in the setting of the variable volume chamber is recorded. The pycnometer is then opened to air; then the sample cup is removed, filled with about 30 g of powdered sample, and returned to the sample chamber. The system is carefully evacuated (so as not to fluidize the powder), and then the sample chamber, variable volume chamber, and chamber housing the bellows are backfilled with helium to ambient pressure. The variable volume chamber is adjusted so that the bellows/pressure detector contact is broken, and the setting at which the contact was broken is recorded. The difference in variable volume settings between the runs of the empty and filled sample cup is equal to the grain volume of the sample in the sample cup. The filled sample cup was then removed from the sample chamber and weighed on a top-loading analytical balance, with the mass of the sample determined by mass increase from the mass of the empty sample cup. The grain density was determined by dividing the grain mass by the grain volume. Grain density using the gas-intrusion technique is reported in grams per cubic centimeter ($g/cm^3$).

Calibration checks consisted of measuring the volumes of metal spheres of known volume and measuring the grain density of powdered quartz. The quartz was measured following the same procedures used for the powdered rock sample.

### 2.1.6 Matrix Porosity

Porosity values were calculated from grain density (either water-immersion or gas-intrusion) and dry bulk-density results using the following formula:

$$\% \text{ Matrix Porosity} = 100 \left[1 - \frac{\text{Dry Bulk Density}}{\text{Grain Density}}\right]$$

## 2.2 Experiment Uncertainties

The accuracy of density and porosity measurements on tuff cannot be determined experimentally. In addition, for samples included in Appendix A, replicate measurements were not made; therefore, experimental determination of precision on tuff samples cannot be made. The determinations of experiment uncertainties for this report are based on the accuracy and precision for measured parameters (e.g., mass, length, temperature). The methods of calculating uncertainties are from a document to be published by Nimick et al. (Nimick, F. B., B. M. Schwartz, and R. H. Price, "Calculation of Experiment Uncertainty in Laboratory Determination of Several Geoengineering Properties," SAND88-3164, Sandia National Laboratories, Albuquerque, NM, in preparation). Discussion of experiment uncertainties are included in Sections 2.2.1 through 2.2.6. Because these data were not associated with specific samples in this report, these values are not included on the Data Compilation Forms in Appendix A. The discussion in the following section is focused on TSw2. The uncertainty values for each density should be an upper bound on uncertainties for thermal/mechanical units other than unit TSw2 that are discussed in this report. This results from the fact that, in general, TSw2 samples have the greatest mass for a given volume (Nimick et al., in preparation).

### 2.2.1 Saturated Bulk Density

Uncertainties in the measurement of saturated bulk density include errors in weighing wet samples and errors in measuring the buoyant volume of irregularly shaped samples. Weighing wet samples is difficult because the sample has to be blotted before weighing, and the blotting process is difficult to reproduce exactly. Difficulties in measuring buoyant volumes include surface tension effects between the sample and water and replication of the measurement of the buoyant volume of the device used to suspend the sample in water. The contribution of each of the above uncertainties

to overall accuracy and precision has not been quantified on rock samples. Determination of sample volume during saturated bulk density measurement was made either by buoyant weight (displacement in water) or using caliper (dimension measurement) methods. The following uncertainties are from Nimick et al. (in preparation). When determining sample volume using the buoyant method, the precision is about $4.72 \times 10^{-3}$ g/cm$^3$, the accuracy is about $1.27 \times 10^{-3}$ g/cm$^3$, and the experiment uncertainty is about $1.66 \times 10^{-2}$ g/cm$^3$.

When determining sample volume for TSw2 samples using the caliper method, the precision is about 0.01 g/cm$^3$, the accuracy ranged from 0.01 to 0.07 g/cm$^3$ and the experiment uncertainty ranged from 0.03 to 0.09 g/cm$^3$.

When determining sample volume from a single TSw1 sample (26-cm diameter by 53 cm long lithophysal sample) using the caliper method, the precision is about 0.005 g/cm$^3$, the accuracy is about 0.05 g/cm$^3$, and the experiment uncertainty is about 0.07 g/cm$^3$.

A major uncertainty (in terms of accuracy) in the application of saturated bulk-density data is the degree of saturation obtained by the sample to be tested. During the period of time that data were collected (about 4 yr), the procedures used to saturate samples changed from submersion in water at ambient temperature and pressure for a specified minimum time (72 hr) to vacuum saturation until the percentage of mass gained in a certain time period is less than a specified level. This change was made because the minimum time criterion was not sufficient to completely saturate low-permeability samples such as the welded tuff samples from the Topopah Spring Member at Yucca Mountain. The following is a summary of expected saturations from ambient pressure and vacuum saturation techniques.

Degree of Saturation for Samples Submerged in Water at Ambient Temperature and Pressure

Klavetter and Schwartz (7/31/84) showed that saturating TSw1 and TSw2 samples at ambient temperature and pressure for 72 hr resulted in saturations of 78% and 75% respectively. After 1.6 yr of saturating the

samples under the same conditions, both samples had saturations of about 95%. At the completion of 1.6 yr, the samples were vacuum and pressure saturated, resulting in an additional 1% increase in saturation. These data were collected on samples with a mass of about 165 g. These data indicate that for similar size samples that were saturated for about 72 hr at ambient temperature and pressure, the sample saturations could be as much as 25% below complete saturation. This would result in reported densities that may be falsely low, about 1.7% for TSw1 samples (porosity of about 0.15) and about 1.3% for TSw2 samples (porosity of about 0.12).

Degree of Saturation for Vacuum Saturated Samples

Klavetter and Schwartz (4/3/84) subjected 3 TSw2 samples that were of nominal dimensions 2.5-cm diameter by 5 cm long (that were not saturated at ambient temperature and pressure) to several vacuum and pressure saturations. In these tests, the saturation increased an average of 5.7% as a result of the pressure saturation. Assuming that the pressure phase resulted in saturations of 100%, the vacuum phase would result in reported saturated densities that may be falsely low by about 0.3%. Klavetter and Schwartz also show that for two TSw2 samples that were of nominal dimensions 5.0-cm diameter by 10 cm long, pressure saturation resulted in an average 9.5% increase in saturation compared to samples that were only vacuum saturated. These data indicate that saturated densities on similar size samples may be falsely low by about 3.7%.

There are no data pertaining to the accuracy of saturated bulk densities that were measured using tuff samples. The results of calibration checks (Table 1) suggest that the precision of saturated bulk-density measurements on tuff samples would be no better than 0.0045 g/cm$^3$, the larger value from the two laboratories represented in Table 1. These data on calibration standards as they pertain to precision of data are a best-case, because the measurement processes for volume and mass of saturated, porous solid samples are more difficult to reproduce than are those for measuring the nonporous standards used in calibration checks. The measured precision of standards compares to within 0.0002 g/cm$^3$ of the estimated precision from Nimick et al. (in preparation).

TABLE 1

PRECISION OF BULK-DENSITY CALIBRATION CHECKS

| Laboratory A* (Unknown Material) | | Laboratory B** (Magnesium Alloy) | |
|---|---|---|---|
| Run No. | Bulk Density ($g/cm^3$) | Run No. | Bulk Density ($g/cm^3$) |
| | $\bar{X}$ = 1.778 $g/cm^3$ | | $\bar{X}$ = 1.742 $g/cm^3$ |
| | $\sigma(n - 1)$ = 0.0029 $g/cm^3$ | | $\sigma(n - 1)$ = 0.0045 $g/cm^3$ |
| 1 | 1.776 | 1 | 1.75 |
| 2 | 1.776 | 2 | 1.74 |
| 3 | 1.776 | 3 | 1.74 |
| 4 | 1.78 | 4 | 1.74 |
| 5 | 1.78 | 5 | 1.74 |
| 6 | 1.78 | | |
| 7 | 1.776 | | |
| 8 | 1.776 | | |
| 9 | 1.776 | | |
| 10 | 1.776 | | |
| 11 | 1.776 | | |
| 12 | 1.776 | | |
| 13 | 1.776 | | |
| 14 | 1.7838 | | |
| 15 | 1.7792 | | |
| 16 | 1.785 | | |
| 17 | 1.779 | | |

*Calibration checks for Laboratory A are filed in the following SNL YMP Data Records Management System (DRMS) Data Sets:

Runs 1-3 (51/L03-6/21/82)
Runs 4-6 (51/L03-7/1/82)
Runs 7-9 (51/L03-9/7/82)
Runs 10-13 (51/L03-5/25/84)
Runs 14-17 (51/L03-1/18/85)

**Calibration checks for Laboratory B are filed in DRMS Data Set 51/L03-11/1/80

The precisions of dry and saturated bulk specific gravities of coarse aggregate are provided in ASTM C127-84 (1985b). Although the minimum mass of the test sample is about 2,000 g, and the sample sizes ranged from less than 0.13 to 15.24 cm, the data are being mentioned here because data

concerning the precision of the bulk density of rock samples are scarce and ASTM procedures and information are nationally recognized. The ASTM data for multilaboratory precision (ASTM, 1985b) show a standard deviation of 0.013 for dry-bulk specific gravity and 0.011 for saturated-bulk specific gravity.

In the absence of similar data for tuff, the values are assumed to apply to tuff as well as the "coarse aggregate" used by ASTM.

### 2.2.2 Natural State Bulk Density

Uncertainties in the measurement of natural state bulk density include water loss from the sample that results from drying during the weighing process and inaccuracy in determining the buoyant volume of the sample that results from incomplete waxing of the sample and subsequent infiltration of water during buoyant weighing. This has been verified by the observation of a steady increase in buoyant mass when cracks are present in the wax coating. Neither of these uncertainties has been quantified.

A major limitation on the use of natural state bulk-density data is the degree to which sample saturations are representative of in situ saturations. The areas of uncertainty include the effects on sample saturation that result from introducing drilling fluid into the rock during downhole coring, the amount of time that elapsed after the core was brought to the surface and before it was wrapped (in aluminum foil) and waxed, the amount of dehydration that occurred after wrapping and waxing, and any dehydration that might have occurred during removal of the wax and the wrapping material and creating the test sample.

Nimick et al. (in preparation) have estimated that for natural-state bulk densities of TSw2 samples, the precision is about 0.004 $g/cm^3$, the accuracy is about 0.016 $g/cm^3$, and the experiment uncertainty is about 0.029 $g/cm^3$.

### 2.2.3 Dry Bulk Density

Uncertainties in the measurement of dry bulk density include not knowing how dry the sample was during the measurement of sample mass (the specification was for the sample to be dried for ≥ 48 hr at 110°C). Typically, samples were dried for longer than the specification, but records were not kept of how much longer. Another uncertainty involves the effect of dehydration on sample-volume reductions. This is a factor because sample masses were measured on dried samples, and sample volumes measured for either saturated or natural state bulk density were used to calculate the dry bulk density. Nimick and Schwartz (1987) reported that for tuff samples, volume reduction resulting from dehydration is insignificant compared to the effect of normal experiment error. Time-dependent thermal expansions that were run by Schwartz are summarized in Table 2. The data from samples of the same thermal/mechanical units measured in this report indicate volume reductions of less than 0.71% after being heated in air at 100°C for at least 20 hr. Although these data are from samples below TSw2, it is expected that the volume reductions in TSw1 and TSw2 are less than or equal to these numbers because of the lower average porosity and general absence of zeolites and clays in these units.

Nimick et al. (in preparation) have estimated that for dry-state bulk densities from TSw2, the precision is about 0.001 g/cm$^3$, the accuracy is about 0.0001 g/cm$^3$, and the experiment uncertainty is about 0.003 g/cm$^3$.

### 2.2.4 Grain Density Using a Water-Immersion Pycnometer

A potential source of error in this measurement is the incomplete removal of trapped air from the pycnometer. Although the water in the pycnometers was deaerated, it is not possible to remove all of the air. This can lead to falsely high grain volumes and systematically low grain densities. In addition, the ability to read a meniscus with good reproducibility is difficult under the best conditions. When samples contain clays or zeolites, the increased turbidity and the effect on surface tension (between the glass and the water) make reading the meniscus less accurate and reproducible (Schwartz, 1985).

TABLE 2

VOLUME REDUCTIONS IN TUFF SAMPLES DURING TIME-DEPENDENT THERMAL EXPANSION TESTS

| Sample ID** | Unit | Thermal History | Volume Reduction % |
|---|---|---|---|
| G1 1288.9 | TSw3 | 22 hr at 22°C, 20 hr at 100°C, and 34 hr at ambient temperature | 0.06 |
| G1 1313.0 | TSw3 | 63 hr at 22°C, 26 hr at 100°C, and 59 hr at ambient temperature | 0.0 |
| G1 1342.1 | CHnlv | 65 hr at 22°C, 26 hr at 100°C, and 27 hr at ambient temperature | 0.0 |
| G1 1359.1 | CHnlv | 27 hr at 22°C, 67 hr at 100°C, and 24 hr at ambient temperature | 0.11 |
| G1 1362.4 | CHnlv | 20 hr at 22°C, 27 hr at 100°C, and 25 hr at ambient temperature | 0.06 |
| G1 1395.8 | CHnlz | 21 hr at 22°C, 26 hr at 100°C, and 64 hr at ambient temperature | 0.71 |
| G1 1668.0 | CHnlz | 48 hr at 22°C, 29 hr at 100°C, and 83 hr at ambient temperature | 0.24 |
| G1 1744.0 | CHnlz | 43 hr at 22°C, 26 hr at 100°C, and 86 hr at ambient temperature | 0.39 |

*These time-dependent data are filed in the SNL YMP DRMS Data Set 51/L01B-5/1/80.

**All numbers in the sample IDs are representative of depth in feet.

There are no data pertaining to the accuracy of water-immersion grain densities for tuff samples. The combined results of calibration checks performed in two laboratories using a quartz powder suggest that the accuracy and precision of grain-density measurements on tuff samples would be no better than 0.005 and 0.018 g/cm$^3$, respectively (Table 3). This value differs from the value stated by Schwartz (1985) because this report

## TABLE 3

### PRECISION OF GRAIN DENSITY (WATER-IMMERSION) CALIBRATION CHECKS USING ALPHA QUARTZ

| Laboratory A[a] | | Laboratory B[b] | |
|---|---|---|---|
| Run No. | Grain Density (g/cm³) | Run No. | Grain Density[c,d] (g/cm³) |
| | $\bar{X}$ = 2.640g/cm³ | | $\bar{X}$ = 2.643 g/cm³ |
| | $\sigma(n - 1)$ = 0.022 g/cm³ | | $\sigma(n - 1)$ = 0.005 g/cm³ |
| 1 | 2.64 | 1 | 2.652 |
| 2 | 2.65 | 2 | 2.641 |
| 3 | 2.66 | 3 | 2.638 |
| 4 | 2.65 | 4 | 2.642 |
| 5 | 2.63 | 5 | 2.643 |
| 6 | 2.63 | 6 | 2.636 |
| 7 | 2.64 | 7 | 2.643 |
| 8 | 2.64 | 8 | 2.651 |
| 9 | 2.56 | 9 | 2.644 |
| 10 | 2.63 | 10 | 2.642 |
| 11 | 2.63 | | |
| 12 | 2.65 | | |
| 13 | 2.65 | | |
| 14 | 2.65 | | |
| 15 | 2.68 | | |
| 16 | 2.65 | | |
| 17 | 2.64 | | |
| 18 | 2.64 | | |
| 19 | 2.628 | | |
| 20 | 2.638 | | |
| 21 | 2.646 | Combined Data: | X = 2.641 g/cm³ |
| | | | $\sigma(n - 1)$ = 0.018 g/cm³ |

a. Calibration checks for Laboratory A are filed in the following SNL YMP Data Records Management System (DRMS) Data Sets:

Runs 1-8 (51/L03-6/21/82)
Runs 10-16 (51/L03-9/7/82)
Run 18 (51/L03-8/31/84)
Run 9 (51/L03-7/2/82)
Run 17 (51/L03-4/17/84)
Runs 19-21 (51/L03-1/18/85).

b. Calibration checks for Laboratory B are filed in DRMS Data Set 51/L03-1/5/82.

c. The accepted density of alpha quartz is 2.647 g/cm³ (ASTM C604-79).

d. Laboratory B values were previously reported by Schwartz (1985).

uses the average of two laboratories, whereas Schwartz only reported the results of his own work.

Nimick et al. (in preparation) have estimated that for grain density (water immersion) of TSw2 samples, the precision is about 0.005 g/cm$^3$, the accuracy is about 0.012 g/cm$^3$, and the experiment uncertainty is about 0.028 g/cm$^3$.

### 2.2.5 Grain Density Using a Gas-Intrusion Pycnometer

One source of error in the measurement process is the effect of temperature changes during testing; small changes in temperature can significantly affect the volume of a gas such as helium. The gas pycnometer also uses a vacuum pump-down that removes some adsorbed water bound to the powdered sample; this increases the uncertainty of sample moisture content (Schwartz, 1985).

The results of calibration checks using a quartz powder suggest an accuracy and precision of gas-intrusion grain-density measurements on tuff to be 0.016 and 0.014 g/cm$^3$, respectively (Schwartz, 1985).

The total experiment uncertainty using the expression in Nimick et al. (in preparation) would be about 0.061 g/cm$^3$.

### 2.2.6 Matrix Porosity

Because matrix porosity was calculated from two measured values (grain density and dry bulk density), both techniques contribute to the precision, accuracy, and uncertainty of matrix porosity.

Nimick et al. (in preparation) have estimated that for matrix porosity of samples from TSw2, the precision is about 0.0018, the accuracy is about 0.0041, and the experiment uncertainty is about 0.01. Samples used in this analysis were from TCW through CHn2z, with porosities ranging from 0.032 through 0.324.

## 3.0 REFERENCES


ASTM (American Society for Testing and Materials), "Standard Test Method for Density of Glass by Buoyancy," C693-84, 1985 Annual Book of ASTM Standards, Section 15, Vol. 15.02, pp. 395-397, 1985a. (NNA.900118.0205)

ASTM (American Society for Testing and Materials), "Standard Test Method for Specific Gravity and Absorption of Coarse Aggregate," C127-84, 1985 Annual Book of ASTM Standards, Section 4, Vol. 04.02, pp. 82-87, 1985b. (NNA.900118.0206)

ASTM (American Society for Testing and Materials), "True Specific Gravity of Refractory Materials by Gas-Comparison Pycnometer," C604-79, 1985 Annual Book of ASTM Standards, Section 15, Vol. 15.01, pp. 258-260, 1985c. (NNA.900118.0207)

Nimick, F. B., and B. M. Schwartz, "Bulk, Thermal, and Mechanical Properties of the Topopah Spring Member of the Paintbrush Tuff, Yucca Mountain, Nevada," SAND85-0762, Sandia National Laboratories, Albuquerque, NM, September 1987. (SRX.871014.6257)

Ortiz, T. S., R. L. Williams, F. B. Nimick, B. C. Whittet, and D. L. South, "A Three-Dimensional Model of Reference Thermal/Mechanical and Hydrological Stratigraphy at Yucca Mountain, Southern Nevada," SAND84-1076, Sandia National Laboratories, Albuquerque, NM, October 1985. (NNA.890315.0013)

Schwartz, B. M., "Grain Density Measurements of Ash Flow Tuffs: An Experimental Comparison of Water Immersion and Gas Intrusion Pycnometer Techniques," SAND83-1327, Sandia National Laboratories, Albuquerque, NM, August 1985. (NNA.891222.0024)

Weast, R. C., Handbook of Chemistry and Physics, 52nd edition, The Chemical Rubber Co., Cleveland, OH, 1971. (NNA.890713.0174)

# APPENDIX A

## DATA COMPILATION FORMS FOR DRILLHOLE UE-25a#1

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4930 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 88.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.37 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.7 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 88.24 | 87.03 | 30.02 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4944 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 108.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.41 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.4 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 111.35 | 107.18 | 30.06 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4837 SAMPLE ORIGIN UE-25ø1

SAMPLE INTERVAL (ft) 185.0 TEST ø 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.06 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.86 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 26.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 100.74 | 90.58 | 30.01 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4826 SAMPLE ORIGIN UE-25ø1

SAMPLE INTERVAL (ft) 212.7 TEST ø 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 1.44 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.13 | N/D | 2.46 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 54.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 91.92 | 72.32 | 29.85 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 1 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 338.3-338.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.264 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.081 | N/D | 2.585 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 19.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 112.922 | N/A | 103.837 | 27.605 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 8/21/84 vacuum saturation data sheet written by B. M. Schwartz, SWL 6313.

• Sample dried to constant weight at 105°C per 8/30/84 oven-dry data sheet written by B. M. Schwartz, SWL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 346.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.268 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.110 | N/D | 2.594 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 18.7 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 92.470 | N/A | 86.002 | 27.059 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 8/21/84 vacuum saturation data sheet written by B. M. Schwartz, SWL 6313.

• Sample dried to constant weight at 105°C per 8/30/84 oven-dry data sheet written by B. M. Schwartz, SWL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 3 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 365.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.338 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.221 | N/D | 2.564 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.4 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 138.388 | N/A | 132.349 | 27.545 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 4 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 372.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.332 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.202 | N/D | 2.577 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 71.041 | N/A | 67.138 | 26.825 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 5 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 387.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.342 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.221 | N/D | 2.540 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 103.458 | N/A | 98.119 | 27.605 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SWL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SWL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 6 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 391.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.331 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.207 | N/D | 2.534 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 99.869 | N/A | 94.503 | 27.307 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SWL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SWL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 7 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 444.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.300 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.178 | N/D | 2.534 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 93.816 | N/A | 88.825 | 27.660 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 8 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 450.0-450.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.290 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.155 | N/D | 2.520 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 120.434 | N/A | 113.316 | 28.853 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 864.5-865.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | (SBD-DBD) 100 | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 36.75 | N/A | 34.74 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Dry density run on 12/19/80.

Dried at 65°C for 48 hr at ambient pressure.

Grain density calculated by GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -1 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 864.5-865.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.628 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 10.44 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Grain density value is average of 3 volume measurements.

Moisture content of powder unknown.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 2458 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 723.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.33 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.9 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 265.67 | 254.04 | 30.01 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4048 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 729.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.36 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.4 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 164.78 | 157.33 | 30.05 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 730.3-730.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | (SBD-DBD) 100 | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 15.22 | N/A | 14.47 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Dry bulk run on 12/10/80.

Dried at 85°C for 48 hr at ambient pressure.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -2 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 730.3-730.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.622 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 16.24 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-8/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Grain density value is average of 3 volume measurements.

Moisture content of powder unknown.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -3 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 730.3-730.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.575 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 15.15 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-8/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Grain density value is average of 3 volume measurements.

Moisture content of powder unknown.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4950 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 734.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.37 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 143.56 | 137.96 | 30.06 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4940 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 738.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.37 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.27 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.3 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 145.34 | 139.45 | 30.83 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 9 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 768.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.374 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.247 | N/D | 2.589 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 72.321 | N/A | 68.433 | 27.189 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 10 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 776.3-776.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.431 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.341 | N/D | 2.605 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 140.296 | N/A | 135.107 | 26.772 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 11 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 818.2-818.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.331 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.172 | N/D | 2.599 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.4 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 111.541 | N/A | 103.831 | 28.121 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 12 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 825.1-825.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.318 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.155 | N/D | 2.585 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 134.330 | N/A | 124.932 | 26.228 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 13 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 870.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.328 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.161 | N/D | 2.566 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 120.685 | N/A | 113.081 | 26.732 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 14 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 876.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.261 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.077 | N/D | 2.587 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 19.7 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 88.420 | N/A | 90.398 | 28.413 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 904.2-904.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.350 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.228 | N/D | 2.582 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.7 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 103.135 | N/A | 97.812 | 27.540 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 812.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.337 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.200 | N/D | 2.590 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 90.151 | N/A | 84.845 | 26.893 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-1/18/85 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SWL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SWL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4945 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1104.4 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.41 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 105.71 | 103.16 | 30.02 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-12/1/78 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4943 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1107.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.39 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | 2.60 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.9 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 85.82 | 81.72 | 30.03 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1122.7-1123.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | (SBD-DBD) 100 | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 43.05 | N/A | 41.35 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Dry bulk density run on 12/10/80.

Dried at 65°C for 24 hr at ambient pressure.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -4 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1122.7-1123.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.583 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 7.34 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Grain density value is average of 3 volume measurements.

Moisture content of powder unknown.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 17 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1150.8-1150.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.364 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.223 | N/D | 2.579 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 79.491 | N/A | 75.107 | 27.893 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/10/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 18 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1154.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.308 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.149 | N/D | 2.565 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 87.188 | N/A | 81.152 | 26.386 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 19 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1186.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.278 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.098 | N/D | 2.564 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 18.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 106.882 | N/A | 98.386 | 26.868 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 20 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1181.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.210 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.016 | N/D | 2.568 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 21.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 126.629 | N/A | 115.027 | 29.760 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 21 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1242.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.308 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.289 | N/D | 2.547 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD) | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 103.370 | N/A | 99.072 | 26.678 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 22 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1247.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.381 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.284 | N/D | 2.536 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.9 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 66.837 | N/A | 64.131 | 26.075 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4949 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1250.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.41 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 132.24 | 126.37 | 30.06 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 23 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1252.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.418 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.338 | N/D | 2.527 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 7.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 111.544 | N/A | 107.725 | 26.976 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4947 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1253.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.41 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.9 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 149.36 | 144.66 | 29.98 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4939 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1255 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.35 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.3 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 94.38 | 91.80 | 30.07 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4936 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1257.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.38 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.55 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 101.68 | 97.82 | 30.01 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4842 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1284.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.30 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 151.71 | 143.20 | 30.04 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4846 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1290.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.10 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.08 | N/D | 2.43 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 74.11 | 71.14 | 30.00 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1366.5-1367.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.94 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.66 | N/D | 2.31 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 28.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | (SBD-DBD) 100 | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 40.65 | N/A | 34.82 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Dry bulk density run on 12/19/80.

Dried at 65°C for 48 hr at ambient pressure.

Grain density calculated using GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4932 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1370 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.93 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.83 | N/D | 2.36 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 30.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 72.90 | 61.33 | 29.78 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4933 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1301.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.87 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.53 | N/D | 2.38 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 36.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 70.24 | 57.36 | 29.89 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4931 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1413.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.94 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.63 | N/D | 2.36 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 30.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 52.62 | 44.30 | 29.94 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4930 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1426.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.83 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.62 | N/D | 2.37 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 31.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 72.21 | 60.53 | 29.95 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4929 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1448.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.91 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.58 | N/D | 2.40 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 34.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 84.65 | 53.41 | 29.78 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4925 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1471.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.94 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.63 | N/D | 2.43 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 32.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 68.75 | 58.00 | 29.93 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 2450 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1490.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.99 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.74 | N/D | 2.42 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 28.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 65.53 | 75.11 | 30.95 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1547.6-1548.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.96 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.68 | N/D | 2.33 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 28.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | (SBD-DBD) 100 | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 38.07 | N/A | 32.62 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Dry bulk density run on 12/19/80.

Dried at 65°C for 48 hr at ambient pressure.

Grain density calculated using GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -7 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1547.6-1548.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.168 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 11.88 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Grain density value is average of 3 volume measurements.

Moisture content of powder unknown.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 2068 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1555 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.94 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.66 | N/D | 2.46 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 32.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 92.71 | 78.90 | 31.12 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 2069 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1561 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.95 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.65 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 33.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 177.03 | 150.11 | 28.55 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 2460 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1605.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 1.83 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.67 | N/D | 2.37 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 28.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 111.12 | 95.78 | 31.04 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 2461 SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1662.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 1.87 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.55 | N/D | 2.38 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 34.9 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 107.66 | 89.29 | 31.28 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA-SET ID 51/L03-12/1/78 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4934 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1673.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.86 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.48 | N/D | 2.42 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 38.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 68.00 | 54.23 | 29.99 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/10/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID No. 4935 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1692 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.87 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.52 | N/D | 2.38 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 36.4 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 44.20 | 36.00 | 27.73 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-12/1/78 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/10/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax-coated sample.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1718.2-1719.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.85 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.48 | N/D | 2.35 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 37.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | (SBD-DBD) 100 | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 10.84 | N/A | 8.77 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Dry bulk density run on 12/19/80.

Dried at 65°C for 48 hr at ambient pressure.

Grain density calculated using GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN UE-25e#1

SAMPLE INTERVAL (ft) 1718.2-1719.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.425 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 11.27 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Grain density value is average of 3 volume measurements.

Moisture content of powder unknown.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -8 SAMPLE ORIGIN UE-25a#1

SAMPLE INTERVAL (ft) 1718.2-1719.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.889 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.77 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-8/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Grain density value is average of 3 volume measurements.

Moisture content of powder unknown.

# APPENDIX B

## DATA COMPILATION FORMS FOR DRILLHOLE USW G-1

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 751.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.08 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 17.93 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 123.25 | N/A | N/D | 10.21 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 810.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.56 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 166.57 | N/A | N/D | 17.95 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 810.3-810.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.00 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 142.55 | N/A | N/D | 12.02 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 890.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.02 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 88.71 | N/A | N/D | 16.37 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 959.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.17 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.57 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 202.14 | N/A | N/D | 14.78 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1017.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.99 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 144.79 | N/A | N/D | 15.93 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1021.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 590.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Vugged sample. Saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1047.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | 2.55 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.37 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 64.75 | N/A | N/D | 10.48 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1060.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 775.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Vugged; saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

Balance calibration check performed on 11/23/82 by RMS.

1) 300 gm weight reads 299.99 g.

2) 150 gm weight reads 150.00 g.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1096.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 639.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Vugged; saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1100.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.16 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.96 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 53.96 | N/A | N/D | 12.63 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1151.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.16 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.63 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 154.04 | N/A | N/D | 13.59 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1154.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 383.61 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Vugged; saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1163.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 467.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Vugged; saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. *SAMPLE LOCATION AND IDENTIFICATION*

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1179.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1.- DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 197.52 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1189 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 767.4 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1210.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.02 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 40.14 | N/A | N/D | 11.25 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1222.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.41 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 70.88 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1262 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.44 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 351.04 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1279.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.43 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 503.3 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated for 2 weeks in J-13 $H_2O$ at ambient temperature and pressure.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1288.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.41 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 3.73 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 140.85 | N/A | N/D | 15.82 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1332.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.39 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 3.35 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 103.06 | N/A | N/D | 9.71 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1385.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.91 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.59 | N/D | 2.37 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 32.91 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 127.3 | N/A | N/D | 6.32 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1469.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.89 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.53 | N/D | 2.41 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 36.51 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 88.80 | N/A | N/D | 11.77 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1514.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.93 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.59 | N/D | 2.40 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 33.75 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 31.27 | N/A | N/D | 8.14 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1571.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.85 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.47 | N/D | 2.38 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 38.40 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 66.07 | N/A | N/D | 7.42 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1633.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.85 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.63 | N/D | 2.45 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 33.47 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 39.89 | N/A | N/D | 6.30 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1667.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.92 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.58 | N/D | 2.44 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 35.25 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.01 | N/A | N/D | 7.96 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1722.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.93 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.59 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 35.89 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 55.87 | N/A | N/D | 7.48 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-1

SAMPLE INTERVAL (ft) 1784.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.00 | N/D | 2.62 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 23.88 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 154.82 | N/A | N/D | 7.53 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-1/13/81 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

# APPENDIX C

## DATA COMPILATION FORMS FOR DRILLHOLE USW G-2

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID A SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 797.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | 2.44 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 4.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.71 | N/A | 59.67 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID B SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 797.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | 2.43 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 3.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.87 | N/A | 60.12 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 1 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 797.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | 2.40 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 2.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 489.21 | N/A | 483.69 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 797.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | 2.43 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 4.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 489.05 | N/A | 481.58 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

## BULK PROPERTIES DATA COMPILATION FORM FOR THE NNMSI PROJECT SEPDB

**PART 1. SAMPLE LOCATION AND IDENTIFICATION**

SAMPLE ID: A — SAMPLE ORIGIN: USW G-2

SAMPLE INTERVAL (ft): 814.4 — TEST # 1

**PART 2. PARAMETERS**

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.36 | N/D | 2.43 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 3.0 | N/D |

**PART 3. EXPERIMENT CONDITIONS**

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 50.00 | N/A | 50.00 | N/A |

**PART 4. REFERENCE AND SUPPORTING INFORMATION**

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD — SNL NNMSI PROJECT DATA SET ID: 51/L02-3/30/84 — SNL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) — 6313 (SNL Div.) — 12/17/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 g/cm³.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).


## BULK PROPERTIES DATA COMPILATION FORM FOR THE NNMSI PROJECT SEPDB

**PART 1. SAMPLE LOCATION AND IDENTIFICATION**

SAMPLE ID: A — SAMPLE ORIGIN: USW G-2

SAMPLE INTERVAL (ft): 940.4 — TEST # 1

**PART 2. PARAMETERS**

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.0 | N/D |

**PART 3. EXPERIMENT CONDITIONS**

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.04 | N/A | 50.00 | N/A |

**PART 4. REFERENCE AND SUPPORTING INFORMATION**

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD — SNL NNMSI PROJECT DATA SET ID: 51/L02-3/30/84 — SNL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) — 6313 (SNL Div.) — 12/17/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 g/cm³.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID B SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 948.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.30 | N/A | 57.90 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID D SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 948.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.41 | N/A | 58.40 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID C SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 949.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.47 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 7.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.36 | N/A | 58.53 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights. Weights were measured just before mechanical testing. Weights used are documented on page 3 of Terra Tek report of February 13, 1985. Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID A SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 969.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.40 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 7.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 61.10 | N/A | 59.33 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID B SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 969.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.85 | N/A | 58.86 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID D SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 969.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 492.82 | N/A | 475.61 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID A SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1297.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.16 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.84 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 22.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 54.85 | N/A | 49.28 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID B SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1297.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.14 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.90 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 24.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 54.76 | N/A | 48.66 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1526.3-1527.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.35 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.46 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 77.620 | 73.996 | 44.672 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax technique.

Sample dried for DBD at 105°C for ≥24 hr.

Grain density tested on 100-mesh powder dried at 105°C for ≥24 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1559.0-1559.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.28 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.12 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.21 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 46.268 | 43.016 | 44.013 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax technique.

Sample dried for DBD at 105°C for ≥24 hr.

Grain density tested on 100-mesh powder dried at 105°C for ≥24 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID A SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1561.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | 2.49 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 59.72 | N/A | 57.01 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID C SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1561.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.12 | N/A | 57.59 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID D SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1561.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.11 | N/A | 57.67 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID E SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1561.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | 2.25 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 59.83 | N/A | 56.70 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID A SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1579.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.81 | N/A | 58.59 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID C SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1579.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.15 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 58.80 | N/A | 55.15 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain Density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID D SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1579.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.19 | N/A | 57.88 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Berry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID E SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1579.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 59.85 | N/A | 56.92 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Berry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 24 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1580.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.284 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.106 | N/D | 2.602 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 19.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 51.067 | N/A | 47.082 | 26.598 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 25 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1582.6-1582.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.390 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.294 | N/D | 2.594 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 159.424 | N/A | 152.967 | 29.897 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID B SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1587.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.80 | N/A | 58.70 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID D SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1587.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.40 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 7.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 61.23 | N/A | 59.35 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 26 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1600.0-1600.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.270 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.107 | N/D | 2.528 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.7 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 173.575 | N/A | 161.117 | 29.131 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/10/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 27A SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1608.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.324 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.191 | N/D | 2.553 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 75.123 | N/A | 70.809 | 26.809 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/10/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 27B SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1608.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.304 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.156 | N/D | 2.542 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 70.014 | N/A | 66.377 | 27.154 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 28 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1613.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.402 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.301 | N/D | 2.567 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 82.484 | N/A | 74.028 | 27.204 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 29 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1624.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.310 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.236 | N/D | 2.515 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 113.799 | N/A | 109.724 | 28.031 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 30 SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1628.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.355 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.206 | N/D | 2.627 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 140.170 | N/A | 131.315 | 28.514 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID A SAMPLE ORIGIN USW G-2

SAMPLE INTERVAL (ft) 1859.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | 2.36 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 4.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See Comments | Matrix | 100(SBD-DBD)/WD[b] | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 58.83 | N/A | 57.76 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L02-3/30/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Berry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density derived from caliper volume, postvacuum saturation weights.

Dry bulk densities derived from caliper volume and post-oven-dry weights.

Grain density calculated from GD = DBD/(1 + DBD - SBD).

# APPENDIX D

## DATA COMPILATION FORMS FOR DRILLHOLE USW GU-3

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 1 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 40.0-40.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.34 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.78 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 111.40 | 106.56 | 27.10 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 1 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 57.8-58.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 461.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 1 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 57.8-58.3 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 462.33 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 75.1-75.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.25 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 450.88 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 76.7-78.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 461.5 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 76.7-78.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 461.87 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 78.0-78.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.26 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.11 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.26 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 239.21 | 223.17 | 23.40 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

Grain density test data was from a rerun.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 3 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 79.0-79.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.27 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.12 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.54 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 75.17 | 70.30 | 26.93 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

Grain density test data was from a rerun.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 82 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.492 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 15.439 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 3 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 87.2-87.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.10 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 454.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 3 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 87.2-87.8 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.22 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 455.10 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 4A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 100.2-101.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 469.0 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 4A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 100.2-101.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 466.73 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

Compressive test #50.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 4B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 100.2-101.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 466.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 59 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 100.2-101.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.34 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

Sample ID is compressive - test #.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 5 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 117.8-118.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 468.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 5 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 117.8-118.4 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 469.24 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 121.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.491 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 11.698 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 4 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 121.3-121.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.29 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.16 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.94 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 146.66 | 138.14 | 23.80 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 6 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 122.9-123.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 464.5 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 6 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 122.0-123.5 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 464.76 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 7 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 123.5-124.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 466 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 7 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 123.5-124.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 485.75 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND86-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 5 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 126.8-127.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.30 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | 2.49 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.45 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 129.10 | 122.51 | 29.40 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND86-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 6 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 139.9-140.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.36 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.16 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 204.20 | 198.94 | 34.45 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 155 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.487 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.500 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 7 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 157.6-158.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.37 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.73 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 207.54 | 200.90 | 31.57 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 8 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 182.4-182.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.36 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.88 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 95.25 | 91.82 | 30.22 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 9 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 209.4-209.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.38 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.47 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 154.34 | 150.05 | 23.62 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND86-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

Grain density test data are from a rerun.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 10 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 230.2-230.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.34 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.24 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.46 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 138.00 | 133.01 | 90.02 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND86-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 11 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 255.0-255.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.37 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.88 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 243.40 | 234.47 | 26.26 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 257 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.491 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 16.734 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 12 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 285.6-288.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.42 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | 2.59 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.27 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 188.51 | 183.06 | 28.20 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 8 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 302.8-303.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 487.0 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 8 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 302.8-303.4 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 487.24 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 13 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 305.1-305.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.38 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 7.60 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 175.52 | 170.50 | 31.03 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 9 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 312.9-313.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 477.30 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 9 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 312.9-313.4 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 477.60 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 313.4-314.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 476.95 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 318 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.480 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 18.301 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 14 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 319.95-320.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.37 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.33 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 223.67 | 217.62 | 26.94 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 10 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 320.2-320.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 481.0 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 10 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 320.2-320.7 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 481.27 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 11 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 323.0-323.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 485.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 11 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 323.0-323.8 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 485.66 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-0/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 12 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 325.6-326.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 488.5 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-0/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 12 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 325.8-326.2 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 488.54 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 13 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 326.4-326.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 485.3 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 13 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 326.4-326.9 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 485.09 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 14 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 332.5-333.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 477.70 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber coating used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 14 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 332.5-333.2 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 477.90 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 339.8-340.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.11 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.98 | N/D | 2.44 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 18.85 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 110.75 | 103.67 | 35.70 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 356.8-357.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 56.04 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 360.0-360.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.05 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 47.23 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 363.3-363.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 1.96 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.70 | N/D | 2.46 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 30.89 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 155.33 | 133.23 | 23.57 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0611

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 374 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.408 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 15.453 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/87 SNL DATA REPORT NUMBER SAND88-0611

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 375.0-375.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.68 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 339.78 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 377.3-377.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.52 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 310.24 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 378.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) $(g/cm^3)^a$ | ESTIMATED SBD UNCERTAINTY $(g/cm^3)^a$ | NATURAL STATE BULK DENSITY (NSBD) $(g/cm^3)^a$ | ESTIMATED NSBD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) $(g/cm^3)^a$ | ESTIMATED DBD UNCERTAINTY $(g/cm^3)^a$ | GRAIN DENSITY (GD) $(g/cm^3)^a$ | ESTIMATED GD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | 2.352 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 16.413 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 387.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) $(g/cm^3)^a$ | ESTIMATED SBD UNCERTAINTY $(g/cm^3)^a$ | NATURAL STATE BULK DENSITY (NSBD) $(g/cm^3)^a$ | ESTIMATED NSBD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) $(g/cm^3)^a$ | ESTIMATED DBD UNCERTAINTY $(g/cm^3)^a$ | GRAIN DENSITY (GD) $(g/cm^3)^a$ | ESTIMATED GD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | 2.437 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.543 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: none
SAMPLE ORIGIN: USW GU-3
SAMPLE INTERVAL (ft): 431.5-432.5
TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.48 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.08 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 92.808 | 98.038 | 57.454 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD
SWL NNWSI PROJECT DATA SET ID: 51/L03-0/7/82
SWL DATA REPORT NUMBER: SAND86-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used was technique.

Sample dried for DBD at 105°C for ≥24 hr.

Grain density tested on 100-mesh powder dried at 105°C for ≥24 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: none
SAMPLE ORIGIN: USW GU-3
SAMPLE INTERVAL (ft): 433.5-433.9
TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 471.87 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD
SWL NNWSI PROJECT DATA SET ID: 51/L03-0/7/82
SWL DATA REPORT NUMBER: SAND86-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 17 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 435.8-436.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.12 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.99 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 22.87 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 220.68 | 207.10 | 25.94 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 436.0-436.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.15 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 440.40 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 438.0-438.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.15 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 445.0 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 438.0-438.9 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.17 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 445.50 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

Compressive test #47.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 438.0-438.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.15 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 448.3 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 438.0-438.9 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.17 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 445.37 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

Compressive test #48.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 451.2-452.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.17 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 450.90 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-0/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 451.2-452.2 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 450.92 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-0/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

Compressive test #34.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 451.2-452.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 450.10 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 451.2-452.2 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 450.78 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

Compressive test #49.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 18 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 452.5-452.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.18 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.05 | N/D | 2.55 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 19.61 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 311.41 | 201.42 | 31.58 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 17 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 462.4-462.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 454.50 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 17 SAMPLE ORIGIN

SAMPLE INTERVAL (ft) 462.4-462.8 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 50.40 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 18 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 475.8-476.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.25 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.11 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.60 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 60.36 | 56.61 | 26.05 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 18 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 480.3-481.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] $(g/cm^3)^a$ | ESTIMATED SBD UNCERTAINTY $(g/cm^3)^a$ | NATURAL STATE BULK DENSITY [NSBD] $(g/cm^3)^a$ | ESTIMATED NSBD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] $(g/cm^3)^a$ | ESTIMATED DBD UNCERTAINTY $(g/cm^3)^a$ | GRAIN DENSITY [GD] $(g/cm^3)^a$ | ESTIMATED GD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 481.70 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-0/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 18 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 480.3-481.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] $(g/cm^3)^a$ | ESTIMATED SBD UNCERTAINTY $(g/cm^3)^a$ | NATURAL STATE BULK DENSITY [NSBD] $(g/cm^3)^a$ | ESTIMATED NSBD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| 2.25 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] $(g/cm^3)^a$ | ESTIMATED DBD UNCERTAINTY $(g/cm^3)^a$ | GRAIN DENSITY [GD] $(g/cm^3)^a$ | ESTIMATED GD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 482.27 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-0/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 484.2-485.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 645.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 484.2-485.2 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 645.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 486.4-487.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.10 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 447.33 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 19 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 487.6-488.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.10 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 455.0 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS: Vugged Sample

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 19 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 487.6-488.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 455.83 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 20 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 490.4-490.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.16 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.02 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 20.16 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 80.21 | 75.00 | 29.28 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 519.0-519.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 467.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Date of test was 11/29/82.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 519.0-519.8 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 467.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 519.0-519.8 TEST # 3

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 467.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 519.0-519.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 57.62 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Date of test was 11/29/82.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 519.0-519.8 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 57.62 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 519.0-519.8 TEST # 3

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 57.62 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 21 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 519.8-520.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.25 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.10 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.00 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 384.24 | 358.00 | 31.94 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 527.8-529.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 671.3 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 527.8-529.1 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 671.3 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 9/19/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 22 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 542.7-543.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.17 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.96 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 20.48 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 136.48 | 124.50 | 32.25 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 18 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 23 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 561.0-561.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.31 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | 2.49 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.45 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 278.96 | 264.28 | 32.03 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 24 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 586.5-586.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.17 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.00 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 20.63 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 232.04 | N/D | 30.00 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 25 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 600.1-600.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.18 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.98 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 21.43 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 63.82 | 58.07 | 29.10 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 26 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 631.1-631.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.31 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.35 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 63.15 | 60.04 | 25.42 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 633.7-634.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 641.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Date of test was 11/20/82.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 633.7-634.2 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 641.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 633.7-634.2 TEST # 3

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 641.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 634.2-634.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 642.2 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Date of test was 11/29/82.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 634.2-634.7 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 642.2 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 634.2-634.7 TEST # 3

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 642.2 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 27 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 652.0-652.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.26 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.12 | N/D | 2.55 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.86 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 212.63 | 199.84 | 31.44 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 28 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 669.4-669.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.27 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.13 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.14 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 44.87 | 42.02 | 28.86 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/87 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 683.8-684.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.35 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.25 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.71 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 86.040 | 63.320 | 54.280 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax technique.

Sample dried for DBD at 105°C for ≥24 hr.

Grain density tested on 100-mesh powder dried at 105°C for ≥24 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 20 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 683.8-684.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 462.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 29 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 693.7-694.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.31 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | 2.49 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.65 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 132.93 | 126.23 | 31.85 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCP COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 30 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 712.4-712.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.40 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 7.57 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 44.84 | 43.45 | 30.85 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCP COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 31 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 753.0-753.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.32 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.85 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 151.33 | 143.85 | 24.79 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 760.3-761.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 59.15 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 760.3-761.5 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 59.15 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 32 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 770.0-770.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.20 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.16 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.94 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 280.99 | 265.11 | 27.93 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 33 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 795.0-795.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.36 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.36 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 177.87 | 169.71 | 31.51 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 34 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 825.3-825.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.40 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | 2.49 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 5.43 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 186.48 | 181.12 | 33.01 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 35 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 837.3-837.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.41 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.16 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 239.34 | 228.62 | 33.45 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 853.1-853.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.41 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 705.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-11/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 9/19/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 853.1-853.7 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.41 | N/D | N/D | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 705.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 36 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 857.1-857.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.40 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.29 | N/D | 2.61 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.26 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 176.78 | 168.83 | 36.74 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 37 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 873.6-873.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.33 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.22 | N/D | 2.60 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.62 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 73.71 | 70.38 | 25.21 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 874.1-875.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.40 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 703.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 874.1-875.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.40 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 703.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 38 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 921.5-921.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.31 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.18 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 52.19 | 49.30 | 21.36 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 39 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 938.4-936.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.26 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.13 | N/D | 2.60 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 18.08 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 125.81 | 118.50 | 12.69 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 40 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 953.8-954.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.31 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.22 | N/D | 2.60 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.62 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 102.28 | 96.36 | 10.63 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 21 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 985.6-986.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 305.1 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 41 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 986.6-987.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.25 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.12 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.54 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 46.85 | 44.05 | 27.25 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 42 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1023.8-1023.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.32 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.20 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 94.17 | 90.31 | 25.67 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 18 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1050.2-1050.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.41 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 61.92 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1050.2-1050.7 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 61.92 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1067.3-1068.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 898.1 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1067.3-1068.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 698.1 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-11/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 9/19/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 43 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1069.3-1069.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.30 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.29 | N/D | 2.59 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.58 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 126.57 | 121.71 | 28.14 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 44 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1084.6-1085.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.40 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.61 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.49 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 48.44 | 46.74 | 34.94 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 45 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1104.4-1104.75 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.36 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.34 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 117.55 | 116.10 | 22.22 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 22 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1123.4-1123.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 410.5 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 46 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1124.4-1124.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.38 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.60 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.77 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 128.75 | 125.37 | 24.51 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-5/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1132 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.537 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.868 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1149 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 34.41 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Dried at 110°C for 48 hr prior to test.

• Evacuated for 24 hr.

• Pycnometer calibrated prior to use (Pyc #4).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 47 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1149.2-1149.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.36 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | N/C | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/C | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 129.99 | * 125.32 | N/C |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

N/C for grain density due to problems with sample mass and/or volume.

N/C for porosity because of grain density value.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1152 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.55 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 35.87 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/19/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

* Dried at 110°C for 48 hr.

* Evacuated for 24 hr.

* Calibrated pycnometer (#5) used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 48 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1152.3-1152.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.40 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.34 | N/D | N/C | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/C | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 196.73 | 192.25 | N/C |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

Grain density and porosity not compiled because of problem with sample mass and/or volume during grain density test.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1162.1-1162.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 488.81 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1190.7-1191.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 478.05 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1191.6-1192.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 480.35 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 49 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1194.9-1195.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.33 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.35 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 1.70 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 85.47 | 84.74 | 37.22 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1196.9-1198.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 692.2 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1196.8-1198.1 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 682.2 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 8/19/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1197 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.391 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 17.872 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1197.5-1198.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.32 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | 2.40 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 6.25 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 84.017 | 81.673 | 42.399 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. *To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.*

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax technique.

Sample dried for DBD at 105°C for ≥24 hr.

Grain density tested on 100-mesh powder dried at 105°C for ≥24 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1203.9-1204.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 59.76 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. *To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.*

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 50 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1214.1-1214.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.31 | N/D |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.37 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 3.80 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 80.41 | 78.42 | 31.33 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1216.8-1217.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 480.41 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1230.8-1231.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 481.43 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 51 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1234.4-1234.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.33 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.37 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 2.53 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 69.72 | 69.05 | 42.71 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NWMSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: None
SAMPLE ORIGIN: USW GU-3
SAMPLE INTERVAL (ft): 1235.0-1235.7
TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.35 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 476.91 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD
SNL NNWSI PROJECT DATA SET ID: 51/L03-8/7/82
SNL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: None
SAMPLE ORIGIN: USW GU-3
SAMPLE INTERVAL (ft): 1241.0-1243.1
TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.34 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 478.83 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD
SNL NNWSI PROJECT DATA SET ID: 51/L03-8/7/82
SNL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1245 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.377 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 15.076 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 52 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1247.6-1248.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.33 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.37 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 2.95 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 55.92 | 55.33 | 47.62 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1264.0-1264.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 478.49 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1280.3-1281.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 857.1 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 9/19/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "sample density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1280.3-1281.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 657.1 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/80 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 8/10/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Called "matrix density" on data sheet.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1287.1-1287.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.15 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 434.47 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 53 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1287.0-1288.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.16 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.04 | N/D | 2.37 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.92 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 88.31 | 83.45 | 28.32 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 54 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1291.8-1292.15 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.12 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.98 | N/D | 2.35 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.74 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 122.59 | 114.31 | 37.76 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1299.7-1300.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.00 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 409.76 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1311 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.371 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 14.787 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 55 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1312.1-1312.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.81 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.58 | N/D | 2.33 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 32.19 | N/D. |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 93.99 | 82.00 | 26.32 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 56 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1330.4-1330.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.70 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.35 | N/D | 2.27 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 40.53 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 84.20 | 74.44 | 17.52 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 11/27/84 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1331 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.363 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 15.008 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples dried at 105°-120°C for ≥24 hr.

Sample ID is the run date.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 12/13/84 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1331 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.367 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 19.238 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

Sample ID is the run date.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 57 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1351.3-1351.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.77 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.38 | N/D | 2.31 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 39.83 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 38.81 | 30.47 | 30.04 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 58 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1377.7-1378.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.64 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.22 | N/D | 2.33 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 47.64 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 53.21 | 39.79 | 22.92 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1440 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.367 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 11.819 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 59 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1481.9-1482.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.70 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.38 | N/D | 2.27 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 39.21 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 65.37 | 53.06 | 30.43 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none — SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1484.4-1485.1 — TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.68 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.34 | N/D | 2.31 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 41.99 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 47.165 | 37.623 | 31.497 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD — SWL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 — SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) — 6313 (SWL Div.) — 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax technique.

Sample dried for DBD at 105°C for ≥24 hr.

Grain density tested on 100-mesh powder dried at 105°C for ≥24 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none — SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1490.0-1491.2 — TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.75 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.43 | N/D | 2.28 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 37.28 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 48.281 | 39.861 | 29.338 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD — SWL NNWSI PROJECT DATA SET ID 51/L03-8/7/82 — SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) — 6313 (SWL Div.) — 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Natural-state density used wax technique.

Sample dried for DBD at 105°C for ≥24 hr.

Grain density tested on 100-mesh powder dried at 105°C for ≥24 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 60 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1497.2-1497.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.68 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.40 | N/D | 2.31 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 30.30 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 63.67 | N/D | 20.03 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1499 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.348 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 12.400 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 61 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1503.0-1503.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 1.71 | N/D |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.42 | N/D | 2.20 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 37.00 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 87.41 | 80.95 | 20.96 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-8/21/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 10 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1526.0-1526.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.56 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 283.17 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1529.5-1530.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.83 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 374.06 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 62 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1533.8-1534.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.91 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.61 | N/D | 2.45 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 34.29 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 94.03 | 79.41 | 38.56 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1535.7-1536.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.67 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 42.72 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1538.1-1538.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.71 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 43.18 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
*FOR THE NNWSI PROJECT SEPDB*

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1545.3-1545.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.06 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 424.05 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-0/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
*FOR THE NNWSI PROJECT SEPDB*

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 63 SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1549.0-1549.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.85 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.51 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 40.55 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 1 - DBD/GD | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 85.25 | 68.45 | 33.40 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-6/21/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/11/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available.

Samples dried at 110°C for ≥ 48 hr at ambient pressure.

Grain density performed on 100 mesh powders dried at 110°C for ≥ 16 hr.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1551.0-1551.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.00 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 412.73 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturated bulk density was determined using volume from caliper measurement with weights taken after vacuum saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW GU-3

SAMPLE INTERVAL (ft) 1555 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.437 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 18.351 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples dried at 105°-120°C for ≥24 hr.

Samples pulverized to ~100 mesh.

# APPENDIX E

## DATA COMPILATION FORMS FOR DRILLHOLE USW G-4

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 43 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.490 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 19.070 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 124 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.402 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.428 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 417.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.87 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 27.746 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 483.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.00 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 40.901 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 14 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 515.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.96 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 23.863 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 14 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 515.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.97 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 23.863 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 523.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.92 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 211.641 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 15 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 523.4 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.92 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 211.641 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 556.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.94 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 269.833 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 16 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 556.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 1.83 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 269.833 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 17 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 566.2 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.91 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 298.361 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 17 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 566.2 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.88 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 298.361 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 18 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 570.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.00 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 154.773 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 18 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 570.1 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.94 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 154.773 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 19 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 604.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.96 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 182.288 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 19 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 604.7 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.82 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 182.288 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2761 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 678.6 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.24 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.13 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.48 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 587.46 | 557.23 | 33.009 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-11/1/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

* Dry bulk density calculated from moisture content data.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 31 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 746.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.296 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.162 | N/D | 2.521 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 90.851 | N/A | 85.343 | 25.835 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-1/10/85 DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

* Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SWL 6313.

* Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SWL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 32 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 750.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.182 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.984 | N/D | 2.506 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 20.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 86.609 | N/A | 78.678 | 28.445 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-1/18/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/15/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• Saturation achieved by vacuum saturation to constant weight per 6/21/84 vacuum saturation data sheet written by B. M. Schwartz, SNL 6313.

• Sample dried to constant weight at 105°C per 6/30/84 oven-dry data sheet written by B. M. Schwartz, SNL 6313.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 23 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 769.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 290.929 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 23 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 769.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.22 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 290.929 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 24 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 809.3 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.16 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 194.496 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 24 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 809.3 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.17 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 194.485 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID DARK SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 864 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.541 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 18.346 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

- All data $\bar{x}$ of 2 runs of sample volume measurement.
- Samples dried at 105°-120°C for ≥24 hr.
- Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID G4-2 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 864 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 3.01 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/17/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID G4-5 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 864 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 3.02 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/17/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 24-2 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 864 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 3.84 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/17/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 24-3 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 864 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.19 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 3.82 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/17/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 25 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 864.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.17 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 345.731 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 25 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 864.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 345.731 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 26 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 888.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.22 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 275.332 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 26 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 888.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 275.332 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 27 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 909.7 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 282.527 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 27 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 909.7 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 282.527 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 29 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 923.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.14 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 236.236 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 29 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 923.8 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.11 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 236.236 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2782 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 924.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.27 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.14 | N/D | 2.55 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.08 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 537.16 | 507.86 | 28.921 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 30 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 946.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 355.884 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 30 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 946.5 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 355.884 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 31 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 963.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 205.131 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 31 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 963.5 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY (GD) (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 205.131 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 32 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 963.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY (GD) (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.16 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 195.675 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-9/7/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 32 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 983.4 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.14 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 195.675 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2763 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 984.8 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.37 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.7 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 610.40 | 584.55 | 27.437 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 33 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1099.0 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] $(g/cm^3)^a$ | ESTIMATED SBD UNCERTAINTY $(g/cm^3)^a$ | NATURAL STATE BULK DENSITY [NSBD] $(g/cm^3)^a$ | ESTIMATED NSBD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] $(g/cm^3)^a$ | ESTIMATED DBD UNCERTAINTY $(g/cm^3)^a$ | GRAIN DENSITY [GD] $(g/cm^3)^a$ | ESTIMATED GD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| 2.06 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 197.524 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Rubber balloon used.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 33 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1099.0 TEST # 2

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] $(g/cm^3)^a$ | ESTIMATED SBD UNCERTAINTY $(g/cm^3)^a$ | NATURAL STATE BULK DENSITY [NSBD] $(g/cm^3)^a$ | ESTIMATED NSBD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] $(g/cm^3)^a$ | ESTIMATED DBD UNCERTAINTY $(g/cm^3)^a$ | GRAIN DENSITY [GD] $(g/cm^3)^a$ | ESTIMATED GD UNCERTAINTY $(g/cm^3)^a$ |
|---|---|---|---|
| 2.05 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 197.524 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/7/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample dimensions non-uniform.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1158 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.582 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 17.532 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1256 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.534 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 14.341 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1209 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.502 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 17.315 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL WWMSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1324 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.368 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 17.927 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL WWMSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1405 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.54 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 3.55 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/17/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1405 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.53 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 2.39 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-9/17/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2764 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1442.5 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.84 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.50 | N/D | 2.40 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 37.5 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 487.01 | 397.30 | 31.051 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-11/1/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2765 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1509.1 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.87 | N/D |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.56 | N/D | 2.41 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 35.3 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 381.07 | 316.76 | 30.798 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-11/1/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID none SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1548 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 2.229 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 11.679 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2766 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1572.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | 1.82 | N/D |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.45 | N/D | 2.41 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 39.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 451.17 | 359.78 | 30.736 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2787 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1035.9 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.89 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.57 | N/D | 2.40 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 34.58 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 470.23 | 391.64 | 28.087 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-11/1/82 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID ~A SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1696 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.252 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 10.891 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-10/15/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

- All data $\bar{x}$ of 2 runs of sample volume measurement.
- Samples dried at 105°-120°C for ≥24 hr.
- Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1686 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.243 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 11.475 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -C SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1686 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.254 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.838 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDS

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 12-2 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1686 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.54 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 2.68 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-8/17/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDS

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 12-4 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1686 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.62 | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | 2.78 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-8/17/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID 2788 SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1694.4 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 1.81 | N/D |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.60 | N/D | 2.42 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 33.88 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | 486.11 | 391.91 | 28.959 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-11/1/82 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1728 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.316 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 11.604 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-10/15/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1728 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.318 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.136 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-10/15/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE WWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -A SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1737 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.329 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.044 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL WWMSI PROJECT DATA SET ID 51/L03-10/15/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to -100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID -B SAMPLE ORIGIN USW G-4

SAMPLE INTERVAL (ft) 1737 TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY (GD) (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.328 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Helium Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 13.008 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD

SWL NNWSI PROJECT DATA SET ID 51/L03-10/15/84

SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/14/87 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

• All data $\bar{x}$ of 2 runs of sample volume measurement.

• Samples dried at 105°-120°C for ≥24 hr.

• Samples pulverized to -100 mesh.

# APPENDIX F

## DATA COMPILATION FORMS FOR BUSTED BUTTE OUTCROP

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: BB 1B — SAMPLE ORIGIN: Busted Butte

SAMPLE INTERVAL (ft): none — TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.21 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.03 | N/D | 2.47 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 17.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 172.56 | N/A | 158.688 | 25.577 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD — SWL NNWSI PROJECT DATA SET ID: 51/L03-7/11/83 — SWL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) — 6313 (SWL Div.) — 12/16/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-6 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: BB 1B-1 — SAMPLE ORIGIN: Busted Butte

SAMPLE INTERVAL (ft): none — TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.96 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY [GD] (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 30,045.11 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD — SWL NNWSI PROJECT DATA SET ID: 51/L02-4/1/84 — SWL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) — 6313 (SWL Div.) — 03/25/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 1D SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.19 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.97 | N/D | 2.64 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 25.4 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 348.06 | N/A | 313.704 | 16.800 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

This is a new sample and a new test; first test results were not accepted because of ≥100% saturation.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 1D-TOP SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.20 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.01 | N/D | 2.60 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 22.7 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 534.31 | N/A | 489.263 | 26.557 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 1D-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 1.87 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 58,909.03 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0880.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 2A SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm³)[a] | ESTIMATED SBD UNCERTAINTY (g/cm³)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm³)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.21 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm³)[a] | ESTIMATED DBD UNCERTAINTY (g/cm³)[a] | GRAIN DENSITY (GD) (g/cm³)[a] | ESTIMATED GD UNCERTAINTY (g/cm³)[a] |
|---|---|---|---|
| 2.03 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 21.3 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 454.57 | N/A | 418.080 | 25.078 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert g/cm³ to kg/m³, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 2A-TOP SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.13 | N/D | 2.45 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 188.96 | N/A | 176.049 | 33.001 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TS-1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 2A-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.04 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60,723.43 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TS-1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 3A SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.08 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 18.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 183.27 | N/A | 170.218 | 31.015 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 3A-TOP SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.22 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.08 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 19.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 560.24 | N/A | 519.68 | 49.420 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 3A-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.92 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 56,926.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 4-1B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 26.467 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: BB 4-2B  SAMPLE ORIGIN: Busted Butte

SAMPLE INTERVAL (ft): none  TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 40.103 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD  SWL NNWSI PROJECT DATA SET ID: 51/L03-8/31/84  SWL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name)  6313 (SWL Div.)  12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: BB 4-3B  SAMPLE ORIGIN: Busted Butte

SAMPLE INTERVAL (ft): none  TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 30.220 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD  SWL NNWSI PROJECT DATA SET ID: 51/L03-8/31/84  SWL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name)  6313 (SWL Div.)  12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BS 4-4B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 45.607 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BS 4-5B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 33.002 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 4-6B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.59 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 30.872 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 4-7B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 42.146 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 4-8B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 28.641 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID EB 4-9B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.60 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 30.017 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 4-10B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | N/A | N/A | N/A |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| N/A | N/A | N/A | 36.220 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-8/31/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Busted Butte rocks 1-8 are from Unit TSw1.

Samples crushed to ~100 mesh.

$SiO_2$ grain density run after this sample with results of 2.64 $gm/cm^3$.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8A SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.11 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 17.9 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 218.07 | N/A | 204.824 | 38.463 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8A-TOP SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.99 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 22.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 385.24 | N/A | 351.460 | 45.177 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8A-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.01 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60,088.39 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.22 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.07 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 17.2 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 245.27 | N/A | 228.524 | 42.097 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8B-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.02 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 80,224.47 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8C SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.10 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 18.3 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 219.44 | N/A | 205.464 | 41.944 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8C-TOP SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.08 | N/D | 2.50 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 301.19 | N/A | 280.103 | 53.828 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8C-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.03 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60,496.63 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8D-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.95 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 58,119.77 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8E SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.44 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.43 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 4.3 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 303.57 | N/A | 302.319 | 30.133 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8E-TOP SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.08 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 18.8 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 195.33 | N/A | 181.547 | 27.954 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8E-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.99 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 59,498.71 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-4/1/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 8F SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.15 | N/D | 2.57 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.3 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 410.48 | N/A | 386.873 | 30.773 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: BB 8F-TOP  SAMPLE ORIGIN: Busted Butte

SAMPLE INTERVAL (ft): none  TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.05 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 19.9 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 494.88 | N/A | 459.053 | 31.781 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD  SNL NNWSI PROJECT DATA SET ID: 51/L03-7/11/83  SNL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 1-8 are from Unit TSw1.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID: BB 6F-1  SAMPLE ORIGIN: Busted Butte

SAMPLE INTERVAL (ft): none  TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 1.87 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 58,822.64 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY: TBD  SNL NNWSI PROJECT DATA SET ID: 51/L02-4/1/84  SNL DATA REPORT NUMBER: SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Additional bulk property measurements made on small subsamples from machining scrap were not compiled.

Samples are from Unit TSw1.

Saturation techniques are discussed in Appendix C of SAND84-0860.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10A SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | 2.56 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 266.76 | N/A | 255.229 | 31.059 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-7/11/83 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NWMSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10A-TOP SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 407.15 | N/A | 390.633 | 26.747 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NWMSI PROJECT DATA SET ID 51/L03-7/11/83 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10A-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7,598.3 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10A-2 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7,606.1 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-1Z SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 91.832 | N/A | 88.236 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-2X SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 87.132 | N/A | 83.920 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-5W SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | 2.53 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 73.378 | N/A | 70.575 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-11W SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 11.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 62.033 | N/A | 78.474 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-17W SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.41 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.55 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 73.934 | N/A | 73.177 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-17Z SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 8.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 78.874 | N/A | 76.808 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-21Y SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.24 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.08 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 188.371 | N/A | 156.072 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-26Z SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.40 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.31 | N/D | 2.54 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 9.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 73.711 | N/A | 70.958 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-33Y SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | 2.48 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 89.417 | N/A | 84.986 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-42Z SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.33 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.21 | N/D | 2.51 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 104.228 | N/A | 99.093 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-46X SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.12 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 16.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 95.464 | N/A | 88.756 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10AE-52X SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | 2.52 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 10.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| See comment below. | Matrix | 100(SBD-DBD)/WD[b] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 87.131 | N/A | 83.376 | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/17/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.
b. WD = density of water, assumed to be 1.0 $g/cm^3$.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples were vacuum saturated before measuring saturated bulk density.

Grain density was calculated by GD = DBD/(1 + DBD-SBD).

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10C SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.18 | N/D | 2.63 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 17.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 135.02 | N/A | 126.776 | 27.215 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/18/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 38 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10C-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.46 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7,722.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10C-2 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/A | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7,670.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TS-2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10D SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.27 | N/D | 2.64 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 14.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 348.88 | N/A | 334.005 | 30.398 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TS-2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10D-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7,650.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10D-2 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7,648.9 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10E SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.41 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.32 | N/D | 2.67 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.1 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 247.59 | N/A | 238.941 | 32.381 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10E-3 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.40 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2,118.3 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 10E-4 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2,095.2 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11A SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.25 | N/D | 2.66 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.4 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 186.33 | N/A | 178.969 | 34.289 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/10/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11A-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2,093.1 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11A-2 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2,097.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11B SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.23 | N/D | 2.58 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 34.88 | N/A | 32.941 | 9.445 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11C SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.28 | N/D | 2.64 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 13.6 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 130.85 | N/A | 124.908 | 26.048 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11C-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2,105.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11D SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.26 | N/D | 2.66 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 15.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 151.61 | N/A | 143.960 | 25.856 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Numbers 10 and 11 are from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 11D-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2,118.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Samples are from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND83-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 12A-1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.29 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 58.73 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SWL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample is from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND83-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 12A-2 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.42 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.34 | N/D | 2.66 | N/D |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| 12.0 | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| Water Pycnometer | Matrix | 100[1-(DBD/GD)] | Immersion |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 231.74 | N/A | 223.947 | 28.442 |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L03-7/11/83 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 12/16/87 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Saturation achieved by vacuum saturation for 36 hr.

Busted Butte Rock Number 12 is from Unit TSw2.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 12A-2/1 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.42 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 62.07 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample is from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 12A-3 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.42 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 62.28 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample is from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE NNWSI PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID BB 13A-2 SAMPLE ORIGIN Busted Butte

SAMPLE INTERVAL (ft) none TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.30 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 61.11 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD SNL NNWSI PROJECT DATA SET ID 51/L02-2/24/84 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 03/25/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample is from Unit TSw2.

Data are from mechanical/compressive test samples tested per SAND85-0709.

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #21-1 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.40 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2127.0 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #22-1 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7652.15 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #22-2 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 44010.181 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-8/28/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #23-1 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY [GD] (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2122.8 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-8/28/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #23-4 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7704.7 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #26-1 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7670.9 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #26-1-A SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/D |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 491.9 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #26-1-B SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/D | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 492.0 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #26-1-C SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 60.743 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP PROJECT SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #26-1-D SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.42 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 62.229 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Diameter is average of 0.995" and 1.003" (0.999").

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #26-1-E SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.41 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY (GD) (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 62.148 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #27-1 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) (g/cm$^3$)[a] | ESTIMATED SBD UNCERTAINTY (g/cm$^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) (g/cm$^3$)[a] | ESTIMATED NSBD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| 2.37 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) (g/cm$^3$)[a] | ESTIMATED DBD UNCERTAINTY (g/cm$^3$)[a] | GRAIN DENSITY (GD) (g/cm$^3$)[a] | ESTIMATED GD UNCERTAINTY (g/cm$^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 2095.05 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-8/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert g/cm$^3$ to kg/m$^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #28-1 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.36 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7606.6 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #28-2 SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY [SBD] ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY [NSBD] ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY [DBD] ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY [GD] ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 7723.9 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SNL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SNL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #28-2-A SAMPLE ORIGIN Busted Butte Outcrop

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.38 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 481.4 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Diameter used is average of 1.982" and 2.003" (1.9925").

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

BULK PROPERTIES DATA COMPILATION FORM
FOR THE YMP SEPDB

PART 1. SAMPLE LOCATION AND IDENTIFICATION

SAMPLE ID Rock #28-3 SAMPLE ORIGIN N/A

SAMPLE INTERVAL (ft) None TEST # 1

PART 2. PARAMETERS

| SATURATED BULK DENSITY (SBD) ($g/cm^3$)[a] | ESTIMATED SBD UNCERTAINTY ($g/cm^3$)[a] | NATURAL STATE BULK DENSITY (NSBD) ($g/cm^3$)[a] | ESTIMATED NSBD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| 2.39 | N/D | N/D | N/A |

| DRY BULK DENSITY (DBD) ($g/cm^3$)[a] | ESTIMATED DBD UNCERTAINTY ($g/cm^3$)[a] | GRAIN DENSITY (GD) ($g/cm^3$)[a] | ESTIMATED GD UNCERTAINTY ($g/cm^3$)[a] |
|---|---|---|---|
| N/D | N/A | N/D | N/A |

| POROSITY (%) | ESTIMATED POROSITY UNCERTAINTY (%) |
|---|---|
| N/D | N/A |

PART 3. EXPERIMENT CONDITIONS

| GD EXPERIMENT TECHNIQUE | TYPE OF POROSITY | POROSITY CALCULATED USING: | BULK DENSITY TECHNIQUE |
|---|---|---|---|
| N/A | N/A | N/A | Caliper |

| SBD SAMPLE MASS (g) | NSBD SAMPLE MASS (g) | DBD SAMPLE MASS (g) | GD SAMPLE MASS (g) |
|---|---|---|---|
| 44286.27 | N/A | N/A | N/A |

PART 4. REFERENCE AND SUPPORTING INFORMATION

QA LEVEL OF DATA-GATHERING ACTIVITY TBD DRMS DATA SET ID 51/L02-6/26/85 SWL DATA REPORT NUMBER SAND88-0811

THIS DCF COMPLETED BY: Barry Schwartz (Name) 6313 (SWL Div.) 10/18/88 (Date)

a. To convert $g/cm^3$ to $kg/m^3$, multiply by 1.000 E+03.

COMMENTS:

Unless noted, test conditions for temperature and pressure are ambient.

N/A = not applicable, N/C = not compiled, N/D = no data available, TBD = to be determined.

Sample vacuum saturated for about 95 hrs.

Volume = $\frac{\pi D^2}{4}$ x length (From inspection sheet of sample grinding)

## APPENDIX G

## APPLICABILITY TO THE SITE AND ENGINEERING PROPERTIES DATA BASE (SEPDB) AND THE REFERENCE INFORMATION BASE (RIB)

All data presented in the Data Compilation Forms in Appendix A are intended for entry into the SEPDB. As stated in Section 1 of this report, previously published bulk-properties data should be replaced by the data published herein. If bulk-properties data for thermal/mechanical units CHn2 and above (1836 ft in UE-25a#1, 1801 ft in USW G-1, between 2704 and 2722 ft in USW G-2, and 1560 ft in USW GU-3 and USW G-4), gathered by SNL and its contractors, are not contained in this report, they should be considered to be unreliable (in the sense of not being adequately documented in the SNL YMP DRMS). They should either be removed from the SEPDB or flagged accordingly.

Nothing in this report is intended for entry into the RIB.

DISTRIBUTION LIST

Samuel Rousso, Acting Director (RW-1)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

Ralph Stein (RW-30)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

M. W. Frei (RW-22)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

B. G. Gale (RW-23)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

F. G. Peters (RW-2)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

J. D. Saltzman (RW-20)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

S. J. Brocoum (RW-221)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Building
Washington, D.C. 20585

T. H. Isaacs (RW-40)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

D. H. Alexander (RW-332)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

J. C. Bresee (RW-10)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

Gerald Parker (RW-333)
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Bldg.
Washington, D.C. 20585

Senior Project Manager for Yucca
Mountain
Repository Project Branch
Division of Waste Management
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

NTS Section Leader
Repository Project Branch
Division of Waste Management
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Repository Licensing & Quality
Assurance
Project Directorate
Division of Waste Management
U.S. Nuclear Regulatory Commission
Washington, DC 20555

NRC Document Control Clerk
Division of Waste Management
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Carl P. Gertz, Project Manager (5)
Yucca Mountain Project Office
Nevada Operations Office
U.S. Department of Energy
Mail Stop 523
P.O. Box 98518
Las Vegas, NV 89193-8518

T. H. Beall (12)
Technical Information office
Nevada Operations Office
U. S. Department of Energy
P.O. Box 98518
Las Vegas, NV 89193-8518

C. L. West, Director
Office of External Affairs
U.S. Department of Energy
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

W. M. Hewitt, Program Manager
Roy F. Weston, Inc.
955 L'Enfant Plaza, Southwest
Suite 800
Washington, D.C. 20024

Technical Information Center
Roy F. Weston, Inc.
955 L'Enfant Plaza, Southwest
Suite 800
Washington, D.C. 20024

L. J. Jardine (15)
Actg. Technical Project Officer for YMP
Lawrence Livermore National Laboratory
Mail Stop L-204
P.O. Box 808
Livermore, CA 94550

J. H. Nelson
Technical Project Officer for YMP
Science Applications International Corp.
101 Convention Center Dr.
Suite 407
Las Vegas, NV 89109

H. N. Kalia
Exploratory Shaft Test Manager
Los Alamos National Laboratory
Mail Stop 527
101 Convention Center Dr.
Suite P230
Las Vegas, NV 89109

R. J. Herbst (4)
Technical Project Officer for YMP
Los Alamos National Laboratory
N-5, Mail Stop J521
P.O. Box 1663
Los Alamos, NM 87545

L. R. Hayes (6)
Technical Project Officer for YMP
U.S. Geological Survey
P.O. Box 25046
421 Federal Center
Denver, CO 80225

K. W. Causseaux
NHP Reports Chief
U.S. Geological Survey
P.O. Box 25046
421 Federal Center
Denver, CO 80225

R. V. Watkins, Chief
Project Planning and Management
U.S. Geological Survey
P.O. Box 25046
421 Federal Center
Denver, CO 80225

Center for Nuclear Waste Regulatory Analyses
6220 Culebra Road
Drawer 28510
San Antonio, TX 78284

D. L. Lockwood, General Manager
Las Vegas Branch
Fenix & Scisson, Inc.
Mail Stop 514
P.O. Box 93265
Las Vegas, NV 89193-3265

R. L. Bullock
Technical Project Officer for YMP
Fenix & Scisson, Inc.
Mail Stop 403
101 Convention Center Dr.
Suite P250
Las Vegas, NV 89193-3265

James C. Calovini
Technical Project Officer for YMP
Holmes & Narver, Inc.
101 Convention Center Dr.
Suite 860
Las Vegas, NV 89109

Dr. David W. Harris
YMP Technical Project Officer
Bureau of Reclamation
P.O. Box 25007 Bldg. 67
Denver Federal Center
Denver, CO 80225-0007

M. D. Voegele
Science Applications International Corp.
101 Convention Center Dr.
Suite 407
Las Vegas, NV 89109

J. A. Cross, Manager
Las Vegas Branch
Fenix & Scisson, Inc.
P.O. Box 93265
Mail Stop 514
Las Vegas, NV 89193-3265

P. T. Prestholt
NRC Site Representative
1050 East Flamingo Road
Suite 319
Las Vegas, NV 89119

A. E. Gurrola, General Manager
Energy Support Division
Holmes & Narver, Inc.
P.O. Box 93838
Mail Stop 580
Las Vegas, NV 89193-3838

R. E. Lowder
Technical Project Officer for YMP
MAC Technical Services
Valley Bank Center
101 Convention Center Drive
Suite P-113
Las Vegas, NV 89109

B. L. Fraser, General Manager
Reynolds Electrical & Engineering Co.
P.O. Box 98521
Mail Stop 555
Las Vegas, NV 89193-8521

P. K. Fitzsimmons, Director
Health Physics & Environmental Division
Nevada Operations Office
U.S. Department of Energy
P.O. Box 98518
Las Vegas, NV 89193-8518

Robert F. Pritchett
Technical Project Officer for YMP
Reynolds Electrical & Engineering Co.
Mail Stop 615
P.O. Box 98521
Las Vegas, NV 89193-8521

Elaine Ezra
YMP GIS Project Manager
EG&G Energy Measurements, Inc.
P.O. Box 1912
Mail Stop H-02
Las Vegas, NV 89125

SAIC-T&MSS Library (2)
Science Applications International Corp.
101 Convention Center Dr.
Suite 407
Las Vegas, NV 89109

Dr. Martin Mifflin
Desert Research Institute
Water Resources Center
2505 Chandler Avenue
Suite 1
Las Vegas, NV 89120

E. P. Binnall
Field Systems Group Leader
Building 50B/4235
Lawrence Berkeley Laboratory
Berkeley, CA 94720

J. F. Divine
Assistant Director for
Engineering Geology
U.S. Geological Survey
106 National Center
12201 Sunrise Valley Dr.
Reston, VA 22092

V. M. Glanzman
U.S. Geological Survey
P.O. Box 25046
913 Federal Center
Denver, CO 80225

C. H. Johnson
Technical Program Manager
Nuclear Waste Project Office
State of Nevada
Evergreen Center, Suite 252
1802 North Carson Street
Carson City, NV 89710

T. Hay, Executive Assistant
Office of the Governor
State of Nevada
Capitol Complex
Carson City, NV 89710

R. R. Loux, Jr., (3)
Executive Director
Nuclear Waste Project Office
State of Nevada
Evergreen Center, Suite 252
1802 North Carson Street
Carson City, NV 89710

John Fordham
Desert Research Institute
Water Resources Center
P.O. Box 60220
Reno, NV 89506

Prof. S. W. Dickson
Department of Geological Sciences
Mackay School of Mines
University of Nevada
Reno, NV 89557

J. R. Rollo
Deputy Assistant Director for
Engineering Geology
U.S. Geological Survey
106 National Center
12201 Sunrise Valley Dr.
Reston, VA 22092

Eric Anderson
Mountain West Research-Southwest
Inc.
Phoenix Gateway Center
432 North 44 Street
Suite 400
Phoenix, AZ 85008-6572

Judy Foremaster (5)
City of Caliente
P.O. Box 158
Caliente, NV 89008

D. J. Bales
Science and Technology Division
Office of Scientific and Technical
Information
U.S. Department of Energy
P.O. Box 62
Oak Ridge, TN 37831

Carlos G. Bell, Jr.
Professor of Civil Engineering
Civil and Mechanical Engineering
Department
University of Nevada, Las Vegas
4505 South Maryland Parkway
Las Vegas, NV 89154

C. F. Costa, Director
Nuclear Radiation Assessment
Division
U.S. Environmental Protection
Agency
Environmental Monitoring Systems
Laboratory
P.O. Box 93478
Las Vegas, NV 89193-3478

J. Z. Bem
Project Manager
Bechtel National Inc.
P.O. Box 3965
San Francisco, CA 94119

R. Harig
Parsons Brinckerhoff Quade &
Douglas
1625 Van Ness Ave.
San Francisco, CA 94109-3679

Dr. Roger Kasperson
CENTED
Clark University
950 Main Street
Worcester, MA 01610

Robert E. Cummings
Engineers International, Inc.
P.O. Box 43817
Tucson, AZ 85733-3817

Dr. Jaak Daemen
Department of Mining and
Geotechnical Engineering
University of Arizona
Tucson, AZ 85721

Department of Comprehensive Planning
Clark County
225 Bridger Avenue, 7th Floor
Las Vegas, NV 89155

Economic Development Department
City of Las Vegas
400 East Stewart Avenue
Las Vegas, NV 89109

Planning Department
Nye County
P.O. Box 153
Tonopah, NV 89049

Director of Community Planning
City of Boulder City
P.O. Box 367
Boulder City, NV 89005

Commission of the European
Communities
200 Rue de la Loi
B-1049 Brussels
Belgium

Lincoln County Commission
Lincoln County
P.O. Box 90
Pioche, NV 89043

Community Planning & Development
City of North Las Vegas
P.O. Box 4086
North Las Vegas, NV 89030

City Manager
City of Henderson
Henderson, NV 89015

ONWI Library
Battelle Columbus Laboratory
Office of Nuclear Waste Isolation
505 King Avenue
Columbus, OH 43201

Librarian
Los Alamos Technical
Associates, Inc.
P.O. Box 410
Los Alamos, NM 87544

Loren Lorig
Itasca Consulting Group, Inc.
1313 5th Street SE, Suite 210
Minneapolis, MN 55414

R. J. Martin
New England Research, Inc.
76 Olcott Drive
White River Junction, VT 05001

| | |
|---|---|
| 6300 | R. W. Lynch |
| 6310 | T. O. Hunter |
| 6310 | F. W. Bingham |
| 6310 | YMP CRF |
| 6310 | 100/ 1232711/SAND88-0811/TBD |
| 6311 | A. L. Stevens |
| 6312 | T. O. Hunter, Actg. |
| 6312 | P. Kaplan |
| 6313 | T. E. Blejwas |
| 6314 | L. S. Costin |
| 6315 | L. E. Shephard |
| 6315 | A. Davis (2) |
| | for DRMS Files |
| | 51/L02-02/24/84 |
| | 51/L02-03/30/84 |
| | 51/L02-04/01/84 |
| | 51/L02-06/26/85 |
| | 51/L03-12/01/78 |
| | 51/L03-08/01/80 |
| | 51/L03-11/01/80 |
| | 51/L03-01/13/81 |
| | 51/L03-06/21/82 |
| | 51/L03-09/07/82 |
| | 51/L03-11/01/82 |
| | 51/L03-07/11/83 |
| | 51/L03-08/31/84 |
| | 51/L03-09/17/84 |
| | 51/L03-10/15/84 |
| | 51/L03-01/18/85 |
| 6315 | R. Glass |
| 6315 | F. Nimick |
| 6315 | R. Price |
| 6315 | C. Rautman |
| 6316 | R. P. Sandoval |
| 6318 | D. Shaw |
| | for Accession No. Data Base |
| 6317 | S. Sinnock |
| 6318 | T. O. Hunter, Actg. |
| 6318 | C. Mora |
| 6319 | T. O. Hunter, Actg. |
| 3202 | B. Schwartz (5) |
| 6332 | WMT Library (20) |
| 6410 | D. J. McCloskey, Actg. |
| 3141 | S. A. Landenberger (5) |
| 3151 | W. I. Klein (3) |
| 8524 | J. A. Wackerly |
| 3154-1 | C. L. Ward (8) |
| | for DOE/OSTI |

THE NUMBER IN THE LOWER-RIGHT-HAND CORNER IS AN ACCESSION NUMBER USED FOR OCRWM RECORDS MANAGEMENT PURPOSES ONLY. IT SHOULD NOT BE USED WHEN ORDERING THIS PUBLICATION.

NNA. 900108.0028

| Org. | Bldg. | Name | Rec'd by | Org. | Bldg. | Name | Rec'd by |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Sandia National Laboratories