UNDERGROUND TEST AREA SUBPROJECT
PHASE I DATA ANALYSIS TASK

VOLUME IV

HYDROLOGIC PARAMETER DATA
DOCUMENTATION PACKAGE

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Preface

This document represents the documentation for the Phase I Data Analysis Task performed in support of the current Regional Flow Model, Transport Model, and Risk Assessment for the Nevada Test Site Underground Test Area Subproject. Because of the size and complexity of the model area, a considerable quantity of data were collected and analyzed in support of the modeling efforts. The data analysis task was broken into eight subtasks, and descriptions of the subtask activities are contained in the following eight volumes that comprise the Phase I Data Analysis Documentation.

- Volume I: Geologic Model Documentation Package
- Volume II: Potentiometric Data Documentation Package
- Volume III: Groundwater Recharge and Discharge Data Documentation Package
- Volume IV: Hydrologic Parameter Data Documentation Package
- Volume V: Transport Parameter and Source Term Data Documentation Package
- Volume VI: Groundwater Flow Model Documentation Package
- Volume VII: Tritium Transport Model Documentation Package
- Volume VIII: Risk Assessment Documentation Package

Each of the volumes details the results of one or two related subtasks. A summary review of project data and results will be contained in the Phase I Report (in progress).

The Underground Test Area Subproject Phase I Data Analysis Task was led by IT Corporation; Tetra Tech, Inc.; GeoTrans, Inc.; and Daniel B. Stephens Corporation. The task could not have been completed without the cooperative efforts of many other participants involved in work at the Nevada Test Site. Their organizations are listed in alphabetical order:

- Bechtel Nevada
- Desert Research Institute
- Lawrence Livermore National Laboratory
- Los Alamos National Laboratory
- Raytheon Services Nevada
- U.S. Geological Survey - Geologic Division
- U.S. Geological Survey - Water Resources Division
- U.S. Geological Survey - Yucca Mountain Project

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List of Abbreviations and Acronyms

AA	Alluvial aquifer
CAU	Corrective Action Unit(s)
DDE_F	Data Documentation Evaluation Flag(s)
DQE_F	Data Quality Evaluation Flag(s)
DIF	Data Information Form
DRI	Desert Research Institute
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ERDBMS	Environmental Restoration Data Base Management System
ERP	Environmental Restoration Program
gpd/ft	Gallon(s) per day per feet
HSU	Hydrostratigraphic unit(s)
IT	IT Corporation
K	Hydraulic conductivity
km^2	Square kilometer(s)
LANL	Los Alamos National Laboratory
LCA	Lower Carbonate Aquifer
LLNL	Lawrence Livermore National Laboratory
LSE	Land surface elevation
m	Meter(s)
m/d	Meter(s) per day
m^2/d	Square meter(s) per day
NA	Not applicable
NTS	Nevada Test Site
SQP	Standard Quality Practice
T	Transmissivity
UGTA	Underground Test Area
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator

1.0 Introduction

The Nevada Test Site (NTS), located in Nye County in southern Nevada, was the location of 908 nuclear detonations conducted in shafts and tunnels between 1951 and 1992. About one-third of these nuclear underground detonations were conducted near or below the water table (Duncan, 1993). As an unavoidable consequence of these testing activities, radionuclides have been introduced into the subsurface environment, impacting groundwater. The U.S. Department of Energy, Nevada Operations Office (DOE/NV) has been in the process of investigating the effects of these underground nuclear detonations as part of the Underground Test Area (UGTA) Subproject. Descriptions of the project, the data analysis task, and the Risk Assessment Subtask are briefly discussed.

1.1 Subproject Description

This subsection includes descriptions of the purpose, scope, objectives, strategy, and organization of the UGTA Subproject. The documentation that supports this effort is outlined in Section 1.2.5 of this report.

1.1.1 Subproject Purpose and Scope

The purpose of the subproject is to collect data and perform technical evaluations to support decisions about the corrective actions necessary to ensure that the weapons testing areas do not pose a significant risk to human health and the environment.

The scope of the UGTA Subproject includes the following activities:

- New and existing data collection and evaluation
- Quantification of risk to human health and the environment
- Selection of the corrective actions to reduce risk from the sites
- Implementation of corrective actions and closure of the testing areas

1.1.2 Subproject Objectives

The UGTA Subproject objectives are prerequisites to generating the necessary end products to complete the subproject. The objectives provide the framework for subproject strategy. The subproject definition establishes the starting point, and the objectives focus on the end products.

The overall objective of the UGTA Subproject is to evaluate the effects of the weapons testing areas on groundwater and to identify and implement the appropriate corrective actions. This

objective ensures that risks to human health and the environment from impacted groundwater are within protective levels.

Meeting the overall objective requires that several specific project objectives be achieved:

- Effectively plan and scope the UGTA Subproject so that the necessary data are properly collected and relevant evaluations are properly performed.
- Prepare UGTA Subproject plans as guidance and information tools for efficiently conducting the subproject.
- Develop credible predictions of contaminant fate and transport.
- Quantify the risk to human health and the environment, in the absence of any present or future remedial action, to an acceptable level of uncertainty.
- Evaluate an appropriate range of remedial technologies applicable to the various contaminants and impacted media.
- Select appropriate corrective action alternatives.
- Implement selected corrective actions.
- Close the underground test areas.

1.1.3 Subproject Strategy

The Nevada Division of Environmental Protection regulates U.S. Department of Energy's (DOE) Nevada corrective actions through the *Federal Facility Agreement and Consent Order* (FFACO, 1996). Appendix VI of this agreement, "The Corrective Action Strategy," describes the processes that will be used to complete the corrective actions, including those in the UGTA Subproject. The individual sites covered by the agreement are known as Corrective Action Sites (CASs), and they are grouped into Corrective Action Units (CAUs). The UGTA Subproject comprises six CAUs, generally reflecting the geographic locations and geologic and hydrologic environments of the weapons testing areas.

1.1.4 Subproject Organization

Because of the complexity of the problem at hand, the UGTA scope was separated into two major phases. Phase I project activities have focused on a regional investigation. During Phase II, several localized investigations focusing on the CAUs will be conducted.

Phase I has consisted of existing data assessment, groundwater flow and solute transport modeling, and a preliminary risk assessment which has been a key portion of the data assessment activities. The risk assessment has been designed to determine if there is an imminent risk to human health and the environment and to provide input to a value-of-information analysis that will identify and prioritize potential data needs. The results of Phase I will be directly used in developing the work scope for the weapons testing areas and in implementing Phase II. Further information on the Phase I data analysis task is provided in the following subsection.

1.2 Phase I Data Analysis Task Description

This subsection includes a more detailed description of the purpose and scope, objectives, approach, and data requirements and organization of the UGTA Data Analysis Task.

1.2.1 Task Purpose and Scope

The primary purpose of the Data Analysis Task is to compile and analyze existing, as well as new, data. During Phase I, the focus of this analysis task has been a regional investigation. The Phase I Data Analysis Task scope of work includes the evaluation of regional groundwater flow conditions, the transport of tritium from the weapons testing areas, and the determination of the presence or absence of imminent risk to human health and the environment.

1.2.2 Task Objectives

The following were the objectives of the Phase I Data Analysis Task:

- Evaluate the regional groundwater flow conditions using a groundwater flow model.
- Evaluate the transport of tritium in groundwater using a groundwater transport model.
- Develop a preliminary assessment of risk to human health and the environment from the weapons testing areas.

1.2.3 Task Approach

The approach for the Phase I Data Analysis Task has included the following steps:

- Selection of a regional groundwater flow system large enough to encompass the NTS
- Selection of an area of investigation large enough to include the selected regional groundwater flow system
- Collection and analysis of data

- Simulation of regional groundwater flow with a three-dimensional numerical code
- Definition of the major flow paths from the weapons testing areas using a particle-tracking code
- Simulation of the transport of tritium using a numerical, one-dimensional transport code
- Calculations of risk to humans and the environment from exposure to tritiated groundwater

The NTS regional groundwater flow system (Figure 1-1), which fully encompasses the groundwater flow system underlying the NTS, was selected for this investigation; however, the boundary of this groundwater flow system has not been well defined in some areas. The flow system boundary defined by Waddell et al. (1984) was evaluated at the start of this investigation and is shown on Figure 1-1. The selected area of investigation had to be large enough to allow for a reevaluation and potential expansion of the groundwater flow system boundary. This area covers a large part of Southern Nevada and part of Inyo County in eastern California. The area extends from Death Valley, north to Antelope Valley, and from the Palmetto Mountains east to the Sheep Range, extending over an area of 80,650 square kilometers (31,140 square miles).

Data collection and analysis activities are dictated by the type of data needed. Data types and their methods of analysis are, in turn, dictated by the modeling approach and will not be discussed in this section; however, the documentation of necessary data types and the methods of analysis are discussed in the preceding volumes of this documentation.

The computer code selected to simulate groundwater flow is MODFLOW (McDonald and Harbaugh, 1988). This code was developed by the U.S. Geological Survey (USGS) for the numerical simulation of fully three-dimensional saturated groundwater flow in porous media; and it was also designed to simulate flow under both steady-state and transient conditions. The code will also be used to simulate flow in fractured media by invoking an equivalent porous media assumption. This assumption implies that, at the scale of the model, the hydraulic behavior of fractured geologic units is analogous to that of porous media.

The code selected to simulate pathlines is MODPATH (Pollock, 1989). This code was developed by the USGS to compute and display three-dimensional pathlines based on results from steady-state simulations from MODFLOW (McDonald and Harbaugh, 1988).

The program uses information on layer geometry, boundary conditions, and flux rates to calculate the velocities and positions of particles at different times. MODPATH was used to compute and display pathlines originating from individual underground nuclear testing locations located throughout the weapons testing areas. MODPATH also provides Darcy velocity distributions along the pathlines, which are required by the transport code.

The code used to simulate contaminant transport is MC-TRANS (IT, 1995), and it was developed specifically for this subproject. This finite-element, one-dimensional, radionuclide transport model is capable of simulating advection in a dual-porosity, fractured system with dispersion, sorption, and first-order decay. The code was used to simulate the concentrations of tritium downgradient from selected nuclear test sites under the "no-action alternative." The code was used in the stochastic mode to evaluate the uncertainties associated with the predicted tritium concentrations.

The code used to estimate human health risk from exposure to tritium-contaminated groundwater is GW-RISK (IT, 1996a), also developed specifically for this subproject. The code calculates impacts from radiological exposures including intake, dose, and risk; it uses factors derived from U.S. Department of Energy (DOE, 1993), International Commission on Radiation Protection (ICRP, 1991), and U.S. Environmental Protection Agency (EPA) guidance (EPA, 1989a, EPA 1989b; and EPA, 1991). The code uses tritium concentrations simulated by MC-TRANS (IT, 1995) as input for three of the most conservative predicted pathlines. The ecological risk assessment determines tritium concentrations below which no adverse effects to ecological receptors should be expected. These concentrations were compared with measured and modeled tritium concentrations in surface water and groundwater. Although no formal guidance exists on how to assess ecological risks associated with exposure to radionuclides, the general format suggested in the EPA *Framework* document (EPA, 1992) was used in conjunction with published radiation dose models (Baker and Soldat, 1992; Blaylock et al., 1993). Both human and ecological risk assessments included examination of data, exposure assessment, toxicity assessment, risk evaluation, and evaluation of uncertainties.

1.2.4 Task Data Requirements and Organization

Task data requirements and organization are briefly described in this section. Data required to achieve the objectives of the Phase I data analysis are as follows:

- Geologic data for regional groundwater flow and transport modeling
- Hydrologic data for regional groundwater flow modeling
- Transport parameter and tritium source data for Tritium transport modeling
- Risk-related data for assessment of risk to human health and the environment

MODFLOW (McDonald and Harbaugh, 1988) data requirements include hydrogeologic framework data, potentiometric data, hydraulic conductivity/transmissivity data, and groundwater recharge and discharge data. Data needs also include estimates of the uncertainties that are used to define the input variable bounds and the output variable target ranges for use in the model calibration process. MODPATH data requirements are MODFLOW data and porosity data. In addition to the Darcy velocities calculated by MODPATH, the transport model (MC-TRANS) requires transport parameter data including bulk and fracture porosity, dispersion, and tritium matrix diffusion data. Data for the tritium source needed for the transport model include the tritium source initial spatial extent and concentration. Data needed for the risk assessment include the peak tritium concentration generated by the transport model from the flowpath at each receptor location. In addition, exposure scenario, tritium dosimetry, and tritium detriment and risk data are required.

The data analysis task was organized into several subtasks based on the approach and the major types of data needs. Data needs of the flow model were fulfilled under four subtasks: Geologic Model, Potentiometric Data, Groundwater Recharge and Discharge Data, and Hydrologic Parameter Data. Porosity data are needed by both MODPATH and MC-TRANS and were collected, together with data on dispersion and matrix diffusion, under the Transport Parameter Subtask. Data needed to define the source term were collected and analyzed under the Source Term Subtask. Data needed for risk assessment were collected and analyzed under the Risk Assessment Subtask.

1.2.5 Task Documentation

Work performed under the data analysis task is documented in the following eight volumes:

- Volume I - *Geologic Model Documentation Package* (IT, 1996a)
- Volume II - *Potentiometric Data Documentation Package* (IT, 1996b)
- Volume III - *Groundwater Recharge and Discharge Data Documentation Package* (IT, 1996c)
- Volume IV - *Hydrologic Parameter Data Documentation Package* (IT, 1996d)
- Volume V - *Transport Parameter and Source Term Data Documentation Package* (IT, 1996e)
- Volume VI - *Groundwater Flow Model Documentation Package* (IT, 1996f)

- Volume VII - *Tritium Transport Model Documentation Package* (this package)
- Volume VIII - *Risk Assessment Documentation Package* (IT, 1996g)

A separate documentation package was not prepared for the Source Term Subtask; however, results of this subtask are reported in Volume V of the task documentation.

The documentation packages are meant to fulfill several subproject needs. The first five packages serve as a repository of available and pertinent data collected for possible inclusion into the modeling process. There is little relationship between these five packages; instead, they are directly related to Volumes VI (Groundwater Flow) and VII (Tritium Transport), the packages which document the flow and transport modeling process and results. Volume VIII, Risk Assessment, is most directly related to Volume VII (Tritium Transport). Concentrations of tritium at specific locations and times required by the risk assessment are provided by the transport model. Figure 1-2 illustrates how information from each of the packages was used and how the packages related to each other.

A second subproject need was to centralize the required information in order to have it readily available for a highly technical review of the modeling process. The intended audience of these eight documents is the technical reviewer. A summary report of the entire project is contained in the *Regional Groundwater Flow and Tritium Transport Modeling and Risk Assessment of the Underground Test Area, Nevada Test Site, Nevada* (DOE, in press). It contains information related to the regulatory and risk management issues. This document is intended to serve as the primary subproject summary that reaches a broader audience.

1.3 Hydrologic Parameter Data Subtask Description

This subsection includes descriptions of the purpose and scope, objectives, and approach of the Hydrologic Parameter Data Subtask.

1.3.1 Subtask Purpose and Scope

The ease with which water moves through rocks is indicated by its hydraulic conductivity. Water moves preferentially through rocks with higher hydraulic conductivity and, if possible, around rocks with low permeability. Hydraulic conductivity and related parameters such as transmissivity and specific capacity are important in modeling groundwater flow and simulating groundwater movement. In this project, as in most modeling projects, the quantity of hydraulic conductivity

data available is too small to use without subsequently calibrating the model by changing the values of hydraulic conductivity used in the model. Therefore, there are three primary purposes for this task:

- Provide guidance on the initial values of hydraulic conductivity to be used in the model.
- Provide a data set against which to check the values of hydraulic conductivity in the calibrated model.
- Provide a better understanding of the sensitivity of measured values derived from a field test to the analysis technique used in interpretation of the test.

The scope includes summarizing data on hydraulic parameters for rocks found within the NTS regional groundwater system. Literature values will be obtained and evaluated. Drawdown and recovery data will be examined and in some cases reinterpreted.

1.3.2 Subtask Objectives

The subtask objectives are:

- Compile a data set of readily available data pertaining to hydraulic conductivity such as measurements of transmissivity, hydraulic conductivity, specific capacity, or relative specific capacity (an early USGS/NTS term).
- Estimate the level of uncertainty associated with hydraulic conductivity data.
- Define the ranges of hydraulic conductivity spatial variability for major hydrostratigraphic units (HSUs).
- Define the relationship between hydraulic conductivity and depth to estimate the total depth of the groundwater flow system.

1.3.3 Subtask Approach

The general subtask approach includes the following steps:

- Compile a data set of hydraulic test data pertaining to hydraulic conductivity such as measurements of transmissivity, specific capacity, relative specific capacity (an early USGS/NTS term), and storage coefficient, when available. Record porosity if available, but the bulk of the porosity data are compiled as part of the Transport Parameter Data Subtask.

- Re-interpret selected pumping tests using different analytical methods to assess the uncertainty in published hydrologic property values resulting from the application of different interpretive models.

- Develop summary statistics of hydraulic conductivity for each hydrostratigraphic unit.

- Identify the relationship or relationships between hydraulic conductivity and depth to estimate the expected depth of the groundwater flow system.

1.4 Document Organization

This document is organized in eight sections. They are as follows:

Section 1.0 - Provides introductory material in the project and scope
Section 2.0 - Contains the quality assurance protocols
Section 3.0 - Describes the data types, sources, and prioritization
Section 4.0 - Describes the data evaluation process for documentation and quality
Section 5.0 - Describes the database, including data deficiencies and limitations
Section 6.0 - Describes the analysis method used and associated results
Section 7.0 - Discusses the uncertainties associated with the results
Section 8.0 - Lists the references cited

2.0 Quality Control

A Quality Assurance Program has been developed for all activities performed under the Environmental Restoration Program (ERP) including the UGTA project. Quality Assurance Measures taken to control quality during the process of generating the products under the different data analysis subtasks include data documentation evaluation, data quality evaluation, checking procedures, software quality assurance, use of standard methodologies, technical and peer reviews, and corroboration through the models.

2.1 Data Documentation Evaluation

During the documentation evaluation process of data, flags are assigned in accordance with the Data Documentation Requirements for the Environmental Program (ERD-05-002). The five levels of Data Documentation Evaluation Flags (DDE_F) are briefly presented here as described in ERD-05-002:

Level 1: Data are collected in accordance with Nevada Environmental Restoration Program subproject quality assurance plans, approved Nevada procedures, and/or participant-specific procedures. This ranking indicates that all supporting documentation for the data is on file and is available for review by data users.

Level 2: Data are collected in accordance with approved plans and procedures as required for Level 1, with the exception that one or more documentation requirements may be deficient in some way. Examples of data documentation deficiencies may include lost or destroyed field-data collection forms or data acquired using interim or draft procedures.

Level 3: Data are collected using accepted scientific methodology (e.g., American Society of Testing Materials, U.S. Environmental Protection Agency methods, USGS procedures) and accompanied by supporting and corroborative documentation such as testing apparatus diagrams, field or laboratory notes, and procedures. Documents referenced to qualify submitted data under the Level 3 category are noted and described in Part II of the Data Information Form (DIF).

Level 4: Data are collected by a participating Nevada ERP organization or another organization not associated with the Nevada ERP prior to the issuance and implementation of project-approved standard policies, procedures, or practices governing data acquisition and qualification. The methods of data collection are documented and traceable; however, the validity and prudency of data use or compliance with referenced procedures is indeterminate. Supporting documentation may or may not exist. Documentation provided to qualify submitted data under Level 4 shall be noted and described in Part II of the DIF.

Level 5: Data are obtained under unknown, undesirable, or uncertain conditions. When data documentation is unknown, any available supporting or helpful descriptions of the intended use and conditions of data capture should be described and listed in Part II of the DIF.

2.2 Data Quality Evaluation

The criteria used to evaluate the different types of required data were dependent on the type of data and the intended usage of the data. Thus, various criteria were used to evaluate data quality. The general procedure assigned one or more flags to each record compiled in the database, indicating the data quality or suitability of the individual data record for the intended usage. Subtask-specific data quality evaluation procedures are described in detail in the corresponding subtask documentation package.

2.3 Checking Procedures

Various checking procedures were designed for quality control purposes and are described in detail in IT Corporation (IT) Standard Quality Practice (SQP) documents. Checking procedures applicable to the UGTA data analysis subtasks include those developed for transcription of data, generation of figures, tables and logs, and performance of calculations. Data compiled by project personnel were subjected to the checking procedures before being added to the Environmental Restoration (ER) database. However, the bulk of the ER database is comprised of external digital databases developed by agencies external to the UGTA project, mainly the National Water Information System data from the USGS. Internal IT procedures do not govern other ER database participants; therefore, their data were not subjected to the checking procedures described here.

2.4 Software Quality Assurance

Various computer codes were developed in-house to aid in the data analysis subtasks. Codes developed specifically for the UGTA project were subjected to IT software quality assurance requirements as described in SQP No. ITC0010. Codes developed to load data and perform unit conversion codes used on the Environmental Restoration Data Base Management System (ERDBMS) were checked in accordance with procedures described in the *ITLV Program Procedures Manual* (1995).

2.5 Standard Methodologies

Only standard and widely accepted methodologies were used in the development of the interpretive products. The various methodologies used are too numerous to list here; however, they are described and referenced, where appropriate, in the sections discussing their use in the data analysis process.

2.6 Technical and Peer Reviews

The review process constitutes an important measure of product quality. It was used throughout the performance of the data analysis activities. The IT review process consists of technical and peer review processes which are described in the *Quality Assurance Program Plan* (IT, 1993). The technical review process is internal and is performed by qualified personnel. The peer review process is intended to complement the technical review process and is usually performed by individuals who are independent of the project.

Products generated under the Data Analysis Task were subjected to a continual review process to identify major flaws, if any, in the conceptual model of the groundwater flow system at an early stage. For example, the geologic cross sections and maps were subjected to technical and peer reviews several times during their development.

The hydrogeologic cross sections were also subjected to technical peer reviews during their generation. The peer reviews were conducted during periodical meetings involving the IT geologists and hydrogeologists and representatives from the USGS, Desert Research Institute (DRI), Los Alamos National Laboratory (LANL), and Lawrence Livermore National Laboratory (LLNL). Comments were recorded, evaluated, and incorporated into the process of defining the hydrostratigraphy.

The map products were internally reviewed by IT personnel and submitted for peer review along with this documentation package. Following receipt of comments from the peer reviewers on the map products, comments were resolved either by explanation or by modification of the products. Formal responses were prepared.

2.7 Corroboration of Data through the Models

This step is completed as the groundwater flow model is calibrated. During the calibration process, interpretations are tested and modified as required. This step particularly applies to the geologic model where extensive interpretation is necessary. The geologic model has been modified during the calibration of the flow model because the initial interpretations in some areas did not allow for the duplication of the observed hydraulic heads within the existing levels of uncertainties.

3.0 Data Types, Sources, and Prioritization

3.1 Data Types

Data categories needed for the hydrologic parameter data analysis include site information, well construction data, hydrostratigraphic information, and hydrologic test information. These data are stored in the Environmental Restoration Data Base and include the following data types:

Site Information

Unique site identifier
Well name
Site location (Universal Transverse Mercator [UTM] Zone 11, Northing and Easting)
Land surface elevation (LSE)

Source Information

Primary reference such as a document or data from unpublished files
Source of the data, which may be an early data report without interpretations

Tested Interval Information

Top and bottom elevation of the tested interval
Lithologic description of the tested interval
Stratigraphic name of the tested interval
Hydrostratigraphic unit designation

Hydraulic Test Information

Pumping rate
Pumping duration
Test start date
Data availability flag

Test Interpretation Information

Method of analysis
Organization performing the analysis
Transmissivity
Relative specific capacity
Specific capacity
Hydraulic conductivity
Total porosity

Data Quality Identifiers

Data Documentation Evaluation Flag (DDE_F also given as DQD_F in Appendix A)
Data Quality Evaluation Flag (DQE_F)

Most of these categories are self-explanatory except for the data quality identifiers to be described later in this document.

3.2 Data Sources

Two primary data sources for hydrologic parameter data were

- Published transmissivity and hydraulic conductivity values obtained from interpretation of aquifer tests, packer tests, specific capacity, or laboratory data
- Unpublished data and interpretations obtained from the USGS, the DRI, and data collected by IT as part of the ERP

Published data were obtained from reports of the USGS, Sandia National Laboratory, LANL, and LLNL. These publications often included raw or reduced drawdown and recovery data and corresponding interpretations. Specific references are noted in the text, where appropriate. Having the drawdown or recovery data was important for assessing the adequacy of the interpretation and for assigning data confidence identifiers.

Unpublished data were obtained from the USGS, the DRI, and IT. Unpublished information generally contains only preliminary interpretations.

3.3 Data Prioritization

The hydraulic conductivity (K) values (and parameters used to obtain K, such as transmissivity and specific capacity) are priority data for later summary analyses. The transmissivity or hydraulic conductivity are obtained from hydraulic response measurements (drawdown or recovery data) via a model equation that approximates the physical situation. Other parameters such as storage coefficients are less important because the initial model is steady-state, and good storage coefficient values from observation well data are rare at the NTS.

4.0 Data Evaluation

4.1 Data Documentation Evaluation

Documentation of the primary prioritized variables, transmissivity, and hydraulic conductivity was evaluated, and flags were assigned in accordance with data documentation requirements for the Environmental Restoration Program, ERD-05-002. The following defined levels of documentation were assigned to data:

Level 2: Data collected in accordance with approved plans and procedures, except that documentation may be deficient, such as data acquired using interim or draft procedures.

Level 3: For the Hydrologic Parameter Data subtask, Level 3 data were obtained from published documents that included the raw or reduced data in addition to the analysis of the data necessary to evaluate the test.

Level 4: With respect to the Hydrologic Parameter Data subtask, Level 4 data were obtained from unpublished sources or reports and were assumed to have received less scrutiny than published data. These reports also contained the raw or reduced drawdown data, but they may not always show the interpretation.

Level 5: Level 5 ranking was given to tests for which no raw or reduced drawdown or recovery data were available. Often a Level 5 report would contain only a transmissivity (T) or hydraulic conductivity (K) value without any other supporting data.

Because hydrologic data utilized in this task were collected early in the project under draft procedures, Level 1 DDE_F was not assigned.

4.2 Data Quality Evaluation

In addition to the DDE_F which is used to rank the level of documentation, a DQE_F was assigned to qualitatively rank the reported or calculated values of transmissivity or hydraulic conductivity in terms of the relative confidence that might be expected. The confidence is a function of the type of test, the quality of the data, and the method of analysis. The confidence is a reflection of how well the data fit the model used for interpretation and whether the model used was appropriate. The confidence was ranked into high, medium, or low based on the following criteria:

High Confidence

- Data Documentation Evaluation Flag was 1, 2, or 3
- Pumping test, either the drawdown or recovery portion
- Good test conditions with no pump failures or unusual fluctuations in the drawdown
- Good match of the theoretical model to the data over a significant number of data values

Medium Confidence

- Data that cannot be ranked as either high or low. The medium classification does not have specific criteria of its own, but rather serves to distinguish data that are neither high nor low. It is a broad category by design.

Low Confidence

- Unusual test conditions such as variable pumping rates, pump failures, temperature or density fluctuations during the test that result in unusual water level responses such as rising water levels when they should be falling.

- An incorrect method applied to the data. For example, the Theim method of pump test analysis is not applicable to a typical aquifer test under transient conditions.

- Values determined from early time data that are very likely influenced by casing storage or skin effects.

- Specific capacity or relative specific capacity data used to calculate transmissivity or hydraulic conductivity.

- Little or no documentation of the test method.

The DQE_F was assigned by a single individual and represents that individual's opinion. Another user may have assigned confidence differently. The confidence flag helped guide the selection of data to use for the interpretive analyses. Future users of the data should rely on the confidence flag to gauge acceptability of the data for other purposes.

5.0 Hydrologic Parameter Database

5.1 Data Compilation

The main hydraulic parameter of interest is transmissivity which is a primary calibration parameter in the groundwater flow model. It is the only hydraulic parameter needed to simulate groundwater flow under steady-state conditions.

The transmissivity is the product of the hydraulic conductivity and the saturated thickness. The thickness of each hydrostratigraphic unit is determined from the geologic model. To modify the transmissivity during calibration, the hydraulic conductivity must be varied because the thickness is fixed by the geologic model. Thus the calibration parameter becomes the hydraulic conductivity. However, other parameters pertaining to hydraulic conductivity such as measurements of transmissivity, specific capacity, relative specific capacity (an early USGS/NTS term) are also of interest. Porosity was recorded in some cases, but the bulk of the porosity data were compiled as part of the transport parameter data task and are presented in Volume V. The storage coefficient was also recorded when available.

Selected fields from the hydrologic parameter data set are given in Appendix A. The location and name of each well from which data are available are shown in Plate 1. Included in this data set are all the values of T or K obtained from all sources. The data in Appendix A have been converted to a consistent coordinate system (UTM Zone 11, in meters) and consistent units of meters and days. Also included is the DQD_F as well as the DQE_F.

Each line of the data set (each record) is a different value of transmissivity or hydraulic conductivity. The record may represent different wells, different phases of testing of an individual well (pumping and recovery data reported as different records), different interpretations of multiple limbs of one phase, or different interpretations of one limb by two different organizations (for example, USGS and IT).

5.2 Tested Interval

Tested interval is important for several reasons. First, it is used to assign a Hydrostratigraphic Unit to the value. Second, if the data are reported as transmissivity, then the tested interval thickness is needed to calculate hydraulic conductivity. In Appendix A, the hydraulic conductivity usually is obtained by dividing T by the tested interval thickness, which is defined by the top and bottom of the tested interval.

The definition of the tested interval varied from well to well, but followed several basic criteria. For an open hole completion, the top of the tested interval was either the bottom of the casing or the water table. The bottom of an open hole completion was typically chosen as the bottom of the hole. In some cases, the top of the tested interval was extended a short distance above the bottom of the casing to account for converging flow lines. For perforated completions, the top and bottom of the perforations were used. If the water table occurred within the perforated interval, the water table was chosen as the top of the tested interval. In a few cases, more than one perforated interval was present. In those cases, the top of the uppermost perforation and the bottom of the lowermost perforation were used.

5.3 Hydrostratigraphic Unit Assignment

The HSU designator is assigned on the basis of the tested, or open, interval and corresponding lithologic and stratigraphic information available in the ER stratigraphic database or the published literature. The HSU designations are provided in Table 5-1. It is recognized that few wells fully penetrate any particular HSU individually. More commonly, the tested intervals cross more than one HSU, or partially penetrate others. The assigned HSU represents the predominant unit tested. Some wells have multiple, but separate, test intervals and provide data for more than one HSU. A matrix showing the individual wells along with the corresponding HSUs that have been tested is included in Appendix B.

5.4 Data Limitations and Deficiencies

Nearly all of the hydrologic parameter data are collected from single well tests. These tests are most strongly affected by conditions near the well, particularly at early time. The shorter the test, the more likely the data represent conditions near the well only. Much of the early time data is of suspect quality and must be used with caution. The integrity of the well itself and the adequacy of the well development are also often in question. These factors cannot be quantitatively incorporated into the analysis, but they increase the uncertainty associated with the measured K data.

The tested intervals are taken as the perforated interval, sometimes extended for gravel packs or the length of open hole. This measure of tested interval does not account for converging flow lines in the case of partial penetration and assumes that the integrity of grout seals is intact. Thus, the reported tested intervals are approximations.

Winograd and Thordarson (1975) note that the drawdown curves often show anomalous behavior characterized by steep initial drawdown curves and recovery response that does not match the drawdown. They state that the causes of the rapid initial drawdown are probably partial penetration, a zone of reduced transmissivity surrounding the wellbore, or abnormally high head losses due to flow through a small number of fractures. The true causes are not well known, but anomalies decrease the confidence one can place in some of the available data.

Finally other data that would also be useful for the modeling effort include vertical hydraulic conductivity and anisotropy. Unfortunately, these data are not readily available for the NTS and have not been included in the database.

6.0 Analysis of Hydraulic Conductivity Data

In steady-state simulations, the only hydrologic parameter needed is hydraulic conductivity or its equivalent transmissivity. The hydraulic data from individual wells may not be used in the model as point-specific data for two reasons. First, the relative paucity of data will leave nearly all the model nodes without an associated direct value. Second, the model cells are at least 2.25 km^2 in area, but the scale of most of the tests is much less than that (in other words the measured hydraulic conductivities are not spatially averaged values over 2.25 km^2 areas). Rather than point values, statistical descriptions of the hydraulic conductivity were used to aid in the definition of the variability of this hydrologic parameter by HSU. Also, as most of the available hydraulic conductivity data exist for relatively shallow depths, the hydraulic conductivity of the deeper layers and the vertical extent of the groundwater flow system are unknown. To approximate the variability of the hydraulic conductivity with depth, relationships between the two variables were developed based on the existing data.

6.1 Hydraulic Conductivity Statistics

The statistical analyses of the hydraulic conductivity data are important to the modeling effort. Mean values of hydraulic conductivity per HSU will guide the initial values of K in the model, modified as appropriate for regional variation. Similarity or dissimilarity of the mean and standard deviation of K per HSU will aid the process of categorizing the HSUs into a smaller number of model layers. The standard deviation of K per HSU also serves as a measure of the spatial variability of K and will be important for assessing the latitude with which K values can be adjusted during calibration.

Table 6-1 is a statistical analysis on a "per well" basis of a subset of the hydraulic conductivity data provided in Appendix C. Two criteria were used to select this subset of data:

- Laboratory data were excluded from consideration because field-scale data were deemed more representative of larger portions of the aquifer than the smaller scale tests.
- All measurements rated as high or medium confidence were used. Data given a low confidence ranking were excluded from the statistical analyses.

Another aspect complicated the calculation and interpretation of the statistics. Many of the wells have multiple interpretations for the same drawdown or recovery curve. In other cases, multiple intervals were tested in the same well. To account for these complications, a weighted arithmetic

mean was calculated for each HSU in each well. The length of the tested interval was the weighting factor, thus the means are transmissivity weighted.

For the statistical analysis, the K data are assumed to be spatially log-normally distributed. The geometric mean of the "per well" data are given in Table 6-1. Table 6-2 is a summary of another statistical analysis of the data in Appendix C. In this case, the data were not first averaged on a per well basis. A weighted $\log_{10}$ mean was calculated per hydrostratigraphic unit with

$$\overline{\log_{10} K} = \frac{\sum b_i \log_{10} K_i}{\sum b_i} \qquad (1)$$

K_i = ith value of hydraulic conductivity;
b_i = thickness of the interval tested.

The corresponding $\log_{10}$ variance was calculated with

$$\sigma^2_{\log_{10} K} = \frac{\sum b_i (\log_{10} K - \overline{\log_{10} K})^2}{\sum b_i - 1} \qquad (2)$$

The preliminary statistics are based on a limited set of data. However, some tentative observations are appropriate. The two most conductive HSUs are the alluvial aquifer (AA) and the carbonate aquifer (LCA, LCA3). For those same two HSUs, the standard deviation ranged from 0.9 to 1.5, which implies a range of values over 4 orders of magnitude, based on ± two standard deviations. This large range suggests that over the study area, large variability in hydraulic conductivity can be expected. Similar ranges of values for different rock types have been reported in Freeze and Cherry (1979) indicating that the data from the NTS region are not unusual.

6.2 Hydraulic Conductivity versus Depth

Defining the relationship between hydraulic conductivity and depth is an important aspect of the Hydrologic Parameter Data Subtask. The relationship can help in estimating the total depth of the groundwater system and the hydraulic conductivity of the deeper strata for which data are not available.

Rock-type specific data from Appendix C were used to develop relationships between hydraulic conductivity and depth for use in estimating the hydraulic conductivities of the lower strata, and thus flow model layers. The relationships were developed for the three rock types that form the major aquifers: the Alluvial Aquifer (Figure 6-1), the Volcanic Aquifer (Figure 6-2), and the Lower Carbonate Aquifer (Figure 6-3). The three figures exhibit similar relationships between hydraulic conductivity and depth. Two features are evident on these figures. First, there is a trend of decreasing hydraulic conductivity with depth suggesting that a lower bound for the flow system can be defined on the basis of these figures. Second, for depths of % 3,000 meters (m) and more, the extrapolated K values are less than 10^{-7} meters per day, which are representative of virtually impermeable media.

Other researchers have also estimated the depth of the flow system underlying the NTS. Winograd and Thordarson (1975) state that fractures in the Lower Carbonate Aquifer (LCA) are open to at least 1,300 m below land surface. In the volcanics units on the mesas, Blankennagel and Weir (1973) found that water leaks downward along fractures at depths greater than 2,500 m. Thus, the depth of 3,000 m estimated from the volcanic data is of a similar magnitude to other studies.

A decreasing linear trend is observed in the logarithm of hydraulic conductivity with increased depth. Thus, hydraulic conductivity decreases exponentially with depth. The relationship is provided by the following equation:

$$K_{depth} \text{ ' } K_h(10^{\&8d}) \qquad (3)$$

where:

K_{depth} = horizontal hydraulic conductivity at specified depth (L/T);
K_h = horizontal hydraulic conductivity at land surface (L/T);
8 = decay coefficient (calculated from linear regression) (1/L); and
d = depth from land surface.

The rate of decrease of K with depth is determined by the value of 8, which is the decay coefficient. The 8 values for the three aquifers are provided in Table 6-3.

The relationship in equation (3), with coefficients from Table 6-3 are shown in Figures 6-4, 6-5 and 6-6.

7.0 Uncertainty Evaluation

The value of hydraulic conductivity for a particular location and HSU is uncertain for a number of reasons:

- Measurement errors in water levels and time
- Well construction, well development, or outside influences
- Scientist subjectivity in the curve fitting process
- Differing conceptual models (for example, single versus double porosity)
- Spatial variability

These sources of uncertainty are assumed to be independent so that they can be examined individually. The prime measurements used to generate the drawdown curves are time and depth to water. It is assumed that time measurements are accurate and will not be considered further. The depth to water is typically in terms of a static condition, identified as zero drawdown. Therefore, errors in land surface elevation are not important for a drawdown curve. Secondly, because the drawdown is a measure of the relative change from one measurement to the next, any systematic measurement bias is normally removed by defining the static condition as zero drawdown. Thus, it is anticipated that time and water level measurement inaccuracies are unimportant compared with other sources of error to be defined below.

Other factors that can influence the test drawdown data can include hydraulic perturbations caused by nearby wells, earth tides, barometric fluctuations, unexpected pump failures, well construction, or well development. Hydraulic perturbations are most important for long duration tests with relatively small drawdown. Normally, corrections for factors such as earth tides and barometric fluctuations can be applied to the drawdown data before analysis. Unexpected pump fluctuations or failure make interpretation of the drawdown data difficult, but are more easily accounted for in the analysis of recovery data. Quantification of these hydraulic perturbation uncertainties is difficult. However, if these effects are noted in the documentation, the test result is given a lower confidence ranking. Well construction and well development influences consist of factors that produce a permeability near the borehole that differs from the natural hydrostratigraphic unit material. Generally, these impacts are most noticeable during short-duration tests or the early time portion of long-duration tests. Tests that appeared to have significant early time influences were also given a lower confidence ranking.

To assess the uncertainty caused by subjectivity of the curve fitting process, published drawdown and recovery pumping test data were obtained for selected wells from documents or files of the USGS. The data were plotted and the transmissivity was obtained using either the Theis or Jacob method. The same portion of the drawdown curve as presented in the original reference was used

to obtain a verification of the hydrologic parameter. This was done to corroborate the original curve fitting and to assess the impact of user preference or subjectivity in the curve fitting process.

Table 7-1 contains nine analyses of pumping test data from six selected wells. The drawdown curves and fitted models from published evaluations and IT verifications of these six wells are given in Appendix D. The error is the percentage of the difference of the literature transmissivity value minus the verification value divided by the literature value. Although this is a small subset of the data available, it confirms that different scientists would have obtained roughly the same value (within 70 percent) when fitting a straight line to the observed drawdown data. This source of error, due to individual scientist preference, will be shown to be relatively small when compared with other sources of error to be discussed below.

The third source of uncertainty is the choice of conceptual model (i.e., Theis method, Cooper method, etc.) used to interpret flow to the well. The Theis equation model, for example, has assumptions that include confined conditions, homogeneous and isotropic flow, and perfect communication to the aquifer (no skin effect). Typically, the model assumptions do not replicate the real aquifer conditions, and as a result the observed drawdowns do not follow the ideal type curve response.

Winograd and Thordarson (1975) note that type curves for wells completed in the lower carbonate aquifer exhibit a multiple limb response as given in Figure 7-1. As part of this data analysis effort, drawdown or recovery curves for 54 tests were examined for the multiple limb behavior. It was observed that 43 of the 54 tests clearly exhibited at least the first two limbs. The first of the four limbs given by Winograd and Thordarson (1975) is generally expected to be influenced by near-well effects. The second, flatter limb is what has typically been used to calculate transmissivity, while the third and fourth limbs are explained as hydraulic boundaries or heterogeneities. These explanations are all generally valid, but other explanations can also be offered.

The steep-flat-steep drawdown response may be indicative of a double-porosity system (Moench, 1984). The early time response is dominated by fracture storage while the late time response is dominated by matrix storage. An intermediate time transition response, characterized by a flattening of the drawdown curves, is an expected response of the double-porosity model.

One could conceptualize a double-porosity response for the aquifer materials at the NTS if the fracture-matrix system of the standard double-porosity system is replaced with a large fracture/ micro-fracture system. If the double-porosity model is adopted, the first limb of Figure 7-1 could be a fracture storage response, the second limb a transition, and subsequent limbs a matrix storage response. This model will also be complicated by near well effects, including casing storage

(Moench, 1984). If other conceptual models such as dual porosity are possible, then it is not clear which limb of the drawdown curve in Figure 7-1 represents the bulk conditions of the aquifer.

To examine the effect of different conceptual models, five wells (Army #1 Water Well, Water Well 2, Water Well 8, UE-16d, and UE-2ce) were selected for additional analyses because at least three of the four limbs of the drawdown curves were exhibited. Other wells that exhibited only the first two limbs (USGS Hth #1, USGS Hth #3, USGS Hth #4, and USGS Hth #10) were not included. The third limb was assumed to represent the fissure system hydraulic conductivity of a double-porosity system. Moench (1984) showed that the straight line analysis of the last limb of the pumped well, drawdown curve yielded a fissure system hydraulic conductivity that was within 20 percent of the value obtained from the double porosity analysis. Table 7-2 contains the results of the reanalysis for the five selected wells. The drawdown curves and corresponding interpretations are presented in Appendix E.

In Table 7-2, the transition slope is analogous to limb 2, and the steep slope value corresponds to limb 3 of Winograd and Thordarson (1975). The percent difference is the absolute value of the transition minus steep value divided by the transition "n" value times 100. This limited analysis suggests that the choice of different interpretive models may result in differences of up to a factor of 3 in the transmissivity obtained. Moench (1984) found that the difference in drawdown slopes resulted in a factor of 10 difference in the calculated hydraulic conductivity. The aquifer parameter values typically reported in the literature often correspond to limb 2 of Winograd and Thordarson (1975). It is not possible to definitively determine the correct model to use in each situation. However, if the aquifers are actually double-porosity in nature, then many of the reported values are overestimates of aquifer transmissivity by a factor that ranges from about 3 to 10.

The fourth source of uncertainty is spatial variability. This is alternatively characterized as natural variability and is caused by aquifer heterogeneity. The summary statistics for the HSUs with the largest number of values (AA and LCA) suggest a standard deviation of about one order of magnitude. If most values are assumed to fall within two standard deviations of the mean, then a range of about four orders of magnitude is to be expected. This range is consistent with the range of values depicted in Figures 6-1, 6-2, and 6-3. The spatial variability is at least four times larger than the uncertainty due to different conceptual models and many times larger than the uncertainty caused by curve fitting subjectivity.

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Appendix A

Hydrologic Parameter Data Set

This Appendix contains the data set that was used to estimate HSU hydraulic conductivities (K) and transmissivities (T). The K and T values in this data set are based on the results of various aquifer tests that have been performed in the Death Valley Basin over a period of decades. There are 989 individual data records and more than 70 data sources provided in the reference list. Aquifer testing techniques that have been used to determine the K and T values presented here include pumping tests, injection tests, recovery tests, bail-down tests, swab tests, and slug tests. For each test, data were analyzed by methods deemed technically most appropriate for the type of test conducted and the field conditions. Fields in this database identify site location, test depth interval, HSU, test type and analysis method, data qualifiers, K, T, data reference, and data source. Each database field is described below, and a printout of the complete database follows. A reference list appended at the end of the database provides complete citations for each reference or source document cited. A cross reference for the citation and the IT library number is also included.

Rec #	Record number in the database
Site ID	Unique site identifier (may or may not be a USGS ID)
Site name	Common well or hole name. REDBOOK reporting name for wells on the NTS.
utm_north	Site north coordinate in UTM, Zone 11
utm_east	Site east coordinate in UTM, Zone 11
DDE_F	Data documentation evaluation flag, defined in the documentation package
LSE	Land surface elevation
TOI Depth	Depth to the top of the tested interval
BOI Depth	Depth to the bottom of the tested interval

HSU	Hydrostratigraphic unit tested. HSU codes are provided in the hydrostratigraphic unit organization table provided in the documentation package.
test_type	Type of test conducted Pump pumping test inj injection test rec recovery test swab swab test bail bailing test slug slug test
anal_meth	Method used to analyze test data
DQE_F	Data quality evaluation flag. Flags are defined in the documentation package. L low quality M medium quality H high quality
T	Transmissivity of tested interval
K_Qual	Hydraulic conductivity qualifier est estimated appx approximate rang range < less than
K	Hydraulic conductivity of tested interval
refer_doc	Reference document (Numbers are IT Las Vegas library tracking numbers.)
source_doc	Source document for data

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
1		07N/63-14abc	4260130.78	686157.26	5		70.1	132.59	62.48	5.80E-01	3.62E+01		LCA	pump	specific capacity	L	3.62E+01	5.80E-01	4923	
2		07N/63-14abc	4260130.78	686157.26	5		70.1	132.59	62.48	3.57E+00	2.23E+02	3.57E+00	LCA	pump	drawdown	M	2.23E+02	3.57E+00	4923	
3		08N/43-24aa	4266053.20	491745.32	4		48.77	103.63	54.86	4.58E+00	2.51E+02		LCA	pump	specific capacity	L	2.51E+02	4.58E+00	4923	
4		15S/67-09dd	4057503.43	723936.71	5		109.73	128.02	18.29	2.03E+00	3.71E+01		LCA	pump	specific capacity	L	3.72E+01	2.03E+00	4923	
5		16S/56-08 (#2)	4048740.47	618372.64	5		16.46	175.26	158.8	1.23E+00	1.95E+02		LCA	pump	specific capacity	L	1.95E+02	1.23E+00	4923	
6		16S/58-14a (DR1)	4046912.86	642194.31	4		265.18	283.46	18.29	1.63E+00	2.98E+01		LCA	pump	specific capacity	L	2.97E+01	1.63E+00	4923	
7		16S/58-14a (DR1)	4046912.86	642194.31	4		265.18	283.46	18.29	2.29E+00	4.19E+01	1.40E+00	LCA	pump	drawdown	M	4.18E+01	2.29E+00	4923	
8		16S/58-14a (DR1)	4046912.86	642194.31	4		265.18	283.46	18.29	5.10E-01	9.33E+00		LCA	pump	recovery	M	9.29E+00	5.10E-01	4923	
9		17S/50-23bb2	4035540.64	561175.75	4		0.00	42.67	42.67	8.06E+00	3.44E+02		LCA	pump	specific capacity	L	3.44E+02	8.06E+00	4923	
10		17S/50-23bb2	4035540.64	561175.75	4		0.00	42.67	42.67	7.62E+00	3.25E+02	7.62E+00	LCA	pump	recovery	M	3.25E+02	7.62E+00	4923	
11		18S/63-34ca	4023577.88	686073.22	5		229.82	367.28	137.46	3.58E-02	4.92E+00		LCA	pump	specific capacity	L	4.92E+00	3.58E-02	4923	
12		22N/57-25cd	4399842.05	627504.85	5		146.30	177.70	31.39	5.62E-01	1.76E+01		LCA	pump	specific capacity	L	1.77E+01	5.62E-01	4923	
13		23S/60-24bb	3978338.09	660363.97	5		164.59	213.36	48.77	6.10E-02	2.97E+00		LCA	pump	specific capacity	L	2.97E+00	6.10E-02	4923	
14		23S/61-09bc	3981291.77	665071.51	5		121.92	158.50	36.58	6.86E-01	2.51E+01		LCA	pump	specific capacity	L	2.51E+01	6.86E-01	4923	
15		36N/62-18	4540851.76	667292.08	5		42.67	67.06	24.38	3.05E-01	7.43E+00		LCA	pump	specific capacity	L	7.43E+00	3.05E-01	4923	
16		37N/63-06BA	4554518.03	676383.31	5		169.16	181.36	12.19	3.05E-01	3.72E+00		LCA	pump	specific capacity	L	3.72E+00	3.05E-01	4923	
17		Adobe Federal 16-1	4238854.06	601489.88	5		1153.67	1197.86	44.20	7.36E-01	3.25E+01		LCA	DST	Horner	L	3.25E+01	7.36E-01	4923	1020
18		Adobe Federal 19-1	4208938.44	650521.49	5		2286.00	2348.79	62.79	1.21E+00	7.60E+01		LCA	DST	Horner	L	7.62E+01	1.21E+00	4923	1020
19	22	Amargosa Expl. Hole #3	4043545.73	569223.72	5	733.23	182.62	188.72	6.10	8.16E-04	4.98E-03		AA	INJ	Laboratory	L		8.16E-04	1513	
20	22	Amargosa Expl. Hole #3	4043545.73	569223.72	5	733.23	182.62	188.72	6.10	6.93E+00	4.23E+01		AA	INJ	Laboratory	L		6.93E+00	1513	
21	22	Amargosa Expl. Hole #3	4043545.73	569223.72	5	733.23	182.62	188.72	6.10	3.26E-01	1.99E+00		AA	INJ	Laboratory	L		3.26E-01	1513	
22	24	Amargosa Tracer Hole #1	4043609.21	569251.53	5	733.23	211.89	228.66	16.77	1.93E+01	3.23E+02		LCA	INJ	specific capacity	L	3.23E+02	1.93E+01	1513	
23	21	Amargosa Tracer Hole #2	4043530.57	569157.34	5	731.71	225.00	236.28	11.28	3.08E+02	3.48E+03		LCA	INJ	specific capacity	L	3.48E+03	3.08E+02	1513	
24	23	Amargosa Tracer Hole #3	4043593.74	569185.15	5	732.32	189.02	246.04	57.01	2.62E+01	1.49E+03		LCA	INJ	specific capacity	L	1.49E+03	2.62E+01	1513	
25	27	Army #1 Water Well	4049799.34	586119.43	3	961.59	239.33	356.10	116.77	4.15E+00	4.85E+02	2.18E+00	LCA	PUMP	Cooper - Jacob	M	4.85E+02	4.15E+00	0100	
26	27	Army #1 Water Well	4049799.34	586119.43	3	961.59	239.33	356.10	116.77	9.15E+00	1.07E+03		LCA	REC	Cooper - Jacob	M	1.07E+03	9.15E+00	0100	
27	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	1.20E+00	2.14E+02		LCA	PUMP	Cooper - Jacob	M	2.14E+02	1.20E+00	IT files	0100
28	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	2.70E+00	4.81E+02		LCA	PUMP	Cooper - Jacob	M	4.81E+02	2.70E+00	IT files	0100
29	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	4.97E-01	8.86E+01		LCA	PUMP	Cooper - Jacob	M	8.86E+01	4.97E-01	IT files	0100
30	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	2.81E-01	5.02E+01		LCA	PUMP	Cooper - Jacob	L	5.02E+01	2.81E-01	IT files	0100
31	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	1.18E+00	2.10E+02		LCA	PUMP	Theis	M	2.10E+02	1.18E+00	IT files	0100
32	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	1.19E+00	2.12E+02		LCA	pump	Theis	M	2.12E+02	1.19E+00	IT files	0100
33	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	2.33E+00	4.16E+02		LCA	rec	Cooper - Jacob	M	4.16E+02	2.33E+00	IT files	0100
34		Bacon Flat 1	4258048.12	622749.24	5		1620.01	1629.46	9.45	4.13E-02	3.90E-01		LCA	DST	Horner	L	3.90E-01	4.13E-02	4923	1020
35		Bacon Flat 5	4258242.34	623352.30	5		1705.36	1766.32	60.96	9.45E-05	5.76E-03		LCA	DST	Horner	L	5.76E-03	9.45E-05	4923	1020
36	121	CE-DT-4	4074032.58	688084.81	4	662.50	15.24	203.96	188.72	9.85E+01	1.86E+04		LCA	PUMP	Cooper - Jacob	L	1.86E+04	9.85E+01	2726	3143
37	120	CE-DT-5	4073972.59	688160.53	4	661.28	106.71	191.46	84.76	2.74E+02	2.32E+04		LCA	PUMP	Cooper - Jacob	L	2.32E+04	2.74E+02	2726	3143
38	120	CE-DT-5	4073972.59	688160.53	4	661.28	106.71	191.46	84.76	3.15E+02	2.67E+04	7.31E+02	LCA	PUMP	Cooper - Jacob	H	2.67E+04	3.15E+02	IT files	3143
39	120	CE-DT-5	4073972.59	688160.53	4	661.28	106.71	191.46	84.76	1.57E+03	1.33E+05		LCA	PUMP	Cooper - Jacob	M	1.33E+05	1.57E+03	IT files	3143
40	120	CE-DT-5	4073972.59	688160.53	4	661.28	106.71	191.46	84.76	3.09E+02	2.62E+04		LCA	PUMP	Theis	H	2.62E+04	3.09E+02	IT files	3143
41	118	CE-DT-6	4071193.18	697525.01	4	693.60	139.33	284.76	145.43	8.31E+00	1.21E+03		LCA	PUMP	Cooper - Jacob	L	1.21E+03	8.31E+00	2726	3143
42	118	CE-DT-6	4071193.18	697525.01	4	693.60	139.33	284.76	145.43	1.21E+01	1.77E+03		LCA	PUMP	Cooper - Jacob	L	1.77E+03	1.21E+01	IT files	3143
43	118	CE-DT-6	4071193.18	697525.01	4	693.60	139.33	284.76	145.43	5.11E+00	7.44E+02		LCA	PUMP	Cooper - Jacob	L	7.44E+02	5.11E+00	IT files	3143
44	118	CE-DT-6	4071193.18	697525.01	4	693.60	139.33	284.76	145.43	1.18E+01	1.72E+03		LCA	PUMP	Theis	L	1.72E+03	1.18E+01	IT files	3143
45	118	CE-DT-6	4071193.18	697525.01	4	693.60	139.33	284.76	145.43	5.75E+00	8.37E+02		LCA	PUMP	Theis	L	8.37E+02	5.75E+00	IT files	3143
46	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.48E+00	2.79E+02	9.54E-01	LCA	PUMP	Cooper - Jacob	M	2.79E+02	1.48E+00	2726	3143
47	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.73E-01	3.25E+01		LCA	PUMP	Cooper - Jacob	L	3.25E+01	1.73E-01	IT files	3143
48	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.48E+00	2.79E+02		LCA	PUMP	Cooper - Jacob	M	2.79E+02	1.48E+00	IT files	3143
49	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.48E-01	2.79E+01		LCA	PUMP	Theis	L	2.79E+01	1.48E-01	IT files	3143
50	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.48E+00	2.79E+02		LCA	PUMP	Theis	M	2.79E+02	1.48E+00	IT files	3143
51	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	4.78E+00	2.97E+02	6.58E+00	AA	PUMP	Theis	M	2.97E+02	4.78E+00	3218	
52	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	5.53E+00	3.44E+02		AA	pump	Neuman	M	3.44E+02	5.53E+00	3218	
53	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	5.53E+00	3.44E+02		AA	pump	Neuman	M	3.44E+02	5.53E+00	3218	
54	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	1.05E+01	6.51E+02		AA	pump	Theis	M	6.51E+02	1.05E+01	3218	
55	122	Coyote Springs Val	4074122.86	687983.63	5	661.59	106.71	191.46	84.76	2.74E+02	2.32E+04	1.49E+02	LCA	pump		M	2.32E+04	2.74E+02	3218	
56	122	Coyote Springs Val	4074122.86	687983.63	5	664.63	107.62	203.96	96.34	3.86E+01	3.72E+03		LCA	pump		M	3.72E+03	3.86E+01	3218	
57	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	5.61E+00	1.49E+02	3.46E+00	LCA	PUMP	Cooper - Jacob	M	1.49E+02	5.61E+00	2726	3143
58	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	8.82E-01	2.34E+01		LCA	PUMP	Cooper - Jacob	L	2.34E+01	8.82E-01	IT files	3143
59	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	5.33E+00	1.41E+02		LCA	PUMP	Cooper - Jacob	M	1.41E+02	5.33E+00	IT files	3143
60	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	8.19E-01	2.17E+01		LCA	PUMP	Theis	L	2.17E+01	8.19E-01	IT files	3143
61	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	4.69E+00	1.24E+02		LCA	PUMP	Theis	M	1.24E+02	4.69E+00	IT files	3143
62	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	4.20E-01	1.11E+01		LCA	PUMP	Theis Recovery	L	1.11E+01	4.20E-01	IT files	3143
63		CV-DT-1	4221633.21	644953.29	5		244.75	559.92	315.16	1.03E-01	3.25E+01		LCA	pump	specific capacity	L	3.25E+01	1.03E-01	4923	
64		DL-DT-3	4217903.14	684597.04	5		259.99	730.00	470.00	3.36E+00	1.58E+03		LCA	pump	specific capacity	L	1.58E+03	3.36E+00	4923	
65	126	DM-TW-2	4146011.67	688452.99	5	1435.98	280.49	353.66	73.17	1.40E+00	1.02E+02	1.52E+00	AA	pump	Cooper - Jacob	M	1.02E+02	1.40E+00	3218	
66	126	DM-TW-2	4146011.67	688452.99	5	1435.98	280.49	353.66	73.17	1.65E+00	1.21E+02		AA	pump	Theis	M	1.21E+02	1.65E+00	3218	
67		Dobbin Creek Fed A1-6	4315961.48	533461.88	5		975.36	1229.56	254.20	2.52E-03	6.41E-01		LCA	DST	Horner	L	6.41E-01	2.52E-03	4923	1020

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
68		DOC Fereral 5-18	4238854.06	601489.88	5		1728.52	1744.98	16.46	4.74E-01	7.80E+00		LCA	DST	Horner	L	7.80E+00	4.74E-01	4923	1020
69	114	DR-1	4046912.86	642194.31	4	1091.16	265.24	283.54	18.29	1.07E+00	1.95E+01		LCA	pump	Theis Recovery	L	1.95E+01	1.07E+00	IT files	3142
70	114	DR-1	4046912.86	642194.31	4	1091.16	265.24	283.54	18.29	4.07E-01	7.43E+00		LCA	pump	Theis Recovery	L	7.44E+00	4.07E-01	IT files	3142
71	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	2.08E+01	1.97E+03	1.44E+01	LCA	Pump	Cooper - Jacob	M	1.97E+03	2.08E+01	IT files	USGS files
72	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	5.72E+00	5.41E+02		LCA	Pump	Cooper - Jacob	M	5.41E+02	5.72E+00	IT files	USGS files
73	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	1.15E+00	1.09E+02		LCA	Pump	Cooper - Jacob	L	1.09E+02	1.15E+00	IT files	USGS files
74	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	1.36E+01	1.29E+03		LCA	Pump	Theis	M	1.29E+03	1.36E+01	IT files	USGS files
75	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	7.90E-01	7.46E+01		LCA	Pump	Theis	L	7.46E+01	7.90E-01	IT files	USGS files
76	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	5.47E+01	5.17E+03		LCA	rec	Cooper - Jacob	M	5.17E+03	5.47E+01	IT files	USGS files
77	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	4.27E+00	4.04E+02		LCA	rec	Cooper - Jacob	M	4.04E+02	4.27E+00	IT files	USGS files
78	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	3.04E+00	2.87E+02		LCA	rec	Cooper - Jacob	L	2.87E+02	3.04E+00	IT files	USGS files
79	122	Garden Valley	4074122.86	687983.63	5	1562.81	244.82	560.06	315.24	1.18E-01	3.72E+01	1.18E-01	LCA	pump		M	3.72E+01	1.18E-01	3218	
80	128	GN-IO-1	4209242.09	626637.36	5	1699.70	250.00	308.23	58.23	1.92E+01	1.12E+03	2.00E+01	AA	pump	Neuman	M	1.12E+03	1.92E+01	3218	
81	128	GN-IO-1	4209242.09	626637.36	5	1699.70	250.00	308.23	58.23	2.08E+01	1.21E+03		AA	pump	Theis	M	1.21E+03	2.08E+01	3218	
82	128	GN-IT-2	4209242.09	626637.36	5	1699.70	182.93	295.73	112.80	2.64E+00	2.97E+02	6.67E+00	AA	pump	Cooper - Jacob	M	2.97E+02	2.64E+00	3218	
83	128	GN-IT-2	4209242.09	626637.36	5	1699.70	182.93	295.73	112.80	1.07E+01	1.21E+03		AA	pump	Theis	M	1.21E+03	1.07E+01	3218	
84		Grant Canyon 1	4257083.35	624170.17	5		1322.83	1353.62	30.78	2.57E-02	7.91E-01		LCA	DST	Horner	L	7.90E-01	2.57E-02	4923	1020
85		Grant Canyon 3	4257884.77	624157.79	5		1199.08	1207.31	8.23	1.69E-01	1.39E+00		LCA	DST	Horner	L	1.39E+00	1.69E-01	4923	1020
86		Grant Canyon 4	4257490.06	624551.78	5		1229.56	1237.79	8.23	5.76E+00	4.74E+01		LCA	DST	Horner	L	4.74E+01	5.76E+00	4923	1020
87		Grant Canyon 5	4256955.56	623881.20	5		1386.23	1416.71	30.48	1.40E+00	4.27E+01		LCA	DST	Horner	L	4.27E+01	1.40E+00	4923	1020
88	131	HC-S-O-2	4244872.46	558737.93	5	1679.27	86.59	132.01	45.43	3.27E+00	1.49E+02	8.79E+00	AA	pump	Neuman	M	1.49E+02	3.27E+00	3218	
89	131	HC-S-O-2	4244872.46	558737.93	5	1679.27	86.59	132.01	45.43	1.86E+01	8.46E+02		AA	pump	Theis	M	8.46E+02	1.86E+01	3218	
90	131	HC-S-T-2	4244872.46	558737.93	5	1683.54	99.09	147.87	48.78	4.76E+00	2.32E+02		AA	pump	Theis	M	2.32E+02	4.76E+00	3218	
91	132	HC-SO-1	4259377.73	568784.61	5	1715.24	67.07	140.24	73.17	2.41E+01	1.77E+03	1.80E+01	AA	pump	Neuman	M	1.77E+03	2.41E+01	3218	
92	132	HC-ST-1	4259377.73	568784.61	5	1708.23	73.17	140.24	67.07	1.12E+01	7.53E+02		AA	pump	Theis	M	7.53E+02	1.12E+01	3218	
93	11	HTH-1	4275397.78	568542.74	4	1832.00	213.00	259.00	46.00	3.51E-01	1.62E+01	8.89E-02	AA	SWAB	Cooper/Bredehoeft/I	M	1.62E+01	3.51E-01	1485	2729/190
94	11	HTH-1	4275397.78	568542.74	4	1832.00	290.00	351.00	61.00	5.09E-02	3.11E+00		AA	SWAB	Cooper/Bredehoeft/I	M	3.11E+00	5.09E-02	1485	2729/190
95	11	HTH-1	4275397.78	568542.74	4	1832.00	427.00	457.00	30.00	1.99E-02	5.96E-01		AA	SWAB	Cooper/Bredehoeft/I	M	5.96E-01	1.99E-02	1485	2729/190
96	11	HTH-1	4275397.78	568542.74	4	1832.00	506.00	524.00	18.00	4.07E-03	7.33E-02		AA	SWAB	Cooper/Bredehoeft/I	M	7.33E-02	4.07E-03	1485	2729/190
97	11	HTH-1	4275397.78	568542.74	4	1832.00	564.00	604.00	40.00	2.05E-03	8.20E-02		AA	SWAB	Cooper/Bredehoeft/I	M	8.20E-02	2.05E-03	1485	2729/190
98	11	HTH-1	4275397.78	568542.74	4	1832.00	671.00	701.00	30.00	6.21E-05	1.86E-03		AA	SWAB	Cooper/Bredehoeft/I	M	1.86E-03	6.21E-05	1485	2729/190
99	11	HTH-1	4275397.78	568542.74	4	1832.62	168.60	350.61	182.01	5.60E-01	1.02E+02	5.60E-01	LCA	PUMP	Leaky-artesian	M	1.02E+02	5.60E-01	0190	1485
100	11	HTH-1	4275397.78	568542.74	4	1832.00	805.00	826.00	21.00	5.68E-02	1.19E+00	1.55E-01	TS	SWAB	Cooper/Bredehoeft/I	M	1.19E+00	5.68E-02	1485	2729/190
101	11	HTH-1	4275397.78	568542.74	4	1832.00	899.00	917.00	18.00	2.69E-01	4.85E+00		TS	SWAB	Cooper/Bredehoeft/I	M	4.85E+00	2.69E-01	1485	2729/190
102	11	HTH-1	4275397.78	568542.74	4	1832.00	731.00	750.00	19.00	1.77E-02	3.35E-01	1.77E-02	VU	SWAB	Cooper/Bredehoeft/I	M	3.35E-01	1.77E-02	1485	2729/190
103	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1109.00	1167.00	58.00	2.98E-01	1.73E+01		VU	SWAB	Cooper/Bredehoeft/I	L	1.73E+01	2.98E-01	1485	2668
104	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1358.00	1416.00	58.00	3.98E-01	2.31E+01		VU	SWAB	Cooper/Bredehoeft/I	L	2.31E+01	3.98E-01	1485	2668
105	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1418.00	1468.00	50.00	2.76E-01	1.38E+01		VU	SWAB	Cooper/Bredehoeft/I	L	1.38E+01	2.76E-01	1485	2668
106	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1471.00	1528.00	57.00	1.21E-02	6.91E-01	1.21E-02	VU	SWAB	Cooper/Bredehoeft/I	M	6.91E-01	1.21E-02	1485	2668
107	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1535.00	1593.00	58.00	3.98E-01	2.31E+01		VU	SWAB	Cooper/Bredehoeft/I	L	2.31E+01	3.98E-01	1485	2668
108	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1608.00	1699.00	91.00	1.50E-07	1.37E-05		VU	SWAB	Cooper/Bredehoeft/I	L	1.37E-05	1.50E-07	1485	2668
109	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1703.00	1760.00	57.00	1.22E-05	6.95E-04		VU	SWAB	Cooper/Bredehoeft/I	L	6.96E-04	1.22E-05	1485	2668
110	9	HTH-21-1	4271115.80	580377.29	4	1787.00	695.00	707.00	12.00	1.93E+00	2.31E+01		VU	SWAB	Cooper/Bredehoeft/I	L	2.31E+01	1.93E+00	1485	2668
111	9	HTH-21-1	4271115.80	580377.29	4	1787.00	710.00	749.00	39.00	5.93E-01	2.31E+01		VU	SWAB	Cooper/Bredehoeft/I	L	2.31E+01	5.93E-01	1485	2668
112	9	HTH-21-1	4271115.80	580377.29	4	1787.00	695.00	707.00	12.00	2.39E-02	2.87E-01		VU	INJ	Cooper/Bredehoeft/I	L	2.87E-01	2.39E-02	2668	1485
113	3	HTH-23	4262246.59	585203.09	4	1766.00	1413.00	1486.00	73.00	3.97E-03	2.90E-01		VU	INJ	Cooper/Bredehoeft/I	L	2.90E-01	3.97E-03	2728	1485
114	3	HTH-23	4262246.59	585203.09	4	1766.00	1489.00	1562.00	73.00	3.29E-04	2.40E-02		VU	INJ	Cooper/Bredehoeft/I	L	2.40E-02	3.29E-04	2728	1485
115	3	HTH-23	4262246.59	585203.09	4	1766.00	1550.00	1598.00	48.00	1.90E-02	9.10E-01	1.83E-02	VU	INJ	Cooper/Bredehoeft/I	M	9.10E-01	1.90E-02	2728	1485
116	3	HTH-23	4262246.59	585203.09	4	1766.00	1596.00	1669.00	73.00	8.36E-04	6.10E-02		VU	INJ	Cooper/Bredehoeft/I	M	6.10E-02	8.36E-04	2728	1485
117	3	HTH-23	4262246.59	585203.09	4	1766.00	1671.00	1719.00	48.00	1.00E-01	4.80E+00		VU	INJ	Cooper/Bredehoeft/I	L	4.80E+00	1.00E-01	2728	1485
118	3	HTH-23	4262246.59	585203.09	4	1766.00	1722.00	1795.00	73.00	1.37E-05	1.00E-03		VU	INJ	Cooper/Bredehoeft/I	M	1.00E-03	1.37E-05	2728	1485
119	3	HTH-23	4262246.59	585203.09	4	1766.00	1777.00	1850.00	73.00	8.49E-06	6.20E-04		VU	INJ	Cooper/Bredehoeft/I	M	6.20E-04	8.49E-06	2728	1485
120	3	HTH-23	4262246.59	585203.09	4	1766.00	1853.00	1899.00	46.00	1.26E-01	5.80E+00		VU	INJ	Cooper/Bredehoeft/I	L	5.80E+00	1.26E-01	2728	1485
121	3	HTH-23	4262246.59	585203.09	4	1766.00	1911.00	1944.00	33.00	1.45E-01	4.80E+00		VU	INJ	Cooper/Bredehoeft/I	L	4.80E+00	1.45E-01	2728	1485
122	6	HTH-3	4267658.04	576919.94	4	1803.00	1056.00	1114.00	58.00	2.07E-01	1.20E+01		VU	INJ	Cooper/Bredehoeft/I	L	1.20E+01	2.07E-01	2723	1485
123	6	HTH-3	4267658.04	576919.94	4	1803.00	1119.00	1171.00	52.00	2.31E-01	1.20E+01		VU	INJ	Cooper/Bredehoeft/I	L	1.20E+01	2.31E-01	2723	1485
124	6	HTH-3	4267658.04	576919.94	4	1803.00	1432.00	1526.00	94.00	1.03E-02	9.70E-01		VU	INJ	Cooper/Bredehoeft/I	L	9.70E-01	1.03E-02	2723	1485
125	6	HTH-3	4267658.04	576919.94	4	1803.00	1570.00	1667.00	97.00	2.47E-02	2.40E+00		VU	INJ	Cooper/Bredehoeft/I	L	2.40E+00	2.47E-02	2723	1485
126	6	HTH-3	4267658.04	576919.94	4	1803.00	1673.00	1771.00	98.00	2.96E-02	2.90E+00		VU	INJ	Cooper/Bredehoeft/I	L	2.90E+00	2.96E-02	2723	1485
127	5	HTH-4	4265713.88	584897.68	4	1776.00	1347.00	1356.00	9.00	8.11E-04	7.30E-03		VU	INJ	Cooper/Bredehoeft/I	L	7.30E-03	8.11E-04	2721	1485
128	5	HTH-4	4265713.88	584897.68	4	1776.00	265.00	271.00	6.00	1.22E-01	7.30E-01		VU	INJ	Cooper/Bredehoeft/I	L	7.30E-01	1.22E-01	2721	1485
129	5	HTH-4	4265713.88	584897.68	4	1776.00	616.00	625.00	9.00	8.11E-01	7.30E+00		VU	INJ	Cooper/Bredehoeft/I	L	7.30E+00	8.11E-01	2721	1485
130	32	J-11	4071072.83	563798.81	3	1050.31	316.77	396.34	79.57	4.37E+00	3.48E+02	4.37E+00	WTA	PUMP	Cooper - Jacob	M	3.48E+02	4.37E+00	0100	0183
131	30	J-12 Water Well	4068767.00	554435.17	4	954.27	225.91	270.43	44.51	2.79E+01	1.24E+03		WTA	REC		L	1.24E+03	2.79E+01	0100	
132	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	471.00	502.00	31.00	1.45E-01	4.50E+00		WTA	INJ		L	4.50E+00	1.45E-01	0009	
133	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	501.00	562.00	61.00	1.28E-02	7.80E-01		WTA	INJ		L	7.80E-01	1.28E-02	0009	
134	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	505.00	566.00	61.00	5.57E-03	3.40E-01		WTA	INJ		L	3.40E-01	5.57E-03	0009	

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
135	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	585.00	646.00	61.00	9.02E-03	5.50E-01		WTA	INJ		L	5.50E-01	9.02E-03	0009	
136	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	640.00	670.00	30.00	2.93E-03	8.80E-02		WTA	INJ		L	8.80E-02	2.93E-03	0009	
137	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	669.00	699.00	30.00	1.60E-02	4.80E-01		WTA	INJ		L	4.80E-01	1.60E-02	0009	
138	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	719.00	750.00	31.00	3.23E-03	1.00E-01		WTA	INJ		L	1.00E-01	3.23E-03	0009	
139	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	773.00	803.00	30.00	5.67E-03	1.70E-01		WTA	INJ		L	1.70E-01	5.67E-03	0009	
140	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	304.00	1010.00	706.00	1.70E-01	1.20E+02	6.14E-01	WTA	PUMP	Stallman's Method	M	1.20E+02	1.70E-01	0009	
141	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	304.00	423.00	119.00	9.00E-01	1.07E+02		WTA	PUMP	Cooper - Jacob	M	1.10E+02	9.00E-01	0009	
142	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	304.00	423.00	119.00	1.76E+00	2.10E+02		WTA	PUMP	Cooper - Jacob	M	2.10E+02	1.76E+00	0009	
143	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	307.00	1010.00	703.00	1.99E-01	1.40E+02		WTA	PUMP	Stallman's Method	M	1.40E+02	1.99E-01	0009	
144	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	471.00	502.00	31.00	5.81E-02	1.80E+00		WTA	SWAB		L	1.80E+00	5.81E-02	0009	
145	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	471.00	613.00	142.00	1.34E-02	1.90E+00		WTA	SWAB		L	1.90E+00	1.34E-02	0009	
146	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	471.00	661.00	190.00	1.53E-02	2.90E+00		WTA	SWAB		L	2.90E+00	1.53E-02	0009	
147	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	471.00	913.00	442.00	8.82E-03	3.90E+00		WTA	SWAB		L	3.90E+00	8.82E-03	0009	
148	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	501.00	562.00	61.00	2.62E-02	1.60E+00		WTA	SWAB		L	1.60E+00	2.62E-02	0009	
149	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	505.00	566.00	61.00	6.07E-03	3.70E-01		WTA	SWAB		M	3.70E-01	6.07E-03	0009	
150	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	820.00	1063.00	243.00	2.59E-03	6.30E-01		WTA	SWAB		L	6.30E-01	2.59E-03	0009	
151	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	164.00	164.00		3.00E-07	0.00E+00		WTA		Laboratory	L		3.00E-07	0009	
152	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	206.00	206.00		4.00E-03	0.00E+00		WTA		Laboratory	L		4.00E-03	0009	
153	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	207.00	207.00		2.00E-06	0.00E+00		WTA		Laboratory	L		2.00E-06	0009	
154	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	244.00	244.00		3.00E-06	0.00E+00		WTA		Laboratory	L		3.00E-06	0009	
155	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	335.00	335.00		2.00E-04	0.00E+00		WTA		Laboratory	L		2.00E-04	0009	
156	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	364.00	364.00		8.00E-06	0.00E+00		WTA		Laboratory	L		8.00E-06	0009	
157	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	409.00	409.00		8.00E-07	0.00E+00		WTA		Laboratory	L		8.00E-07	0009	
158	37	J-13 Water Well	4073549.59	554004.09	5	1011.00	432.00	432.00		3.00E-07	0.00E+00		WTA		Laboratory	L		3.00E-07	0009	
159	37	J-13 Water Well	4073549.59	554004.09	3	1011.59	282.93	449.70	166.77	5.07E+00	8.45E+02		WTA	PUMP	Cooper - Jacob	H	8.45E+02	5.07E+00	0100	
160	37	J-13 Water Well	4073549.59	554004.09	3	1011.59	303.66	1032.01	728.35	1.16E+00	8.45E+02		WTA	PUMP	Cooper - Jacob	H	8.45E+02	1.16E+00	0183	
161		Lone Tree 1-14-43	4248467.47	619157.87	5		1332.59	1350.26	17.68	3.26E-02	5.76E-01		LCA	DST	Horner	L	5.76E-01	3.26E-02	4923	1020
162		Pad Shaft	4373164.04	587288.78	4		312.42	751.33	438.91	6.77E-01	2.97E+02		LCA	pump	specific capacity	L	2.97E+02	6.77E-01	4923	
163		Pad Shaft	4373164.04	587288.78	4		312.42	751.33	438.91	4.66E-01	2.05E+02	5.29E-01	LCA	pump	drawdown	M	2.04E+02	4.66E-01	4923	
164		Pad Shaft	4373164.04	587288.78	4		312.42	751.33	438.91	4.45E-01	1.95E+02		LCA	pump	recovery	M	1.95E+02	4.45E-01	4923	
165		Pad Shaft	4373164.04	587288.78	4		312.42	751.33	438.91	6.77E-01	2.97E+02		LCA	pump	drawdown/recovery	M	2.97E+02	6.77E-01	4923	
166		PM - 3			4	1775.24	443.90	920.43	476.52	7.80E-02	3.72E+01		TCTC	pump	Cooper - Jacob	L	3.72E+01	7.80E-02	IT files	USGS files
167		PM - 3			4	1775.24	443.90	533.54	89.63	1.45E-01	1.30E+01		TPTC	pump	Cooper - Jacob	L	1.30E+01	1.45E-01	IT files	USGS files
168		PM - 3			4	1775.24	551.83	564.02	12.20	7.24E-01	8.83E+00		TPTC	pump	Cooper - Jacob	L	8.83E+00	7.24E-01	IT files	USGS files
169		PM - 3			4	1775.24	602.13	640.24	38.11	3.90E-01	1.49E+01		TPTC	pump	Cooper - Jacob	L	1.49E+01	3.90E-01	IT files	USGS files
170	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	92.68	123.48	30.79	1.51E+01	4.65E+02	2.76E+01	AA	pump	Neuman	M	4.65E+02	1.51E+01	3218	
171	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	92.68	123.48	30.79	1.51E+01	4.65E+02		AA	pump	Neuman	M	4.65E+02	1.51E+01	3218	
172	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	92.68	123.48	30.79	4.80E+01	1.48E+03		AA	pump	Theis	M	1.48E+03	4.80E+01	3218	
173	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	201.22	214.02	12.80	7.26E+01	9.29E+02		AA	pump	Neuman	M	9.30E+02	7.26E+01	3218	
174	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	201.22	214.02	12.80	8.28E+01	1.06E+03		AA	pump	Theis	M	1.06E+03	8.28E+01	3218	
175	129	RE-VF-T1	4217805.60	558106.40	5	1672.26	121.34	200.61	79.27	1.31E+01	1.04E+03		AA	pump	Theis	M	1.04E+03	1.31E+01	3218	
176	130	RR-S-O-1	4222801.83	580196.29	5	1526.83	99.09	150.91	51.83	1.97E+01	1.02E+03	2.51E+01	AA	pump	Neuman	M	1.02E+03	1.97E+01	3218	
177	130	RR-S-O-1	4222801.83	580196.29	5	1526.83	99.09	150.91	51.83	3.05E+01	1.58E+03		AA	pump	Theis	M	1.58E+03	3.05E+01	3218	
178	133	RR-S-O-2	4287551.84	632224.14	5	1562.81	93.90	176.22	82.32	8.92E+00	7.34E+02	1.58E+01	AA	pump	Neuman	M	7.34E+02	8.92E+00	3218	
179	133	RR-S-O-2	4287551.84	632224.14	5	1562.81	93.90	176.22	82.32	2.26E+01	1.86E+03		AA	pump	Theis	M	1.86E+03	2.26E+01	3218	
180	130	RR-S-T-1	4222801.83	580196.29	5	1526.22	92.07	135.37	43.29	3.65E+01	1.58E+03	3.65E+01	AA	pump	Theis	M	1.58E+03	3.65E+01	3218	
181	133	RR-S-T-2	4287551.84	632224.14	5	1563.42	84.76	170.73	85.98	3.35E+01	2.88E+03	3.35E+01	AA	pump	Theis	M	2.88E+03	3.35E+01	3218	
182	112	SBH-1	4044462.89	643155.15	4	1059.45	177.13	219.51	42.38	8.12E+01	3.44E+03		LCA		Cooper - Jacob	L	3.44E+03	8.12E+01	2726	3142
183	112	SBH-1	4044462.89	643155.15	4	1059.45	177.13	219.51	42.38	1.07E+02	4.55E+03		LCA		Cooper - Jacob	L	4.55E+03	1.07E+02	IT files	3142
184	112	SBH-1	4044462.89	643155.15	4	1059.45	177.13	219.51	42.38	2.85E+00	1.21E+02		LCA		Cooper - Jacob	L	1.21E+02	2.85E+00	IT files	3142
185	112	SBH-1	4044462.89	643155.15	4	1059.45	177.13	219.51	42.38	1.21E+02	5.11E+03		LCA		Theis	L	5.11E+03	1.21E+02	IT files	3142
186	112	SBH-1	4044462.89	643155.15	4	1059.45	177.13	219.51	42.38	2.85E+00	1.21E+02		LCA		Theis	L	1.21E+02	2.85E+00	IT files	3142
187	112	SBH-1	4044462.89	643155.15	4	1059.45	177.13	219.51	42.38	1.21E+02	5.11E+03		LCA		Theis Recovery	L	5.11E+03	1.21E+02	IT files	3142
188	112	SBH-1	4044462.89	643155.15	4	1059.45	177.13	219.51	42.38	3.73E+00	1.58E+02		LCA		Theis Recovery	L	1.58E+02	3.73E+00	IT files	3142
189		SV-DT-2	4310179.93	686967.28	4		152.40	745.85	593.45	2.97E-02	1.76E+01		LCA	pump	specific capacity	L	1.77E+01	2.97E-02	4923	
190		SV-DT-2	4310179.93	686967.28	4		152.40	745.85	593.45	2.04E-02	1.21E+01	5.17E-02	LCA	pump	drawdown	M	1.21E+01	2.04E-02	4923	
191		SV-DT-2	4310179.93	686967.28	4		152.40	745.85	593.45	8.30E-02	4.93E+01		LCA	pump	recovery	M	4.92E+01	8.30E-02	4923	
192	38	TEST WELL 3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	2.05E-01	4.68E+01	1.39E-01	LCA	pump	Cooper - Jacob	H	4.68E+01	2.05E-01	IT files	0100
193	38	TEST WELL 3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	1.14E-02	2.60E+00		LCA	pump	Cooper - Jacob	L	2.60E+00	1.14E-02	IT files	0100
194	38	TEST WELL 3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	2.02E-01	4.61E+01		LCA	pump	Theis	H	4.61E+01	2.02E-01	IT files	0100
195	38	TEST WELL 3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	9.18E-03	2.10E+00		LCA	pump	Theis	L	2.10E+00	9.18E-03	IT files	0100
196	87	U-20a #2 Water Well	4121742.49	551332.89	3	1973.00	629.88	1371.95	742.07	3.01E-01	2.24E+02	3.01E-01	TPTC, TCTC	PUMP	Cooper - Jacob	H	2.24E+02	3.01E-01	0018	0092
197	65	U-3cn #5	4101713.19	586921.42	3	1223.17	860.06	922.56	62.50	4.77E-01	2.98E+01	2.88E-01	LCA	PUMP	Cooper - Jacob	M	2.98E+01	4.77E-01	0100	
198	65	U-3cn #5	4101713.19	586921.42	3	1223.17	860.06	922.56	62.50	1.39E-01	8.70E+00		LCA	REC		L	8.70E+00	1.39E-01	0100	
199	65	U-3cn #5	4101713.19	586921.42	3	1223.17	863.41	923.17	59.76	3.56E-02	2.12E+00		LCA	PUMP	Cooper - Jacob	L	2.12E+00	3.56E-02	IT files	0100
200	65	U-3cn #5	4101713.19	586921.42	3	1223.17	863.41	923.17	59.76	4.99E-01	2.98E+01		LCA	PUMP	Cooper - Jacob	M	2.98E+01	4.99E-01	IT files	0100
201	65	U-3cn #5	4101713.19	586921.42	3	1223.17	863.41	923.17	59.76	2.22E-02	1.33E+00		LCA	rec	Cooper - Jacob	L	1.33E+00	2.22E-02	IT files	0100

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
202	13	UCe-17	4281240.26	568049.79	4	1995.00	1368.00	1429.00	61.00	2.15E-03	1.31E-01		VU	INJ	Cooper/Bredehoeft/I	L	1.31E-01	2.15E-03	2729	1485/0190
203	13	UCe-17	4281240.26	568049.79	4	1995.00	1409.00	1470.00	61.00	1.44E-01	8.76E+00		VU	INJ	Cooper/Bredehoeft/I	L	8.76E+00	1.44E-01	2729	1485/0190
204	13	UCe-17	4281240.26	568049.79	4	1995.00	1598.00	1659.00	61.00	4.31E-05	2.63E-03		VU	INJ	Cooper/Bredehoeft/I	L	2.63E-03	4.31E-05	2729	1485/0190
205	13	UCe-17	4281240.26	568049.79	4	1995.00	1869.00	1930.00	61.00	4.31E-05	2.63E-03	3.78E-04	VU	INJ	Cooper/Bredehoeft/I	M	2.63E-03	4.31E-05	2729	1485/0190
206	13	UCe-17	4281240.26	568049.79	4	1995.00	1960.00	2021.00	61.00	1.39E-05	8.48E-04		VU	INJ	Cooper/Bredehoeft/I	L	8.47E-04	1.39E-05	2729	1485/0190
207	13	UCe-17	4281240.26	568049.79	4	1995.00	1960.00	2021.00	61.00	1.39E-05	8.48E-04		VU	INJ	Cooper/Bredehoeft/I	L	8.47E-04	1.39E-05	2729	1485/0190
208	13	UCe-17	4281240.26	568049.79	4	1995.00	2056.00	2117.00	61.00	1.08E-03	6.57E-02		VU	INJ	Cooper/Bredehoeft/I	M	6.57E-02	1.08E-03	2729	1485/0190
209	13	UCe-17	4281240.26	568049.79	4	1995.00	2056.00	2117.00	61.00	1.08E-03	6.57E-02		VU	INJ	Cooper/Bredehoeft/I	M	6.57E-02	1.08E-03	2729	1485/0190
210	13	UCe-17	4281240.26	568049.79	4	1995.00	2149.00	2210.00	61.00	3.92E-04	2.39E-02		VU	INJ	Cooper/Bredehoeft/I	M	2.39E-02	3.92E-04	2729	1485/0190
211	13	UCe-17	4281240.26	568049.79	4	1995.00	2213.00	2274.00	61.00	2.87E-05	1.75E-03		VU	INJ	Cooper/Bredehoeft/I	M	1.75E-03	2.87E-05	2729	1485/0190
212	13	UCe-17	4281240.26	568049.79	4	1995.00	957.00	1018.00	61.00	4.31E-02	2.63E+00		VU	INJ	Cooper/Bredehoeft/I	L	2.63E+00	4.31E-02	2729	1485/0190
213	8	UCe-18	4270952.61	570423.78	4	1756.00	1237.00	1277.00	40.00	9.32E-05	3.73E-03		AA	SWAB		L	3.73E-03	9.32E-05	1485	
214	8	UCe-18	4270952.61	570423.78	4	1757.00	1238.00	1277.00	39.00	8.21E-03	3.20E-01		AA	INJ	Cooper/Bredehoeft/I	L	3.20E-01	8.21E-03	2729	1485/0190
215	10	UCe-20	4271868.87	568059.77	4	1756.00	213.00	220.00	7.00	1.43E-03	1.00E-02		AA	INJ	Cooper/Bredehoeft/I	L	1.00E-02	1.43E-03	2729	1485/0190
216	10	UCe-20	4271868.87	568059.77	4	1756.00	671.00	677.00	6.00	1.04E-04	6.24E-04		AA	INJ	Cooper/Bredehoeft/I	L	6.25E-04	1.04E-04	2729	1485/0190
217	10	UCe-20	4271868.87	568059.77	4	1756.00	1238.00	1277.00	39.00	1.03E-04	4.02E-03		VU	INJ	Cooper/Bredehoeft/I	L	4.00E-03	1.03E-04	2729	1485/0190
218	10	UCe-20	4271868.87	568059.77	4	1756.00	1481.00	1502.00	21.00	1.18E-05	2.48E-04		VU	INJ	Cooper/Bredehoeft/I	L	2.48E-04	1.18E-05	2729	1485/0190
219	10	UCe-20	4271868.87	568059.77	4	1756.00	1481.00	1618.00	137.00	9.85E-04	1.35E-01		VU	INJ	Cooper/Bredehoeft/I	L	1.35E-01	9.85E-04	2729	1485/0190
220	10	UCe-20	4271868.87	568059.77	4	1756.00	1481.00	1618.00	137.00	9.85E-04	1.35E-01		VU	INJ	Cooper/Bredehoeft/I	L	1.35E-01	9.85E-04	2729	1485/0190
221	10	UCe-20	4271868.87	568059.77	4	1756.00	1502.00	1538.00	36.00	1.22E-04	4.39E-03		VU	INJ	Cooper/Bredehoeft/I	L	4.38E-03	1.22E-04	2729	1485/0190
222	10	UCe-20	4271868.87	568059.77	4	1756.00	1521.00	1540.00	19.00	1.15E-04	2.19E-03		VU	INJ	Cooper/Bredehoeft/I	L	2.19E-03	1.15E-04	2729	1485/0190
223	10	UCe-20	4271868.87	568059.77	4	1756.00	1540.00	1558.00	18.00	7.28E-03	1.31E-01		VU	INJ	Cooper/Bredehoeft/I	L	1.31E-01	7.28E-03	2729	1485/0190
224	10	UCe-20	4271868.87	568059.77	4	1756.00	1540.00	1618.00	78.00	1.20E-03	9.38E-02		VU	INJ	Cooper/Bredehoeft/I	L	9.38E-02	1.20E-03	2729	1485/0190
225	10	UCe-20	4271868.87	568059.77	4	1756.00	1579.00	1618.00	39.00	2.24E-05	8.74E-04		VU	INJ	Cooper/Bredehoeft/I	L	8.75E-04	2.24E-05	2729	1485/0190
226	10	UCe-20	4271868.87	568059.77	4	1756.00	1625.00	1829.00	204.00	2.15E-01	4.38E+01		VU	INJ	Cooper/Bredehoeft/I	L	4.38E+01	2.15E-01	2729	1485/0190
227	10	UCe-20	4271868.87	568059.77	4	1756.00	1652.00	1671.00	19.00	1.97E+00	3.75E+01		VU	INJ	Cooper/Bredehoeft/I	L	3.75E+01	1.97E+00	2729	1485/0190
228	10	UCe-20	4271868.87	568059.77	4	1756.00	1680.00	1829.00	149.00	1.77E-01	2.63E+01		VU	INJ	Cooper/Bredehoeft/I	L	2.63E+01	1.77E-01	2729	1485/0190
229	10	UCe-20	4271868.87	568059.77	4	1756.00	1799.00	1829.00	30.00	5.77E-04	1.73E-02		VU	INJ	Cooper/Bredehoeft/I	L	1.73E-02	5.77E-04	2729	1485/0190
230	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	7.89E+00	9.91E+02	1.59E+01	LCA	pump	Cooper - Jacob	M	9.91E+02	7.89E+00	IT files	IT files
231	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	6.66E+00	8.37E+02		LCA	pump	Cooper - Jacob	L	8.37E+02	6.66E+00	IT files	IT files
232	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	2.15E+01	2.70E+03		LCA	pump	Cooper - Jacob	M	2.70E+03	2.15E+01	IT files	IT files
233	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.89E+01	2.37E+03		LCA	pump	Cooper - Jacob	M	2.37E+03	1.89E+01	IT files	IT files
234	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	2.08E+01	2.61E+03		LCA	pump	Theis	M	2.61E+03	2.08E+01	IT files	IT files
235	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.85E+01	2.32E+03		LCA	pump	Theis	M	2.32E+03	1.85E+01	IT files	IT files
236	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.96E+01	2.46E+03		LCA	rec	Cooper - Jacob	M	2.46E+03	1.96E+01	IT files	IT files
237	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.46E+01	1.83E+03		LCA	rec	Cooper - Jacob	M	1.83E+03	1.46E+01	IT files	IT files
238	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.46E+01	1.83E+03		LCA	rec	Cooper - Jacob	M	1.83E+03	1.46E+01	IT files	IT files
239	69	UE-16d	4102772.92	574292.64	4	1428.00	25.00	646.00	621.00	3.22E-01	2.00E+02		LCA3	PUMP		L	2.00E+02	3.22E-01	0042	
240	69	UE-16d	4102772.92	574292.64	4	1428.00	262.00	314.00	52.00	9.62E-02	5.00E+00		LCA3	SLUG		L	5.00E+00	9.62E-02	0042	
241	69	UE-16d	4102772.92	574292.64	4	1428.00	314.00	366.00	52.00	4.81E-01	2.50E+01		LCA3	SLUG		L	2.50E+01	4.81E-01	0042	
242	69	UE-16d	4102772.92	574292.64	4	1428.00	399.00	465.00	66.00	3.79E-01	2.50E+01		LCA3	SLUG		L	2.50E+01	3.79E-01	0042	
243	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.88E+00	5.06E+02	1.17E+00	LCA3	Pump	Theis	M	5.06E+02	1.88E+00	IT files	USGS files
244	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.77E+00	4.77E+02		LCA3	pump	Cooper - Jacob	M	4.77E+02	1.77E+00	IT files	USGS files
245	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.24E+00	3.34E+02		LCA3	pump	Theis	M	3.34E+02	1.24E+00	IT files	USGS files
246	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.23E+00	3.31E+02		LCA3	pump	Cooper - Jacob	L	3.31E+02	1.23E+00	IT files	USGS files
247	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	6.71E-01	1.81E+02		LCA3	pump	Cooper - Jacob	M	1.81E+02	6.71E-01	IT files	USGS files
248	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	6.44E-01	1.73E+02		LCA3	pump	Theis	M	1.73E+02	6.44E-01	IT files	USGS files
249	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.45E+00	3.90E+02		LCA3	rec	Cooper - Jacob	L	3.90E+02	1.45E+00	IT files	USGS files
250	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	4.99E-01	1.34E+02		LCA3	rec	Cooper - Jacob	M	1.34E+02	4.99E-01	IT files	USGS files
251	69	UE-16d	4102772.92	574292.64	4	1428.00	468.00	533.00	65.00	7.08E-02	4.60E+00		UCCU	SLUG		L	4.60E+00	7.08E-02	0042	
252	62	UE-16f	4098959.35	574999.56	4	1418.00	394.00	431.00	37.00	2.70E-03	1.00E-01		UCCU	SLUG		L	1.00E-01	2.70E-03	0042	
253	70	UE-17a	4103156.26	574115.78	4	1432.00	227.00	363.00	136.00	8.09E-04	1.10E-01	8.09E-04	LCA3	REC	Cooper - Jacob	M	1.10E-01	8.09E-04	0015	
254	73	UE-18r	4109761.51	549321.53	5	1688.42	496.65	1525.61	1028.96	2.78E-01	2.86E+02	2.79E-01	TMAQ	PUMP	Cooper - Jacob	M	2.86E+02	2.78E-01	0018	
255	73	UE-18r	4109761.51	549321.53	4	1688.42	496.65	1525.61	1028.96	2.80E-01	2.88E+02		TMAQ	PUMP	Cooper - Jacob	M	2.88E+02	2.80E-01	IT files	USGS files
256	100	UE-19b #1	4129796.05	562090.37	4	2073.78	667.68	1371.95	704.27	9.88E-01	6.96E+02	9.88E-01	TBAQ	PUMP		M	6.96E+02	9.88E-01	0018	USGS files
257	94	UE-19c	4124701.04	560338.52	4	2143.90	738.11	1378.05	639.94	2.33E-01	1.49E+02		TBAQ	PUMP		L	1.49E+02	2.33E-01	0018	USGS files
258		UE-19d			4	2091.77	780.49	2344.21	1563.72	1.59E-01	2.48E+02		TBAQ	pump		L	2.48E+02	1.59E-01	18	USGS files
259		UE-19d			4	2091.77	780.49	2344.21	1563.72	4.04E-02	6.32E+01	4.04E-02	TBAQ	pump		M	6.32E+01	4.04E-02	18	USGS files
260		UE-19e			4	2109.45	754.57	1830.79	1076.22	9.70E-02	1.04E+02	6.06E-02	TBAQ	PUMP	Cooper - Jacob	M	1.04E+02	9.70E-02	0018	92
261		UE-19e			4	2109.00	754.57	1830.79	1076.22	2.42E-02	2.61E+01		TBAQ	PUMP	Cooper - Jacob	M	2.61E+01	2.42E-02	IT files	USGS files
262	81	UE-19fS	4119780.15	556107.13	4	2053.35	782.01	1457.01	675.00	2.02E-01	1.37E+02		TCTC	PUMP		L	1.37E+02	2.02E-01	0018	
263	81	UE-19fs	4119780.15	556107.13	4	2053.35	782.01	1457.01	675.00	1.20E-01	8.08E+01	1.20E-01	TCTC	PUMP	Cooper - Jacob	M	8.08E+01	1.20E-01	IT files	USGS files
264	86	UE-19gS	4129056.21	556305.74	4	2048.48	807.93	1374.39	566.46	6.58E-01	3.73E+02	9.06E-01	TBAQ	PUMP	Cooper - Jacob	M	3.73E+02	6.58E-01	0018	
265	99	UE-19gS	4129056.21	556305.74	4	2048.00	623.00	808.00	185.00	1.67E+00	3.08E+02		TCTC	PUMP	Cooper - Jacob	M	3.08E+02	1.67E+00	IT files	USGS files
266	102	UE-19h	4132881.21	555488.09	3	2067.07	707.93	1129.57	421.65	4.13E+00	1.74E+03	4.13E+00	TBAQ	PUMP	Cooper - Jacob	H	1.74E+03	4.13E+00	0018	
267	91	UE-19i	4122591.48	557921.90	5	2085.06	1036.59	1147.87	111.28	1.12E-01	1.24E+01		TCTC	INJ		L	1.24E+01	1.12E-01	1475	
268	91	UE-19i	4122591.48	557921.90	4	2085.06	882.93	2439.02	1556.10	1.12E-02	1.74E+01	1.12E-02	TCTC, TBAQ	PUMP	Cooper - Jacob	M	1.74E+01	1.12E-02	0018	

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
269	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.99E+01	8.57E+02	1.14E+01	LCA3	REC	Cooper - Jacob	M	8.57E+02	1.99E+01	IT files	IT files
270	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.82E+01	7.83E+02		LCA3	REC	Cooper - Jacob	M	7.83E+02	1.82E+01	IT files	IT files
271	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.06E+00	4.57E+01		LCA3	pump	Cooper - Jacob	L	4.57E+01	1.06E+00	IT files	IT files
272	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.55E+01	6.64E+02		LCA3	pump	Cooper - Jacob	M	6.64E+02	1.55E+01	IT files	IT files
273	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.58E+01	6.78E+02		LCA3	pump	Theis	M	6.78E+02	1.58E+01	IT files	IT files
274	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	6.82E+00	2.93E+02		LCA3	pump	Cooper - Jacob	M	2.93E+02	6.82E+00	IT files	IT files
275	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.83E+01	7.86E+02		LCA3	pump	Cooper - Jacob	M	7.86E+02	1.83E+01	IT files	IT files
276	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	7.96E-01	3.42E+01		LCA3	pump	Cooper - Jacob	L	3.42E+01	7.96E-01	IT files	IT files
277	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	6.33E+00	2.72E+02		LCA3	pump	Theis	M	2.72E+02	6.33E+00	IT files	IT files
278	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.55E+01	6.68E+02		LCA3	pump	Theis	M	6.68E+02	1.55E+01	IT files	IT files
279	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	7.06E-01	3.04E+01		LCA3	pump	Theis	L	3.04E+01	7.06E-01	IT files	IT files
280	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.83E+01	7.85E+02		LCA3	rec	Cooper - Jacob	M	7.85E+02	1.83E+01	IT files	IT files
281	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	9.61E-01	4.13E+01		LCA3	pump	Theis	L	4.13E+01	9.61E-01	IT files	IT files
282	90	UE-20d	4122274.70	546102.37	5	1906.10	745.73	1369.82	624.09	8.76E-01	5.47E+02		TPTC, TCTC	PUMP		L	5.47E+02	8.76E-01	0018	
283	101	UE-20e #1	4129980.16	548110.11	3	1919.82	555.49	1949.70	1394.21	7.40E-02	1.03E+02	6.43E-02	TCTC, TBAQ	PUMP	Cooper - Jacob	M	1.03E+02	7.40E-02	0018	
284	101	UE-20e #1	4129980.16	548110.11	3	1919.82	555.49	1949.70	1394.21	5.47E-02	7.62E+01		TCTC, TBAQ	PUMP	Cooper - Jacob	M	7.62E+01	5.47E-02	IT files	USGS files
285	95	UE-20f	4124899.80	545400.50	4	1864.63	1358.54	4172.56	2814.02	4.42E-03	1.24E+01	4.42E-03	TCTC,TBAQ	PUMP	Cooper - Jacob	M	1.24E+01	4.42E-03	0018	USGS files
286	96	UE-20h	4124974.60	550196.19	4	1999.09	764.02	2197.26	1433.23	9.54E-02	1.37E+02		TCTC	PUMP	Cooper - Jacob	L	1.37E+02	9.54E-02	0018	USGS files
287	96	UE-20h	4124974.60	550196.19	4	1999.09	764.02	2197.26	1433.23	9.08E-02	1.30E+02	9.08E-02	TCTC	PUMP	Theis Recovery	H	1.30E+02	9.08E-02	IT files	USGS files
288	98	UE-20j	4127990.36	541284.76	4	1799.70	530.49	1734.76	1204.27	6.09E-01	7.33E+02		TBAQ, BCU	PUMP	Cooper - Jacob	L	7.33E+02	6.09E-01	1528	USGS files
289	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	3.46E-06	1.01E-03		WTA		LABORATORY	L		3.46E-06	0031	
290	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	2.59E-05	7.59E-03		WTA		LABORATORY	L		2.59E-05	0031	
291	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	3.46E-04	1.01E-01		WTA		LABORATORY	L		3.46E-04	0031	
292	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	5.18E-04	1.52E-01		WTA		LABORATORY	L		5.18E-04	0031	
293	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	1.73E-03	5.06E-01		WTA		LABORATORY	L		1.73E-03	0031	
294	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	1.73E-03	5.06E-01		WTA		LABORATORY	L		1.73E-03	0031	
295	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	6.91E-07	2.02E-04		WTA		LABORATORY	L		6.91E-07	0031	
296	45	UE-25a #1	4078316.74	549934.40	5	1199.00	469.00	762.00	293.00	1.73E-04	5.07E-02		WTA		LABORATORY	L		1.73E-04	0031	
297	45	UE-25a #1	4078316.74	549934.40	5	1199.00	100.00	100.00		4.40E-05	0.00E+00		WTA		LABORATORY	M		4.40E-05	1174	
298	45	UE-25a #1	4078316.74	549934.40	5	1199.00	128.00	128.00		1.59E-06	0.00E+00		WTA		LABORATORY	M		1.59E-06	1174	
299	45	UE-25a #1	4078316.74	549934.40	5	1199.00	144.00	144.00		1.23E-05	0.00E+00		WTA		LABORATORY	M		1.23E-05	1174	
300	45	UE-25a #1	4078316.74	549934.40	5	1199.00	160.00	160.00		5.09E-04	0.00E+00		WTA		LABORATORY	M		5.09E-04	1174	
301	45	UE-25a #1	4078316.74	549934.40	5	1199.00	18.00	18.00		1.55E-07	0.00E+00		WTA		LABORATORY	M		1.55E-07	1174	
302	45	UE-25a #1	4078316.74	549934.40	5	1199.00	201.00	201.00		4.59E-06	0.00E+00		WTA		LABORATORY	M		4.59E-06	1174	
303	45	UE-25a #1	4078316.74	549934.40	5	1199.00	224.00	224.00		2.85E-06	0.00E+00		WTA		LABORATORY	M		2.85E-06	1174	
304	45	UE-25a #1	4078316.74	549934.40	5	1199.00	235.00	235.00		1.57E-04	0.00E+00		WTA		LABORATORY	M		1.57E-04	1174	
305	45	UE-25a #1	4078316.74	549934.40	5	1199.00	249.00	249.00		6.68E-07	0.00E+00		WTA		LABORATORY	M		6.68E-07	1174	
306	45	UE-25a #1	4078316.74	549934.40	5	1199.00	264.00	264.00		1.39E-06	0.00E+00		WTA		LABORATORY	M		1.39E-06	1174	
307	45	UE-25a #1	4078316.74	549934.40	5	1199.00	281.00	281.00		9.60E-07	0.00E+00		WTA		LABORATORY	M		9.60E-07	1174	
308	45	UE-25a #1	4078316.74	549934.40	5	1199.00	308.00	308.00		1.10E-06	0.00E+00		WTA		LABORATORY	M		1.10E-06	1174	
309	45	UE-25a #1	4078316.74	549934.40	5	1199.00	31.00	31.00		2.42E-06	0.00E+00		WTA		LABORATORY	M		2.42E-06	1174	
310	45	UE-25a #1	4078316.74	549934.40	5	1199.00	317.00	317.00		1.19E-05	0.00E+00		WTA		LABORATORY	M		1.19E-05	1174	
311	45	UE-25a #1	4078316.74	549934.40	5	1199.00	339.00	339.00		3.19E-06	0.00E+00		WTA		LABORATORY	M		3.19E-06	1174	
312	45	UE-25a #1	4078316.74	549934.40	5	1199.00	361.00	361.00		1.04E-05	0.00E+00		WTA		LABORATORY	M		1.04E-05	1174	
313	45	UE-25a #1	4078316.74	549934.40	5	1199.00	381.00	381.00		2.42E-06	0.00E+00		WTA		LABORATORY	M		2.42E-06	1174	
314	45	UE-25a #1	4078316.74	549934.40	5	1199.00	386.00	386.00		1.34E-04	0.00E+00		WTA		LABORATORY	M		1.34E-04	1174	
315	45	UE-25a #1	4078316.74	549934.40	5	1199.00	398.00	398.00		6.76E-06	0.00E+00		WTA		LABORATORY	M		6.76E-06	1174	
316	45	UE-25a #1	4078316.74	549934.40	5	1199.00	415.00	415.00		4.33E-05	0.00E+00		WTA		LABORATORY	M		4.33E-05	1174	
317	45	UE-25a #1	4078316.74	549934.40	5	1199.00	462.00	462.00		1.44E-05	0.00E+00		WTA		LABORATORY	M		1.44E-05	1174	
318	45	UE-25a #1	4078316.74	549934.40	5	1199.00	47.00	47.00		2.96E-06	0.00E+00		WTA		LABORATORY	M		2.96E-06	1174	
319	45	UE-25a #1	4078316.74	549934.40	5	1199.00	478.00	478.00		2.01E-04	0.00E+00		WTA		LABORATORY	M		2.01E-04	1174	
320	45	UE-25a #1	4078316.74	549934.40	5	1199.00	499.00	499.00		3.05E-04	0.00E+00		WTA		LABORATORY	M		3.05E-04	1174	
321	45	UE-25a #1	4078316.74	549934.40	5	1199.00	531.00	531.00		4.36E-05	0.00E+00		WTA		LABORATORY	M		4.36E-05	1174	
322	45	UE-25a #1	4078316.74	549934.40	5	1199.00	546.00	546.00		3.77E-06	0.00E+00		WTA		LABORATORY	M		3.77E-06	1174	
323	45	UE-25a #1	4078316.74	549934.40	5	1199.00	562.00	562.00		5.12E-05	0.00E+00		WTA		LABORATORY	M		5.12E-05	1174	
324	45	UE-25a #1	4078316.74	549934.40	5	1199.00	57.00	57.00		4.17E-05	0.00E+00		WTA		LABORATORY	M		4.17E-05	1174	
325	45	UE-25a #1	4078316.74	549934.40	5	1199.00	576.00	576.00		1.41E-03	0.00E+00		WTA		LABORATORY	M		1.41E-03	1174	
326	45	UE-25a #1	4078316.74	549934.40	5	1199.00	592.00	592.00		6.51E-05	0.00E+00		WTA		LABORATORY	M		6.51E-05	1174	
327	45	UE-25a #1	4078316.74	549934.40	5	1199.00	606.00	606.00		1.53E-04	0.00E+00		WTA		LABORATORY	M		1.53E-04	1174	
328	45	UE-25a #1	4078316.74	549934.40	5	1199.00	62.00	62.00		1.16E-06	0.00E+00		WTA		LABORATORY	M		1.16E-06	1174	
329	45	UE-25a #1	4078316.74	549934.40	5	1199.00	620.00	620.00		5.07E-05	0.00E+00		WTA		LABORATORY	M		5.07E-05	1174	
330	45	UE-25a #1	4078316.74	549934.40	5	1199.00	634.00	634.00		1.14E-04	0.00E+00		WTA		LABORATORY	M		1.14E-04	1174	
331	45	UE-25a #1	4078316.74	549934.40	5	1199.00	643.00	643.00		2.60E-04	0.00E+00		WTA		LABORATORY	M		2.60E-04	1174	
332	45	UE-25a #1	4078316.74	549934.40	5	1199.00	658.00	658.00		1.01E-04	0.00E+00		WTA		LABORATORY	M		1.01E-04	1174	
333	45	UE-25a #1	4078316.74	549934.40	5	1199.00	671.00	671.00		8.71E-04	0.00E+00		WTA		LABORATORY	M		8.71E-04	1174	
334	45	UE-25a #1	4078316.74	549934.40	5	1199.00	725.00	725.00		1.31E-03	0.00E+00		WTA		LABORATORY	M		1.31E-03	1174	
335	45	UE-25a #1	4078316.74	549934.40	5	1199.00	744.00	744.00		1.90E-04	0.00E+00		WTA		LABORATORY	M		1.90E-04	1174	

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
336	45	UE-25a #1	4078316.74	549934.40	5	1199.00	761.00	761.00		4.16E-04	0.00E+00		WTA		LABORATORY	M		4.16E-04	1174	
337	46	UE-25b #1	4078421.63	549954.45	3	1200.00	477.00	491.00	14.00	3.93E+00	5.50E+01		WTA	INJ		L	5.50E+01	3.93E+00	0019	0010
338	46	UE-25b #1	4078421.63	549954.45	3	1200.00	477.00	579.00	102.00	1.67E-02	1.70E+00		WTA	INJ		L	1.70E+00	1.67E-02	0019	0010
339	46	UE-25b #1	4078421.63	549954.45	3	1200.00	491.00	505.00	14.00	4.93E-01	6.90E+00		WTA	INJ		L	6.90E+00	4.93E-01	0019	0010
340	46	UE-25b #1	4078421.63	549954.45	3	1200.00	504.00	544.00	40.00	3.50E-02	1.40E+00		WTA	INJ		L	1.40E+00	3.50E-02	0019	0010
341	46	UE-25b #1	4078421.63	549954.45	3	1200.00	505.00	579.00	74.00	3.65E-02	2.70E+00		WTA	INJ		L	2.70E+00	3.65E-02	0019	0010
342	46	UE-25b #1	4078421.63	549954.45	3	1200.00	514.00	579.00	65.00	7.54E-02	4.90E+00		WTA	INJ		L	4.90E+00	7.54E-02	0019	0010
343	46	UE-25b #1	4078421.63	549954.45	3	1200.00	581.00	621.00	40.00	9.25E-01	3.70E+01		WTA	INJ		L	3.70E+01	9.25E-01	0019	0010
344	46	UE-25b #1	4078421.63	549954.45	3	1200.00	621.00	661.00	40.00	5.25E-02	2.10E+00		WTA	INJ		L	2.10E+00	5.25E-02	0019	0010
345	46	UE-25b #1	4078421.63	549954.45	3	1200.00	703.00	743.00	40.00	4.50E-03	1.80E-01		WTA	INJ		L	1.80E-01	4.50E-03	0019	0010
346	46	UE-25b #1	4078421.63	549954.45	3	1200.00	743.00	783.00	40.00	2.48E-03	9.90E-02		WTA	INJ		L	9.90E-02	2.48E-03	0019	0010
347	46	UE-25b #1	4078421.63	549954.45	3	1200.00	779.00	819.00	40.00	9.75E-01	3.90E+01		WTA	INJ		L	3.90E+01	9.75E-01	0019	0010
348	46	UE-25b #1	4078421.63	549954.45	3	1200.00	820.00	860.00	40.00	3.25E-01	1.30E+01		WTA	INJ		L	1.30E+01	3.25E-01	0019	0010
349	46	UE-25b #1	4078421.63	549954.45	3	1200.00	1006.00	1220.00	214.00	9.81E-05	2.10E-02		WTA,TCU	INJ		L	2.10E-02	9.81E-05	0019	0010
350	46	UE-25b #1	4078421.63	549954.45	3	1200.00	792.00	1220.00	428.00	1.14E-01	4.90E+01		WTA,TCU	INJ		L	4.90E+01	1.14E-01	0019	0010
351	46	UE-25b #1	4078421.63	549954.45	3	1200.00	792.00	1220.00	428.00	1.14E-01	4.90E+01		WTA,TCU	INJ		L	4.90E+01	1.14E-01	0019	0010
352	46	UE-25b #1	4078421.63	549954.45	3	1200.00	471.00	1220.00	749.00	4.54E-01	3.40E+02		WTA,TCU	PUMP	Thiem	L	3.40E+02	4.54E-01	0019	0010
353	46	UE-25b #1	4078421.63	549954.45	3	1200.00	471.00	1220.00	749.00	8.64E-01	6.47E+02	8.64E-01	WTA,TCU	PUMP	Moench	M		8.64E-01	498	10
354	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1308.00	11.00	2.73E-01	3.00E+00		LCA	INJ		L	3.00E+00	2.73E-01	0064	0011
355	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1337.00	40.00	1.25E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.25E-01	0064	0011
356	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1337.00	40.00	1.75E-02	7.00E-01	1.91E-01	LCA	INJ	Theis	M	7.00E-01	1.75E-02	0064	0011
357	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1341.00	1381.00	40.00	1.25E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.25E-01	0064	0011
358	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1381.00	1421.00	40.00	1.25E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.25E-01	0064	0011
359	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1423.00	1463.00	40.00	1.25E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.25E-01	0064	0011
360	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1463.00	1509.00	46.00	1.09E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.09E-01	0064	0011
361	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1509.00	1555.00	46.00	1.09E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.09E-01	0064	0011
362	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1554.00	1600.00	46.00	1.09E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.09E-01	0064	0011
363	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1558.00	1805.00	247.00	2.02E-02	5.00E+00		LCA	INJ		L	5.00E+00	2.02E-02	0064	0011
364	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1597.00	1643.00	46.00	1.09E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.09E-01	0064	0011
365	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1643.00	1689.00	46.00	1.09E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.09E-01	0064	0011
366	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1646.00	1805.00	159.00	3.14E-02	5.00E+00		LCA	INJ		L	5.00E+00	3.14E-02	0064	0011
367	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1689.00	1735.00	46.00	1.09E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.09E-01	0064	0011
368	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1735.00	1781.00	46.00	1.09E-01	5.00E+00		LCA	INJ		L	5.00E+00	1.09E-01	0064	0011
369	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1805.00	508.00	2.19E-01	1.11E+02		LCA	PUMP	Cooper - Jacob	M	1.11E+02	2.19E-01	0064	0011
370	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1805.00	508.00	2.58E-01	1.31E+02		LCA	PUMP	Cooper - Jacob	M	1.31E+02	2.58E-01	0064	0011
371	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1805.00	508.00	2.19E-01	1.11E+02		LCA	PUMP	Theis	M	1.11E+02	2.19E-01	0064	0011
372	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.26	1805.49	508.23	2.19E-01	1.11E+02		LCA	pump	Cooper - Jacob	M	1.11E+02	2.19E-01	IT files	IT files
373	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.26	1805.49	508.23	2.58E-01	1.31E+02		LCA	pumpe	Cooper - Jacob	M	1.31E+02	2.58E-01	IT files	IT files
374	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1044.00	1114.00	70.00	7.14E-02	5.00E+00		TCU	INJ		L	5.00E+00	7.14E-02	0064	0011
375	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1110.00	1180.00	70.00	1.43E-03	1.00E-01	7.14E-03	TCU	INJ	Theis	M	1.00E-01	1.43E-03	0064	0011
376	41	UE-25p #1	4075662.34	551508.39	3	1114.00	904.00	974.00	70.00	1.29E-02	9.00E-01		TCU	INJ	Theis	M	9.00E-01	1.29E-02	0064	0011
377	41	UE-25p #1	4075662.34	551508.39	3	1114.00	974.00	1044.00	70.00	4.29E-02	3.00E+00		TCU	INJ		L	3.00E+00	4.29E-02	0064	0011
378	41	UE-25p #1	4075662.34	551508.39	3	1114.00	974.00	1044.00	70.00	7.14E-02	5.00E+00		TCU	INJ		L	5.00E+00	7.14E-02	0064	0011
379	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1183.00	1301.00	118.00	4.24E-02	5.00E+00		TCU,LCA	INJ	Flow Survey	L	5.00E+00	4.24E-02	0064	0011
380	41	UE-25p #1	4075662.34	551508.39	3	1114.00	384.00	500.00	116.00	4.31E-02	5.00E+00		WTA	INJ	Flow Survey	L	5.00E+00	4.31E-02	0064	0011
381	41	UE-25p #1	4075662.34	551508.39	3	1114.00	500.00	550.00	50.00	2.00E-03	1.00E-01	3.31E-02	WTA	INJ	Theis	M	1.00E-01	2.00E-03	0064	0011
382	41	UE-25p #1	4075662.34	551508.39	3	1114.00	550.00	600.00	50.00	5.60E-02	2.80E+00		WTA	INJ	Theis	M	2.80E+00	5.60E-02	0064	0011
383	41	UE-25p #1	4075662.34	551508.39	3	1114.00	600.00	650.00	50.00	6.00E-02	3.00E+00		WTA	INJ		L	3.00E+00	6.00E-02	0064	0011
384	41	UE-25p #1	4075662.34	551508.39	3	1114.00	600.00	650.00	50.00	1.00E-01	5.00E+00		WTA	INJ		L	5.00E+00	1.00E-01	0064	0011
385	41	UE-25p #1	4075662.34	551508.39	3	1114.00	640.00	690.00	50.00	2.20E-02	1.10E+00		WTA	INJ	Theis	M	1.10E+00	2.20E-02	0064	0011
386	41	UE-25p #1	4075662.34	551508.39	3	1114.00	690.00	740.00	50.00	4.00E-03	2.00E-01		WTA	INJ	Theis	M	2.00E-01	4.00E-03	0064	0011
387	41	UE-25p #1	4075662.34	551508.39	3	1114.00	739.00	789.00	50.00	2.20E-02	1.10E+00		WTA	INJ	Theis	M	1.10E+00	2.20E-02	0064	0011
388	41	UE-25p #1	4075662.34	551508.39	3	1114.00	764.00	834.00	70.00	8.57E-03	6.00E-01		WTA	INJ	Theis	M	6.00E-01	8.57E-03	0064	0011
389	41	UE-25p #1	4075662.34	551508.39	3	1114.00	834.00	904.00	70.00	1.14E-02	8.00E-01	1.14E-02	WTA,TCU	INJ	Theis	M	8.00E-01	1.14E-02	0064	0011
390	41	UE-25p #1	4075662.34	551508.39	3	1114.00	382.00	1301.00	919.00	2.83E-02	2.60E+01	2.47E-02	VTA,TCU,LC	PUMP	Cooper - Jacob	M	2.60E+01	2.83E-02	0064	0011
391	41	UE-25p #1	4075662.34	551508.39	3	1114.00	382.00	1301.00	919.00	2.61E-02	2.40E+01		WTA,TCU,LC	PUMP	Theis	M	2.40E+01	2.61E-02	0064	0011
392	41	UE-25p #1	4075662.34	551508.39	3	1114.00	382.00	1301.00	919.00	1.96E-02	1.80E+01		WTA,TCU,LC	REC	Cooper - Jacob	M	1.80E+01	1.96E-02	0064	0011
393	72	UE-7nS	4106090.54	588643.62	4	1331.40	608.23	670.43	62.20	1.44E-02	8.95E-01		LCA	pump	Cooper - Jacob	L	8.95E-01	1.44E-02	IT files	USGS files
394	72	UE-7nS	4106090.54	588643.62	4	1331.40	608.23	670.43	62.20	6.79E-03	4.22E-01		LCA	pump	Cooper - Jacob	L	4.22E-01	6.79E-03	IT files	USGS files
395	72	UE-7nS	4106090.54	588643.62	4	1331.40	608.23	670.43	62.20	8.59E-03	5.34E-01		LCA	pump	Theis	L	5.34E-01	8.59E-03	IT files	USGS files
396	72	UE-7nS	4106090.54	588643.62	4	1331.40	608.23	670.43	62.20	5.79E-03	3.60E-01		LCA	pump	Theis	L	3.60E-01	5.79E-03	IT files	USGS files
397	72	UE-7nS	4106090.54	588643.62	4	1331.40	608.23	670.43	62.20	1.14E-02	7.08E-01		LCA	rec	Cooper - Jacob	L	7.08E-01	1.14E-02	IT files	USGS files
398	29	USGS HTH "F"	4068347.43	578857.66	4	1263.11	956.40	1036.59	80.18	9.30E+00	7.45E+02		LCA	PUMP	Theis	L	7.45E+02	9.30E+00	0100	
399	29	USGS HTH "F"	4068347.43	578857.66	4	1263.11	956.40	1036.59	80.18	1.74E+00	1.39E+02		LCA	PUMP	Cooper - Jacob	L	1.39E+02	1.74E+00	IT files	USGS files
400	29	USGS HTH "F"	4068347.43	578857.66	4	1263.11	956.40	1036.59	80.18	2.78E+00	2.23E+02		LCA	PUMP	Cooper - Jacob	L	2.23E+02	2.78E+00	IT files	USGS files
401	29	USGS HTH "F"	4068347.43	578857.66	4	1263.11	956.40	1036.59	80.18	1.74E+00	1.39E+02		LCA	PUMP	Theis	L	1.39E+02	1.74E+00	IT files	USGS files
402	29	USGS HTH "F"	4068347.43	578857.66	4	1263.11	956.40	1036.59	80.18	2.55E+00	2.04E+02		LCA	PUMP	Theis	L	2.04E+02	2.55E+00	IT files	USGS files

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
403	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1128.05	1279.88	151.83	8.18E-02	1.24E+01		LCA3	PUMP		L	1.24E+01	8.18E-02	0100	
404	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1128.05	1279.88	151.83	2.86E-01	4.35E+01		LCA3	REC	Cooper - Jacob	L	4.35E+01	2.86E-01	0100	
405	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	5.20E-01	7.85E+01	3.38E-01	LCA3	PUMP	Cooper - Jacob	M	7.85E+01	5.20E-01	IT files	USGS files
406	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	4.09E-01	6.16E+01		LCA3	PUMP	Theis	M	6.16E+01	4.09E-01	IT files	USGS files
407	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	1.89E-02	2.85E+00		LCA3	pump	Theis	L	2.85E+00	1.89E-02	IT files	USGS files
408	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	4.03E-01	6.08E+01		LCA3	rec	Cooper - Jacob	M	6.08E+01	4.03E-01	IT files	USGS files
409	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	2.39E-02	3.60E+00		LCA3	PUMP	Cooper - Jacob	L	3.60E+00	2.39E-02	IT files	USGS files
410	28	USGS HTH #10	4049902.44	602666.72	3	1088.11	310.98	396.65	85.67	2.90E+00	2.48E+02	3.78E+00	LCA	PUMP	Cooper - Jacob	H	2.48E+02	2.90E+00	0100	
411	28	USGS HTH #10	4049902.44	602666.72	3	1088.11	310.98	396.65	85.67	7.69E+00	6.58E+02		LCA	REC	Cooper - Jacob	H	6.58E+02	7.69E+00	0100	
412	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	2.46E+00	2.30E+02		LCA	PUMP	Cooper - Jacob	M	2.30E+02	2.46E+00	IT files	USGS files
413	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	3.37E+00	3.15E+02		LCA	PUMP	Cooper - Jacob	H	3.15E+02	3.37E+00	IT files	USGS files
414	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	4.37E+00	4.08E+02		LCA	PUMP	Cooper - Jacob	H	4.08E+02	4.37E+00	IT files	USGS files
415	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	2.43E-01	2.27E+01		LCA	PUMP	Cooper - Jacob	L	2.27E+01	2.43E-01	IT files	USGS files
416	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	3.03E+00	2.82E+02		LCA	PUMP	Theis	H	2.83E+02	3.03E+00	IT files	USGS files
417	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	6.46E+00	6.03E+02		LCA	rec	Cooper - Jacob	H	6.03E+02	6.46E+00	IT files	USGS files
418	38	USGS HTH #3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	2.06E-01	4.72E+01	2.06E-01	LCA	PUMP	Cooper - Jacob	H	4.72E+01	2.06E-01	0100	
419	25	USGS HTH #4	4049446.25	607760.66	3	1060.67	224.70	454.27	229.57	5.95E-01	1.37E+02		LCA	PUMP	Cooper - Jacob	L	1.37E+02	5.95E-01	0100	
420	25	USGS HTH #4	4049446.25	607760.66	3	1060.67	224.70	454.27	229.57	1.46E+00	3.35E+02	7.04E-01	LCA	REC	Cooper - Jacob	M	3.35E+02	1.46E+00	0100	
421	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	6.40E-01	1.44E+02		LCA	PUMP	Cooper - Jacob	M	1.44E+02	6.40E-01	IT files	USGS files
422	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	1.42E-01	3.21E+01		LCA	PUMP	Cooper - Jacob	L	3.21E+01	1.42E-01	IT files	USGS files
423	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	6.21E-01	1.40E+02		LCA	PUMP	Theis	M	1.40E+02	6.21E-01	IT files	USGS files
424	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	9.72E-02	2.19E+01		LCA	rec	Cooper - Jacob	L	2.19E+01	9.72E-02	IT files	USGS files
425	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	1.25E+00	2.81E+02		LCA	rec	Theis	M	2.81E+02	1.25E+00	IT files	USGS files
426	58	USGS Test Well B Ex.	4092814.83	587779.93	4	1197.87	459.45	510.67	51.22	4.85E-02	2.48E+00		TPTA			L	2.48E+00	4.85E-02	0100	
427	58	USGS Test Well B Ex.	4092814.83	587779.93	4	1197.87	459.45	510.67	51.22	1.21E-02	6.21E-01		TPTA	REC		L	6.21E-01	1.21E-02	0100	
428	71	USGS Test Well D	4103325.48	582223.60	4	1265.24	528.35	544.51	16.16	4.23E-02	6.83E-01	3.58E-02	LCA	BAIL	Skibitzke	M	6.83E-01	4.23E-02	1469	
429	71	USGS Test Well D	4103325.48	582223.60	4	1265.24	540.24	573.78	33.54	3.52E-02	1.18E+00		LCA	BAIL	Skibitzke	M	1.18E+00	3.52E-02	1469	
430	71	USGS Test Well D	4103325.48	582223.60	4	1265.24	540.24	573.78	33.54	3.33E-02	1.12E+00		LCA	BAIL	Skibitzke	M	1.12E+00	3.33E-02	1469	
431	63	USGS Water Well A	4099193.44	585711.96	3	1221.34	489.33	570.12	80.79	2.03E+00	1.64E+02	1.95E+00	AA	PUMP	Cooper - Jacob	M	1.64E+02	2.03E+00	0100	
432	63	USGS Water Well A	4099193.44	585711.96	3	1221.34	489.33	570.12	80.79	1.88E+00	1.52E+02		AA	REC	Cooper - Jacob	M	1.52E+02	1.88E+00	0100	
433	63	USGS Water Well A	4099193.44	585711.96	4	1221.34	490.24	527.44	37.20	6.68E-02	2.49E+00		AA	BAIL	Cooper - Jacob	L	2.48E+00	6.68E-02	1482	
434	63	USGS Water Well A	4099193.44	585711.96	4	1221.34	490.24	527.44	37.20	1.34E-01	4.97E+00		AA	BAIL	Skibitzke	L	4.97E+00	1.34E-01	1482	
435	63	USGS Water Well A	4099193.44	585711.96	4	1221.34	490.24	570.12	79.88	1.24E-01	9.94E+00		AA	BAIL	Skibitzke	L	9.94E+00	1.24E-01	1482	
436	63	USGS Water Well A	4099193.44	585711.96	4	1221.34	490.24	570.12	79.88	1.24E-01	9.94E+00		AA	PUMP	Cooper - Jacob	L	9.94E+00	1.24E-01	1482	
437	63	USGS Water Well A	4099193.44	585711.96	4	1221.34	489.33	570.12	80.79	1.15E-01	9.29E+00		AA	pump	Neuman delayed yie	L	9.30E+00	1.15E-01	IT files	100
438	55	USGS Water Well C	4086123.94	588214.10	3	1195.43	469.51	518.60	49.09	2.28E+02	1.12E+04		LCA	PUMP		L	1.12E+04	2.28E+02	0100	
439	55	USGS Water Well C	4086123.94	588214.10	3	1195.43	470.43	518.60	48.17	2.58E+01	1.24E+03		LCA	PUMP		L	1.24E+03	2.58E+01	1484	
440	52	USW G-1	4080017.45	548298.22	5	1325.92	335.98	335.98		7.95E-07	0.00E+00		WTA		LABORATORY	L		7.95E-07	2724	
441	52	USW G-1	4080017.45	548298.22	5	1325.92	365.24	365.24		1.30E-07	0.00E+00		WTA		LABORATORY	L		1.30E-07	2724	
442	52	USW G-1	4080017.45	548298.22	5	1325.92	398.17	398.17		3.20E-06	0.00E+00		WTA		LABORATORY	L		3.20E-06	2724	
443	52	USW G-1	4080017.45	548298.22	5	1325.92	414.33	414.33		2.07E-06	0.00E+00		WTA		LABORATORY	L		2.07E-06	2724	
444	52	USW G-1	4080017.45	548298.22	5	1325.92	422.87	422.87		6.74E-05	0.00E+00		WTA		LABORATORY	L		6.74E-05	2724	
445	52	USW G-1	4080017.45	548298.22	5	1325.92	457.32	457.32		1.30E-06	0.00E+00		WTA		LABORATORY	L		1.30E-06	2724	
446	52	USW G-1	4080017.45	548298.22	5	1325.92	499.09	499.09		1.12E-06	0.00E+00		WTA		LABORATORY	L		1.12E-06	2724	
447	52	USW G-1	4080017.45	548298.22	5	1325.92	534.45	534.45		1.21E-06	0.00E+00		WTA		LABORATORY	L		1.21E-06	2724	
448	52	USW G-1	4080017.45	548298.22	5	1325.92	542.68	542.68		1.81E-07	0.00E+00		WTA		LABORATORY	L		1.81E-07	2724	
449	52	USW G-1	4080017.45	548298.22	5	1325.92	545.73	545.73		4.49E-07	0.00E+00		WTA		LABORATORY	L		4.49E-07	2724	
450	52	USW G-1	4080017.45	548298.22	5	1325.92	555.18	555.18		3.72E-06	0.00E+00		WTA		LABORATORY	L		3.72E-06	2724	
451	52	USW G-1	4080017.45	548298.22	5	1325.92	561.28	561.28		1.38E-05	0.00E+00		WTA		LABORATORY	L		1.38E-05	2724	
452	52	USW G-1	4080017.45	548298.22	5	1325.92	584.45	584.45		1.38E-04	0.00E+00		WTA		LABORATORY	L		1.38E-04	2724	
453	52	USW G-1	4080017.45	548298.22	5	1325.92	118.60	118.60		3.46E-06	0.00E+00		WTA		LABORATORY	L		3.46E-06	2724	
454	52	USW G-1	4080017.45	548298.22	5	1325.92	187.80	187.80		1.47E-07	0.00E+00		WTA		LABORATORY	L		1.47E-07	2724	
455	52	USW G-1	4080017.45	548298.22	5	1325.92	229.27	229.27		9.42E-07	0.00E+00		WTA		LABORATORY	L		9.42E-07	2724	
456	47	USW G-4	4078589.64	548937.63	3	1270.00	353.05	353.05		1.64E-06	0.00E+00		WTA		Laboratory	M		1.64E-06	0087	
457	47	USW G-4	4078589.64	548937.63	3	1270.00	370.43	370.43		5.62E-07	0.00E+00		WTA		Laboratory	M		5.62E-07	0087	
458	47	USW G-4	4078589.64	548937.63	3	1270.00	37.80	37.80		1.25E-06	0.00E+00		WTA		Laboratory	M		1.25E-06	0087	
459	47	USW G-4	4078589.64	548937.63	3	1270.00	382.93	382.93		1.12E-06	0.00E+00		WTA		Laboratory	M		1.12E-06	0087	
460	47	USW G-4	4078589.64	548937.63	3	1270.00	389.63	389.63		7.04E-07	0.00E+00		WTA		Laboratory	M		7.04E-07	0087	
461	47	USW G-4	4078589.64	548937.63	3	1270.00	396.04	396.04		3.89E-05	0.00E+00		WTA		Laboratory	M		3.89E-05	0087	
462	47	USW G-4	4078589.64	548937.63	3	1270.00	403.66	403.66		2.59E-07	0.00E+00		WTA		Laboratory	M		2.59E-07	0087	
463	47	USW G-4	4078589.64	548937.63	3	1270.00	414.33	414.33		4.32E-06	0.00E+00		WTA		Laboratory	M		4.32E-06	0087	
464	47	USW G-4	4078589.64	548937.63	3	1270.00	428.35	428.35		2.59E-07	0.00E+00		WTA		Laboratory	M		2.59E-07	0087	
465	47	USW G-4	4078589.64	548937.63	3	1270.00	428.35	428.35		2.59E-07	0.00E+00		WTA		Laboratory	M		2.59E-07	0087	
466	47	USW G-4	4078589.64	548937.63	3	1270.00	471.95	471.95		8.64E-07	0.00E+00		WTA		Laboratory	M		8.64E-07	0087	
467	47	USW G-4	4078589.64	548937.63	3	1270.00	472.87	472.87		2.76E-06	0.00E+00		WTA		Laboratory	M		2.76E-06	0087	
468	47	USW G-4	4078589.64	548937.63	3	1270.00	514.02	514.02		3.66E-07	0.00E+00		WTA		Laboratory	M		3.66E-07	0087	
469	47	USW G-4	4078589.64	548937.63	3	1270.00	526.83	526.83		1.08E-06	0.00E+00		WTA		Laboratory	M		1.08E-06	0087	

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
470	47	USW G-4	4078589.64	548937.63	3	1270.00	529.57	529.57		1.10E-06	0.00E+00		WTA		Laboratory	M		1.10E-06	0087	
471	47	USW G-4	4078589.64	548937.63	3	1270.00	539.33	539.33		1.99E-07	0.00E+00		WTA		Laboratory	M		1.99E-07	0087	
472	47	USW G-4	4078589.64	548937.63	3	1270.00	542.07	542.07		1.29E-06	0.00E+00		WTA		Laboratory	M		1.29E-06	0087	
473	47	USW G-4	4078589.64	548937.63	3	1270.00	542.07	542.07		5.62E-07	0.00E+00		WTA		Laboratory	M		5.62E-07	0087	
474	47	USW G-4	4078589.64	548937.63	3	1270.00	544.82	544.82		6.99E-06	0.00E+00		WTA		Laboratory	M		6.99E-06	0087	
475	47	USW G-4	4078589.64	548937.63	3	1270.00	578.96	578.96		6.74E-04	0.00E+00		WTA		Laboratory	M		6.74E-04	0087	
476	47	USW G-4	4078589.64	548937.63	3	1270.00	611.59	611.59		1.73E-06	0.00E+00		WTA		Laboratory	M		1.73E-06	0087	
477	47	USW G-4	4078589.64	548937.63	3	1270.00	63.41	63.41		2.07E-01	0.00E+00		WTA		Laboratory	M		2.07E-01	0087	
478	47	USW G-4	4078589.64	548937.63	3	1270.00	640.55	640.55		3.80E-05	0.00E+00		WTA		Laboratory	M		3.80E-05	0087	
479	47	USW G-4	4078589.64	548937.63	3	1270.00	732.01	732.01		1.99E-04	0.00E+00		WTA		Laboratory	M		1.99E-04	0087	
480	47	USW G-4	4078589.64	548937.63	3	1270.00	733.84	733.84		5.44E-04	0.00E+00		WTA		Laboratory	M		5.44E-04	0087	
481	47	USW G-4	4078589.64	548937.63	3	1270.00	75.30	75.30		7.43E-08	0.00E+00		WTA		Laboratory	M		7.43E-08	0087	
482	47	USW G-4	4078589.64	548937.63	3	1270.00	13.11	13.11		8.38E-07	0.00E+00		WTA		Laboratory	M		8.38E-07	0087	
483	47	USW G-4	4078589.64	548937.63	3	1270.00	263.41	263.41		1.51E-06	0.00E+00		WTA		Laboratory	M		1.51E-06	0087	
484	47	USW G-4	4078589.64	548937.63	3	1270.00	263.41	263.41		1.51E-06	0.00E+00		WTA		Laboratory	M		1.51E-06	0087	
485	47	USW G-4	4078589.64	548937.63	3	1270.00	263.41	263.41		3.37E-06	0.00E+00		WTA		Laboratory	M		3.37E-06	0087	
486	47	USW G-4	4078589.64	548937.63	3	1270.00	263.41	263.41		3.37E-06	0.00E+00		WTA		Laboratory	M		3.37E-06	0087	
487	47	USW G-4	4078589.64	548937.63	3	1270.00	615.00	655.00	40.00	2.90E-02	1.16E+00	1.32E+00	WTA	INJ	Cooper, Bredehoeft,	M	1.16E+00	2.90E-02	0195	0012
488	47	USW G-4	4078589.64	548937.63	3	1270.00	655.00	701.00	46.00	1.11E-02	5.10E-01		WTA	INJ	Cooper, Bredehoeft,	L	5.10E-01	1.11E-02	0195	0012
489	47	USW G-4	4078589.64	548937.63	3	1270.00	698.00	722.00	24.00	4.46E-03	1.07E-01		WTA	INJ	Cooper, Bredehoeft,	M	1.07E-01	4.46E-03	0195	0012
490	47	USW G-4	4078589.64	548937.63	3	1270.00	722.00	747.00	25.00	2.52E-02	6.30E-01		WTA	INJ	Cooper, Bredehoeft,	L	6.30E-01	2.52E-02	0195	0012
491	47	USW G-4	4078589.64	548937.63	3	1270.00	747.00	792.00	45.00	2.56E-02	1.15E+00		WTA	INJ	Cooper, Bredehoeft,	M	1.15E+00	2.56E-02	0195	0012
492	47	USW G-4	4078589.64	548937.63	3	1270.00	792.00	838.00	46.00	1.65E-02	7.60E-01		WTA	INJ	Cooper, Bredehoeft,	L	7.60E-01	1.65E-02	0195	0012
493	47	USW G-4	4078589.64	548937.63	3	1270.00	802.00	826.00	24.00	2.63E-02	6.30E-01		WTA	INJ	Cooper, Bredehoeft,	L	6.30E-01	2.63E-02	0195	0012
494	47	USW G-4	4078589.64	548937.63	3	1270.00	802.00	826.00	24.00	3.29E-02	7.90E-01		WTA	INJ	Cooper, Bredehoeft,	L	7.90E-01	3.29E-02	0195	0012
495	47	USW G-4	4078589.64	548937.63	3	1270.00	826.00	850.00	24.00	9.58E-02	2.30E+00		WTA	INJ	Cooper, Bredehoeft,	L	2.30E+00	9.58E-02	0195	0012
496	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.66E+00	6.22E+02		WTA	PUMP	Papadopulos - Coop	M	6.22E+02	1.66E+00	0195	0012
497	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.80E+00	6.75E+02		WTA	PUMP	Papadopulos - Coop	M	6.75E+02	1.80E+00	0195	0012
498	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.52E+00	5.70E+02		WTA	REC	Theis Recovery	M	5.70E+02	1.52E+00	0195	0012
499	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.31E+00	4.90E+02		WTA	REC	Theis Recovery	M	4.90E+02	1.31E+00	0195	0012
500	47	USW G-4	4078589.64	548937.63	4	1270.43	353.05	353.05		1.61E-06	0.00E+00		WTA		LABORATORY	M		1.61E-06	2724	
501	47	USW G-4	4078589.64	548937.63	4	1270.43	353.35	353.35		1.64E-06	0.00E+00		WTA		LABORATORY	M		1.64E-06	2724	
502	47	USW G-4	4078589.64	548937.63	4	1270.43	41.46	41.46		2.42E-02	0.00E+00		WTA		LABORATORY	M		2.42E-02	2724	
503	47	USW G-4	4078589.64	548937.63	4	1270.43	428.35	428.35		2.58E-07	0.00E+00		WTA		LABORATORY	M		2.58E-07	2724	
504	47	USW G-4	4078589.64	548937.63	4	1270.43	428.35	428.35		2.58E-07	0.00E+00		WTA		LABORATORY	M		2.58E-07	2724	
505	47	USW G-4	4078589.64	548937.63	4	1270.43	471.65	471.65		1.21E-06	0.00E+00		WTA		LABORATORY	M		1.21E-06	2724	
506	47	USW G-4	4078589.64	548937.63	4	1270.43	471.95	471.95		1.21E-07	0.00E+00		WTA		LABORATORY	M		1.21E-07	2724	
507	47	USW G-4	4078589.64	548937.63	4	1270.43	526.83	526.83		3.91E-07	0.00E+00		WTA		LABORATORY	M		3.91E-07	2724	
508	47	USW G-4	4078589.64	548937.63	4	1270.43	529.27	529.27		2.25E-07	0.00E+00		WTA		LABORATORY	M		2.25E-07	2724	
509	47	USW G-4	4078589.64	548937.63	4	1270.43	529.57	529.57		2.27E-07	0.00E+00		WTA		LABORATORY	M		2.27E-07	2724	
510	47	USW G-4	4078589.64	548937.63	4	1270.43	542.07	542.07		1.00E-06	0.00E+00		WTA		LABORATORY	M		1.00E-06	2724	
511	47	USW G-4	4078589.64	548937.63	4	1270.43	544.82	544.82		2.46E-06	0.00E+00		WTA		LABORATORY	M		2.46E-06	2724	
512	47	USW G-4	4078589.64	548937.63	4	1270.43	578.96	578.96		3.35E-04	0.00E+00		WTA		LABORATORY	M		3.35E-04	2724	
513	47	USW G-4	4078589.64	548937.63	4	1270.43	63.41	63.41		2.03E-01	0.00E+00		WTA		LABORATORY	M		2.03E-01	2724	
514	47	USW G-4	4078589.64	548937.63	4	1270.43	263.41	263.41		1.64E-06	0.00E+00		WTA		LABORATORY	M		1.64E-06	2724	
515	47	USW G-4	4078589.64	548937.63	4	1270.43	263.41	263.41		1.64E-06	0.00E+00		WTA		LABORATORY	M		1.64E-06	2724	
516	47	USW G-4	4078589.64	548937.63	3	1270.00				1.12E-06	0.00E+00				Laboratory	M		1.12E-06	0087	
517	40	USW GU-3	4074587.84	547555.67	4	1480.79	345.12	345.12		1.30E-07	0.00E+00		WTA		Laboratory	M		1.30E-07	0087	
518	40	USW GU-3	4074587.84	547555.67	4	1480.79	364.94	364.94		1.30E-06	0.00E+00		WTA		Laboratory	M		1.30E-06	0087	
519	40	USW GU-3	4074587.84	547555.67	4	1480.79	36.89	36.89		6.05E-08	0.00E+00		WTA		Laboratory	M		6.05E-08	0087	
520	40	USW GU-3	4074587.84	547555.67	4	1480.79	36.89	36.89		6.05E-08	0.00E+00		WTA		Laboratory	M		6.05E-08	0087	
521	40	USW GU-3	4074587.84	547555.67	4	1480.79	379.88	379.88		1.30E-07	0.00E+00		WTA		Laboratory	M		1.30E-07	0087	
522	40	USW GU-3	4074587.84	547555.67	4	1480.79	399.70	399.70		2.76E-04	0.00E+00		WTA		Laboratory	M		2.76E-04	0087	
523	40	USW GU-3	4074587.84	547555.67	4	1480.79	405.79	405.79		2.51E-02	0.00E+00		WTA		Laboratory	M		2.51E-02	0087	
524	40	USW GU-3	4074587.84	547555.67	4	1480.79	439.02	439.02		2.33E-02	0.00E+00		WTA		Laboratory	M		2.33E-02	0087	
525	40	USW GU-3	4074587.84	547555.67	4	1480.79	457.01	457.01		2.25E-03	0.00E+00		WTA		Laboratory	M		2.25E-03	0087	
526	40	USW GU-3	4074587.84	547555.67	4	1480.79	47.26	47.26		2.33E-07	0.00E+00		WTA		Laboratory	M		2.33E-07	0087	
527	40	USW GU-3	4074587.84	547555.67	4	1480.79	474.09	474.09		6.83E-03	0.00E+00		WTA		Laboratory	M		6.83E-03	0087	
528	40	USW GU-3	4074587.84	547555.67	4	1480.79	496.34	496.34		5.96E-04	0.00E+00		WTA		Laboratory	M		5.96E-04	0087	
529	40	USW GU-3	4074587.84	547555.67	4	1480.79	512.20	512.20		1.12E-04	0.00E+00		WTA		Laboratory	M		1.12E-04	0087	
530	40	USW GU-3	4074587.84	547555.67	4	1480.79	527.44	527.44		1.04E-04	0.00E+00		WTA		Laboratory	M		1.04E-04	0087	
531	40	USW GU-3	4074587.84	547555.67	4	1480.79	78.35	78.35		4.15E-04	0.00E+00		WTA		Laboratory	M		4.15E-04	0087	
532	40	USW GU-3	4074587.84	547555.67	4	1480.79	96.34	96.34		1.30E-07	0.00E+00		WTA		Laboratory	M		1.30E-07	0087	
533	40	USW GU-3	4074587.84	547555.67	4	1480.79	114.02	114.02		1.38E-01	0.00E+00		WTA		Laboratory	M		1.38E-01	0087	
534	40	USW GU-3	4074587.84	547555.67	4	1480.79	115.24	115.24		3.37E-02	0.00E+00		WTA		Laboratory	M		3.37E-02	0087	
535	40	USW GU-3	4074587.84	547555.67	4	1480.79	121.04	121.04		3.02E-02	0.00E+00		WTA		Laboratory	M		3.02E-02	0087	
536	40	USW GU-3	4074587.84	547555.67	4	1480.79	25.00	25.00		1.30E-07	0.00E+00		WTA		Laboratory	M		1.30E-07	0087	

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
537	40	USW GU-3	4074587.84	547555.67	4	1480.79				2.01E+03	0.00E+00		WTA			L		2.01E+03	0805	
538	40	USW GU-3	4074587.84	547555.67	4	1480.79	36.89	36.89		6.05E-07	0.00E+00		WTA		Laboratory	M		6.05E-07	2724	
539	40	USW GU-3	4074587.84	547555.67	4	1480.79	36.89	36.89		6.05E-07	0.00E+00		WTA		Laboratory	M		6.05E-07	2724	
540	40	USW GU-3	4074587.84	547555.67	4	1480.79	178.35	178.35		1.21E-06	0.00E+00		WTA		Laboratory	M		1.21E-06	2724	
541	40	USW GU-3	4074587.84	547555.67	4	1480.79	209.45	209.45		1.04E-07	0.00E+00		WTA		Laboratory	M		1.04E-07	2724	
542	40	USW GU-3	4074587.84	547555.67	4	1480.79	269.51	269.51		6.22E-06	0.00E+00		WTA		Laboratory	M		6.22E-06	2724	
543	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1407.00	1829.00	422.00	2.25E-06	9.50E-04	7.68E-06	TCU	INJ	Papadopulos - Coop	M	9.50E-04	2.25E-06	0016	
544	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1621.00	1829.00	208.00	1.01E-06	2.10E-04		TCU	INJ	Papadopulos - Coop	M	2.10E-04	1.01E-06	0016	
545	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1407.00	1829.00	422.00	1.52E-05	6.41E-03		TCU	INJ	NUMERIC MODEL	M		1.52E-05	2725	0171/0827
546	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1621.00	1829.00	208.00	1.01E-05	2.10E-03		TCU	INJ	NUMERIC MODEL	M		1.01E-05	2725	0171/0827
547	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	697.00	10.00	1.20E-02	1.20E-01	1.65E+00	WTA	INJ	Papadopulos - Coop	M	1.20E-01	1.20E-02	0016	
548	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.35E+00	1.57E+02		WTA	PUMP	Cooper - Jacob	M	1.57E+02	1.35E+00	0016	
549	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.30E+00	1.51E+02		WTA	PUMP	Theis	M	1.51E+02	1.30E+00	0016	
550	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.58E+00	1.83E+02		WTA	REC	Cooper - Jacob	M	1.83E+02	1.58E+00	0016	
551	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	697.00	10.00	3.02E-02	3.02E-01		WTA	INJ	NUMERIC MODEL	M		3.02E-02	2725	0171/0827
552	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.44E+00	1.67E+02		WTA	PUMP	NUMERIC MODEL	M		1.44E+00	2725	0171/0827
553	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	2.85E+00	3.31E+02		WTA	REC	NUMERIC MODEL	M		2.85E+00	2725	0171/0827
554	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1200.00	1829.00	629.00	1.59E-05	1.00E-02	2.52E-03	WTA,TCU	INJ	Papadopulos - Coop	M	1.00E-02	1.59E-05	0016	
555	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	811.00	1829.00	1018.00	6.58E-06	6.70E-03		WTA,TCU	INJ	Papadopulos - Coop	M	6.70E-03	6.58E-06	0016	
556	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	926.00	1829.00	903.00	1.77E-06	1.60E-03		WTA,TCU	INJ	Papadopulos - Coop	M	1.60E-03	1.77E-06	0016	
557	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	1.40E-03	1.60E+00		WTA,TCU	PUMP	Cooper - Jacob	M	1.60E+00	1.40E-03	0016	
558	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	8.58E-04	9.80E-01		WTA,TCU	PUMP	Theis	M	9.80E-01	8.58E-04	0016	
559	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	5.69E-04	6.50E-01		WTA,TCU	PUMP	Cooper - Jacob	M	6.50E-01	5.69E-04	0016	
560	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	5.25E-04	6.00E-01		WTA,TCU	PUMP	Theis	M	6.00E-01	5.25E-04	0016	
561	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	3.59E-04	4.10E-01		WTA,TCU	REC	Cooper - Jacob	M	4.10E-01	3.59E-04	0016	
562	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	8.76E-04	1.00E+00		WTA,TCU	REC	Cooper - Jacob	M	1.00E+00	8.76E-04	0016	
563	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1200.00	1829.00	629.00	1.01E-04	6.35E-02		WTA,TCU	INJ	NUMERIC MODEL	M		1.01E-04	2725	0171/0827
564	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	811.00	1829.00	1018.00	3.51E-05	3.57E-02		WTA,TCU	INJ	NUMERIC MODEL	M		3.51E-05	2725	0171/0827
565	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	926.00	1829.00	903.00	1.17E-05	1.06E-02		WTA,TCU	INJ	NUMERIC MODEL	M		1.17E-05	2725	0171/0827
566	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	4.32E-03	4.93E+00		WTA,TCU	PUMP	NUMERIC MODEL	M		4.32E-03	2725	0171/0827
567	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	9.94E-05	1.14E-01		WTA,TCU	PUMP	NUMERIC MODEL	M		9.94E-05	2725	0171/0827
568	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	1.30E-02	1.48E+01		WTA,TCU	REC	NUMERIC MODEL	M		1.30E-02	2725	0171/0827
569	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	1.44E-02	1.65E+01		WTA,TCU	REC	NUMERIC MODEL	M		1.44E-02	2725	0171/0827
570	42	USW H-3	4075761.54	547536.65	3	1483.00	1126.00	1219.00	93.00	1.08E-04	1.00E-02	5.67E-03	TCU	INJ	Cooper - Jacob	M	1.00E-02	1.08E-04	0017	0172
571	42	USW H-3	4075761.54	547536.65	3	1483.00	792.00	850.00	58.00	2.07E-02	1.20E+00		TCU	INJ	Papadopulos - Coop	M	1.20E+00	2.07E-02	0017	0172
572	42	USW H-3	4075761.54	547536.65	3	1483.00	851.00	917.00	66.00	3.03E-04	2.00E-02		TCU	INJ	Cooper - Jacob	M	2.00E-02	3.03E-04	0017	0172
573	42	USW H-3	4075761.54	547536.65	3	1483.00	1009.00	1060.00	51.00	3.92E-04	2.00E-02		WTA			L	2.00E-02	3.92E-04	0017	0172
574	42	USW H-3	4075761.54	547536.65	3	1483.00	1060.00	1083.00	23.00	3.48E-03	8.00E-02		WTA			L	8.00E-02	3.48E-03	0017	0172
575	42	USW H-3	4075761.54	547536.65	3	1483.00	1083.00	1106.00	23.00	8.70E-03	2.00E-01		WTA			L	2.00E-01	8.70E-03	0017	0172
576	42	USW H-3	4075761.54	547536.65	3	1483.00	1106.00	1108.00	2.00	1.00E-02	2.00E-02		WTA			L	2.00E-02	1.00E-02	0017	0172
577	42	USW H-3	4075761.54	547536.65	3	1483.00	1108.00	1114.00	6.00	6.67E-03	4.00E-02		WTA			L	4.00E-02	6.67E-03	0017	0172
578	42	USW H-3	4075761.54	547536.65	3	1483.00	1114.00	1116.00	2.00	1.00E-02	2.00E-02		WTA			L	2.00E-02	1.00E-02	0017	0172
579	42	USW H-3	4075761.54	547536.65	3	1483.00	1116.00	1120.00	4.00	5.00E-03	2.00E-02		WTA			L	2.00E-02	5.00E-03	0017	0172
580	42	USW H-3	4075761.54	547536.65	3	1483.00	1120.00	1120.00		2.00E-01	0.00E+00		WTA			L	7.00E-02	2.00E-01	0017	0172
581	42	USW H-3	4075761.54	547536.65	3	1483.00	1120.00	1198.00	78.00	2.56E-04	2.00E-02		WTA			L	2.00E-02	2.56E-04	0017	0172
582	42	USW H-3	4075761.54	547536.65	3	1483.00	1198.00	1201.00	3.00	6.67E-03	2.00E-02		WTA			L	2.00E-02	6.67E-03	0017	0172
583	42	USW H-3	4075761.54	547536.65	3	1483.00	1201.00	1219.00	18.00	1.11E-03	2.00E-02		WTA			L	2.00E-02	1.11E-03	0017	0172
584	42	USW H-3	4075761.54	547536.65	3	1483.00	792.00	800.00	8.00	2.50E-03	2.00E-02		WTA			L	2.00E-02	2.50E-03	0017	0172
585	42	USW H-3	4075761.54	547536.65	3	1483.00	800.00	809.00	9.00	2.22E-03	2.00E-02		WTA			L	2.00E-02	2.22E-03	0017	0172
586	42	USW H-3	4075761.54	547536.65	3	1483.00	809.00	823.00	14.00	2.14E-02	3.00E-01		WTA			L	3.00E-01	2.14E-02	0017	0172
587	42	USW H-3	4075761.54	547536.65	3	1483.00	823.00	832.00	9.00	3.33E-02	3.00E-01		WTA			L	3.00E-01	3.33E-02	0017	0172
588	42	USW H-3	4075761.54	547536.65	3	1483.00	832.00	832.00		7.00E-02	0.00E+00		WTA			L	4.00E-02	7.00E-02	0017	0172
589	42	USW H-3	4075761.54	547536.65	3	1483.00	832.00	839.00	7.00	2.86E-03	2.00E-02		WTA			L	2.00E-02	2.86E-03	0017	0172
590	42	USW H-3	4075761.54	547536.65	3	1483.00	839.00	840.00	1.00	2.00E-02	2.00E-02		WTA			L	2.00E-02	2.00E-02	0017	0172
591	42	USW H-3	4075761.54	547536.65	3	1483.00	840.00	841.00	1.00	4.00E-02	4.00E-02		WTA			L	4.00E-02	4.00E-02	0017	0172
592	42	USW H-3	4075761.54	547536.65	3	1483.00	841.00	847.00	6.00	3.33E-03	2.00E-02		WTA			L	2.00E-02	3.33E-03	0017	0172
593	42	USW H-3	4075761.54	547536.65	3	1483.00	847.00	858.00	11.00	1.82E-03	2.00E-02		WTA			L	2.00E-02	1.82E-03	0017	0172
594	42	USW H-3	4075761.54	547536.65	3	1483.00	858.00	872.00	14.00	1.43E-03	2.00E-02		WTA			L	2.00E-02	1.43E-03	0017	0172
595	42	USW H-3	4075761.54	547536.65	3	1483.00	872.00	889.00	17.00	1.18E-03	2.00E-02		WTA			L	2.00E-02	1.18E-03	0017	0172
596	42	USW H-3	4075761.54	547536.65	3	1483.00	889.00	933.00	44.00	1.14E-03	5.00E-02		WTA			L	5.00E-02	1.14E-03	0017	0172
597	42	USW H-3	4075761.54	547536.65	3	1483.00	933.00	960.00	27.00	7.41E-04	2.00E-02		WTA			L	2.00E-02	7.41E-04	0017	0172
598	42	USW H-3	4075761.54	547536.65	3	1483.00	960.00	984.00	24.00	8.33E-04	2.00E-02		WTA			L	2.00E-02	8.33E-04	0017	0172
599	42	USW H-3	4075761.54	547536.65	3	1483.00	984.00	994.00	10.00	2.00E-03	2.00E-02		WTA			L	2.00E-02	2.00E-03	0017	0172
600	42	USW H-3	4075761.54	547536.65	3	1483.00	994.00	1009.00	15.00	1.33E-03	2.00E-02		WTA			L	2.00E-02	1.33E-03	0017	0172
601	42	USW H-3	4075761.54	547536.65	3	1483.00	911.00	972.00	61.00	4.92E-04	3.00E-02	6.56E-04	WTA	INJ	Cooper - Jacob	M	3.00E-02	4.92E-04	0017	0172
602	42	USW H-3	4075761.54	547536.65	3	1483.00	911.00	972.00	61.00	9.84E-04	6.00E-02		WTA	INJ	Cooper - Jacob	M	6.00E-02	9.84E-04	0017	0172
603	42	USW H-3	4075761.54	547536.65	3	1483.00	1063.00	1124.00	61.00	4.92E-04	3.00E-02	1.38E-03	WTA,TCU	INJ	Cooper - Jacob	M	3.00E-02	4.92E-04	0017	0172

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
604	42	USW H-3	4075761.54	547536.65	3	1483.00	1063.00	1124.00	61.00	1.64E-03	1.00E-01		WTA,TCU	INJ	Cooper - Jacob	M	1.00E-01	1.64E-03	0017	0172
605	42	USW H-3	4075761.54	547536.65	3	1483.00	972.00	1219.00	247.00	1.21E-04	2.99E-02		WTA,TCU	INJ	Cooper - Jacob	M	3.00E-02	1.21E-04	0017	0172
606	42	USW H-3	4075761.54	547536.65	3	1483.00	972.00	1219.00	247.00	4.05E-04	1.00E-01		WTA,TCU	INJ	Cooper - Jacob	M	1.00E-01	4.05E-04	0017	0172
607	42	USW H-3	4075761.54	547536.65	3	1483.00	822.00	1219.00	397.00	2.52E-03	1.00E+00		WTA,TCU	PUMP	Theis	H	1.00E+00	2.52E-03	0017	0172
608	42	USW H-3	4075761.54	547536.65	3	1483.00	754.00	1219.00	465.00	8.60E-04	4.00E-01		WTA,TCU	PUMP	Cooper - Jacob	M	4.00E-01	8.60E-04	0017	0172
609	42	USW H-3	4075761.54	547536.65	3	1483.00	754.00	1219.00	465.00	1.08E-03	5.00E-01		WTA,TCU	REC	Brown's Method	M	5.00E-01	1.08E-03	0017	0172
610	42	USW H-3	4075761.54	547536.65	3	1483.00	1063.00	1124.00	61.00	1.64E-03	1.00E-01		WTA,TCU	SWAB	Cooper - Jacob	M	1.00E-01	1.64E-03	0017	0172
611	42	USW H-3	4075761.54	547536.65	3	1483.00	792.00	1219.00	427.00	2.58E-03	1.10E+00		WTA,TCU	SWAB	Cooper - Jacob	M	1.10E+00	2.58E-03	0017	0172
612	43	USW H-4	4077321.69	549194.66	3	1249.00	1181.00	1194.00	13.00	1.57E+00	2.04E+01	6.13E-01	TCU	PUMP	SEE COMMENTS	M	2.04E+01	1.57E+00	0108	0178
613	43	USW H-4	4077321.69	549194.66	3	1249.00	1194.00	1213.00	19.00	6.84E-02	1.30E+00		TCU	PUMP	SEE COMMENTS	M	1.30E+00	6.84E-02	0108	0178
614	43	USW H-4	4077321.69	549194.66	3	1249.00	1213.00	1219.00	6.00	2.67E-01	1.60E+00		TCU	PUMP	SEE COMMENTS	M	1.60E+00	2.67E-01	0108	0178
615	43	USW H-4	4077321.69	549194.66	3	1249.00	561.00	584.00	23.00	5.00E-01	1.15E+01	6.33E-01	WTA	PUMP	SEE COMMENTS	M	1.15E+01	5.00E-01	0108	0178
616	43	USW H-4	4077321.69	549194.66	3	1249.00	623.00	639.00	16.00	1.16E+00	1.86E+01		WTA	PUMP	SEE COMMENTS	M	1.86E+01	1.16E+00	0108	0178
617	43	USW H-4	4077321.69	549194.66	3	1249.00	643.00	669.00	26.00	2.65E-01	6.90E+00		WTA	PUMP	SEE COMMENTS	M	6.90E+00	2.65E-01	0108	0178
618	43	USW H-4	4077321.69	549194.66	3	1249.00	680.00	707.00	27.00	4.07E-02	1.10E+00		WTA	PUMP	SEE COMMENTS	M	1.10E+00	4.07E-02	0108	0178
619	43	USW H-4	4077321.69	549194.66	3	1249.00	707.00	733.00	26.00	2.15E+00	5.59E+01		WTA	PUMP	SEE COMMENTS	M	5.59E+01	2.15E+00	0108	0178
620	43	USW H-4	4077321.69	549194.66	3	1249.00	779.00	785.00	6.00	1.37E+00	8.20E+00		WTA	PUMP	SEE COMMENTS	M	8.20E+00	1.37E+00	0108	0178
621	43	USW H-4	4077321.69	549194.66	3	1249.00	785.00	805.00	20.00	5.20E-01	1.04E+01		WTA	PUMP	SEE COMMENTS	M	1.04E+01	5.20E-01	0108	0178
622	43	USW H-4	4077321.69	549194.66	3	1249.00	820.00	834.00	14.00	4.07E-01	5.70E+00		WTA	PUMP	SEE COMMENTS	M	5.70E+00	4.07E-01	0108	0178
623	43	USW H-4	4077321.69	549194.66	3	1249.00	834.00	852.00	18.00	1.89E-01	3.40E+00		WTA	PUMP	SEE COMMENTS	M	3.40E+00	1.89E-01	0108	0178
624	43	USW H-4	4077321.69	549194.66	3	1249.00	863.00	876.00	13.00	1.43E+00	1.86E+01		WTA	PUMP	SEE COMMENTS	M	1.86E+01	1.43E+00	0108	0178
625	43	USW H-4	4077321.69	549194.66	3	1249.00	876.00	881.00	5.00	2.40E-01	1.20E+00		WTA	PUMP	SEE COMMENTS	M	1.20E+00	2.40E-01	0108	0178
626	43	USW H-4	4077321.69	549194.66	3	1249.00	881.00	892.00	11.00	2.09E-01	2.30E+00		WTA	PUMP	SEE COMMENTS	M	2.30E+00	2.09E-01	0108	0178
627	43	USW H-4	4077321.69	549194.66	3	1249.00	892.00	905.00	13.00	1.52E+00	1.98E+01		WTA	PUMP	SEE COMMENTS	M	1.98E+01	1.52E+00	0108	0178
628	43	USW H-4	4077321.69	549194.66	3	1249.00	911.00	922.00	11.00	1.05E+00	1.16E+01		WTA	PUMP	SEE COMMENTS	M	1.16E+01	1.05E+00	0108	0178
629	43	USW H-4	4077321.69	549194.66	3	1249.00	922.00	928.00	6.00	2.00E-01	1.20E+00		WTA	PUMP	SEE COMMENTS	M	1.20E+00	2.00E-01	0108	0178
630	43	USW H-4	4077321.69	549194.66	3	1249.00	957.00	1003.00	46.00	3.04E-02	1.40E+00		WTA	PUMP	SEE COMMENTS	M	1.40E+00	3.04E-02	0108	0178
631	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	2.86E-01	2.00E+02	7.07E-01	WTA,TCU	PUMP	Cooper - Jacob	M	2.00E+02	2.86E-01	0108	0178
632	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	2.86E-01	2.00E+02		WTA,TCU	PUMP	Cooper - Jacob	M	2.00E+02	2.86E-01	0108	0178
633	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	1.13E+00	7.90E+02		WTA,TCU	REC	Cooper - Jacob	M	7.90E+02	1.13E+00	0108	0178
634	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	1.13E+00	7.90E+02		WTA,TCU	REC	Cooper - Jacob	M	7.90E+02	1.13E+00	0108	0178
635	49	USW H-5	4078839.98	547675.52	3	1479.00	704.00	1219.00	515.00	6.99E-02	3.60E+01	9.05E-02	WTA	PUMP	Cooper - Jacob/Thei	M	3.60E+01	6.99E-02	0175	0013
636	49	USW H-5	4078839.98	547675.52	3	1479.00	704.00	1219.00	515.00	1.11E-01	5.72E+01		WTA	REC	Cooper - Jacob/Thei	H	5.72E+01	1.11E-01	0175	0013
637	44	USW H-6	4077805.21	543148.60	3	1302.00	1155.00	1220.00	65.00	4.62E-05	3.00E-03	4.62E-05	TCU	INJ	Cooper - Jacob	M	3.00E-03	4.62E-05	1548	0014
638	44	USW H-6	4077805.21	543148.60	3	1302.00	581.00	607.00	26.00	1.15E-02	3.00E-01	1.14E-01	WTA	INJ	Cooper - Jacob	M	3.00E-01	1.15E-02	1548	0014
639	44	USW H-6	4077805.21	543148.60	3	1302.00	606.00	640.00	34.00	1.47E-01	5.00E+00		WTA	INJ		L	5.00E+00	1.47E-01	1548	0014
640	44	USW H-6	4077805.21	543148.60	3	1302.00	649.00	683.00	34.00	2.94E-04	1.00E-02		WTA	INJ	Cooper - Jacob	M	1.00E-02	2.94E-04	1548	0014
641	44	USW H-6	4077805.21	543148.60	3	1302.00	649.00	683.00	34.00	5.88E-04	2.00E-02		WTA	INJ	Cooper - Jacob	L	2.00E-02	5.88E-04	1548	0014
642	44	USW H-6	4077805.21	543148.60	3	1302.00	686.00	753.00	67.00	2.99E-03	2.00E-01		WTA	INJ	Cooper - Jacob	M	2.00E-01	2.99E-03	1548	0014
643	44	USW H-6	4077805.21	543148.60	3	1302.00	753.00	787.00	34.00	1.47E-01	5.00E+00		WTA	INJ		L	5.00E+00	1.47E-01	1548	0014
644	44	USW H-6	4077805.21	543148.60	3	1302.00	804.00	838.00	34.00	2.94E-03	1.00E-01		WTA	INJ	Cooper - Jacob	L	1.00E-01	2.94E-03	1548	0014
645	44	USW H-6	4077805.21	543148.60	3	1302.00	835.00	869.00	34.00	5.88E-03	2.00E-01		WTA	INJ	Cooper - Jacob	L	2.00E-01	5.88E-03	1548	0014
646	44	USW H-6	4077805.21	543148.60	3	1302.00	753.00	1220.00	467.00	1.63E-01	7.60E+01		WTA	PUMP	Cooper - Jacob	M	7.60E+01	1.63E-01	1548	0014
647	44	USW H-6	4077805.21	543148.60	3	1302.00	871.00	1220.00	349.00	1.72E-04	6.00E-02		WTA,TCU	INJ	Cooper - Jacob	L	6.00E-02	1.72E-04	1548	0014
648	44	USW H-6	4077805.21	543148.60	3	1302.00	526.00	1220.00	694.00	3.31E-01	2.30E+02		WTA,TCU	PUMP	Cooper - Jacob	L	2.30E+02	3.31E-01	1548	0014
649	44	USW H-6	4077805.21	543148.60	3	1302.00	526.00	1220.00	694.00	3.46E-01	2.40E+02	7.31E-01	WTA,TCU	PUMP	Cooper - Jacob	M	2.40E+02	3.46E-01	1548	0014
650	44	USW H-6	4077805.21	543148.60	3	1302.00	526.00	645.00	119.00	1.76E+00	2.10E+02		WTA,TCU	PUMP	Theis	L	2.10E+02	1.76E+00	1548	0014
651	44	USW H-6	4077805.21	543148.60	3	1302.00	526.00	834.00	308.00	1.20E+00	3.70E+02		WTA,TCU	PUMP	Theis	M	3.70E+02	1.20E+00	1548	0014
652	35	USW VH-1	4071717.22	539985.54	4	955.00	181.00	762.00	581.00	1.72E+00	1.00E+03	1.25E+00	WTA	PUMP	Ahrens and Others	M	1.00E+03	1.72E+00	0174	
653	35	USW VH-1	4071717.22	539985.54	4	955.00	181.00	762.00	581.00	7.75E-01	4.50E+02		WTA	PUMP	Ahrens and Others	M	4.50E+02	7.75E-01	0174	
654		Virgin River USA 1-A	4057711.38	732904.72	5		3585.67	3600.91	15.24	4.27E-04	6.51E-03		LCA	DST	Horner	L	6.50E-03	4.27E-04	4923	1020
655	77	Water Well 2	4113499.02	581005.54	3	1362.81	777.44	1043.29	265.85	6.08E-02	1.62E+01	6.50E-02	LCA	PUMP	Cooper - Jacob	M	1.62E+01	6.08E-02	0100	
656	77	Water Well 2	4113499.02	581005.54	3	1362.81	777.44	1043.29	265.85	2.48E-01	6.58E+01		LCA	REC	Cooper - Jacob	M	6.58E+01	2.48E-01	0100	
657	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	2.09E-02	4.53E+00		LCA	Theis	Theis	M	4.53E+00	2.09E-02	IT files	USGS files
658	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	1.13E-02	2.46E+00		LCA	pump	Cooper - Jacob	L	2.46E+00	1.13E-02	IT files	USGS files
659	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	7.25E-02	1.57E+01		LCA	pump	Cooper - Jacob	M	1.57E+01	7.25E-02	IT files	USGS files
660	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	2.22E-02	4.81E+00		LCA	pump	Cooper - Jacob	M	4.81E+00	2.22E-02	IT files	USGS files
661	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	7.08E-02	1.54E+01		LCA	pump	Theis	M	1.54E+01	7.08E-02	IT files	USGS files
662	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	8.70E-03	1.89E+00		LCA	pump	Theis	L	1.89E+00	8.70E-03	IT files	USGS files
663	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	5.90E-03	1.28E+00		LCA	rec	Cooper - Jacob	L	1.28E+00	5.90E-03	IT files	USGS files
664	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	8.93E-02	1.94E+01		LCA	rec	Cooper - Jacob	M	1.94E+01	8.93E-02	IT files	USGS files
665	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	1.30E-01	7.13E+00		AA	PUMP	Theis	L	7.13E+00	1.30E-01	0754	92
666	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	9.62E-02	5.28E+00		AA	REC	Theis Recovery	L	5.28E+00	9.62E-02	0754	92
667	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	3.51E-01	1.93E+01	4.40E-01	AA	REC	Theis Recovery	M	1.93E+01	3.51E-01	0754	92
668	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	5.30E-01	2.91E+01		AA	PUMP	Theis	M	2.91E+01	5.30E-01	0754	92
669	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	3.49E-01	1.91E+01		AA	REC	Theis Recovery	M	1.91E+01	3.49E-01	0754	92
670	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	5.32E-01	2.92E+01		AA	REC	Theis Recovery	M	2.92E+01	5.32E-01	0754	92

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
671	36	Water Well 5B	4073118.22	591977.78	3	942.68	208.23	274.39	66.16	1.45E+00	9.57E+01	1.68E+00	AA	PUMP	Cooper - Jacob	M	9.57E+01	1.45E+00	0100	
672	36	Water Well 5B	4073118.22	591977.78	3	942.68	208.23	274.39	66.16	2.07E+00	1.37E+02		AA	REC	Cooper - Jacob	M	1.37E+02	2.07E+00	0100	
673	36	Water Well 5B	4073118.22	591977.78	3	942.68	213.41	274.39	60.98	1.52E+00	9.24E+01		AA	PUMP	Theis	M	9.24E+01	1.52E+00	0754	
674	36	Water Well 5B	4073118.22	591977.78	3	942.68	213.41	274.39	60.98	5.01E-01	3.06E+01		AA	PUMP	Theis	L	3.06E+01	5.01E-01	0754	
675	36	Water Well 5B	4073118.22	591977.78	3	942.68	213.41	274.39	60.98	3.12E-01	1.90E+01		AA	REC	Theis	L	1.90E+01	3.12E-01	0754	
676	34	Water Well 5C	4071748.99	592477.73	3	939.33	210.06	365.85	155.79	1.91E-01	2.98E+01	2.73E-01	AA	PUMP	Cooper - Jacob	H	2.98E+01	1.91E-01	0100	
677	34	Water Well 5C	4071748.99	592477.73	3	939.33	210.06	365.85	155.79	1.99E-01	3.11E+01		AA	PUMP	Cooper - Jacob	H	3.11E+01	1.99E-01	0100	
678	34	Water Well 5C	4071748.99	592477.73	3	939.33	210.06	365.85	155.79	1.36E-01	2.11E+01		AA	REC	Cooper - Jacob	L	2.11E+01	1.36E-01	0100	
679	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	3.41E-01	3.12E+01		AA	PUMP	Theis	M	3.12E+01	3.41E-01	0754	
680	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	3.06E-01	2.80E+01		AA	PUMP		M	2.80E+01	3.06E-01	0754	
681	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	4.63E-01	4.24E+01		AA	PUMP		M	4.24E+01	4.63E-01	0754	
682	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	9.64E-02	8.82E+00		AA	PUMP		M	8.82E+00	9.64E-02	0754	
683	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	1.14E-01	1.04E+01		AA	PUMP		M	1.04E+01	1.14E-01	0754	
684	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	2.92E-01	2.67E+01		AA	REC		M	2.67E+01	2.92E-01	0754	
685	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	8.42E-01	7.70E+01		AA	REC		M	7.70E+01	8.42E-01	0754	
686	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	1.12E-01	1.02E+01		AA	REC		M	1.02E+01	1.12E-01	0754	
687	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	3.86E-01	3.53E+01		AA	REC	Theis	M	3.53E+01	3.86E-01	0754	
688	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	4.82E-02	4.41E+00		AA	REC	Theis	L	4.41E+00	4.82E-02	0754	
689	64	Water Well 8	4113274.02	563112.68	3	1736.28	895.12	1673.78	778.66	2.95E+00	2.30E+03		BAQ	PUMP		L	2.30E+03	2.95E+00	0018	
690	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.27E-03	4.50E+00	4.33E-03	BAQ	Pump	Theis	H	4.50E+00	4.27E-03	IT files	USGS files
691	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.27E-03	4.50E+00		BAQ	Pump	Theis	H	4.50E+00	4.27E-03	IT files	USGS files
692	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.65E-03	4.91E+00		BAQ	pump	Cooper - Jacob	M	4.91E+00	4.65E-03	IT files	USGS files
693	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.65E-03	4.91E+00		BAQ	pump	Cooper - Jacob	M	4.91E+00	4.65E-03	IT files	USGS files
694	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.07E-03	4.29E+00		BAQ	pump	Cooper - Jacob	H	4.29E+00	4.07E-03	IT files	USGS files
695	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.07E-03	4.29E+00		BAQ	pump	Cooper - Jacob	H	4.29E+00	4.07E-03	IT files	USGS files
696	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	3.91E+00	1.15E+03	7.42E+00	TBAQ,BAQ	PUMP	Cooper - Jacob	M	1.15E+03	3.91E+00	IT files	USGS files
697	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	1.22E+01	3.60E+03		TBAQ,BAQ	PUMP	Theis	M	3.60E+03	1.22E+01	IT files	USGS files
698	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	3.65E+00	1.07E+03		TBAQ,BAQ	PUMP	Theis	M	1.07E+03	3.65E+00	IT files	USGS files
699	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	1.10E+01	3.24E+03		TBAQ,BAQ	PUMP	Cooper - Jacob	M	3.24E+03	1.10E+01	IT files	USGS files
700	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	6.27E+00	1.85E+03		TBAQ,BAQ	rec	Cooper - Jacob	M	1.85E+03	6.27E+00	IT files	USGS files
701	54	Water Well C-1	4086102.38	588235.81	3	1195.43	469.51	503.05	33.54	2.22E+00	7.46E+01		LCA	PUMP		L	7.45E+01	2.22E+00	0100	
702	54	Water Well C-1	4086102.38	588235.81	3	1195.43	469.51	503.05	33.54	2.22E+00	7.46E+01		LCA	PUMP		L	7.45E+01	2.22E+00	0100	
703	54	Water Well C-1	4086102.38	588235.81	3	1195.43	469.51	503.05	33.54	2.22E+00	7.46E+01		LCA	PUMP		L	7.45E+01	2.22E+00	0100	
704	54	Water Well C-1	4086102.38	588235.81	3	1195.43	468.29	503.05	34.76	3.65E+00	1.27E+02		LCA	pump	Q/S	L	1.27E+02	3.65E+00	IT files	0100
705	54	Water Well C-1	4086102.38	588235.81	3	1195.43	468.29	503.05	34.76	5.44E-01	1.89E+01		LCA	pump	Cooper - Jacob	L	1.89E+01	5.44E-01	IT files	0100
706	88	WATERTOWN 1	4122436.70	605604.95	4	1353.60	149.39	204.27	54.88	4.19E-02	2.30E+00	4.19E-02	VU	pump	Cooper - Jacob	M	2.30E+00	4.19E-02	100	
707	88	WATERTOWN 1	4122436.70	605604.95	4	1353.60	149.39	204.27	54.88	4.53E-02	2.48E+00		VU			L	2.48E+00	4.53E-02	0100	
708	89	WATERTOWN 2	4122444.45	606420.68	4	1352.40	273.17	332.62	59.45	8.36E-02	4.97E+00		VU			L	4.97E+00	8.36E-02	0100	
709	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	32.62	113.11	80.49	5.17E+00	4.16E+02	4.38E+00	AA	REC	Cooper - Jacob	M	4.16E+02	5.17E+00	0100	
710	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	48.78	92.07	43.29	7.92E+00	3.43E+02		AA	PUMP		M	3.43E+02	7.92E+00	1473	
711	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	48.78	92.07	43.29	1.87E+00	8.10E+01		AA	PUMP	Cooper - Jacob	M	8.10E+01	1.87E+00	IT files	USGS files
712	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	48.78	92.07	43.29	1.87E+00	8.10E+01		AA	PUMP	Theis	M	8.10E+01	1.87E+00	IT files	USGS files
713	92	WATERTOWN 4	4124101.93	603062.20	4	1355.40	34.76	165.24	130.49	2.86E+00	3.73E+02		AA			L	3.73E+02	2.86E+00	0100	
714	39	WELL 1	4074403.10	597789.34	3	945.12	217.68	265.24	47.56	2.09E-01	9.94E+00		AA			L	9.94E+00	2.09E-01	0100	
715	105	WELL 10	4010178.87	556187.62	3	610.00	12.00	12.00		2.50E-04	0.00E+00		AA	INJ		L	2.50E-03	2.50E-04	0163	
716	105	WELL 10	4010178.87	556187.62	3	610.00	12.00	12.00		3.40E-03	0.00E+00		AA	INJ		L	3.40E-02	3.40E-03	0163	
717	107	WELL 14	4010266.03	555363.30	3	611.00	18.00	18.00		3.35E+00	0.00E+00	3.03E+00	AA	INJ		M	5.40E+01	3.35E+00	0163	
718	107	WELL 14	4010266.03	555363.30	3	611.00	18.00	18.00		2.70E+00	0.00E+00		AA	REC		M	4.35E+01	2.70E+00	0163	
719	61	WELL 3	4094553.48	583827.33	3	1210.06	513.72	548.78	35.06	6.01E-05	2.11E-03	1.13E-04	AA	PUMP	Cooper - Jacob	M	1.62E+01	4.61E-01	0100	
720	61	WELL 3	4094553.48	583827.33	3	1210.06	513.72	548.78	35.06	6.01E-05	2.11E-03		AA	REC	Cooper - Jacob	M	2.61E+01	7.44E-01	0100	
721	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	PUMP	Theis	M	1.57E+01	2.23E-01	0754	
722	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	PUMP	Theis	L	6.46E+00	9.21E-02	0754	
723	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	REC	Theis	M	1.24E+01	1.77E-01	0754	
724	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	REC	Theis	L	2.37E+00	3.38E-02	0754	
725	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	REC	Theis	M	9.00E+00	1.28E-01	0754	
726	61	WELL 3	4094553.48	583827.33	3	1209.45	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	PUMP	Cooper - Jacob	M	5.47E+00	7.80E-02	0902	
727	61	WELL 3	4094553.48	583827.33	3	1209.45	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	REC	Cooper - Jacob	M	1.07E+01	1.52E-01	0902	
728	107	WELL 5	4010272.59	556386.71	3	610.00	11.00	11.00		4.50E-02	0.00E+00	2.93E-01	AA	INJ		M	3.80E-01	4.50E-02	0163	
729	107	WELL 5	4010272.59	556386.71	3	610.00	11.00	11.00		5.40E-01	0.00E+00		AA	REC		M	4.60E+00	5.40E-01	0163	
730	106	WELL 7	4010212.43	556611.76	3	610.00	6.00	6.00		1.20E+00	0.00E+00	1.20E+00	AA	INJ		M	3.20E+00	1.20E+00	0163	
731		White River Valley	4261206.53	664823.01	5		1368.55	1395.37	26.8224	2.67E-04	7.16E-03		LCA	DST	Horner	L	7.15E-03	2.67E-04	4923	1020
			(meters)	(meters)		(m)	(m)	(m)	(m)	(M/D)							(M**2/D)	(M/D)		

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0011	Craig, Johnson	1984	USGS	OFR-84-450
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1467	Norvitch	1962	USGS	TL YUCCA-1 Sup. 4
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1475	Dudley, Blankennagel	1973	USGS	USGS-474-163
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Appendix B

Hydrostratigraphic Units Measured Per Well

The attached table provides a breakdown of wells and the hydrostratigraphic units in which they are screened. Hydrologic parameters for each HSU were determined based on the test results obtained from the wells screened in that unit.

Hydrostratigraphic Units Measured Per Well

								HSUs							
Well Name	**AA**	**BAQ1**	**BCU-2**	**LCA**	**LCA3**	**TBAQ3**	**TCTC-5**	**TCU1**	**TMAQ-7**	**TPTA**	**TPTC-6**	**TS**	**VCU1**	**VU**	**WTA**
Amargosa Expl. Hole #3	X														X
Amargosa Tracer Hole #1, #2, #3				X											
Army #1 Water Well				X											
Bacon Flat 1				X											
Bacon Flat 5				X											
CE-DT-4				X											
CE-DT-5				X											
CE-DT-6				X											
CE-VF-2				X											
CL-VF-T-1A	X														
Coyote Springs Valley				X											
CSV-2				X											
Dobbin Creek Fed A1-6				X											
DM-TW-2	X														
DR-1				X											
ER-6-1				X											
Garden Valley				X											
GN-1O-1	X														
GN-IT-2	X														
Grant Canyon 1				X											
Grant Canyon 2				X											
Grant Canyon 3				X											
Grant Canyon 4				X											
HC-S-O-1	X														
HC-S-O-2	X														
HC-ST-1	X														
HC-ST-2	X														
HTH-1	X			X								X		X	
HTH-3				X										X	
HTH-4				X										X	
HTH #10				X											
HTH-21-1								X					X	X	
J-12 Water Well															X
J-13 Water Well															X
Lone Tree 1-14-43				X											
Pad Shaft				X											
PM-3							X				X				
RE-VF-O1	X														
RE-VF-T1	X														
RR-S-O-1	X														
RR-S-O-2	X														
RR-S-T-1	X														
RR-S-T-2	X														
SBH-1				X											
SV-DT-2				X											
TEST WELL 3				X											
U-3cn #5				X											
U-20a #2 Water Well							X				X				
UCe-18	X														

Hydrostratigraphic Units Measured Per Well

								HSUs							
Well Name	**AA**	**BAQ1**	**BCU-2**	**LCA**	**LCA3**	**TBAQ3**	**TCTC-5**	**TCU1**	**TMAQ-7**	**TPTA**	**TPTC-6**	**TS**	**VCU1**	**VU**	**WTA**
UE-1q					X										
UE-7nS				X											
UE-10j				X											
UE-16d					X										
UE-18r									X						
UE-19b #1						X									
UE-19c						X									
UE-19fS							X								
UE-19gs						X									
UE-19h															
UE-19i						X	X								
UE-20d							X				X				
UE-20e #1						X	X								
UE-20f						X	X								
UE-20j			X			X									
UE-20h							X								
UE-25a #1															X
UE-25b #1								X							X
UE-25p #1				X											
USGS HTH #1					X										
USGS HTH #3				X											
USGS HTH #4				X											
USGS HTH #10				X											
USGS HTH "F"				X											
USGS Test Well B Ex.										X					
USGS Water Well A	X														
USGS Water Well C				X											
USGS Test Well D				X										X	
USW G-1															X
USW G-4															X
USW GU-3															X
USW H-1/Inst.								X					X		X
WATERTOWN 1														X	
WATERTOWN 2														X	
WATERTOWN 3	X														X
WATERTOWN 4	X														
Water Well C-1				X											
Water Well 2				X											
Water Well 5A	X														
Water Well 5B	X														
Water Well 5C	X														
Water Well 8		X				X									
WELL 1	X														
WELL 3	X														

Appendix C

Hydraulic Conductivity Data Subset Subjected to Statistical Analysis

Appendix C presents the hydraulic conductivity (K) and transmissivity (T) data that were subjected to rigorous statistical analysis. These data are a small subset of the larger K and T database presented in Appendix A. Only the best quality pumping- and recovery-test data were selected for inclusion in this database. These tests are the best for quantifying regional K and T values. Data from smaller-scale tests such as slug tests were not included here because they characterize only the local aquifer in the vicinity of the tested well. This Appendix provides a list of all of the data records selected for rigorous statistical analysis.

The following provides a description of the fields and codes used.

Rec #	Record number in the database
Site ID	Unique site identifier (may or may not be a USGS ID)
Site name	Common well or hole name. REDBOOK reporting name for wells on the NTS.
utm_north	Site north coordinate in UTM, Zone 11
utm_east	Site east coordinate in UTM, Zone 11
DDE_F	Data documentation evaluation flag
LSE	Land surface elevation
TOI Depth	Depth to the top of the tested interval
BOI Depth	Depth to the bottom of the tested interval
HSU	Hydrostratigraphic unit tested. HSU codes are provided in the hydrostratigraphic unit organization table provided in the documentation package.

test_type Type of test conducted

Pump	pumping test
inj	injection test
rec	recovery test
swab	swab test
bail	bailing test
slug	slug test

---

anal_meth Method used to analyze test data

DQE_F Data quality evaluation flag. Flags are defined in the documentation package.

L	low quality
M	medium quality
H	high quality

T Transmissivity of tested interval

K_Qual Hydraulic conductivity qualifier

est	estimated
appx	approximate
rang	range
<	less than

K Hydraulic conductivity of tested interval

LOG(K) Logarithm of hydraulic conductivity, in base 10

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refer_doc Reference document

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
2		07N/63-14abc	4260130.78	686157.26	5		70.1	132.59	62.48	3.57E+00	2.23E+02	3.57E+00	LCA	pump	drawdown	M	2.23E+02	3.57E+00	4923	
7		16S/58-14a (DR1)	4046912.86	642194.31	4		265.18	283.46	18.29	2.29E+00	4.19E+01	1.40E+00	LCA	pump	drawdown	M	4.18E+01	2.29E+00	4923	
8		16S/58-14a (DR1)	4046912.86	642194.31	4		265.18	283.46	18.29	5.10E-01	9.33E+00		LCA	pump	recovery	M	9.29E+00	5.10E-01	4923	
10		17S/50-23bb2	4035540.64	561175.75	4		0.00	42.67	42.67	7.62E+00	3.25E+02	7.62E+00	LCA	pump	recovery	M	3.25E+02	7.62E+00	4923	
25	27	Army #1 Water Well	4049799.34	586119.43	3	961.59	239.33	356.10	116.77	4.15E+00	4.85E+02	2.44E+00	LCA	PUMP	Cooper - Jacob	M	4.85E+02	4.15E+00	0100	
26	27	Army #1 Water Well	4049799.34	586119.43	3	961.59	239.33	356.10	116.77	9.15E+00	1.07E+03		LCA	REC	Cooper - Jacob	M	1.07E+03	9.15E+00	0100	
27	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	1.20E+00	2.14E+02		LCA	PUMP	Cooper - Jacob	M	2.14E+02	1.20E+00	IT files	0100
28	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	2.70E+00	4.81E+02		LCA	PUMP	Cooper - Jacob	M	4.81E+02	2.70E+00	IT files	0100
29	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	4.97E-01	8.86E+01		LCA	PUMP	Cooper - Jacob	M	8.86E+01	4.97E-01	IT files	0100
31	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	1.18E+00	2.10E+02		LCA	PUMP	Theis	M	2.10E+02	1.18E+00	IT files	0100
32	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	1.19E+00	2.12E+02		LCA	pump	Theis	M	2.12E+02	1.19E+00	IT files	0100
33	27	Army #1 Water Well	4049799.34	586119.43	3	961.00	414.63	592.99	178.35	2.33E+00	4.16E+02		LCA	rec	Cooper - Jacob	M	4.16E+02	2.33E+00	IT files	0100
38	120	CE-DT-5	4073972.59	688160.53	4	661.28	106.71	191.46	84.76	3.15E+02	2.67E+04	7.31E+02	LCA	PUMP	Cooper - Jacob	H	2.67E+04	3.15E+02	IT files	3143
39	120	CE-DT-5	4073972.59	688160.53	4	661.28	106.71	191.46	84.76	1.57E+03	1.33E+05		LCA	PUMP	Cooper - Jacob	M	1.33E+05	1.57E+03	IT files	3143
40	120	CE-DT-5	4073972.59	688160.53	4	661.28	106.71	191.46	84.76	3.09E+02	2.62E+04		LCA	PUMP	Theis	H	2.62E+04	3.09E+02	IT files	3143
46	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.48E+00	2.79E+02	1.48E+00	LCA	PUMP	Cooper - Jacob	M	2.79E+02	1.48E+00	2726	3143
48	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.48E+00	2.79E+02		LCA	PUMP	Cooper - Jacob	M	2.79E+02	1.48E+00	IT files	3143
50	123	CE-VF-2	4082713.11	684598.38	4	752.13	184.15	372.26	188.11	1.48E+00	2.79E+02		LCA	PUMP	Theis	M	2.79E+02	1.48E+00	IT files	3143
51	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	4.78E+00	2.97E+02	6.58E+00	AA	PUMP	Theis	M	2.97E+02	4.78E+00	3218	
52	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	5.53E+00	3.44E+02		AA	pump	Neuman	M	3.44E+02	5.53E+00	3218	
53	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	5.53E+00	3.44E+02		AA	pump	Neuman	M	3.44E+02	5.53E+00	3218	
54	127	CL-VF-T-1A	4186329.94	644920.07	5	1562.50	338.72	400.91	62.20	1.05E+01	6.51E+02		AA	pump	Theis	M	6.51E+02	1.05E+01	3218	
55	122	Coyote Springs Val	4074122.86	687983.63	5	661.59	106.71	191.46	84.76	2.74E+02	2.32E+04	1.49E+02	LCA	pump		M	2.32E+04	2.74E+02	3218	
56	122	Coyote Springs Val	4074122.86	687983.63	5	664.63	107.62	203.96	96.34	3.86E+01	3.72E+03		LCA	pump		M	3.72E+03	3.86E+01	3218	
57	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	5.61E+00	1.49E+02	5.21E+00	LCA	PUMP	Cooper - Jacob	M	1.49E+02	5.61E+00	2726	3143
59	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	5.33E+00	1.41E+02		LCA	PUMP	Cooper - Jacob	M	1.41E+02	5.33E+00	IT files	3143
61	119	CSV-2	4072746.49	703268.86	4	666.46	119.21	145.73	26.52	4.69E+00	1.24E+02		LCA	PUMP	Theis	M	1.24E+02	4.69E+00	IT files	3143
65	126	DM-TW-2	4146011.67	688452.99	5	1435.98	280.49	353.66	73.17	1.40E+00	1.02E+02	1.52E+00	AA	pump	Cooper - Jacob	M	1.02E+02	1.40E+00	3218	
66	126	DM-TW-2	4146011.67	688452.99	5	1435.98	280.49	353.66	73.17	1.65E+00	1.21E+02		AA	pump	Theis	M	1.21E+02	1.65E+00	3218	
71	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	2.08E+01	1.97E+03	1.98E+01	LCA	Pump	Cooper - Jacob	M	1.97E+03	2.08E+01	IT files	USGS files
72	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	5.72E+00	5.41E+02		LCA	Pump	Cooper - Jacob	M	5.41E+02	5.72E+00	IT files	USGS files
74	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	1.36E+01	1.29E+03		LCA	Pump	Theis	M	1.29E+03	1.36E+01	IT files	USGS files
76	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	5.47E+01	5.17E+03		LCA	rec	Cooper - Jacob	M	5.17E+03	5.47E+01	IT files	USGS files
77	60	ER-6-1	4093417.31	589617.46	2	1201.22	554.57	649.09	94.51	4.27E+00	4.04E+02		LCA	rec	Cooper - Jacob	M	4.04E+02	4.27E+00	IT files	USGS files
79	122	Garden Valley	4074122.86	687983.63	5	1562.81	244.82	560.06	315.24	1.18E-01	3.72E+01	1.18E-01	LCA	pump		M	3.72E+01	1.18E-01	3218	
80	128	GN-IO-1	4209242.09	626637.36	5	1699.70	250.00	308.23	58.23	1.92E+01	1.12E+03	2.00E+01	AA	pump	Neuman	M	1.12E+03	1.92E+01	3218	
81	128	GN-IO-1	4209242.09	626637.36	5	1699.70	250.00	308.23	58.23	2.08E+01	1.21E+03		AA	pump	Theis	M	1.21E+03	2.08E+01	3218	
82	128	GN-IT-2	4209242.09	626637.36	5	1699.70	182.93	295.73	112.80	2.64E+00	2.97E+02	6.67E+00	AA	pump	Cooper - Jacob	M	2.97E+02	2.64E+00	3218	
83	128	GN-IT-2	4209242.09	626637.36	5	1699.70	182.93	295.73	112.80	1.07E+01	1.21E+03		AA	pump	Theis	M	1.21E+03	1.07E+01	3218	
88	131	HC-S-O-2	4244872.46	558737.93	5	1679.27	86.59	132.01	45.43	3.27E+00	1.49E+02	8.79E+00	AA	pump	Neuman	M	1.49E+02	3.27E+00	3218	
89	131	HC-S-O-2	4244872.46	558737.93	5	1679.27	86.59	132.01	45.43	1.86E+01	8.46E+02		AA	pump	Theis	M	8.46E+02	1.86E+01	3218	
90	131	HC-S-T-2	4244872.46	558737.93	5	1683.54	99.09	147.87	48.78	4.76E+00	2.32E+02		AA	pump	Theis	M	2.32E+02	4.76E+00	3218	
91	132	HC-SO-1	4259377.73	568784.61	5	1715.24	67.07	140.24	73.17	2.41E+01	1.77E+03	1.80E+01	AA	pump	Neuman	M	1.77E+03	2.41E+01	3218	
92	132	HC-ST-1	4259377.73	568784.61	5	1708.23	73.17	140.24	67.07	1.12E+01	7.53E+02		AA	pump	Theis	M	7.53E+02	1.12E+01	3218	
93	11	HTH-1	4275397.78	568542.74	4	1832.00	213.00	259.00	46.00	3.51E-01	1.62E+01	8.89E-02	AA	SWAB	Cooper/Bredehoeft	M	1.62E+01	3.51E-01	1485	2729/190
94	11	HTH-1	4275397.78	568542.74	4	1832.00	290.00	351.00	61.00	5.09E-02	3.11E+00		AA	SWAB	Cooper/Bredehoeft	M	3.11E+00	5.09E-02	1485	2729/190
95	11	HTH-1	4275397.78	568542.74	4	1832.00	427.00	457.00	30.00	1.99E-02	5.96E-01		AA	SWAB	Cooper/Bredehoeft	M	5.96E-01	1.99E-02	1485	2729/190
96	11	HTH-1	4275397.78	568542.74	4	1832.00	506.00	524.00	18.00	4.07E-03	7.33E-02		AA	SWAB	Cooper/Bredehoeft	M	7.33E-02	4.07E-03	1485	2729/190
97	11	HTH-1	4275397.78	568542.74	4	1832.00	564.00	604.00	40.00	2.05E-03	8.20E-02		AA	SWAB	Cooper/Bredehoeft	M	8.20E-02	2.05E-03	1485	2729/190
98	11	HTH-1	4275397.78	568542.74	4	1832.00	671.00	701.00	30.00	6.21E-05	1.86E-03		AA	SWAB	Cooper/Bredehoeft	M	1.86E-03	6.21E-05	1485	2729/190
99	11	HTH-1	4275397.78	568542.74	4	1832.62	168.60	350.61	182.01	5.60E-01	1.02E+02	5.60E-01	LCA	PUMP	Leaky-artesian	M	1.02E+02	5.60E-01	0190	1485
100	11	HTH-1	4275397.78	568542.74	4	1832.00	805.00	826.00	21.00	5.68E-02	1.19E+00	1.55E-01	TS	SWAB	Cooper/Bredehoeft	M	1.19E+00	5.68E-02	1485	2729/190
101	11	HTH-1	4275397.78	568542.74	4	1832.00	899.00	917.00	18.00	2.69E-01	4.85E+00		TS	SWAB	Cooper/Bredehoeft	M	4.85E+00	2.69E-01	1485	2729/190
102	11	HTH-1	4275397.78	568542.74	4	1832.00	731.00	750.00	19.00	1.77E-02	3.35E-01	1.77E-02	VU	SWAB	Cooper/Bredehoeft	M	3.35E-01	1.77E-02	1485	2729/190
106	9	HTH-21-1	4271115.80	580377.29	4	1787.00	1471.00	1528.00	57.00	1.21E-02	6.91E-01	1.21E-02	VU	SWAB	Cooper/Bredehoeft	M	6.91E-01	1.21E-02	1485	2668
115	3	HTH-23	4262246.59	585203.09	4	1766.00	1550.00	1598.00	48.00	1.90E-02	9.10E-01	3.64E-03	VU	INJ	Cooper/Bredehoeft	M	9.10E-01	1.90E-02	2728	1485
116	3	HTH-23	4262246.59	585203.09	4	1766.00	1596.00	1669.00	73.00	8.36E-04	6.10E-02		VU	INJ	Cooper/Bredehoeft	M	6.10E-02	8.36E-04	2728	1485
118	3	HTH-23	4262246.59	585203.09	4	1766.00	1722.00	1795.00	73.00	1.37E-05	1.00E-03		VU	INJ	Cooper/Bredehoeft	M	1.00E-03	1.37E-05	2728	1485
119	3	HTH-23	4262246.59	585203.09	4	1766.00	1777.00	1850.00	73.00	8.49E-06	6.20E-04		VU	INJ	Cooper/Bredehoeft	M	6.20E-04	8.49E-06	2728	1485
130	32	J-11	4071072.83	563798.81	3	1050.31	316.77	396.34	79.57	4.37E+00	3.48E+02	4.37E+00	WTA	PUMP	Cooper - Jacob	M	3.48E+02	4.37E+00	0100	0183
140	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	304.00	1010.00	706.00	1.70E-01	1.20E+02	8.71E-01	WTA	PUMP	Stallman's Method	M	1.20E+02	1.70E-01	0009	
141	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	304.00	423.00	119.00	9.00E-01	1.07E+02		WTA	PUMP	Cooper - Jacob	M	1.10E+02	9.00E-01	0009	
142	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	304.00	423.00	119.00	1.76E+00	2.10E+02		WTA	PUMP	Cooper - Jacob	M	2.10E+02	1.76E+00	0009	
143	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	307.00	1010.00	703.00	1.99E-01	1.40E+02		WTA	PUMP	Stallman's Method	M	1.40E+02	1.99E-01	0009	
149	37	J-13 Water Well	4073549.59	554004.09	3	1011.00	505.00	566.00	61.00	6.07E-03	3.70E-01		WTA	SWAB		M	3.70E-01	6.07E-03	0009	
159	37	J-13 Water Well	4073549.59	554004.09	3	1011.59	282.93	449.70	166.77	5.07E+00	8.45E+02		WTA	PUMP	Cooper - Jacob	H	8.45E+02	5.07E+00	0100	
160	37	J-13 Water Well	4073549.59	554004.09	3	1011.59	303.66	1032.01	728.35	1.16E+00	8.45E+02		WTA	PUMP	Cooper - Jacob	H	8.45E+02	1.16E+00	0183	

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
163		Pad Shaft	4373164.04	587288.78	4		312.42	751.33	438.91	4.66E-01	2.05E+02	5.29E-01	LCA	pump	drawdown	M	2.04E+02	4.66E-01	4923	
164		Pad Shaft	4373164.04	587288.78	4		312.42	751.33	438.91	4.45E-01	1.95E+02		LCA	pump	recovery	M	1.95E+02	4.45E-01	4923	
165		Pad Shaft	4373164.04	587288.78	4		312.42	751.33	438.91	6.77E-01	2.97E+02		LCA	pump	drawdown/recovery	M	2.97E+02	6.77E-01	4923	
170	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	92.68	123.48	30.79	1.51E+01	4.65E+02	2.76E+01	AA	pump	Neuman	M	4.65E+02	1.51E+01	3218	
171	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	92.68	123.48	30.79	1.51E+01	4.65E+02		AA	pump	Neuman	M	4.65E+02	1.51E+01	3218	
172	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	92.68	123.48	30.79	4.80E+01	1.48E+03		AA	pump	Theis	M	1.48E+03	4.80E+01	3218	
173	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	201.22	214.02	12.80	7.26E+01	9.29E+02		AA	pump	Neuman	M	9.30E+02	7.26E+01	3218	
174	129	RE-VF-O1	4217805.60	558106.40	5	1631.10	201.22	214.02	12.80	8.28E+01	1.06E+03		AA	pump	Theis	M	1.06E+03	8.28E+01	3218	
175	129	RE-VF-T1	4217805.60	558106.40	5	1672.26	121.34	200.61	79.27	1.31E+01	1.04E+03		AA	pump	Theis	M	1.04E+03	1.31E+01	3218	
176	130	RR-S-O-1	4222801.83	580196.29	5	1526.83	99.09	150.91	51.83	1.97E+01	1.02E+03	2.51E+01	AA	pump	Neuman	M	1.02E+03	1.97E+01	3218	
177	130	RR-S-O-1	4222801.83	580196.29	5	1526.83	99.09	150.91	51.83	3.05E+01	1.58E+03		AA	pump	Theis	M	1.58E+03	3.05E+01	3218	
178	133	RR-S-O-2	4287551.84	632224.14	5	1562.81	93.90	176.22	82.32	8.92E+00	7.34E+02	1.58E+01	AA	pump	Neuman	M	7.34E+02	8.92E+00	3218	
179	133	RR-S-O-2	4287551.84	632224.14	5	1562.81	93.90	176.22	82.32	2.26E+01	1.86E+03		AA	pump	Theis	M	1.86E+03	2.26E+01	3218	
180	130	RR-S-T-1	4222801.83	580196.29	5	1526.22	92.07	135.37	43.29	3.65E+01	1.58E+03	3.65E+01	AA	pump	Theis	M	1.58E+03	3.65E+01	3218	
181	133	RR-S-T-2	4287551.84	632224.14	5	1563.42	84.76	170.73	85.98	3.35E+01	2.88E+03	3.35E+01	AA	pump	Theis	M	2.88E+03	3.35E+01	3218	
190		SV-DT-2	4310179.93	686967.28	4		152.40	745.85	593.45	2.04E-02	1.21E+01	5.17E-02	LCA	pump	drawdown	M	1.21E+01	2.04E-02	4923	
191		SV-DT-2	4310179.93	686967.28	4		152.40	745.85	593.45	8.30E-02	4.93E+01		LCA	pump	recovery	M	4.92E+01	8.30E-02	4923	
192	38	TEST WELL 3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	2.05E-01	4.68E+01	2.03E-01	LCA	pump	Cooper - Jacob	H	4.68E+01	2.05E-01	IT files	0100
194	38	TEST WELL 3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	2.02E-01	4.61E+01		LCA	pump	Theis	H	4.61E+01	2.02E-01	IT files	0100
196	87	U-20a #2 Water Well	4121742.49	551332.89	3	1973.00	629.88	1371.95	742.07	3.01E-01	2.24E+02	3.01E-01	TPTC, TCTC	PUMP	Cooper - Jacob	H	2.24E+02	3.01E-01	0018	0092
197	65	U-3cn #5	4101713.19	586921.42	3	1223.17	860.06	922.56	62.50	4.77E-01	2.98E+01	4.88E-01	LCA	PUMP	Cooper - Jacob	M	2.98E+01	4.77E-01	0100	
200	65	U-3cn #5	4101713.19	586921.42	3	1223.17	863.41	923.17	59.76	4.99E-01	2.98E+01		LCA	PUMP	Cooper - Jacob	M	2.98E+01	4.99E-01	IT files	0100
205	13	UCe-17	4281240.26	568049.79	4	1995.00	1869.00	1930.00	61.00	4.31E-05	2.63E-03	5.24E-04	VU	INJ	Cooper/Bredehoeft	M	2.63E-03	4.31E-05	2729	1485/0190
208	13	UCe-17	4281240.26	568049.79	4	1995.00	2056.00	2117.00	61.00	1.08E-03	6.57E-02		VU	INJ	Cooper/Bredehoeft	M	6.57E-02	1.08E-03	2729	1485/0190
209	13	UCe-17	4281240.26	568049.79	4	1995.00	2056.00	2117.00	61.00	1.08E-03	6.57E-02		VU	INJ	Cooper/Bredehoeft	M	6.57E-02	1.08E-03	2729	1485/0190
210	13	UCe-17	4281240.26	568049.79	4	1995.00	2149.00	2210.00	61.00	3.92E-04	2.39E-02		VU	INJ	Cooper/Bredehoeft	M	2.39E-02	3.92E-04	2729	1485/0190
211	13	UCe-17	4281240.26	568049.79	4	1995.00	2213.00	2274.00	61.00	2.87E-05	1.75E-03		VU	INJ	Cooper/Bredehoeft	M	1.75E-03	2.87E-05	2729	1485/0190
230	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	7.89E+00	9.91E+02	1.70E+01	LCA	pump	Cooper - Jacob	M	9.91E+02	7.89E+00	IT files	IT files
232	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	2.15E+01	2.70E+03		LCA	pump	Cooper - Jacob	M	2.70E+03	2.15E+01	IT files	IT files
233	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.89E+01	2.37E+03		LCA	pump	Cooper - Jacob	M	2.37E+03	1.89E+01	IT files	IT files
234	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	2.08E+01	2.61E+03		LCA	pump	Theis	M	2.61E+03	2.08E+01	IT files	IT files
235	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.85E+01	2.32E+03		LCA	pump	Theis	M	2.32E+03	1.85E+01	IT files	IT files
236	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.96E+01	2.46E+03		LCA	rec	Cooper - Jacob	M	2.46E+03	1.96E+01	IT files	IT files
237	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.46E+01	1.83E+03		LCA	rec	Cooper - Jacob	M	1.83E+03	1.46E+01	IT files	IT files
238	78	UE-10J	4115643.99	581526.09	2	1394.51	670.12	795.73	125.61	1.46E+01	1.83E+03		LCA	rec	Cooper - Jacob	M	1.83E+03	1.46E+01	IT files	IT files
243	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.88E+00	5.06E+02	1.12E+00	LCA3	Pump	Theis	M	5.06E+02	1.88E+00	IT files	USGS files
244	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.77E+00	4.77E+02		LCA3	pump	Cooper - Jacob	M	4.77E+02	1.77E+00	IT files	USGS files
245	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	1.24E+00	3.34E+02		LCA3	pump	Theis	M	3.34E+02	1.24E+00	IT files	USGS files
247	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	6.71E-01	1.81E+02		LCA3	pump	Cooper - Jacob	M	1.81E+02	6.71E-01	IT files	USGS files
248	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	6.44E-01	1.73E+02		LCA3	pump	Theis	M	1.73E+02	6.44E-01	IT files	USGS files
250	69	UE-16d	4102772.92	574292.64	4	1428.00	645.43	914.63	269.21	4.99E-01	1.34E+02		LCA3	rec	Cooper - Jacob	M	1.34E+02	4.99E-01	IT files	USGS files
253	70	UE-17a	4103156.26	574115.78	4	1432.00	227.00	363.00	136.00	8.09E-04	1.10E-01	8.09E-04	LCA3	REC	Cooper - Jacob	M	1.10E-01	8.09E-04	0015	
254	73	UE-18r	4109761.51	549321.53	5	1688.42	496.65	1525.61	1028.96	2.78E-01	2.86E+02	2.79E-01	TMAQ	PUMP	Cooper - Jacob	M	2.86E+02	2.78E-01	0018	
255	73	UE-18r	4109761.51	549321.53	4	1688.42	496.65	1525.61	1028.96	2.80E-01	2.88E+02		TMAQ	PUMP	Cooper - Jacob	M	2.88E+02	2.80E-01	IT files	USGS files
256	100	UE-19b #1	4129796.05	562090.37	4	2073.78	667.68	1371.95	704.27	9.88E-01	6.96E+02	9.88E-01	TBAQ	PUMP		M	6.96E+02	9.88E-01	0018	USGS files
259		UE-19d			4	2091.77	780.49	2344.21	1563.72	4.04E-02	6.32E+01	4.04E-02	TBAQ	pump		M	6.32E+01	4.04E-02	18	USGS files
260		UE-19e			4	2109.45	754.57	1830.79	1076.22	9.70E-02	1.04E+02	6.06E-02	TBAQ	PUMP	Cooper - Jacob	M	1.04E+02	9.70E-02	0018	92
261		UE-19e			4	2109.00	754.57	1830.79	1076.22	2.42E-02	2.61E+01		TBAQ	PUMP	Cooper - Jacob	M	2.61E+01	2.42E-02	IT files	USGS files
263	81	UE-19fs	4119780.15	556107.13	4	2053.35	782.01	1457.01	675.00	1.20E-01	8.08E+01	1.20E-01	TCTC	PUMP	Cooper - Jacob	M	8.08E+01	1.20E-01	IT files	USGS files
264	86	UE-19gS	4129056.21	556305.74	4	2048.48	807.93	1374.39	566.46	6.58E-01	3.73E+02	9.06E-01	TBAQ	PUMP	Cooper - Jacob	M	3.73E+02	6.58E-01	0018	
265	99	UE-19gS	4129056.21	556305.74	4	2048.00	623.00	808.00	185.00	1.67E+00	3.08E+02		TCTC	PUMP	Cooper - Jacob	M	3.08E+02	1.67E+00	IT files	USGS files
266	102	UE-19h	4132881.21	555488.09	3	2067.07	707.93	1129.57	421.65	4.13E+00	1.74E+03	4.13E+00	TBAQ	PUMP	Cooper - Jacob	H	1.74E+03	4.13E+00	0018	
268	91	UE-19i	4122591.48	557921.90	4	2085.06	882.93	2439.02	1556.10	1.12E-02	1.74E+01	1.12E-02	TCTC, TBAQ	PUMP	Cooper - Jacob	M	1.74E+01	1.12E-02	0018	
269	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.99E+01	8.57E+02	1.50E+01	LCA3	REC	Cooper - Jacob	M	8.57E+02	1.99E+01	IT files	IT files
270	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.82E+01	7.83E+02		LCA3	REC	Cooper - Jacob	M	7.83E+02	1.82E+01	IT files	IT files
272	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.55E+01	6.64E+02		LCA3	pump	Cooper - Jacob	M	6.64E+02	1.55E+01	IT files	IT files
273	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.58E+01	6.78E+02		LCA3	pump	Theis	M	6.78E+02	1.58E+01	IT files	IT files
274	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	6.82E+00	2.93E+02		LCA3	pump	Cooper - Jacob	M	2.93E+02	6.82E+00	IT files	IT files
275	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.83E+01	7.86E+02		LCA3	pump	Cooper - Jacob	M	7.86E+02	1.83E+01	IT files	IT files
277	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	6.33E+00	2.72E+02		LCA3	pump	Theis	M	2.72E+02	6.33E+00	IT files	IT files
278	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.55E+01	6.68E+02		LCA3	pump	Theis	M	6.68E+02	1.55E+01	IT files	IT files
280	66	UE-1q	4101776.63	583722.19	2	1244.51	749.70	792.68	42.99	1.83E+01	7.85E+02		LCA3	rec	Cooper - Jacob	M	7.85E+02	1.83E+01	IT files	IT files
283	101	UE-20e #1	4129980.16	548110.11	3	1919.82	555.49	1949.70	1394.21	7.40E-02	1.03E+02	6.43E-02	TCTC, TBAQ	PUMP	Cooper - Jacob	M	1.03E+02	7.40E-02	0018	
284	101	UE-20e #1	4129980.16	548110.11	3	1919.82	555.49	1949.70	1394.21	5.47E-02	7.62E+01		TCTC, TBAQ	PUMP	Cooper - Jacob	M	7.62E+01	5.47E-02	IT files	USGS files
285	95	UE-20f	4124899.80	545400.50	4	1864.63	1358.54	4172.56	2814.02	4.42E-03	1.24E+01	4.42E-03	TCTC,TBAQ	PUMP	Cooper - Jacob	M	1.24E+01	4.42E-03	0018	USGS files
287	96	UE-20h	4124974.60	550196.19	4	1999.09	764.02	2197.26	1433.23	9.08E-02	1.30E+02	9.08E-02	TCTC	PUMP	Theis Recovery	H	1.30E+02	9.08E-02	IT files	USGS files
353	46	UE-25b #1	4078421.63	549954.45	3	1200.00	471.00	1220.00	749.00	8.64E-01	6.47E+02	8.64E-01	WTA,TCU	PUMP	Moench	M		8.64E-01	498	10

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
356	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1337.00	40.00	1.75E-02	7.00E-01	2.31E-01	LCA	INJ	Theis	M	7.00E-01	1.75E-02	0064	0011
369	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1805.00	508.00	2.19E-01	1.11E+02		LCA	PUMP	Cooper - Jacob	M	1.11E+02	2.19E-01	0064	0011
370	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1805.00	508.00	2.58E-01	1.31E+02		LCA	PUMP	Cooper - Jacob	M	1.31E+02	2.58E-01	0064	0011
371	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.00	1805.00	508.00	2.19E-01	1.11E+02		LCA	PUMP	Theis	M	1.11E+02	2.19E-01	0064	0011
372	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.26	1805.49	508.23	2.19E-01	1.11E+02		LCA	pump	Cooper - Jacob	M	1.11E+02	2.19E-01	IT files	IT files
373	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1297.26	1805.49	508.23	2.58E-01	1.31E+02		LCA	pumpe	Cooper - Jacob	M	1.31E+02	2.58E-01	IT files	IT files
375	41	UE-25p #1	4075662.34	551508.39	3	1114.00	1110.00	1180.00	70.00	1.43E-03	1.00E-01	7.14E-03	TCU	INJ	Theis	M	1.00E-01	1.43E-03	0064	0011
376	41	UE-25p #1	4075662.34	551508.39	3	1114.00	904.00	974.00	70.00	1.29E-02	9.00E-01		TCU	INJ	Theis	M	9.00E-01	1.29E-02	0064	0011
381	41	UE-25p #1	4075662.34	551508.39	3	1114.00	500.00	550.00	50.00	2.00E-03	1.00E-01	1.84E-02	WTA	INJ	Theis	M	1.00E-01	2.00E-03	0064	0011
382	41	UE-25p #1	4075662.34	551508.39	3	1114.00	550.00	600.00	50.00	5.60E-02	2.80E+00		WTA	INJ	Theis	M	2.80E+00	5.60E-02	0064	0011
385	41	UE-25p #1	4075662.34	551508.39	3	1114.00	640.00	690.00	50.00	2.20E-02	1.10E+00		WTA	INJ	Theis	M	1.10E+00	2.20E-02	0064	0011
386	41	UE-25p #1	4075662.34	551508.39	3	1114.00	690.00	740.00	50.00	4.00E-03	2.00E-01		WTA	INJ	Theis	M	2.00E-01	4.00E-03	0064	0011
387	41	UE-25p #1	4075662.34	551508.39	3	1114.00	739.00	789.00	50.00	2.20E-02	1.10E+00		WTA	INJ	Theis	M	1.10E+00	2.20E-02	0064	0011
388	41	UE-25p #1	4075662.34	551508.39	3	1114.00	764.00	834.00	70.00	8.57E-03	6.00E-01		WTA	INJ	Theis	M	6.00E-01	8.57E-03	0064	0011
389	41	UE-25p #1	4075662.34	551508.39	3	1114.00	834.00	904.00	70.00	1.14E-02	8.00E-01	1.14E-02	WTA,TCU	INJ	Theis	M	8.00E-01	1.14E-02	0064	0011
390	41	UE-25p #1	4075662.34	551508.39	3	1114.00	382.00	1301.00	919.00	2.83E-02	2.60E+01	2.47E-02	WTA,TCU,LCA	PUMP	Cooper - Jacob	M	2.60E+01	2.83E-02	0064	0011
391	41	UE-25p #1	4075662.34	551508.39	3	1114.00	382.00	1301.00	919.00	2.61E-02	2.40E+01		WTA,TCU,LCA	PUMP	Theis	M	2.40E+01	2.61E-02	0064	0011
392	41	UE-25p #1	4075662.34	551508.39	3	1114.00	382.00	1301.00	919.00	1.96E-02	1.80E+01		WTA,TCU,LCA	REC	Cooper - Jacob	M	1.80E+01	1.96E-02	0064	0011
405	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	5.20E-01	7.85E+01	4.44E-01	LCA3	PUMP	Cooper - Jacob	M	7.85E+01	5.20E-01	IT files	USGS files
406	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	4.09E-01	6.16E+01		LCA3	PUMP	Theis	M	6.16E+01	4.09E-01	IT files	USGS files
408	75	USGS HTH #1	4112498.47	568999.89	3	1876.83	1131.40	1282.32	150.91	4.03E-01	6.08E+01		LCA3	rec	Cooper - Jacob	M	6.08E+01	4.03E-01	IT files	USGS files
410	28	USGS HTH #10	4049902.44	602666.72	3	1088.11	310.98	396.65	85.67	2.90E+00	2.48E+02	4.30E+00	LCA	PUMP	Cooper - Jacob	H	2.48E+02	2.90E+00	0100	
411	28	USGS HTH #10	4049902.44	602666.72	3	1088.11	310.98	396.65	85.67	7.69E+00	6.58E+02		LCA	REC	Cooper - Jacob	H	6.58E+02	7.69E+00	0100	
412	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	2.46E+00	2.30E+02		LCA	PUMP	Cooper - Jacob	M	2.30E+02	2.46E+00	IT files	USGS files
413	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	3.37E+00	3.15E+02		LCA	PUMP	Cooper - Jacob	H	3.15E+02	3.37E+00	IT files	USGS files
414	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	4.37E+00	4.08E+02		LCA	PUMP	Cooper - Jacob	H	4.08E+02	4.37E+00	IT files	USGS files
416	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	3.03E+00	2.82E+02		LCA	PUMP	Theis	H	2.83E+02	3.03E+00	IT files	USGS files
417	28	USGS HTH #10	4049902.14	602666.72	3	1088.11	303.35	396.65	93.29	6.46E+00	6.03E+02		LCA	rec	Cooper - Jacob	H	6.03E+02	6.46E+00	IT files	USGS files
418	38	USGS HTH #3	4074015.30	601931.36	3	1060.06	336.28	564.94	228.66	2.06E-01	4.72E+01	2.06E-01	LCA	PUMP	Cooper - Jacob	H	4.72E+01	2.06E-01	0100	
420	25	USGS HTH #4	4049446.25	607760.66	3	1060.67	224.70	454.27	229.57	1.46E+00	3.35E+02	9.94E-01	LCA	REC	Cooper - Jacob	M	3.35E+02	1.46E+00	0100	
421	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	6.40E-01	1.44E+02		LCA	PUMP	Cooper - Jacob	M	1.44E+02	6.40E-01	IT files	USGS files
423	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	6.21E-01	1.40E+02		LCA	PUMP	Theis	M	1.40E+02	6.21E-01	IT files	USGS files
425	26	USGS HTH #4	4049561.15	607586.87	4	1060.67	228.96	454.27	225.30	1.25E+00	2.81E+02		LCA	rec	Theis	M	2.81E+02	1.25E+00	IT files	USGS files
428	71	USGS Test Well D	4103325.48	582223.60	4	1265.24	528.35	544.51	16.16	4.23E-02	6.83E-01	3.58E-02	LCA	BAIL	Skibitzke	M	6.83E-01	4.23E-02	1469	
429	71	USGS Test Well D	4103325.48	582223.60	4	1265.24	540.24	573.78	33.54	3.52E-02	1.18E+00		LCA	BAIL	Skibitzke	M	1.18E+00	3.52E-02	1469	
430	71	USGS Test Well D	4103325.48	582223.60	4	1265.24	540.24	573.78	33.54	3.33E-02	1.12E+00		LCA	BAIL	Skibitzke	M	1.12E+00	3.33E-02	1469	
431	63	USGS Water Well A	4099193.44	585711.96	3	1221.34	489.33	570.12	80.79	2.03E+00	1.64E+02	1.95E+00	AA	PUMP	Cooper - Jacob	M	1.64E+02	2.03E+00	0100	
432	63	USGS Water Well A	4099193.44	585711.96	3	1221.34	489.33	570.12	80.79	1.88E+00	1.52E+02		AA	REC	Cooper - Jacob	M	1.52E+02	1.88E+00	0100	
487	47	USW G-4	4078589.64	548937.63	3	1270.00	615.00	655.00	40.00	2.90E-02	1.16E+00	1.47E+00	WTA	INJ	Cooper, Bredehoef	M	1.16E+00	2.90E-02	0195	0012
489	47	USW G-4	4078589.64	548937.63	3	1270.00	698.00	722.00	24.00	4.46E-03	1.07E-01		WTA	INJ	Cooper, Bredehoef	M	1.07E-01	4.46E-03	0195	0012
491	47	USW G-4	4078589.64	548937.63	3	1270.00	747.00	792.00	45.00	2.56E-02	1.15E+00		WTA	INJ	Cooper, Bredehoef	M	1.15E+00	2.56E-02	0195	0012
496	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.66E+00	6.22E+02		WTA	PUMP	Papadopulos - Coc	M	6.22E+02	1.66E+00	0195	0012
497	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.80E+00	6.75E+02		WTA	PUMP	Papadopulos - Coc	M	6.75E+02	1.80E+00	0195	0012
498	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.52E+00	5.70E+02		WTA	REC	Theis Recovery	M	5.70E+02	1.52E+00	0195	0012
499	47	USW G-4	4078589.64	548937.63	3	1270.00	541.00	915.00	374.00	1.31E+00	4.90E+02		WTA	REC	Theis Recovery	M	4.90E+02	1.31E+00	0195	0012
543	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1407.00	1829.00	422.00	2.25E-06	9.50E-04	7.68E-06	TCU	INJ	Papadopulos - Coc	M	9.50E-04	2.25E-06	0016	
544	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1621.00	1829.00	208.00	1.01E-06	2.10E-04		TCU	INJ	Papadopulos - Coc	M	2.10E-04	1.01E-06	0016	
545	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1407.00	1829.00	422.00	1.52E-05	6.41E-03		TCU	INJ	NUMERIC MODEL	M		1.52E-05	2725	0171/0827
546	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1621.00	1829.00	208.00	1.01E-05	2.10E-03		TCU	INJ	NUMERIC MODEL	M		1.01E-05	2725	0171/0827
547	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	697.00	10.00	1.20E-02	1.20E-01	1.65E+00	WTA	INJ	Papadopulos - Coc	M	1.20E-01	1.20E-02	0016	
548	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.35E+00	1.57E+02		WTA	PUMP	Cooper - Jacob	M	1.57E+02	1.35E+00	0016	
549	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.30E+00	1.51E+02		WTA	PUMP	Theis	M	1.51E+02	1.30E+00	0016	
550	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.58E+00	1.83E+02		WTA	REC	Cooper - Jacob	M	1.83E+02	1.58E+00	0016	
551	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	697.00	10.00	3.02E-02	3.02E-01		WTA	INJ	NUMERIC MODEL	M		3.02E-02	2725	0171/0827
552	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	1.44E+00	1.67E+02		WTA	PUMP	NUMERIC MODEL	M		1.44E+00	2725	0171/0827
553	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	572.00	688.00	116.00	2.85E+00	3.31E+02		WTA	REC	NUMERIC MODEL	M		2.85E+00	2725	0171/0827
554	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1200.00	1829.00	629.00	1.59E-05	1.00E-02	2.52E-03	WTA,TCU	INJ	Papadopulos - Coc	M	1.00E-02	1.59E-05	0016	
555	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	811.00	1829.00	1018.00	6.58E-06	6.70E-03		WTA,TCU	INJ	Papadopulos - Coc	M	6.70E-03	6.58E-06	0016	
556	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	926.00	1829.00	903.00	1.77E-06	1.60E-03		WTA,TCU	INJ	Papadopulos - Coc	M	1.60E-03	1.77E-06	0016	
557	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	1.40E-03	1.60E+00		WTA,TCU	PUMP	Cooper - Jacob	M	1.60E+00	1.40E-03	0016	
558	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	8.58E-04	9.80E-01		WTA,TCU	PUMP	Theis	M	9.80E-01	8.58E-04	0016	
559	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	5.69E-04	6.50E-01		WTA,TCU	PUMP	Cooper - Jacob	M	6.50E-01	5.69E-04	0016	
560	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	5.25E-04	6.00E-01		WTA,TCU	PUMP	Theis	M	6.00E-01	5.25E-04	0016	
561	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	3.59E-04	4.10E-01		WTA,TCU	REC	Cooper - Jacob	M	4.10E-01	3.59E-04	0016	
562	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	8.76E-04	1.00E+00		WTA,TCU	REC	Cooper - Jacob	M	1.00E+00	8.76E-04	0016	
563	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	1200.00	1829.00	629.00	1.01E-04	6.35E-02		WTA,TCU	INJ	NUMERIC MODEL	M		1.01E-04	2725	0171/0827
564	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	811.00	1829.00	1018.00	3.51E-05	3.57E-02		WTA,TCU	INJ	NUMERIC MODEL	M		3.51E-05	2725	0171/0827

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
565	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	926.00	1829.00	903.00	1.17E-05	1.06E-02		WTA,TCU	INJ	NUMERIC MODEL	M		1.17E-05	2725	0171/0827
566	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	4.32E-03	4.93E+00		WTA,TCU	PUMP	NUMERIC MODEL	M		4.32E-03	2725	0171/0827
567	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	9.94E-05	1.14E-01		WTA,TCU	PUMP	NUMERIC MODEL	M		9.94E-05	2725	0171/0827
568	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	1.30E-02	1.48E+01		WTA,TCU	REC	NUMERIC MODEL	M		1.30E-02	2725	0171/0827
569	51	USW H-1/Inst.	4079943.97	548721.42	3	1302.00	687.00	1829.00	1142.00	1.44E-02	1.65E+01		WTA,TCU	REC	NUMERIC MODEL	M		1.44E-02	2725	0171/0827
570	42	USW H-3	4075761.54	547536.65	3	1483.00	1126.00	1219.00	93.00	1.08E-04	1.00E-02	5.67E-03	TCU	INJ	Cooper - Jacob	M	1.00E-02	1.08E-04	0017	0172
571	42	USW H-3	4075761.54	547536.65	3	1483.00	792.00	850.00	58.00	2.07E-02	1.20E+00		TCU	INJ	Papadopulos - Coo	M	1.20E+00	2.07E-02	0017	0172
572	42	USW H-3	4075761.54	547536.65	3	1483.00	851.00	917.00	66.00	3.03E-04	2.00E-02		TCU	INJ	Cooper - Jacob	M	2.00E-02	3.03E-04	0017	0172
601	42	USW H-3	4075761.54	547536.65	3	1483.00	911.00	972.00	61.00	4.92E-04	3.00E-02	6.56E-04	WTA	INJ	Cooper - Jacob	M	3.00E-02	4.92E-04	0017	0172
602	42	USW H-3	4075761.54	547536.65	3	1483.00	911.00	972.00	61.00	9.84E-04	6.00E-02		WTA	INJ	Cooper - Jacob	M	6.00E-02	9.84E-04	0017	0172
603	42	USW H-3	4075761.54	547536.65	3	1483.00	1063.00	1124.00	61.00	4.92E-04	3.00E-02	1.38E-03	WTA,TCU	INJ	Cooper - Jacob	M	3.00E-02	4.92E-04	0017	0172
604	42	USW H-3	4075761.54	547536.65	3	1483.00	1063.00	1124.00	61.00	1.64E-03	1.00E-01		WTA,TCU	INJ	Cooper - Jacob	M	1.00E-01	1.64E-03	0017	0172
605	42	USW H-3	4075761.54	547536.65	3	1483.00	972.00	1219.00	247.00	1.21E-04	2.99E-02		WTA,TCU	INJ	Cooper - Jacob	M	3.00E-02	1.21E-04	0017	0172
606	42	USW H-3	4075761.54	547536.65	3	1483.00	972.00	1219.00	247.00	4.05E-04	1.00E-01		WTA,TCU	INJ	Cooper - Jacob	M	1.00E-01	4.05E-04	0017	0172
607	42	USW H-3	4075761.54	547536.65	3	1483.00	822.00	1219.00	397.00	2.52E-03	1.00E+00		WTA,TCU	PUMP	Theis	H	1.00E+00	2.52E-03	0017	0172
608	42	USW H-3	4075761.54	547536.65	3	1483.00	754.00	1219.00	465.00	8.60E-04	4.00E-01		WTA,TCU	PUMP	Cooper - Jacob	M	4.00E-01	8.60E-04	0017	0172
609	42	USW H-3	4075761.54	547536.65	3	1483.00	754.00	1219.00	465.00	1.08E-03	5.00E-01		WTA,TCU	REC	Brown's Method	M	5.00E-01	1.08E-03	0017	0172
610	42	USW H-3	4075761.54	547536.65	3	1483.00	1063.00	1124.00	61.00	1.64E-03	1.00E-01		WTA,TCU	SWAB	Cooper - Jacob	M	1.00E-01	1.64E-03	0017	0172
611	42	USW H-3	4075761.54	547536.65	3	1483.00	792.00	1219.00	427.00	2.58E-03	1.10E+00		WTA,TCU	SWAB	Cooper - Jacob	M	1.10E+00	2.58E-03	0017	0172
612	43	USW H-4	4077321.69	549194.66	3	1249.00	1181.00	1194.00	13.00	1.57E+00	2.04E+01	6.13E-01	TCU	PUMP	SEE COMMENTS	M	2.04E+01	1.57E+00	0108	0178
613	43	USW H-4	4077321.69	549194.66	3	1249.00	1194.00	1213.00	19.00	6.84E-02	1.30E+00		TCU	PUMP	SEE COMMENTS	M	1.30E+00	6.84E-02	0108	0178
614	43	USW H-4	4077321.69	549194.66	3	1249.00	1213.00	1219.00	6.00	2.67E-01	1.60E+00		TCU	PUMP	SEE COMMENTS	M	1.60E+00	2.67E-01	0108	0178
615	43	USW H-4	4077321.69	549194.66	3	1249.00	561.00	584.00	23.00	5.00E-01	1.15E+01	6.33E-01	WTA	PUMP	SEE COMMENTS	M	1.15E+01	5.00E-01	0108	0178
616	43	USW H-4	4077321.69	549194.66	3	1249.00	623.00	639.00	16.00	1.16E+00	1.86E+01		WTA	PUMP	SEE COMMENTS	M	1.86E+01	1.16E+00	0108	0178
617	43	USW H-4	4077321.69	549194.66	3	1249.00	643.00	669.00	26.00	2.65E-01	6.90E+00		WTA	PUMP	SEE COMMENTS	M	6.90E+00	2.65E-01	0108	0178
618	43	USW H-4	4077321.69	549194.66	3	1249.00	680.00	707.00	27.00	4.07E-02	1.10E+00		WTA	PUMP	SEE COMMENTS	M	1.10E+00	4.07E-02	0108	0178
619	43	USW H-4	4077321.69	549194.66	3	1249.00	707.00	733.00	26.00	2.15E+00	5.59E+01		WTA	PUMP	SEE COMMENTS	M	5.59E+01	2.15E+00	0108	0178
620	43	USW H-4	4077321.69	549194.66	3	1249.00	779.00	785.00	6.00	1.37E+00	8.20E+00		WTA	PUMP	SEE COMMENTS	M	8.20E+00	1.37E+00	0108	0178
621	43	USW H-4	4077321.69	549194.66	3	1249.00	785.00	805.00	20.00	5.20E-01	1.04E+01		WTA	PUMP	SEE COMMENTS	M	1.04E+01	5.20E-01	0108	0178
622	43	USW H-4	4077321.69	549194.66	3	1249.00	820.00	834.00	14.00	4.07E-01	5.70E+00		WTA	PUMP	SEE COMMENTS	M	5.70E+00	4.07E-01	0108	0178
623	43	USW H-4	4077321.69	549194.66	3	1249.00	834.00	852.00	18.00	1.89E-01	3.40E+00		WTA	PUMP	SEE COMMENTS	M	3.40E+00	1.89E-01	0108	0178
624	43	USW H-4	4077321.69	549194.66	3	1249.00	863.00	876.00	13.00	1.43E+00	1.86E+01		WTA	PUMP	SEE COMMENTS	M	1.86E+01	1.43E+00	0108	0178
625	43	USW H-4	4077321.69	549194.66	3	1249.00	876.00	881.00	5.00	2.40E-01	1.20E+00		WTA	PUMP	SEE COMMENTS	M	1.20E+00	2.40E-01	0108	0178
626	43	USW H-4	4077321.69	549194.66	3	1249.00	881.00	892.00	11.00	2.09E-01	2.30E+00		WTA	PUMP	SEE COMMENTS	M	2.30E+00	2.09E-01	0108	0178
627	43	USW H-4	4077321.69	549194.66	3	1249.00	892.00	905.00	13.00	1.52E+00	1.98E+01		WTA	PUMP	SEE COMMENTS	M	1.98E+01	1.52E+00	0108	0178
628	43	USW H-4	4077321.69	549194.66	3	1249.00	911.00	922.00	11.00	1.05E+00	1.16E+01		WTA	PUMP	SEE COMMENTS	M	1.16E+01	1.05E+00	0108	0178
629	43	USW H-4	4077321.69	549194.66	3	1249.00	922.00	928.00	6.00	2.00E-01	1.20E+00		WTA	PUMP	SEE COMMENTS	M	1.20E+00	2.00E-01	0108	0178
630	43	USW H-4	4077321.69	549194.66	3	1249.00	957.00	1003.00	46.00	3.04E-02	1.40E+00		WTA	PUMP	SEE COMMENTS	M	1.40E+00	3.04E-02	0108	0178
631	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	2.86E-01	2.00E+02	7.07E-01	WTA,TCU	PUMP	Cooper - Jacob	M	2.00E+02	2.86E-01	0108	0178
632	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	2.86E-01	2.00E+02		WTA,TCU	PUMP	Cooper - Jacob	M	2.00E+02	2.86E-01	0108	0178
633	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	1.13E+00	7.90E+02		WTA,TCU	REC	Cooper - Jacob	M	7.90E+02	1.13E+00	0108	0178
634	43	USW H-4	4077321.69	549194.66	3	1249.00	519.00	1219.00	700.00	1.13E+00	7.90E+02		WTA,TCU	REC	Cooper - Jacob	M	7.90E+02	1.13E+00	0108	0178
635	49	USW H-5	4078839.98	547675.52	3	1479.00	704.00	1219.00	515.00	6.99E-02	3.60E+01	9.05E-02	WTA	PUMP	Cooper - Jacob/Th	M	3.60E+01	6.99E-02	0175	0013
636	49	USW H-5	4078839.98	547675.52	3	1479.00	704.00	1219.00	515.00	1.11E-01	5.72E+01		WTA	REC	Cooper - Jacob/Th	H	5.72E+01	1.11E-01	0175	0013
637	44	USW H-6	4077805.21	543148.60	3	1302.00	1155.00	1220.00	65.00	4.62E-05	3.00E-03	4.62E-05	TCU	INJ	Cooper - Jacob	M	3.00E-03	4.62E-05	1548	0014
638	44	USW H-6	4077805.21	543148.60	3	1302.00	581.00	607.00	26.00	1.15E-02	3.00E-01	1.29E-01	WTA	INJ	Cooper - Jacob	M	3.00E-01	1.15E-02	1548	0014
640	44	USW H-6	4077805.21	543148.60	3	1302.00	649.00	683.00	34.00	2.94E-04	1.00E-02		WTA	INJ	Cooper - Jacob	M	1.00E-02	2.94E-04	1548	0014
642	44	USW H-6	4077805.21	543148.60	3	1302.00	686.00	753.00	67.00	2.99E-03	2.00E-01		WTA	INJ	Cooper - Jacob	M	2.00E-01	2.99E-03	1548	0014
646	44	USW H-6	4077805.21	543148.60	3	1302.00	753.00	1220.00	467.00	1.63E-01	7.60E+01		WTA	PUMP	Cooper - Jacob	M	7.60E+01	1.63E-01	1548	0014
649	44	USW H-6	4077805.21	543148.60	3	1302.00	526.00	1220.00	694.00	3.46E-01	2.40E+02	6.09E-01	WTA,TCU	PUMP	Cooper - Jacob	M	2.40E+02	3.46E-01	1548	0014
651	44	USW H-6	4077805.21	543148.60	3	1302.00	526.00	834.00	308.00	1.20E+00	3.70E+02		WTA,TCU	PUMP	Theis	M	3.70E+02	1.20E+00	1548	0014
652	35	USW VH-1	4071717.22	539985.54	4	955.00	181.00	762.00	581.00	1.72E+00	1.00E+03	1.25E+00	WTA	PUMP	Ahrens and Others	M	1.00E+03	1.72E+00	0174	
653	35	USW VH-1	4071717.22	539985.54	4	955.00	181.00	762.00	581.00	7.75E-01	4.50E+02		WTA	PUMP	Ahrens and Others	M	4.50E+02	7.75E-01	0174	
655	77	Water Well 2	4113499.02	581005.54	3	1362.81	777.44	1043.29	265.85	6.08E-02	1.62E+01	8.77E-02	LCA	PUMP	Cooper - Jacob	M	1.62E+01	6.08E-02	0100	
656	77	Water Well 2	4113499.02	581005.54	3	1362.81	777.44	1043.29	265.85	2.48E-01	6.58E+01		LCA	REC	Cooper - Jacob	M	6.58E+01	2.48E-01	0100	
657	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	2.09E-02	4.53E+00		LCA	Theis	Theis	M	4.53E+00	2.09E-02	IT files	USGS files
659	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	7.25E-02	1.57E+01		LCA	pump	Cooper - Jacob	M	1.57E+01	7.25E-02	IT files	USGS files
660	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	2.22E-02	4.81E+00		LCA	pump	Cooper - Jacob	M	4.81E+00	2.22E-02	IT files	USGS files
661	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	7.08E-02	1.54E+01		LCA	pump	Theis	M	1.54E+01	7.08E-02	IT files	USGS files
664	77	Water Well 2	4113499.02	581005.54	3	1362.81	823.17	1040.24	217.07	8.93E-02	1.94E+01		LCA	rec	Cooper - Jacob	M	1.94E+01	8.93E-02	IT files	USGS files
667	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	3.51E-01	1.93E+01	4.40E-01	AA	REC	Theis Recovery	M	1.93E+01	3.51E-01	0754	92
668	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	5.30E-01	2.91E+01		AA	PUMP	Theis	M	2.91E+01	5.30E-01	0754	92
669	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	3.49E-01	1.91E+01		AA	REC	Theis Recovery	M	1.91E+01	3.49E-01	0754	92
670	31	Water Well 5A	4070379.76	592977.99	4	942.99	212.50	267.38	54.88	5.32E-01	2.92E+01		AA	REC	Theis Recovery	M	2.92E+01	5.32E-01	0754	92
671	36	Water Well 5B	4073118.22	591977.78	3	942.68	208.23	274.39	66.16	1.45E+00	9.57E+01	1.68E+00	AA	PUMP	Cooper - Jacob	M	9.57E+01	1.45E+00	0100	
672	36	Water Well 5B	4073118.22	591977.78	3	942.68	208.23	274.39	66.16	2.07E+00	1.37E+02		AA	REC	Cooper - Jacob	M	1.37E+02	2.07E+00	0100	
673	36	Water Well 5B	4073118.22	591977.78	3	942.68	213.41	274.39	60.98	1.52E+00	9.24E+01		AA	PUMP	Theis	M	9.24E+01	1.52E+00	0754	

Rec #	Site ID	Site Name	utm_north	utm_east	DQD_F	LSE	TOI Depth	BOI Depth	Thickness	K	K x b = T	well_ave	HSU	test_type	analysis_meth	DQE_F	T	K	refer_doc	source_doc
676	34	Water Well 5C	4071748.99	592477.73	3	939.33	210.06	365.85	155.79	1.91E-01	2.98E+01	2.92E-01	AA	PUMP	Cooper - Jacob	H	2.98E+01	1.91E-01	0100	
677	34	Water Well 5C	4071748.99	592477.73	3	939.33	210.06	365.85	155.79	1.99E-01	3.11E+01		AA	PUMP	Cooper - Jacob	H	3.11E+01	1.99E-01	0100	
679	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	3.41E-01	3.12E+01		AA	PUMP	Theis	M	3.12E+01	3.41E-01	0754	
680	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	3.06E-01	2.80E+01		AA	PUMP		M	2.80E+01	3.06E-01	0754	
681	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	4.63E-01	4.24E+01		AA	PUMP		M	4.24E+01	4.63E-01	0754	
682	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	9.64E-02	8.82E+00		AA	PUMP		M	8.82E+00	9.64E-02	0754	
683	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	1.14E-01	1.04E+01		AA	PUMP		M	1.04E+01	1.14E-01	0754	
684	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	2.92E-01	2.67E+01		AA	REC		M	2.67E+01	2.92E-01	0754	
685	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	8.42E-01	7.70E+01		AA	REC		M	7.70E+01	8.42E-01	0754	
686	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	1.12E-01	1.02E+01		AA	REC		M	1.02E+01	1.12E-01	0754	
687	34	Water Well 5C	4071748.99	592477.73	3	939.33	270.43	361.89	91.46	3.86E-01	3.53E+01		AA	REC	Theis	M	3.53E+01	3.86E-01	0754	
690	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.27E-03	4.50E+00	4.33E-03	BAQ	Pump	Theis	H	4.50E+00	4.27E-03	IT files	USGS files
691	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.27E-03	4.50E+00		BAQ	Pump	Theis	H	4.50E+00	4.27E-03	IT files	USGS files
692	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.65E-03	4.91E+00		BAQ	pump	Cooper - Jacob	M	4.91E+00	4.65E-03	IT files	USGS files
693	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.65E-03	4.91E+00		BAQ	pump	Cooper - Jacob	M	4.91E+00	4.65E-03	IT files	USGS files
694	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.07E-03	4.29E+00		BAQ	pump	Cooper - Jacob	H	4.29E+00	4.07E-03	IT files	USGS files
695	76	Water Well 8	4113274.02	563112.68	3	1736.28	619.21	1673.78	1054.57	4.07E-03	4.29E+00		BAQ	pump	Cooper - Jacob	H	4.29E+00	4.07E-03	IT files	USGS files
696	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	3.91E+00	1.15E+03	7.42E+00	TBAQ,BAQ	PUMP	Cooper - Jacob	M	1.15E+03	3.91E+00	IT files	USGS files
697	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	1.22E+01	3.60E+03		TBAQ,BAQ	PUMP	Theis	M	3.60E+03	1.22E+01	IT files	USGS files
698	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	3.65E+00	1.07E+03		TBAQ,BAQ	PUMP	Theis	M	1.07E+03	3.65E+00	IT files	USGS files
699	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	1.10E+01	3.24E+03		TBAQ,BAQ	PUMP	Cooper - Jacob	M	3.24E+03	1.10E+01	IT files	USGS files
700	76	Water Well 8	4113274.02	563112.68	3	1736.28	325.00	619.21	294.21	6.27E+00	1.85E+03		TBAQ,BAQ	rec	Cooper - Jacob	M	1.85E+03	6.27E+00	IT files	USGS files
706	88	WATERTOWN 1	4122436.70	605604.95	4	1353.60	149.39	204.27	54.88	4.19E-02	2.30E+00	4.19E-02	VU	pump	Cooper - Jacob	M	2.30E+00	4.19E-02	100	
709	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	32.62	113.11	80.49	5.17E+00	4.16E+02	4.38E+00	AA	REC	Cooper - Jacob	M	4.16E+02	5.17E+00	0100	
710	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	48.78	92.07	43.29	7.92E+00	3.43E+02		AA	PUMP		M	3.43E+02	7.92E+00	1473	
711	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	48.78	92.07	43.29	1.87E+00	8.10E+01		AA	PUMP	Cooper - Jacob	M	8.10E+01	1.87E+00	IT files	USGS files
712	93	WATERTOWN 3	4124240.18	603381.07	4	1355.79	48.78	92.07	43.29	1.87E+00	8.10E+01		AA	PUMP	Theis	M	8.10E+01	1.87E+00	IT files	USGS files
717	107	WELL 14	4010266.03	555363.30	3	611.00	18.00	18.00		3.35E+00	0.00E+00	3.03E+00	AA	INJ		M	5.40E+01	3.35E+00	0163	
718	107	WELL 14	4010266.03	555363.30	3	611.00	18.00	18.00		2.70E+00	0.00E+00		AA	REC		M	4.35E+01	2.70E+00	0163	
719	61	WELL 3	4094553.48	583827.33	3	1210.06	513.72	548.78	35.06	6.01E-05	2.11E-03	1.10E-04	AA	PUMP	Cooper - Jacob	M	1.62E+01	4.61E-01	0100	
720	61	WELL 3	4094553.48	583827.33	3	1210.06	513.72	548.78	35.06	6.01E-05	2.11E-03		AA	REC	Cooper - Jacob	M	2.61E+01	7.44E-01	0100	
721	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	PUMP	Theis	M	1.57E+01	2.23E-01	0754	
723	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	REC	Theis	M	1.24E+01	1.77E-01	0754	
725	61	WELL 3	4094553.48	583827.33	4	1210.06	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	REC	Theis	M	9.00E+00	1.28E-01	0754	
726	61	WELL 3	4094553.48	583827.33	3	1209.45	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	PUMP	Cooper - Jacob	M	5.47E+00	7.80E-02	0902	
727	61	WELL 3	4094553.48	583827.33	3	1209.45	467.99	538.11	70.12	1.20E-04	8.42E-03		AA	REC	Cooper - Jacob	M	1.07E+01	1.52E-01	0902	
728	107	WELL 5	4010272.59	556386.71	3	610.00	11.00	11.00		4.50E-02	0.00E+00	2.93E-01	AA	INJ		M	3.80E-01	4.50E-02	0163	
729	107	WELL 5	4010272.59	556386.71	3	610.00	11.00	11.00		5.40E-01	0.00E+00		AA	REC		M	4.60E+00	5.40E-01	0163	
730	106	WELL 7	4010212.43	556611.76	3	610.00	6.00	6.00		1.20E+00	0.00E+00	1.20E+00	AA	INJ		M	3.20E+00	1.20E+00	0163	
			(meters)	**(meters)**		**(m)**	**(m)**	**(m)**	**(m)**	**(M/D)**							**(M**2/D)**	**(M/D)**		

Appendix D

Verification of Published Aquifer Test Interpretations

Source of published aquifer test data and results: Winograd, I.J., and W. Thordarson. 1975. Hydrogeologic and Hydrochemical Framework, South-Central Great Basin, Nevada-California, With Special Reference to the Nevada Test Site, U.S. Geological Survey Professional Paper 712-C.

Note: All figures in this appendix were prepared from the best available copies.

Appendix E

Interpretation of Multislope Drawdown Data

Note: All figures in this appendix were prepared from the best available copies.