

Designation: D5473/D5473M - 20

### Standard Practice for (Analytical Procedures) Analyzing the Effects of Partial Penetration of Control Well and Determining the Horizontal and Vertical Hydraulic Conductivity in a Nonleaky Confined Aquifer<sup>1</sup>

This standard is issued under the fixed designation D5473/D5473M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\varepsilon$ ) indicates an editorial change since the last revision or reapproval.

#### 1. Scope\*

1.1 This practice covers an analytical solution for determining the horizontal and vertical hydraulic conductivity of an aquifer by analysis of the response of water levels in the aquifer to the discharge from a well that partially penetrates the aquifer. This standard uses data derived from Test Method D4050.

1.2 *Limitations*—The limitations of the technique for determination of the horizontal and vertical hydraulic conductivity of aquifers are primarily related to the correspondence between the field situation and the simplifying assumption of this practice.

1.3 Units—The values stated in either SI units or inchpound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard. Reporting of test results in units other than SI shall not be regarded as nonconformance with this standard.

1.4 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026.

1.4.1 The procedures used to specify how data are collected/ recorded or calculated, in this standard are regarded as the industry standard. In addition, they are representative of the significant digits that generally should be retained. The procedures used do not consider material variation, purpose for obtaining the data, special purpose studies, or any considerations for the user's objectives; and it is common practice to increase or reduce significant digits of reported data to be commensurate with these considerations. It is beyond the scope of this standard to consider significant digits used in analytical methods for engineering design

1.5 This practice offers a set of instructions for performing one or more specific operations. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of the practice may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without the consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through he ASTM consensus process.

1.6 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.7 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

#### 2. Referenced Documents

- 2.1 ASTM Standards:<sup>2</sup>
- D653 Terminology Relating to Soil, Rock, and Contained Fluids
- D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
- D4050 Test Method for (Field Procedure) for Withdrawal and Injection Well Testing for Determining Hydraulic

<sup>&</sup>lt;sup>1</sup> This practice is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.21 on Groundwater and Vadose Zone Investigations.

Current edition approved June 1, 2020. Published June 2020. Originally approved in 1993. Last previous edition approved in 2015 as D5473/D5473M-15. DOI: 10.1520/D5473\_D5473M-20.

<sup>&</sup>lt;sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

Properties of Aquifer Systems

- D4105/D4105M Practice for (Analytical Procedure) for Determining Transmissivity and Storage Coefficient of Nonleaky Confined Aquifers by the Modified Theis Nonequilibrium Method
- D6026 Practice for Using Significant Digits in Geotechnical Data

#### 3. Terminology

3.1 Definitions:

3.1.1 For definitions of common technical terms used in this standard, refer to Terminology D653.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *observation well*—a well open to all or part of an aquifer.

3.2.2 *unconfined aquifer*—an aquifer that has a water table.

3.3 Symbols and Dimensions:

3.3.1 a [nd]— $(K_r/K_r)^{1/2}$ .

3.3.2 b [L]-thickness of aquifer.

3.3.3 d [L]—distance from top of aquifer to top of screened interval of control well.

3.3.4 d' [L]—distance from top of aquifer to top of screened interval of observation well.

3.3.5  $f_s$  [nd]—dimensionless drawdown factor.

3.3.6  $K[LT^{-1}]$ —hydraulic conductivity.

3.3.7  $K_r$  [LT<sup>-1</sup>]—hydraulic conductivity in the plane of the aquifer, radially from the control well.

3.3.8  $K_z$  [LT<sup>-1</sup>]—hydraulic conductivity normal to the plane of the aquifer.

3.3.9  $K_0$ —modified Bessel function of the second kind and zero order. ASTM D5473/

3.3.10 *l* [L]—distance from top of aquifer to bottom of screened interval of control well.

3.3.11 l' [L]—distance from top of aquifer to bottom of screened interval of observation well.

3.3.12  $Q [L^{3}T^{-1}]$ —discharge.

3.3.13 r [L]-radial distance from control well.

3.3.14  $r_c$ —distance from pumped well at which an observed drawdown deviation,  $\delta s$ , would occur in the equivalent isotropic aquifer.

3.3.15 *S* [nd]—storage coefficient.

3.3.16 *s* [L]—drawdown.

3.3.17  $S_s[L^{-1}]$ —specific storage.

3.3.18 T [ $L^2T^{-1}$ ]—transmissivity.

3.3.19 u [nd]— $(r^2S)/(4 Tt)$ .

3.3.20 W(u) [nd]—an exponential integral known in hydrology as the well function of u.

3.3.21  $W(u, f_s)$ —partial-penetration control well function.

3.3.22  $\delta s$  [L]—drawdown deviation due to partial penetration from that given by equations for purely radial flow.

3.3.23 z [L]—distance from top of aquifer to bottom of piezometer.

#### 4. Summary of Practice

4.1 This practice uses the deviations in drawdown near a partially penetrating control well from those that would occur near a control well fully penetrating the aquifer. These deviations occur when a well partially penetrating the aquifer is pumped because water levels are drawn down more near the level of the screen, and less at levels somewhat above or below the screened interval, than they would be if the pumped well fully penetrated the aquifer. These effects are shown in Fig. 1 by comparing drawdown and flow lines for fully penetrating and partially penetrating control wells in an isotropic aquifer. Drawdown deviations due to partial penetration are amplified when the vertical permeability is less than the horizontal permeability, as often occurs in stratified sediments (1).<sup>3</sup> Hantush (2) has shown that at a distance, r, from the control well the drawdown deviation due to pumping a partially penetrating well at a constant rate is the same as that at a distance  $r(K_r/K_r)^{1/2}$  if the aquifers were transformed into an equivalent isotropic aquifer.

4.2 *Solutions*—Solutions are given by Hantush (2) for the drawdown near a partially penetrating control well being pumped at a constant rate and tapping a homogeneous, isotropic artesian aquifer:

$$s = \frac{Q}{4\pi T} \left[ W(u) + f_s \right] \tag{1}$$

where:  

$$W(u) = \int_{u}^{\infty} \frac{e^{-y}}{y} dy$$
(2)

and  $f_s$  is the dimensionless drawdown correction factor. The function [ $W(u) + f_s$ ] in Eq 1 can be referred to as the partial penetration well function.

4.2.1 The dimensionless drawdown correction factor for a piezometer is given by: 72b5/astm-d5473-d5473m-20

$$f_s = f\left(u, \frac{ar}{b}, \frac{l}{b}, \frac{d}{b}, \frac{z}{b}\right)$$
(3)

$$=\frac{2b}{\pi(l-d)}\sum_{n=1}^{\infty}\frac{1}{n}\left(\sin\frac{n\pi l}{b}-\sin\frac{n\pi d}{b}\right)\quad\cos\frac{n\pi z}{b}W\left(u,\frac{n\pi ar}{b}\right)$$

and the solution for the dimensionless drawdown correction factor for an observation well is given by:

$$f_s = f\left(u, \frac{ar}{b}, \frac{l}{b}, \frac{d}{b}, \frac{l'}{b}, \frac{d'}{b}\right)$$
(4)

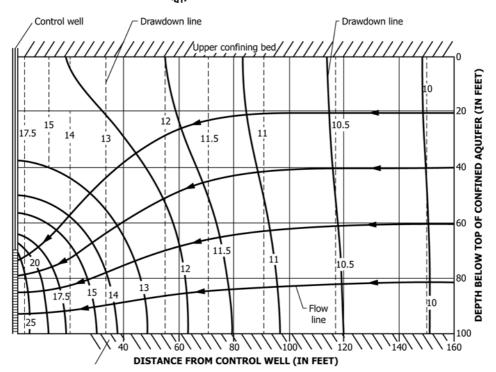
$$=\frac{2b^2}{\pi^2(l-d)}(l'-d')\sum_{n=1}^{\infty}\frac{1}{n^2}\left(\sin\frac{n\pi l}{b}-\sin\frac{n\pi d}{b}\right)$$
$$\left(\sin\frac{n\pi l'}{b}-\sin\frac{n\pi d'}{b}\right)W\left(u,\frac{n\pi ar}{b}\right)$$

where:

$$W(m, x) = \int_{u}^{\infty} \frac{\exp\left(-y - \frac{x^2}{4y}\right)}{y} \, dy \tag{5}$$

<sup>&</sup>lt;sup>3</sup> The boldface numbers in parentheses refer to a list of references at the end of the text.

D5473/D5473M – 20



Note 1—Solid lines are for a well screened in the bottom three tenths of the aquifer; dashed lines are for a well screened the full thickness. FIG. 1 Vertical Section Showing Drawdown Lines and Approximate Flow Paths Near a Pumped Well in an Ideal Artesian Aquifer

The hydrogeologic conditions and symbols used in connection with piezometer and well geometries are shown in Fig. 2.

4.2.2 For large values of time, that is, for  $t > b^2 S/(2a^2T)$  or  $t > bS/(2K_z)$ , the effects of partial penetration are constant in time, and  $W(u, (n\pi a r)/b))$  can be approximated by  $2K_0((n\pi a r)/b)$  (2).  $K_0$  is the modified Bessel function of the second kind of order zero.

The first term in Eq 6 is the drawdown in an isotropic homogeneous confined aquifer under radial flow, as given by Theis (3). The second term is deviation from the Theis drawdown caused by partial penetration of the control well. This term is designated as the drawdown deviation by Weeks (1) and is given by:

 $\frac{4.2.3 \text{ Eq 1 can be written}}{s = \frac{Q}{4\pi T} W(u) + \frac{Q}{4\pi T} f_s} \xrightarrow{\text{ASTM D5473/D5473M-20}} (6)$ 

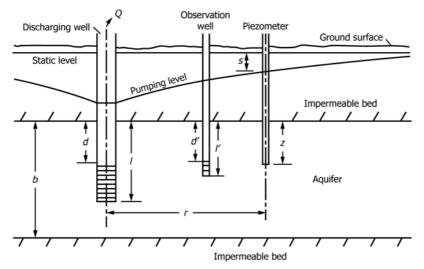


FIG. 2 Cross Section Through a Discharging Well That is Screened in a Part of a Nonleaky Aquifer



4.2.4 The effects of partial penetration need to be considered for ar/b < 1.5. There is a response curve for each value of ar/b, d/b, l/b, and either z/b for piezometers, or l'/b and d'/b for observation wells. A table of dimensionless drawdown factors for piezometers from Weeks (1) is given in Table 1 covering 56 different partial-penetration situations. A graph of one of the many families of curves showing the dimensionless drawdown factor  $f_s$  versus ar/b for a control well screened, or open, from z = 0.6b to z = 0.9b for various values of piezometer penetration, z/b, is shown in Fig. 3. Because of the even greater number of possible drawdown factors for observation wells, drawdown correction factors for wells are not tabulated.

#### 5. Significance and Use

5.1 Assumptions:

5.1.1 Control well discharges at a constant rate, Q.

5.1.2 Control well is of infinitesimal diameter and partially penetrates the aquifer.

5.1.3 The nonleaky artesian aquifer is homogeneous, and aerially extensive. The aquifer may also be anisotropic and, if so, the directions of maximum and minimum hydraulic conductivity are horizontal and vertical, respectively. The methods may be used to analyze tests on unconfined aquifers under conditions described in a following section.

Note 1—Slug and pumping tests implicitly assume a porous medium. Fractured rock and carbonate settings may not provide meaningful data and information.

5.1.4 Discharge from the well is derived exclusively from storage in the aquifer.

5.1.5 The geometry of the assumed aquifer and well conditions are shown in Fig. 2.

5.2 *Implications of Assumptions*—The vertical flow components in the aquifer are induced by a control well that partially penetrates the aquifer, that is, a well that is not open to the aquifer through its full thickness. The effects of vertical flow components are measured in piezometers near the control well, that is, within a distance, *r*, in which vertical flow components are significant, that is:

$$r < 1.5b \sqrt{Kr/Kz} \tag{8}$$

#### 5.3 Application of Method to Unconfined Aquifers:

5.3.1 Although the assumptions are applicable to artesian or confined conditions, Weeks (1) has pointed out that the solution may be applied to unconfined aquifers if drawdown is small compared with the saturated thickness of the aquifer or if the drawdown is corrected for reduction in thickness of the aquifer, and the effects of delayed gravity response are small. The effects of gravity response become negligible after a time as given, for piezometers near the water table, by the equation:

$$t = \frac{bS_y}{K_z} \tag{9}$$

for values of ar/b < 0.4 and by the equation:

$$t = \frac{bS_y}{K_z} \left( 0.5 + 1.25 \frac{r}{b} \sqrt{\frac{K_z}{K_r}} \right) \tag{10}$$

for greater values of *ar/b*.

5.3.2 Drawdown in an unconfined aquifer is also affected by curvature of the water table or free surface near the control well, and by the decrease in saturated thickness, that causes the transmissivity to decline toward the control well. This method should be applicable to analysis of tests on water-table aquifers for which the control well is cased to a depth below the pumping level and the drawdown in the control well is less than 0.2*b*. Moreover, little error would be introduced by effects of water-table curvature, even for a greater drawdown in the control well, if the term  $(s^2/2b)$  for a given piezometer is small compared to the  $\delta s$  term.

5.3.3 The transmissivity decreases as a result of decreasing thickness of the unconfined aquifer near the control well. Jacob (4) has shown that the effect of decreasing transmissivity on the drawdown may be corrected by the equation:

$$s' = s - (s^2/2b) \tag{11}$$

where *s* is the observed drawdown and *s*' is the drawdown in an equivalent confined aquifer.

Note 2—The quality of the result produced by this standard is dependent on the competence of the personnel performing it, and the suitability of the equipment and facilities used. Agencies that meet the criteria of Practice D3740 are generally considered capable of competent and objective testing/sampling/inspection/etc. Users of this standard are cautioned that compliance with Practice D3740 does not in itself assure reliable results. Reliable results depend on many factors; Practice D3740 provides a means of evaluating some of those factors.

#### 6. Apparatus

6.1 Apparatus for withdrawal tests is given in Test Method D4050. The apparatus described as follows are those components of the apparatus that require special attributes for Test Method D4050.

6.2 *Construction of Control Well*—Screen the control well through only part of the vertical extent of the aquifer to be tested. The screened interval of the control well must be known as a function of aquifer thickness.

6.3 Construction and Placement of Piezometers and Observation Wells—The requirements for observation wells and piezometers are related to the method of analysis to be used. Two methods of analysis are prescribed in Section 8; the observation well and piezometer requirements for each method are given as follows. The piezometers and observation wells may be on the same or various radial lines from the control well.

6.3.1 The type curve fitting methods require one or more piezometers near the control well within the radial distance affected by vertical flow components. This distance is given by  $r < 1.5 b/(K_z/K_r)^{1/2}$ . The depth of the piezometer opening must be known as a function of the aquifer thickness. Construction of piezometers or wells for a specific field test shall be identical with respect to distance from the top of the aquifer to the bottom of the piezometers or the screened interval of the wells.

6.3.2 Method 1 of the drawdown deviation methods requires one or more piezometers or wells near the control well within the radial distance affected by vertical flow components. The depth of these piezometers and the screened interval of wells must be known as a function of aquifer thickness. Construction of piezometers or wells for a specific field test

### D5473/D5473M – 20

#### TABLE 1 Tabulated Values of the Dimensionless Drawdown Correction Factor

All values, including those for piezometer depth, are listed for percentages of the aquifer thickness, as measured from the top of the aquifer or from the pumped well.

The f(s) values listed are for an isotropic aquifer. For an anisotropic aquifer the value of f(s) would be read as the value of r/b[Kz/Kr)+2], expressed as a percentage, equivalent to the r value listed.

Each of the tables listed below may also be used for the situation where values for the bottom and the top of the screen are reversed by reading the z value in the table equivalent to (100 z) for the field situation. For example, the first table listed could also be used to determine values of fs for a well screened from the top of the aquifer down to a depth equal to 90 % of the adapter thickness. If the piezometers penetrated 20 % of the aquifer thickness, the correction value for a given r/b value would be found from the z = 80 listing.

Frequently it would be necessary to make a double or triple interpolation to use the data from these tables. Such interpolation probably would be best

accomplished from a plot of f(s) versus log r/b for each of the d/b, zw/b, and z/b values bounding the actual values of these parameters. fer

Bottom of Screen in Pumped Well is 100. Per Cent of Aquifer Thickness Be	elow Top	o of Aquife
--	----------	-------------

Top of Screen in Pumped Well is 00, Per Cent of Aquifer Thickness         Formation Processes         Formation Processes           Perz. Depth         Diamos of Processes         100, 0         100, 0         120, 0         150, 0         100, 0         120, 0         150,	Bottom of Scree													
5.00         10.00         15.00         20.00         25.00         31.00         40.00         50.00         60.00         60.00         10.00         12.00         60.00		i Fullipeu v							hicknoss					
0.0         -4.88         -3.47         -2.74         -2.134         -1.722         -1.732         -0.748         -0.718	Flez. Deptil	5.00								60.00	80.00	100.00	120.00	150.00
10.         -4.65i         -3.28i         -2.08i         -1.66i         -1.38i         -0.40i         -0.41i         -0.21i         -0.21i         -0.03i         -0.04i         -0.03i         -0.01i         -0.03i         -0.01i         -0.03i         -0.01i         -0.03i         -0.01i         -0.03i         -0.00i         -0.00iii         -0.00i         -0.00i </td <td>0.0</td> <td></td>	0.0													
20.         -4.468         -3.284         -2.506         -1.773         -1.285         -1.284         -0.680         -0.515         -0.115         -0.008         -0.009         -0.044         -0.050           40.         -4.000         -2.674         -1.925         -1.334         -1.086         -0.035         -0.105         -0.035         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.003         -0.004         -0.004         -0.004         -0.004         -0.004         -0.004         -0.003         -0.003         -0.001         -0.003         -0.017         -0.003         -0.017         -0.003         -0.016         -0.003         -0.017         -0.004         -0.018         -0.018         -0.023         -0.018         -0.023         -0.017         -0.004         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018         -0.018														
30.         -4.400         -2.647         -1.783         -1.784         -1.084         -0.671         -0.715         -0.715         -0.785         -0.785         -0.085         -0.008         -0.008         -0.008         -0.008         -0.008         -0.008         -0.008         -0.008         -0.008         -0.008         -0.008         -0.003         -0.010         0.000         -0.003         -0.001         0.000         -0.003         -0.001         0.000         -0.003         -0.001         0.000         -0.003         -0.010         0.003         0.017         0.033         0.017         0.033         0.017         0.033         0.017         0.046         0.033         0.017         0.047         0.033         0.017         0.047         0.033         0.017         0.047         0.033         0.017         0.047         0.033         0.017         0.035         0.017         0.000         1.000														
40.         -4.02         -2.674         -1.925         -1.434         -1.066         -0.633         -0.065         -0.085         -0.085         -0.085         -0.083         0.005         0.003         0.005														
50.         -2.444         -1.187         -0.246         -0.218         -0.218         -0.018         -0.038         0.030         -0.001         0.000           60.         -2.444         -1.185         -0.526         0.287         0.736         0.48         0.48         0.48         0.433         0.113         0.023         0.027         0.033         0.017         0.006         0.018         0.138         0.135         0.111         0.063         0.033         0.017         0.006         0.003         0.012         0.033         0.012         0.033         0.012         0.033         0.012         0.033         0.012         0.013         0.056         0.020         0.00         1.500         0.00         1.500         0.00         1.500         0.00         1.500         0.00         1.00														
60.         -2.44         -1.185         -0.666         -0.228         -0.035         0.047         0.035         0.017         0.006         30.03         0.017           80.         2.897         3.170         2.271         2.312         1.875         1.511         0.983         0.648         0.432         0.139         0.026         0.046         0.016           90.         1.344         8.218         5.575         3.974         2.266         2.207         1.322         0.831         0.539         0.241         0.118         0.055         0.109           100.         2.1244         1.1404         7.007         4.477         3.365         2.499         1.484         0.899         0.570         0.000         10														
70.         -0.736         0.341         0.725         0.829         0.606         0.736         0.983         0.648         0.432         0.197         0.007         0.033         0.012           90.         13.344         8.218         5.575         3.374         2.926         2.207         1.322         0.831         0.539         0.241         0.113         0.065         0.019           Top of Screen in Pumped Well is 80. Per Cent of Aquifer Tinckness         Tinckness         Tinckness         Tinckness         1.441         0.899         0.780         0.260         1.000         12.00         12.00         1.000         12.00<														
80.         2.897         3.170         2.791         2.312         1.875         1.511         0.983         0.648         0.139         0.241         0.131         0.055         0.109           100.         2.12.84         11.404         7.087         3.395         2.499         1.434         0.839         0.255         0.120         0.055         0.109           100.         2.12.64         11.404         7.087         4.778         3.395         2.499         1.434         0.899         0.578         0.255         0.105         0.009         0.008         0.009         0.008         0.009         0.008         0.009         1.009         0.018         1.0019         0.0178         1.044         0.029         0.018         0.019         0.017         0.026         0.017         0.026         0.017         0.026         0.018         0.019         0.017         0.026         0.017         0.026         0.017         0.0														
90.         13.344         8.218         5.575         3.974         2.926         2.207         1.322         0.831         0.258         0.226         0.120         0.058         0.200           Top of Screen in Purpode Well is 60. Per Cent of Aquifer Trickness Below Top of Aquifer         Top of Screen in Purpode Well is 70.         Top Screen in Purpode Well is 70.         Top Screen in P														
100.         21.24         11.404         7.087         4.78         3.385         2.499         1.454         0.899         0.578         0.256         0.120         0.058         0.020           Fiez. Depth         Distance of Piezometric rm Purped Well, as Par Cent of Aquiler Thickness         500         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         15.00         10.00         1														
Top of Screen in Purpued Well is 40. Per Cent of Aquifer Thickness         Editation of Proper Well, as Proc Cent of Aquifer Thickness           Piez. Depth         Distance of Propermetr from Purpued Well, as Proc Cent of Aquifer Thickness         Editation of Proper Vell, as Proper Vell														
Piez. Depth         Distance of Piezometr from Pumped Well, as Par Cent of Aquifer Thickness           0.0         4.7.85         -3.415         -2.633         -2.095         -1.686         -1.387         -0.944         -0.650         -0.219         -0.108         -0.053         -0.019           1.0         -4.739         -3.232         -2.457         -1.892         -1.686         -1.387         -0.914         -0.283         -0.184         -0.210         -0.108         -0.061           2.0         -4.597         -3.232         -2.457         -1.189         -1.542         -1.246         -0.829         -0.661         -0.383         -0.182         -0.018         -0.017         -0.008         -0.011         -0.008         -0.011         -0.008         -0.011         -0.008         -0.011         -0.008         -0.011         -0.008         -0.011         -0.008         -0.011         -0.008         -0.011         -0.001         -0.000         -0.011         -0.003         -0.011         -0.001         -0.001         -0.001         -0.011         -0.001         -0.011         -0.001         -0.011         -0.001         -0.011         -0.001         -0.010         -0.011         -0.011         -0.011         -0.011         -0.011         -0.011 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.000</td> <td>0.070</td> <td>0.200</td> <td>0.120</td> <td>0.000</td> <td>0.020</td>									0.000	0.070	0.200	0.120	0.000	0.020
5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         60.00         10.00         120.00         150.00           10         -47.39         -3.371         -25.90         -2.055         -1.686         -1.352         -0.916         -0.681         -0.434         -0.219         -0.108         -0.066         -0.018           20         -4.397         -3.232         -2.475         -1.324         -1.324         -0.280         -0.681         -0.434         -0.029         -0.138         -0.066         -0.032         -0.011           40.3312         -2.572         -1.331         -0.067         -0.382         -0.182         -0.681         -0.444         -0.011         -0.003         -0.001         0.000           60.         -2.076         -0.877         -0.331         -0.657         -0.732         0.467         0.434         0.161         0.414         0.161         0.004         -0.003         -0.017         0.032         0.016         0.022         0.133         0.067         0.322         0.101         0.005         0.001         10.000         10.000         10.000         10.000         10.000         10.000         10.000		i i unipou i							ifer Thickne	<b>SS</b>				
0.0 - 4.785 - 3.416 - 2.633 - 2.095 - 1.686 - 1.387 - 0.944 - 0.659 - 0.461 - 0.219 - 0.108 - 0.053 - 0.018 20 - 4.797 - 3.232 - 2.457 - 1.929 - 1.542 - 1.246 - 0.829 - 0.561 - 0.383 - 0.182 - 0.089 - 0.044 - 0.015 30 - 3.312 - 2.572 - 1.834 - 1.354 - 1.019 - 0.778 - 0.467 - 0.239 - 0.184 - 0.079 - 0.036 - 0.017 - 0.006 50 - 3.232 - 1.929 - 1.246 - 0.829 - 0.561 - 0.383 - 0.182 - 0.089 - 0.044 - 0.011 - 0.003 - 0.001 0.000 60 - 2.076 - 0.877 - 0.331 - 0.057 - 0.778 - 0.467 - 0.299 - 0.614 - 0.019 - 0.036 - 0.012 - 0.011 80 - 8.044 - 4.280 - 3.150 - 2.401 - 1.887 - 1.471 - 0.939 - 0.616 - 0.184 - 0.079 - 0.036 - 0.012 - 0.018 100 - 12.080 - 7.287 - 4.393 - 3.452 - 2.655 - 2.005 - 1.219 - 0.773 - 0.650 - 0.228 - 0.110 - 0.050 - 0.018 100 - 13.344 - 8.218 - 5.75 - 3.973 - 2.926 - 2.007 - 1.322 - 0.81 - 0.399 - 0.411 - 0.022 - 0.018 - 0.019 100 - 13.444 - 8.218 - 5.75 - 3.973 - 2.926 - 2.007 - 1.322 - 0.81 - 0.399 - 0.241 - 0.113 - 0.046 - 0.032 - 0.019 100 - 13.444 - 8.218 - 5.75 - 3.973 - 2.926 - 2.007 - 1.322 - 0.81 - 0.599 - 0.421 - 0.113 - 0.065 - 0.019 100 - 1.2.00 - 1.3.044 - 0.216 - 0.216 - 0.019 - 0.017 - 0.050 - 0.00 - 0.000 - 10.00 - 15.00 - 0.017 100 - 4.619 - 3.242 - 2.562 - 2.029 - 1.6341.330 - 0.687 - 0.613 - 0.422 - 0.04 - 0.010 - 0.014 - 0.017 100 - 4.610 - 3.138 - 2.388 - 1.488 - 1.478 - 0.197 - 0.613 - 0.423 - 0.080 - 0.000 - 0.0	1102. Dopti	5.00									80.00	100 00	120.00	150 00
10.         -4.39         -3.37         -2.59         -2.655         -1.682         -0.916         -0.681         -0.434         -0.210         -0.013         -0.013         -0.013         -0.013         -0.013         -0.013         -0.013         -0.013         -0.013         -0.014         -0.019         -0.774         -0.467         -0.289         -0.138         -0.029         -0.134         -0.036         -0.017         -0.036         -0.017         -0.036         -0.017         -0.036         -0.017         -0.036         -0.017         -0.036         -0.017         -0.036         -0.017         -0.036         -0.017         -0.036         -0.017         -0.037         -0.047         -0.037         -0.047         -0.037         -0.047         -0.037         -0.047         -0.037         -0.047         -0.037         -0.047         -0.037         -0.047         -0.037	0.0													
20.         -4.597         -3.232         -2.467         -1.246         -0.829         -0.681         -0.083         -0.182         -0.089         -0.044         -0.015           40.         -3.912         -2.572         -1.834         -1.354         -1.039         -0.681         -0.048         -0.029         -0.038         -0.015           50.         -3.232         -1.929         -1.246         -0.829         -0.044         -0.017         -0.006         -0.007         -0.008         -0.014         -0.002         -0.001         0.000         -0.015         -0.027         -0.038         -0.118         -0.044         -0.010         -0.030         -0.011         -0.003         -0.011         -0.003         -0.011         -0.003         -0.011         -0.003         -0.010         -0.003         -0.001         -0.000         -0.000         -0.000         -0.001         -0.002         -0.011         -0.022         -0.133         -0.142         0.331         0.393         2.926         -2.007         -1.020         1.020         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         <														
30.         -4.376         -2.979         -2.216         -1.705         -1.059         -0.681         -0.290         -0.138         -0.068         -0.037         -0.001         -0.003         -0.001         -0.003         -0.017         -0.006         0.007         -0.006         0.017         -0.006         -0.027         -0.028         -0.181         -0.029         -0.131         0.067         0.029         -0.131         0.047         0.032         0.011         -0.032         -0.011         -0.032         0.011         0.032         0.011         0.032         0.011         0.032         0.011         0.032         0.011         0.032         0.011         0.032         0.011         0.032         0.011         0.032         0.011         0.032         0.011         0.052         0.228         0.117         0.042         0.118         0.049         0.011         0.052         0.010         0.010         15.00         2.000         1.219         0.713         0.428         0.224         0.240         1.100         0.500         1.209         -0.163         -0.428         -0.100         0.028         0.017         0.013         0.423         -0.240         0.010         0.111         0.503         0.300         4.0.023														
40.         -3.912         -2.572         -1.834         -1.019         -0.778         0.467         -0.208         -0.018         -0.008         -0.007         -0.000         0.004         0.0118         0.064         0.021         0.001         0.004         0.0118         0.064         0.021         0.001         0.004         0.001         0.000         0.000         0.000         0.001         0.000         0.000         0.000         0.000         0.000         0.000         10.00         12.00         15.00         10.00         15.00         0.000         25.00         0.000         5.00         0.000         10.00         12.00         15.00         1.000         25.00         0.0017         -0.017         -0.024         -0.0107         -0.017         -0.024         -0.014         -0.028         -0.024         -0.014         -0.028         -0.014 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>														
50.         -3.232         -1.249         -1.246         -0.861         -0.382         -0.089         -0.044         -0.011         -0.003         -0.001         0.006           70.         0.227         0.992         1.113         1.044         0.920         0.789         0.561         0.391         0.272         0.181         0.064         0.032         0.011           80.         6.304         4.280         3.150         2.407         1.339         0.615         0.410         0.189         0.028         0.017         0.055         0.019           90.         12.080         7.287         4.939         3.645         2.805         2.207         1.322         0.813         0.503         0.228         0.107         0.055         0.017           10.0         15.00         20.00         25.00         3.0.0         4.0.05         5.0.0         10.00         12.0.09         15.0.0           10.4         4.503         -3.233         -2.545         -1.9481         -1.438         -1.439         -0.468         -0.511         -0.405         -0.010         -0.049         -0.017           10.4         -4.503         -3.234         -2.384         -1.488         -1.448         -1														
60.         -0.276         -0.331         -0.057         0.079         0.142         0.168         0.145         0.114         0.062         0.032         0.012         0.032         0.032         0.011           80.         6.304         4.280         3.150         2.401         1.867         1.471         0.393         0.615         0.410         0.189         0.090         0.044         0.015           90.         12.080         7.287         4.393         3.542         2.620         1.219         0.773         0.559         0.224         0.113         0.055         0.019           Top of Screen in Pumped Well is 70. Per Cent of Aquifer Trice Pumped Well, as Per Cent of Aquifer Trice Pumped Well is 70.933         -2.250         -0.004         -0.007         -0.005         -0.047         -0.017           10.         -4.659         -3.293         -2.210         -1.648         -0.281         -0.268         -0.410         -0.273         -0.162         -0.077         -0.002         -0.000         0.001 <td></td>														
70.         0.227         0.992         1.113         1.044         0.920         0.789         0.661         0.391         0.272         0.131         0.064         0.032         0.011           90.         12.080         7.287         4.393         3.545         2.635         2.005         1.219         0.773         0.505         0.228         0.107         0.052         0.018           100.         13.344         8.218         5.575         3.973         2.926         2.207         1.322         0.831         0.539         0.241         0.113         0.055         0.019           Piez. Depth         Distance of Plezometer from Pumped Well, as Per Cent of Aquifer         Thickness         0.4710         -0.342         -2.562         -2.029         -1.634         -1.293         -0.987         -0.613         -0.423         -0.204         -0.100         -0.007         -0.0017           10.         -4.659         -3.293         -2.368         -1.468         -1.797         -0.778         -0.623         -0.406         -0.100         -0.404         -0.100         -0.404         -0.017         -0.016         -0.101         -0.264         -0.626         -0.410         -0.263         -0.0160         -0.263         -0.016<														
80.         6.304         4.280         3.150         2.401         1.867         1.471         0.939         0.615         0.410         0.189         0.090         0.044         0.018           100.         13.344         8.218         5.575         3.973         2.926         2.207         1.322         0.831         0.539         0.241         0.113         0.055         0.019           Top of Screen in Pumped Well is 70. Per Cent of Aquifer Thickness Below Top of Aquifer         Distance of Plezometer from Pumped Well, as Per Cent of Aquifer Thickness         5.00         0.00         4.000         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.710         -3.342         -2.662         -2.029         -1.634         -1.738         -0.597         -0.618         -0.028         -0.047         -0.017           10.         -4.650         -3.283         -2.166         -1.934         -1.283         -0.468         -0.255         -0.016         -0.029         -0.017         -0.013           0.4.0         -3.705         -2.381         -1.666         -1.212         -0.902         -0.683         -0.255         -0.126         -0.600         -0.029         -0.001         -0.033         -0														
90. 12.080 7.287 4.393 3.545 2.635 2.005 1.219 0.773 0.505 0.228 0.107 0.052 0.019 Top of Screen in Pumped Well is 70. Per Cent of Aquifer Thickness Below Top of Aquifer Thickness Piez. Depth Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness 5.00 10.00 15.00 2.000 25.00 0.30.00 40.00 50.00 60.00 80.00 100.00 120.00 150.00 0.0 -4.710 -3.342 -2.562 -2.029 -1.634 -1.330 -0.987 -0.613 -0.423 -0.204 -0.100 -0.049 -0.017 104.659 -3.283 -2.515 -1.985 -1.593 -1.293 -0.686 0.553 -0.523 -0.355 -0.168 -0.082 -0.040 -0.017 204.500 -3.138 -2.368 -1.488 -1.479 -0.778 -0.626 -0.410 -0.273 -0.264 -0.606 -0.289 -0.076 -0.076 -0.076 204.830 -3.283 -2.368 -1.848 -1.488 -1.179 -0.778 -0.523 -0.355 -0.168 -0.082 -0.040 -0.011 403.705 -2.381 -1.666 -1.212 -0.902 -0.683 -0.408 -0.254 -0.162 -0.071 -0.033 -0.016 -0.005 502.853 -1.601 -0.981 -0.626 -0.410 -0.273 -0.126 -0.060 -0.029 -0.010 403.705 -2.381 -1.688 1.286 1.028 0.830 0.553 0.374 0.255 0.128 0.030 0.001 0.000 601.189 -0.290 0.100 0.218 0.251 0.248 0.206 0.374 0.255 0.122 0.059 0.029 0.000 601.189 -0.290 0.100 0.218 0.251 0.248 0.206 0.374 0.255 0.122 0.059 0.029 0.000 607.293 4.463 3.104 2.289 1.745 1.359 0.859 0.561 0.374 0.173 0.083 0.040 0.011 90. 8.651 5.582 3.358 2.925 2.220 1.716 1.067 0.463 0.266 0.048 0.017 Top of Screen in Pumped Well is 60. Per Cent of Aquifer Thickness Piez. Det Distance of Piezometer from Pumped Well, as PC Cent of Aquifer Thickness E0 5.00 10.00 15.00 20.00 25.00 30.00 40.00 2.030 0.018 0.008 0.004 0.011 90. 8.651 5.582 3.358 2.925 2.220 1.716 1.067 0.453 0.266 0.048 0.017 Top of Screen in Pumped Well is 60. Per Cent of Aquifer Thickness Fiez. Deth Distance of Piezometer from Pumped Well, as PC Cent of Aquifer Thickness Fiez. Deth Distance of Piezometer from Pumped Well, as PC Cent of Aquifer Thickness 5.00 10.00 15.00 2.000 25.00 30.00 40.00 5.00 60.00 80.00 100.00 120.00 15.000 0.0 -4.597 -3.232 -2.457 -1.928 -1.928 -1.934 -0.329 -0.561 0.338 -0.038 -0.0128 -0.013 0.000 4.000 5.000 60.00 80.00														
100.         13.344         8.218         5.575         3.973         2.926         2.207         1.322         0.831         0.539         0.241         0.113         0.055         0.019           Top of Screen in Pumped Wells 70 of Aquifer Thickness Elevaneter from Pumped Well, as Per Cent of Aquifer Thickness         -         -         -         -         -         -         -         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.00         -         0.010         -         0.017         -         0.023         -         0.040         -         0.016         -         0.010         -         0.011         -         0.010         -         0.023         -         0.023         -         0.023         -         0.020         -         0.030         0.015         0.005         0.010         0.011         -         0.023         -         0.021         -         0.001         0.010         0.019														
Top of Screen in Pumped Well is 70. Per Cent of Aquifer Thickness         The Distance of Piezoneter from Pumped Well, as Per Cent of Aquifer Thickness           Piez. Dept         Distance of Piezoneter from Pumped Well, as Per Cent of Aquifer Thickness         -0.00         -0.01         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.659         -2.293         -2.515         -1.993         -1.293         -0.688         -0.691         -0.402         -0.047         -0.017           20.         -4.500         -3.138         -2.386         -1.648         -1.179         -0.778         -0.235         -0.168         -0.062         -0.040         -0.017           4.0         -3.705         -2.381         -1.666         -0.212         -0.083         -0.266         -0.010         -0.273         -0.022         -0.083         -0.002         -0.000         -0.002         -0.000         -0.002         -0.000         -0.002         -0.000         -0.002         -0.000         -0.002         -0.001         -0.023         -0.017         -0.023         -0.016         -0.017         -0.023         -0.026         0.010         0.01         0.013														
Piez. Depth         Distance of Piezometer from Pumped Well, as Pai Cent of Aquifer Thickness           500         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.710         -3.342         -2.562         -2.029         -1.634         -1.330         -0.897         -0.613         -0.403         -0.204         -0.100         -0.049         -0.017           10.         -4.659         -3.383         -2.308         -1.848         -1.484         -1.793         -7.1283         -0.405         -0.185         -0.085         -0.040         -0.040         -0.040         -0.010           0.4         -3.705         -2.883         -1.661         -0.212         -0.981         -0.626         -0.408         -0.224         -0.017         -0.007         -0.002         -0.008         -0.005         -0.022         -0.081         -0.025         -0.126         -0.007         -0.002         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.001         -0.016         -0.002         -0.000         -0.000         -0.016 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>														
5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         10.00         120.00         150.00           0.0         -4.659         -3.293         -2.515         -1.935         -1.933         -0.681         -0.691         -0.406         -0.185         -0.085         -0.082         -0.047         -0.017           20         -4.500         -3.138         -2.388         -1.468         -1.179         -0.781         -0.523         -0.168         -0.082         -0.040         -0.117           20         -4.500         -3.283         -1.661         -1.245         -0.981         -0.062         -0.010         -0.273         -0.126         -0.060         -0.029         -0.000         -0.029         -0.010         -0.021         -0.000         -0.029         -0.010         -0.000         -0.029         -0.010         -0.000         -0.029         -0.010         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000         -0.000									ifer Thickne	ss				
0.0       -4.710       -3.42       -2.562       -2.029       -1.634       -1.330       -0.631       -0.423       -0.204       -0.100       -0.049       -0.017         10.       -4.500       -3.138       -2.365       -1.848       -1.179       -0.778       -0.521       -0.355       -0.168       -0.082       -0.000       -0.014         10.       -3.705       -2.853       -1.610       -1.245       -0.981       -0.6265       -0.410       -0.273       -0.162       -0.071       -0.033       -0.016       -0.002       -0.000       -0.001       -0.001       -0.001       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.001       -0.002       -0.002       -0.001       -0.002       -0.001       -0.002       -0.002       -0.002       -0.002       -0.001       -0.002       -0.002       -0.001       -0.001       -0.002       -0.002       -0.00	F -	5.00					,				80.00	100.00	120.00	150.00
10.         -4.659         -3.293         -2.515         -1.985         -1.533         -1.283         -0.686         -0.531         -0.406         -0.195         -0.097         -0.047         -0.017           20.         -4.500         -2.853         -2.100         -1.616         -1.179         -0.788         -0.626         -0.618         -0.040         -0.273         -0.126         -0.060         -0.029         -0.001           40.         -3.705         -2.831         -1.666         -1.212         -0.092         -0.060         -0.29         -0.070         -0.002         -0.000         -0.000         -0.009         -0.007         -0.002         -0.000         -0.001         -0.001         -0.001         -0.001         -0.001         -0.001         -0.001         -0.001         -0.	0.0		-3.342											
20.       -4.500       -3.138       -2.368       -1.486       -1.479       -0.776       -0.523       -0.355       -0.168       -0.082       -0.040       -0.014         100       -3.705       -2.853       1-1.606       -1.212       -0.902       -0.683       -0.410       -0.273       -0.162       -0.071       -0.003       -0.016       -0.000         50.       -2.853       -1.601       -0.981       -0.626       -0.410       -0.273       -0.126       -0.000       -0.002       -0.000       0.000       0.000       0.015       0.005       0.000       0.015       0.005       0.000       0.015       0.005       0.002       0.010       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.001       0.0111       0.010       0.011		-4.659		-2.515	-1.985	-1.593		-0.868	-0.591	-0.406	-0.195	-0.095	-0.047	-0.017
40.         -3.705         -2.381         -1.666         -1.212         -0.902         -0.683         -0.254         -0.162         -0.071         -0.033         -0.016         -0.005           50.         -2.853         -1.601         -0.981         -0.626         -0.410         -0.273         -0.126         -0.000         -0.007         -0.002         -0.000         -0.002         -0.000         -0.000         -0.003         0.015         0.005           70.         3.064         2.155         1.638         1.226         1.028         0.830         0.553         0.374         0.255         0.122         0.098         0.040         0.011           90.         8.651         5.592         3.958         2.925         2.220         1.716         1.067         0.687         0.453         0.206         0.098         0.048         0.017           100         9.019         5.915         4.423         3.134         2.382         1.840         1.140         0.731         0.453         0.206         0.008         0.001         10.00         120.00         150.00           100         4.537         -3.232         -2.457         -1.929         -1.542         -1.246         -0.289	20.	-4.500	-3.138	-2.368	-1.848	-1.468		-0.778		-0.355	-0.168	-0.082	-0.040	-0.014
50.       -2.853       -1.601       -0.981       -0.626       -0.410       -0.273       -0.126       -0.060       -0.029       -0.007       -0.002       -0.000       0.001       0.001         60.       -1.189       -0.230       0.100       0.218       0.2251       0.248       0.253       0.374       0.255       0.112       0.059       0.029       0.010         80.       7.239       4.443       3.104       2.289       1.745       1.359       0.859       0.561       0.374       0.216       0.008       0.040       0.011         90.       9.019       5.915       4.223       3.134       2.382       1.840       1.140       0.731       0.481       0.218       0.103       0.650       0.008       0.001       15.00       0.050       10.00       15.00       20.00       25.00       30.00       40.00       50.00       60.00       80.00       100.00       150.00       150.00       150.00       150.00       0.001       150.00       0.001       150.00       0.012       -0.033       -0.182       -0.044       -0.015       -0.024       -0.015       -0.044       -0.015       -0.026       -0.033       -0.126       -0.033       -0.126 <td< td=""><td>ttps://stan30.re</td><td>S-4.203</td><td>C-2.853</td><td>S -2.100</td><td>S-1.6015</td><td>-1.245</td><td>-0.981</td><td>-0.626</td><td>-0.410</td><td>-0.273</td><td>5-0.1261-</td><td>-0.600</td><td>-0.029</td><td> 0.010</td></td<>	ttps://stan30.re	S-4.203	C-2.853	S -2.100	S-1.6015	-1.245	-0.981	-0.626	-0.410	-0.273	5-0.1261-	-0.600	-0.029	0.010
60.         -1.189         -0.230         0.100         0.218         0.251         0.248         0.206         0.157         0.115         0.059         0.030         0.015         0.005           70.         3.064         2.155         1.638         1.286         1.028         0.839         0.551         0.374         0.255         0.122         0.059         0.029         0.010           90.         8.651         5.592         3.958         2.925         2.220         1.716         1.067         0.687         0.431         0.218         0.008         0.004         0.017           100.         9.019         5.915         4.223         3.134         2.382         1.840         1.140         0.731         0.481         0.218         0.003         0.050         0.017           Top of Screen in Pumped Well is 60. Per Cent of Aquifer Thickness         Distance of Piezometr from Pumped Well, as Per Cent of Aquifer Thickness         -0.032         -0.161         -0.383         -0.182         -0.089         -0.044         -0.015           10.         -4.597         -3.232         -2.457         -1.929         -1.542         -1.206         -0.799         -0.538         -0.28         -0.174         -0.084         -0.041	40.	-3.705	-2.381	-1.666	-1.212	-0.902	-0.683	-0.408	-0.254	-0.162	-0.071	-0.033	-0.016	-0.005
70.       3.064       2.155       1.638       1.286       1.028       0.830       0.553       0.374       0.255       0.122       0.059       0.029       0.010         80.       7.239       4.463       3.104       2.289       1.745       1.359       0.859       0.561       0.374       0.173       0.083       0.040       0.011         100.       9.019       5.915       4.223       3.134       2.382       1.840       1.140       0.731       0.481       0.218       0.103       0.050       0.017         Top of Screen in Pumped Well is 60. Per Cent of Aquifer Thickness Below Tor of Aquifer Thickness       Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness       0.100       100.00       120.00       150.00       0.00       40.00       50.00       60.00       80.00       100.00       120.00       150.00         0.0       -4.538       -3.175       -2.403       -1.880       -1.427       -1.206       -0.381       -0.147       -0.084       -0.041       -0.015         20.       -4.348       -2.994       -2.233       -1.725       -1.358       -0.126       -0.371       -0.268       -0.239       -0.110       -0.053       -0.026       -0.028       -0.014	50.	-2.853	-1.601	-0.981	-0.626	-0.410	-0.273	-0.126	-0.060	-0.029	-0.007	-0.002	-0.000	0.000
80.         7.239         4.463         3.104         2.289         1.745         1.359         0.859         0.561         0.374         0.173         0.083         0.040         0.014           90.         8.651         5.592         3.958         2.925         2.220         1.140         1.067         0.481         0.481         0.206         0.098         0.048         0.017           Top of Screen in Pumped Well is 60. Per Cent of Aquifer Thickness Below Top of Aquifer         Thickness Below Top of Aquifer         Thickness         Per Cent of Aquifer         Thickness         0.000         60.00         80.00         10.00         15.00         0.00         45.00         30.00         40.00         50.00         60.00         80.00         100.00         150.00         100.00         150.00         -0.015         -0.014         -0.015         -0.014         -0.015         -0.012         -0.338         -0.182         -0.188         -0.149         -0.024         -0.035         -0.012         -0.338         -0.149         -0.026         -0.013         -0.014         -0.015         -0.014         -0.053         -0.026         -0.135         -0.060         -0.318         -0.149         -0.027         -0.035         -0.012         -0.013         -0.014 <td>60.</td> <td>-1.189</td> <td>-0.230</td> <td>0.100</td> <td>0.218</td> <td>0.251</td> <td>0.248</td> <td>0.206</td> <td>0.157</td> <td>0.115</td> <td>0.059</td> <td>0.030</td> <td>0.015</td> <td>0.005</td>	60.	-1.189	-0.230	0.100	0.218	0.251	0.248	0.206	0.157	0.115	0.059	0.030	0.015	0.005
90.         8.651         5.592         3.958         2.925         2.220         1.716         1.067         0.687         0.453         0.206         0.098         0.048         0.017           100.         9.019         5.915         4.223         3.134         2.382         1.840         1.140         0.731         0.481         0.218         0.103         0.050         0.017           Top of Screen in Pumped Well is 60. Per Cent of Aquifer Thickness Below Top         0.000         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.537         -3.232         -2.457         -1.929         -1.246         -0.829         -0.363         -0.182         -0.089         -0.044         -0.015           10.         -4.538         -3.175         -2.403         -1.880         -1.427         -1.206         -0.799         -0.338         -0.318         -0.149         -0.022         -0.035         -0.014         -0.015           20.         -4.348         -2.994         -2.233         -1.725         -1.358         -1.082         -0.710         -0.318         -0.110         -0.053         -0.026         -0.012           30.         -2.055	70.	3.064	2.155	1.638	1.286	1.028	0.830	0.553	0.374	0.255	0.122	0.059	0.029	0.010
100.         9.019         5.915         4.223         3.134         2.382         1.840         1.140         0.731         0.481         0.218         0.103         0.050         0.017           Top of Screen in Purped Well is 60. Per Cent of Aquifer Thickness Below Top of Aquifer         Distance of Piezometer from Purped Well, as Per Cent of Aquifer Thickness         Frict Not Not Not Not Not Not Not Not Not No	80.	7.239	4.463	3.104	2.289	1.745	1.359	0.859	0.561	0.374	0.173	0.083	0.040	0.014
Top of Screen in Pumped Well is 60. Per Cent of Aquifer Thickness Below Top of Aquifer           Piez. Depth         Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness           6.00         10.00         15.00         20.00         25.00         60.00         80.00         10.00         12.00         25.00         40.00         50.00         60.00         80.00         100.00         12.02         -0.447         -0.682         -0.511         -0.082         -0.511         -0.044         -0.014         -0.014         -0.041         -0.012           20.         -4.542         -1.246         -0.829         -0.174         -0.044         -0.012           0.0         -0.333         -0.174         -0.044         -0.012           -0.033         -0.135         -0.010         -0.033         -0.012         -0.014         -0.003         -0.014         -0.011 <th< td=""><td>90.</td><td>8.651</td><td>5.592</td><td>3.958</td><td>2.925</td><td>2.220</td><td>1.716</td><td>1.067</td><td>0.687</td><td>0.453</td><td>0.206</td><td>0.098</td><td>0.048</td><td>0.017</td></th<>	90.	8.651	5.592	3.958	2.925	2.220	1.716	1.067	0.687	0.453	0.206	0.098	0.048	0.017
Piez. Depth         Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness           5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.597         -3.232         -2.457         -1.929         -1.542         -1.246         -0.829         -0.561         -0.383         -0.182         -0.084         -0.041         -0.015           10.         -4.538         -3.175         -2.403         -1.725         -1.358         -1.062         -0.705         -0.470         -0.318         -0.149         -0.022         -0.035         -0.024         -0.015           20.         -4.348         -2.994         -2.233         -1.725         -1.358         -1.082         -0.705         -0.470         -0.318         -0.149         -0.028         -0.021         -0.003         -0.001         -0.005         -0.009         -0.028         -0.114         -0.053         -0.208         -0.135         -0.060         -0.028         -0.14         -0.033         -0.014         -0.003         -0.014         -0.003         -0.013         0.000         40.00         50.0         60.613         4.14	100.	9.019	5.915	4.223	3.134	2.382	1.840	1.140	0.731	0.481	0.218	0.103	0.050	0.017
5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.597         -3.232         -2.457         -1.929         -1.542         -1.246         -0.829         -0.561         -0.383         -0.182         -0.089         -0.041         -0.015           10.         -4.538         -3.175         -2.403         -1.880         -1.497         -1.206         -0.799         -0.538         -0.182         -0.049         -0.041         -0.015           20.         -4.348         -2.994         -2.233         -1.725         -1.358         -1.082         -0.705         -0.470         -0.149         -0.075         -0.047         -0.938         -0.149         -0.075         -0.470         -0.140         -0.053         -0.026         -0.028         -0.014         -0.053         -0.026         -0.028         -0.014         -0.003         -0.014         -0.000         0.000         60.01         1.96         0.524         -0.331         -0.226         -0.013         0.011         0.055         0.027         0.013         0.000         4.041         0.005         0.000         4.040 </td <td>Top of Screen ir</td> <td>n Pumped V</td> <td></td>	Top of Screen ir	n Pumped V												
0.0       -4.597       -3.232       -2.457       -1.929       -1.542       -1.246       -0.829       -0.561       -0.383       -0.089       -0.044       -0.015         10.       -4.538       -3.175       -2.403       -1.880       -1.497       -1.206       -0.799       -0.538       -0.367       -0.174       -0.084       -0.011       -0.015         20.       -4.348       -2.994       -2.233       -1.725       -1.358       -1.082       -0.705       -0.470       -0.318       -0.149       -0.026       -0.029         30.       -3.386       -2.055       -1.918       -1.442       -1.110       -0.868       -0.228       -0.135       -0.060       -0.028       -0.014       -0.003         40.       -3.336       -2.055       -0.993       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.011       -0.000       0.000       6.0       -0.024       -0.013       0.005       0.027       0.013       0.005       0.001       -0.009       0.000       6.0       -0.024       -0.014       -0.003       -0.014       -0.003       -0.014       -0.003       -0.014       -0.005       0.00       -0.014       -0.005       0.05	Piez. Depth													
10.       -4.538       -3.175       -2.403       -1.880       -1.497       -1.206       -0.799       -0.538       -0.367       -0.174       -0.084       -0.041       -0.015         20.       -4.348       -2.994       -2.233       -1.725       -1.358       -1.082       -0.705       -0.470       -0.318       -0.149       -0.072       -0.035       -0.012         30.       -3.986       -2.650       -1.918       -1.442       -1.110       -0.688       -0.549       -0.358       -0.29       -0.110       -0.028       -0.012       -0.026       -0.028       -0.014       -0.005         50.       -2.055       -0.993       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.014       -0.000       0.000         60.       1.196       0.854       0.658       0.524       0.424       0.347       0.236       0.163       0.113       0.055       0.027       0.013       0.005         70.       4.424       2.679       1.847       1.358       1.037       0.811       0.518       0.342       0.231       0.108       0.052       0.026       0.009       0.044       0.015       0.012       0.035       0.012														
20.       -4.348       -2.994       -2.233       -1.725       -1.358       -1.082       -0.705       -0.470       -0.318       -0.149       -0.072       -0.035       -0.026       -0.009         30.       -3.986       -2.650       -1.918       -1.442       -1.110       -0.868       -0.549       -0.358       -0.239       -0.110       -0.053       -0.026       -0.009         40.       -3.336       -2.055       -1.394       -0.993       -0.731       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.014       -0.000       0.000         50.       -2.055       -0.933       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.014       -0.000       0.000         60.       1.196       0.854       0.658       0.524       0.424       0.347       0.236       0.163       0.113       0.055       0.007       0.013       0.005         70.       4.424       2.679       1.847       1.358       1.037       0.811       0.518       0.342       0.231       0.108       0.052       0.026       0.009         80.       5.634       3.670       2.622       1.958							-1.246							
30.       -3.986       -2.650       -1.918       -1.442       -1.110       -0.868       -0.549       -0.358       -0.239       -0.110       -0.053       -0.026       -0.009         40.       -3.336       -2.055       -1.394       -0.993       -0.731       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.014       -0.003       -0.001       -0.000       0.000         60.       1.196       0.854       0.658       0.524       0.424       0.347       0.236       0.163       0.113       0.055       0.027       0.013       0.005         70.       4.424       2.679       1.847       1.358       1.037       0.811       0.518       0.326       0.152       0.073       0.035       0.012         80.       5.634       3.670       2.622       1.958       1.502       1.174       0.745       0.488       0.326       0.152       0.073       0.035       0.012         90.       6.154       4.140       3.026       2.295       1.777       1.397       0.890       0.515       0.410       0.189       0.090       0.044       0.015         100.       6.304       4.280       3.150														
40.       -3.336       -2.055       -1.394       -0.993       -0.731       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.014       -0.003       -0.001       -0.000       0.000         50.       -2.055       -0.993       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.014       -0.003       -0.001       -0.000       0.000         60.       1.196       0.854       0.658       0.524       0.424       0.347       0.236       0.163       0.113       0.055       0.027       0.013       0.005         70.       4.424       2.679       1.847       1.358       1.037       0.811       0.518       0.322       0.231       0.108       0.052       0.026       0.009         80.       5.634       3.670       2.622       1.958       1.502       1.174       0.745       0.488       0.326       0.152       0.073       0.035       0.012       0.014       0.035       0.012       0.015       0.016       0.108       0.090       0.044       0.015       0.015       0.010       0.804       0.035       0.027       0.031       0.044       0.015       0.044       0.015														
50.       -2.055       -0.993       -0.552       -0.331       -0.208       -0.135       -0.060       -0.028       -0.014       -0.003       -0.001       -0.000       0.000         60.       1.196       0.854       0.658       0.524       0.424       0.347       0.236       0.163       0.113       0.055       0.027       0.013       0.005         70.       4.424       2.679       1.847       1.358       1.037       0.811       0.518       0.342       0.231       0.108       0.052       0.026       0.009         80.       5.634       3.670       2.622       1.958       1.577       1.397       0.890       0.582       0.388       0.179       0.086       0.042       0.015         90.       6.154       4.140       3.026       2.295       1.777       1.397       0.890       0.582       0.388       0.179       0.086       0.042       0.015         100.       6.304       4.280       3.150       2.401       1.867       1.471       0.939       0.615       0.410       0.189       0.090       0.044       0.015         Distance of Piezometer from Pumped Well, as Per Cent of Aquifer       Distance       0.150														
60.       1.196       0.854       0.658       0.524       0.424       0.347       0.236       0.163       0.113       0.055       0.027       0.013       0.005         70.       4.424       2.679       1.847       1.358       1.037       0.811       0.518       0.342       0.231       0.108       0.052       0.026       0.009         80.       5.634       3.670       2.622       1.958       1.502       1.174       0.745       0.488       0.326       0.152       0.073       0.035       0.012         90.       6.154       4.140       3.026       2.295       1.777       1.397       0.890       0.582       0.388       0.179       0.086       0.042       0.015         100.       6.304       4.280       3.150       2.401       1.867       1.471       0.939       0.615       0.410       0.189       0.090       0.044       0.015         Top of Screen in Pumped Well is 50. Per Cent of Aquifer Thickness         Piez. Depth       Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness         10.0       -4.34       -3.075       -2.307       -1.791       -1.415       -1.131       -0.737       -0.493       -0.33														
70.       4.424       2.679       1.847       1.358       1.037       0.811       0.518       0.342       0.231       0.108       0.052       0.026       0.009         80.       5.634       3.670       2.622       1.958       1.502       1.174       0.745       0.488       0.326       0.152       0.073       0.035       0.012         90.       6.154       4.140       3.026       2.295       1.777       1.397       0.890       0.582       0.388       0.179       0.086       0.042       0.015         100.       6.304       4.280       3.150       2.401       1.867       1.471       0.939       0.615       0.410       0.189       0.090       0.044       0.015         Top of Screen in Pumped Well is 50. Per Cent of Aquifer Thickness Below Top of Aquifer         Piez. Depth       Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness         5.00       10.00       15.00       20.00       25.00       30.00       40.00       50.00       60.00       80.00       100.00       120.00       150.00         0.0       -4.434       -3.075       -2.307       -1.791       -1.415       -1.131       -0.739       -0.493       -														
80.         5.634         3.670         2.622         1.958         1.502         1.174         0.745         0.488         0.326         0.152         0.073         0.035         0.012           90.         6.154         4.140         3.026         2.295         1.777         1.397         0.890         0.582         0.388         0.179         0.086         0.042         0.015           100.         6.304         4.280         3.150         2.401         1.867         1.471         0.939         0.615         0.410         0.189         0.090         0.044         0.015           Top of Screen in Pumped Well is 50. Per Cent of Aquifer Thickness Below Top of Aquifer           Piez. Depth         Distarce of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness         60.00         80.00         100.00         120.00         150.00           0.0         -4.434         -3.075         -2.307         -1.791         -1.415         -1.131         -0.739         -0.493         -0.333         -0.156         -0.075         -0.037         -0.013           10.         -4.360         -3.005         -2.243         -1.732         -1.364         -1.087         -0.707         -0.470         -0.317         -0.149														
90.         6.154         4.140         3.026         2.295         1.777         1.397         0.890         0.582         0.388         0.179         0.086         0.042         0.015           100.         6.304         4.280         3.150         2.401         1.867         1.471         0.939         0.615         0.410         0.189         0.090         0.044         0.015           Top of Screen in Pumped Well is 50. Per Cent of Aquifer Thickness Below Top of Aquifer           Piez. Depth         Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness           5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.434         -3.075         -2.307         -1.791         -1.415         -1.131         -0.739         -0.433         -0.156         -0.075         -0.037         -0.013           10.         -4.360         -3.005         -2.243         -1.205         -0.951         -0.611         -0.403         -0.271         -0.127         -0.061         -0.030         -0.010           30.         -3.626         -2.327         -														
100.         6.304         4.280         3.150         2.401         1.867         1.471         0.939         0.615         0.410         0.189         0.090         0.044         0.015           Top of Screen in Pumped Well is 50. Per Cent of Aquifer Thickness Below Top of Aquifer           Piez. Depth         Distance of Piezometer from Pumped Well, as Per Cent of Aquifer           5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         150.00         150.00           0.0         -4.434         -3.075         -2.307         -1.791         -1.415         -1.131         -0.739         -0.493         -0.333         -0.156         -0.075         -0.037         -0.013           10.         -4.360         -3.005         -2.203         -1.732         -1.364         -1.087         -0.707         -0.470         -0.127         -0.061         -0.030         -0.012           20.         -4.119         -2.777         -2.036         -1.549         -1.205         -0.951         -0.611         -0.403         -0.271         -0.127         -0.061         -0.030         -0.010           30.         -3.626         -2.327 <td></td>														
Top of Screen in Pumped Well is 50. Per Cent of Aquifer Thickness Below Top of Aquifer           Piez. Depth         Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness           5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.434         -3.075         -2.307         -1.791         -1.415         -1.131         -0.739         -0.493         -0.333         -0.156         -0.075         -0.037         -0.013           10.         -4.360         -3.005         -2.203         -1.732         -1.364         -1.087         -0.707         -0.470         -0.117         -0.149         -0.072         -0.035         -0.012           20.         -4.119         -2.777         -2.036         -1.549         -1.205         -0.951         -0.611         -0.403         -0.271         -0.127         -0.061         -0.030         -0.010           30.         -3.626         -2.327         -1.642         -1.214         -0.924         -0.719         -0.453         -0.292         -0.044         -0.022         -0.008           40.         -2.609														
Piez. Depth         Distance of Piezometer from Pumped Well, as Per Cent of Aquifer Thickness           5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.434         -3.075         -2.307         -1.791         -1.415         -1.131         -0.739         -0.493         -0.333         -0.156         -0.075         -0.037         -0.013           10.         -4.360         -3.005         -2.243         -1.732         -1.364         -1.087         -0.707         -0.470         -0.317         -0.149         -0.072         -0.030         -0.012           20.         -4.119         -2.777         -2.036         -1.549         -1.205         -0.951         -0.611         -0.403         -0.271         -0.127         -0.061         -0.030         -0.010           30.         -3.626         -2.327         -1.642         -1.214         -0.924         -0.719         -0.453         -0.296         -0.198         -0.092         -0.044         -0.022         -0.008           40.         -2.609         -1.486         -0.976         -0.691         -0.513         -0.392									0.615	0.410	0.189	0.090	0.044	0.015
5.00         10.00         15.00         20.00         25.00         30.00         40.00         50.00         60.00         80.00         100.00         120.00         150.00           0.0         -4.434         -3.075         -2.307         -1.791         -1.415         -1.131         -0.739         -0.493         -0.333         -0.156         -0.075         -0.037         -0.013           10.         -4.360         -3.005         -2.243         -1.732         -1.364         -1.087         -0.707         -0.470         -0.317         -0.149         -0.072         -0.035         -0.012           20.         -4.119         -2.777         -2.036         -1.549         -1.205         -0.951         -0.611         -0.403         -0.271         -0.127         -0.061         -0.030         -0.010           30.         -3.626         -2.327         -1.642         -1.214         -0.924         -0.719         -0.453         -0.296         -0.198         -0.092         -0.044         -0.022         -0.008           40.         -2.609         -1.486         -0.976         -0.691         -0.513         -0.392         -0.243         -0.157         -0.105         -0.048         -0.023         -0.011 <td></td> <td>n Pumped V</td> <td></td>		n Pumped V												
0.0       -4.434       -3.075       -2.307       -1.791       -1.415       -1.131       -0.739       -0.493       -0.333       -0.156       -0.075       -0.037       -0.013         10.       -4.360       -3.005       -2.243       -1.732       -1.364       -1.087       -0.707       -0.470       -0.317       -0.149       -0.072       -0.035       -0.012         20.       -4.119       -2.777       -2.036       -1.549       -1.205       -0.951       -0.611       -0.403       -0.271       -0.127       -0.061       -0.030       -0.010         30.       -3.626       -2.327       -1.642       -1.214       -0.924       -0.719       -0.453       -0.296       -0.198       -0.092       -0.044       -0.022       -0.008         40.       -2.609       -1.486       -0.976       -0.691       -0.513       -0.392       -0.243       -0.157       -0.105       -0.048       -0.023       -0.011       -0.004	Piez. Depth											100	105	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$														
20.       -4.119       -2.777       -2.036       -1.549       -1.205       -0.951       -0.611       -0.403       -0.271       -0.127       -0.061       -0.030       -0.010         30.       -3.626       -2.327       -1.642       -1.214       -0.924       -0.719       -0.453       -0.296       -0.198       -0.092       -0.044       -0.022       -0.008         40.       -2.609       -1.486       -0.976       -0.691       -0.513       -0.392       -0.243       -0.157       -0.105       -0.048       -0.023       -0.011       -0.004														
30.       -3.626       -2.327       -1.642       -1.214       -0.924       -0.719       -0.453       -0.296       -0.198       -0.092       -0.044       -0.022       -0.008         40.       -2.609       -1.486       -0.976       -0.691       -0.513       -0.392       -0.243       -0.157       -0.048       -0.023       -0.011       -0.004														
402.609 -1.486 -0.976 -0.691 -0.513 -0.392 -0.243 -0.157 -0.105 -0.048 -0.023 -0.011 -0.004														
500.000 -0.000 -0.000 -0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000														
	50.	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

# ₩ D5473/D5473M – 20

 TABLE 1
 Continued

					TAE	BLE 1 Co	ontinued						
60.	2.609	1.486	0.976	0.691	0.513	0.392	0.243	0.157	0.105	0.048	0.023	0.011	0.004
70.	3.626	2.327	1.642	1.214	0.924	0.719	0.453	0.296	0.198	0.092	0.044	0.022	0.008
80.	4.119	2.777	2.036	1.549	1.205	0.951	0.611	0.403	0.271	0.127	0.061	0.030	0.010
90.	4.360	3.005	2.243	1.732	1.364	1.087	0.707	0.470	0.317	0.149	0.072	0.035	0.012
100.	4.434	3.075	2.307	1.791	1.415	1.131	0.739	0.493	0.333	0.156	0.075	0.037	0.013
Top of Screen in	n Pumped V												
Piez. Depth			nce of Piezo			,							
0.0 4.000	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0 -4.203	-2.853	-2.100	-1.601	-1.245	-0.981	-0.626	-0.410	-0.273	-0.126	-0.060	-0.029	-0.010	0.010
10. 20.	-4.102 -3.756	-2.760 -2.447	-2.017 -1.748	-1.530 -1.305	-1.185 -1.002	-0.931 -0.783	-0.593 -0.497	-0.388 -0.325	-0.259 -0.218	-0.120 -0.101	-0.057 -0.048	-0.028 -0.024	-0.010 -0.008
30.	-2.949	-1.786	-1.231	-0.905	-0.691	-0.783	-0.345	-0.323	-0.218	-0.072	-0.048	-0.024 -0.017	-0.008
40.	-0.798	-0.569	-0.439	-0.349	-0.282	-0.231	-0.157	-0.108	-0.075	-0.037	-0.018	-0.009	-0.003
50.	1.370	0.662	0.368	0.220	0.139	0.090	0.040	0.019	0.009	0.002	0.001	0.000	0.000
60.	2.224	1.370	0.929	0.662	0.488	0.368	0.220	0.139	0.090	0.040	0.019	0.009	0.003
70.	2.657	1.767	1.279	0.961	0.740	0.578	0.366	0.239	0.159	0.074	0.035	0.017	0.006
80.	2.899	1.996	1.489	1.150	0.905	0.722	0.470	0.313	0.212	0.100	0.048	0.024	0.008
90.	3.025	2.117	1.602	1.253	0.998	0.804	0.532	0.359	0.244	0.116	0.056	0.028	0.010
100.	3.064	2.155	1.638	1.286	1.028	0.830	0.553	0.374	0.255	0.122	0.059	0.029	0.010
Top of Screen in	n Pumpea v							for Thiskns	~~				
Piez. Depth	5.00	10.00	nce of Piezo 15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0	-3.336	-2.055	-1.394	20.00 -0.993	25.00 -0.731	-0.552	40.00 -0.331	-0.208	-0.135	-0.060	-0.028	-0.014	-0.005
10.	-3.020	-1.822	-1.235	-0.993	-0.659	-0.501	-0.305	-0.208	-0.135	-0.057	-0.028	-0.014	-0.005
20.	-1.576	-1.070	-0.788	-0.600	-0.467	-0.368	-0.235	-0.154	-0.102	-0.047	-0.023	-0.011	-0.004
30.	-0.057	-0.248	-0.278	-0.261	-0.230	-0.197	-0.140	-0.098	-0.068	-0.033	-0.016	-0.008	-0.003
40.	0.519	0.219	0.083	0.014	-0.020	-0.036	-0.042	-0.036	-0.028	-0.015	-0.008	-0.004	-0.001
50.	0.808	0.482	0.311	0.207	0.140	0.096	0.046	0.022	0.011	0.003	0.001	0.000	0.000
60.	0.978	0.643	0.458	0.338	0.255	0.194	0.117	0.072	0.046	0.020	0.009	0.004	0.001
70.	1.084	0.745	0.554	0.426	0.334	0.265	0.170	0.112	0.075	0.034	0.016	0.008	0.003
80.	1.149	0.808	0.614	0.482	0.385	0.311	0.207	0.140	0.096	0.046	0.022	0.011	0.004
90. 100.	1.185 1.196	0.843 0.854	0.647 0.658	0.514	0.415	0.338	0.229	0.157	0.109 0.113	0.053 0.055	0.026 0.027	0.013 0.013	0.005
Bottom of Scree								0.105	0.113	0.055	0.027	0.013	0.005
Top of Screen in													
Piez. Depth	in r ampour r		nce of Piezo					ifer Thickne	ss				
	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0 -4.743	-3.373	-2.592	-2.057	-1.660	-1.354	-0.916	-0.628	-0.434	-0.210	-0.103	-0.051	-0.018	
10.	-4.694	-3.326	-2.547	-2.015	-1.621	-1.318	-0.887	-0.606	-0.417	-0.201	-0.098	-0.048	-0.017
20.	-4.547	-3.179	-2.407	-1.883	-1.499	-1.207	-0.799	-0.538	-0.366	-0.174	-0.084	-0.041	-0.015
30.	-4.263	-2.910	-2.151	-1.666	-1.283	-1.013	-0.648	-0.425	-0.283	-0.131	-0.062	-0.030	-0.011
40.	-3.803	-2.470	-1.747	-1.274	-0.952	-0.722	-0.431	-0.267	-0.170	-0.074	-0.034	-0.016	-0.006
50. 60.	-3.048 -1.708	-1.763 -0.569	-1.104 -0.096	-0.715 0.111	-0.471	-0.315 1 7 0.218	-0.145	-0.069 0.156	-0.034 0.116	-0.008 0.061	-0.002 0.031	-0.001 0.015	0.000 0.006
70.	1.189	1.644	1.500	1.258	1.032	0.210	0.156	0.384	0.263	0.125	0.061	0.010	0.000
ttps://stan80.r	ds 9.712	5.389	3.509	2.491	1.859	-941.4314	0.895	0.582	0.387	5/0.179	0.086 -	0.042	-20.015
90.	10.816	6.356	4.303	3.117	2.344	1.803	1.115	0.716	0.471	0.214	0.101	0.049	0.017
100.	5.425	5.032	4.064	3.168	2.457	1.915	1.190	0.763	0.500	0.226	0.107	0.052	0.018
Top of Screen in	n Pumped V	Vell is 70. Pe	er Cent of A	quifer Thick	ness Below	Top of Aqu	ifer						
Piez. Depth			nce of Piezo										
	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0	-4.651	-3.284	-2.506	-1.976	-1.585	-1.284	-1.860	0.584	-0.400	-0.191	-0.093	-0.046	-0.016
10. 20.	-4.597 -4.424	-3.232 -3.085	-2.457 -2.299	-1.929 -1.784	-1.542 -1.409	-1.246 -1.127	-0.829 -0.737	-0.561 -0.492	-0.383 -0.333	-0.182 -0.157	-0.089 -0.076	-0.044 -0.037	-0.015 -0.013
30.	-4.424 -4.100	-3.065 -2.755	-2.299	-1.520	1.173	-0.919	-0.737	-0.492 -0.379	-0.333 -0.252	-0.157	-0.076	-0.037	-0.013
40.	-3.547	-2.235	-1.536	-1.101	-0.810	-0.069	-0.361	-0.224	-0.144	-0.064	-0.030	-0.027	-0.005
50.	-2.572	-1.354	-0.778	-0.467	-0.290	-0.184	-0.079	-0.036	-0.017	-0.004	-0.001	-0.000	0.000
60.	-0.562	0.248	0.433	0.439	0.395	0.339	0.240	0.168	0.117	0.057	0.028	0.014	0.005
70.	4.965	3.061	2.094	1.515	1.138	0.878	0.551	0.362	0.243	0.114	0.055	0.027	0.009
80.	9.410	5.109	3.260	2.277	1.680	1.283	0.796	0.517	0.344	0.160	0.076	0.037	0.013
90.	6.304	4.280	3.150	2.401	1.867	1.471	0.939	0.615	0.410	0.189	0.090	0.044	0.015
100.	2.897	3.170	2.791	2.312	1.875	1.511	0.983	0.648	0.432	0.199	0.095	0.046	0.016
Top of Screen in	n Pumped V												
Piez. Depth	5.00		nce of Piezo							80.00	100.00	100.00	150.00
0.0 -4.520	5.00 3.157	10.00 -2.384	15.00 -1.861	20.00 -1.478	25.00 -1.187	30.00 -0.782	40.00 0.524	50.00 0.355	60.00 0.167	80.00 0.081	100.00 0.039	120.00 -0.014	150.00
10.	-4.455	-3.095	-2.326	-1.808	-1.431	-1.145	-0.750	-0.501	-0.334	-0.159	-0.033	-0.037	-0.013
20.	-4.247	-2.897	-2.142	-1.641	-1.282	-1.015	-0.654	-0.432	-0.290	-0.136	-0.065	-0.032	-0.011
30.	-3.845	-2.517	-1.797	-1.335	-1.017	-0.789	-0.494	-0.321	-0.213	-0.009	-0.047	-0.023	-0.008
40.	-3.108	-1.848	-1.217	-0.847	-0.613	-0.458	-0.273	-0.173	-0.114	-0.052	-0.025	-0.012	-0.004
50.	-1.601	-0.626	-0.273	-0.126	-0.060	-0.029	-0.007	-0.002	-0.000	0.000	0.000	0.000	0.000
60.	2.410	1.533	1.066	0.774	0.577	0.440	0.269	0.172	0.113	0.052	0.025	0.012	0.004
70.	6.144	3.458	2.220	1.534	1.113	0.836	0.506	0.374	0.214	0.099	0.047	0.023	800.0
80	6.547	3.837	2.566	1.840	1.378	1.062	0.666	0.435	0.291	0.136	0.065	0.032	0.011
90 100	3.757 1.318	2.780	2.176	1.735 1.609	1.395	1.127 1.129	0.746	0.500 0.520	0.338	0.159	0.077	0.037	0.013
100.	1.318	1.905	1.838	1.009	1.358	1.129	0.767	0.520	0.354	0.167	0.081	0.039	0.014

## € D5473/D5473M – 20

 TABLE 1
 Continued

-													
Top of Screen i	n Pumped V	Vell is 50. Pe	er Cent of A	quifer Thick	ness Below	Top of Aqu	ifer						
Piez. Depth			nce of Piezo	meter from	Pumped W	ell, as Per		ifer Thickne					
	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0 -4.336	-2.979	-2.216	-1.705	-1.335	-1.059	-0.681	-0.448	-0.299	-0.138	-0.066	-0.032	-0.011	
10.	-4.254	-2.902	-2.145	-1.642	-1.280	-1.012	-0.648	-0.425	-0.284	-0.131	-0.063	-0.030	-0.011
20.	-3.986	-2.650	-1.918	-1.442	-1.110	-0.868	-0.549	-0.358	-0.239	-0.110	-0.053	-0.026	-0.009
30.	-3.430	-2.146	-1.482	-1.076	-0.809	-0.672	-0.388	-0.253	-0.169	-0.079	-0.038	-0.019	-0.007
40.	-2.256	-1.189	-0.739	-0.506	-0.369	-0.282	-0.177	-0.118	-0.081	-0.039	-0.019	-0.010	-0.003
50. 60.	0.854 3.872	0.524 2.154	0.347 1.362	0.236 0.920	0.163 0.650	0.113 0.473	0.055 0.269	0.027 0.163	0.013 0.103	0.003 0.045	0.001 0.021	0.000 0.010	0.000 0.003
70.	4.716	2.154	1.871	1.310	0.050	0.473	0.269	0.163	0.103	0.045	0.021	0.010	0.003
80.	4.424	2.679	1.847	1.358	1.037	0.811	0.518	0.342	0.231	0.108	0.052	0.026	0.009
90.	2.114	1.701	1.410	1.172	0.973	0.807	0.554	0.380	0.262	0.125	0.061	0.030	0.011
100.	0.227	0.992	1.113	1.044	0.920	0.789	0.561	0.391	0.272	0.131	0.064	0.032	0.011
Top of Screen i													
Piez. Depth	•		nce of Piezo					ifer Thickne	SS				
	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0 -4.078	-2.732	-1.985	-1.494	-1.147	-0.893	-0.557	-0.357	-0.234	-0.105	-0.050	-0.024	-0.008	
10.	-3.966	-2.629	-1.894	-1.417	-1.083	-0.840	-0.523	-0.336	-0.220	-0.100	-0.047	-0.023	0.008
20.	-3.577	-2.279	-1.596	-1.171	-0.885	-0.683	-0.424	-0.274	-0.181	-0.083	-0.040	-0.019	-0.007
30.	-2.658	-1.533	-1.021	-0.734	-0.552	-0.428	-0.272	-0.180	-0.122	-0.058	-0.028	-0.014	-0.005
40.	-0.153	-0.148	-0.141	-0.132	-0.122	-0.111	-0.088	-0.068	-0.051	-0.027	-0.014	-0.007	-0.003
50.	2.327	1.214	0.719	0.453	0.296	0.198	0.092	0.044	0.022	0.005	0.001	0.000	0.000
60.	3.158	1.881	1.228	0.840	0.592	0.428	0.237	0.139	0.086	0.036	0.016	0.008	0.003
70.	3.336	2.052	1.389	0.988	0.726	0.547	0.328	0.207	0.135	0.061	0.029	0.014	0.005
80.	2.899	1.761	1.228	0.917	0.711	0.564	0.368	0.247	0.168	0.080	0.039	0.019	0.007
90.	0.961	0.896	0.807	0.709	0.612	0.523	0.374	0.264	0.185	0.091	0.045	0.022	0.008
100. Tan of Caroon i	-0.575	0.305	0.548	0.588	0.555	0.497	0.373	0.269	0.191	0.095	0.047	0.023	0.008
Top of Screen i Piez. Depth	n Pumpea v		nce of Piezo					ifor Thickno	<u></u>				
Flez. Deptil	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0 -3.705	-2.381	-1.666	-1.212	-0.902	-0.683	-0.408	-0.254	-0.162	-0.071	-0.033	-0.016	-0.005	100.00
10.	-3.528	-2.227	-1.540	-1.113	-0.827	0.627	-0.376	-0.235	-0.151	-0.067	-0.031	-0.015	-0.005
20.	-2.844	-1.684	-1.134	-0.815	-0.608	-0.465	-0.286	-0.183	-0.120	-0.055	-0.026	-0.013	-0.004
30.	-0.798	-0.569	-0.439	-0.349	-0.283	-0.231	-0.157	-0.108	-0.075	-0.037	-0.018	-0.009	-0.003
40.	1.264	0.560	0.271	0.130	0.055	0.015	-0.019	-0.026	-0.024	-0.015	-0.008	-0.004	-0.002
50.	1.996	1.150	0.722	0.470	0.313	0.212	0.100	0.048	0.024	0.006	0.001	0.000	0.000
60.	2.260	1.388	0.927	0.643	0.457	0.331	0.181	0.104	0.063	0.025	0.011	0.005	0.002
70.	2.224	1.370	0.929	0.662	0.488	0.368	0.220	0.139	0.090	0.040	0.019	0.009	0.003
80.	1.767	1.041	0.719	0.539	0.421	0.338	0.225	0.154	0.106	0.051	0.025	0.012	0.004
90.	0.106	0.277	0.328	0.330	0.309	0.279	0.213	0.157	0.113	0.057	0.029	0.014	0.005
100.	-1.189	-0.230	0.100	0.218	0.251	0.248	0.206	0.157	0.115	0.059	0.030	0.015	0.005
Top of Screen i	n Pumped V	Vell is 20. Pe	er Cent of A	quifer Thick	ness Below	Top of Aqu	ifer						
Piez. Depth			nce of Piezo										
	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
ttps 0.0 -3.123	ds-1.854a	1/c=1.211g	S -0.830	-0.588	-0.428	-0.239	a=0.141b	0.087	-0.036	0.016	-0.008 -	-0.003	F-20
10.	-2.768	-1.594	-1.035	-0.714	-0.511	-0.375	-0.213	-0.128	-0.080	-0.034	-0.015	-0.007	-0.002
20.	-1.137	-0.754	-0.542	-0.404	-0.307	-0.237	-0.145	-0.092	-0.060	-0.027	-0.013	-0.006	-0.002
30.	0.565	0.152	0.008	-0.046	-0.065	-0.068	-0.058	-0.044	-0.033	-0.017	-0.008	-0.004	-0.002
40. 50.	1.167	0.603 0.851	0.370 0.554	0.221 0.372	0.133 0.253	0.078 0.174	0.024 0.083	0.003	-0.004 0.020	-0.006	-0.004	-0.002 0.000	-0.001 0.000
60.	1.411 1.467	0.851	0.554	0.372	0.255	0.174	0.083	0.041 0.063	0.020	0.005 0.014	0.001 0.006	0.000	0.000
70.	1.344	0.904	0.530	0.369	0.290	0.114	0.114	0.003	0.037	0.014	0.000	0.003	0.000
80.	0.899	0.802	0.303	0.369	0.200	0.197	0.096	0.071	0.045	0.020	0.009	0.004	0.002
90.	-0.552	-0.211	-0.056	0.020	0.056	0.071	0.030	0.061	0.040	0.024	0.012	0.000	0.002
100.	-1.670	-0.653	-0.260	-0.084	-0.000	0.039	0.062	0.057	0.047	0.026	0.014	0.007	0.002
Top of Screen i													
Piez. Depth			nce of Piezo					ifer Thickne	SS				
E. S	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0 -2.055	-0.993	-0.552	-0.331	-0.208	-0.135	-0.060	-0.028	-0.014	-0.003	-0.001	-0.000	-0.000	
10.	-1.070	-0.600	-0.368	-0.235	-0.154	-0.102	-0.047	-0.023	-0.011	-0.003	-0.001	-0.000	-0.000
20.	0.219	-0.014	-0.036	-0.042	-0.036	-0.028	-0.015	-0.008	-0.004	-0.001	-0.000	-0.000	-0.000
30.	0.643	0.338	0.194	0.117	0.072	0.046	0.020	0.009	0.004	0.001	0.000	0.000	-0.000
40.	0.808	0.482	0.311	0.207	0.140	0.096	0.046	0.022	0.011	0.003	0.001	0.000	-0.000
50.	0.854	0.524	0.347	0.236	0.163	0.113	0.055	0.027	0.013	0.003	0.001	0.000	0.000
60.	0.808	0.482	0.311	0.207	0.140	0.096	0.046	0.022	0.011	0.003	0.001	0.000	0.000
70.	0.643	0.338	0.194	0.117	0.072	0.046	0.020	0.009	0.004	0.001	0.000	0.000	0.000
80.	0.219	0.014	-0.036	-0.042	-0.036	-0.028	-0.015	-0.008	-0.004	-0.001	-0.000	-0.000	0.000
90.	-1.070	-0.600	-0.368	-0.235	-0.154	-0.102	-0.047	-0.023	-0.011	-0.003	-0.001	-0.000	0.000
100.	-2.054	-0.993	-0.552	-0.331	-0.208	-0.135	-0.060	-0.028	-0.014	-0.003	-0.001	-0.000	0.000
Bottom of Scree													
Top of Screen i	n Pumped V												
Piez. Depth			nce of Piezo							00.07	400	100	4=0
0.0	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00	80.00	100.00	120.00	150.00
0.0 -4.560	-3.196	-2.421	-1.895	-1.509	-1.215	-0.803	-0.539	-0.366	-0.172	-0.083	-0.041	-0.014	0.014
10.	-4.500	-3.137	-2.366	-1.844	-1.463	-1.174	-0.771	-0.516	-0.349	-0.164	-0.079	-0.039	-0.014