COUPLED STREAM-AQUIFER EXCHANGES ALONG A LOSING REACH OF THE RIO GRANDE IN CENTRAL NEW MEXICO

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ABSTRACT

Along semiarid riparian corridors, quantifying seasonal and cyclic variations in surface water-groundwater interactions has significant implications for developing and calibrating hydrologic models. However, a comparison of stream-aquifer interactions as a function of different streamflow conditions has not been fully addressed. This gap in evaluating hydrological processes may affect resource-management activities if hydrologic models are conceptually flawed. This thesis investigates the degree of coupling between changes in river stage and resultant groundwater levels along a losing reach of the Río Grande in central New Mexico, United States. The stream-aquifer system near Escondida, New Mexico, was instrumented with temperature- and pressure-recording sensors to compare groundwater-level responses as a function of different streamflow conditions and determine forcing mechanisms driving diurnal stream-aquifer exchanges. Four streamflow scenarios were examined: small- and large-magnitude flood events and high and low river-stage conditions.

Observations indicate that groundwater responses were tightly coupled to changes in river stage during flood-induced streamflow events and high river-stage conditions. Changes in streamflow resulted in a series of corresponding pressure transients that were rapidly propagated as a pressure wave within the streambed and aquifer, in which monitoring wells adjacent to the river showed an almost immediate response. Stream-aquifer interactions during low river-stage conditions indicated a decoupling between

changes in river stage and groundwater levels in the streambed and aquifer. During low river-stage conditions, diurnal groundwater fluctuations were attributed to temperature-dependent changes in seepage and evapotranspirative fluxes from riparian vegetation. A periodic change in streambed infiltration caused by changes in river temperature produced a transient flux into the streambed sediments and aquifer. Rapid water-level responses suggested that the perturbation resulted from the transmission of a pressure wave.

While diurnal fluctuations in head have generally been associated with evapotranspirative demand alone, it appears that variations in streambed infiltration recharging the aquifer may in some cases explain a significant proportion of the variation of water levels in aquifers connected to shallow rivers. The presence of a streambed restricting layer in the shallow subsurface, large diurnal changes in river temperature, and cessation of diurnal groundwater fluctuations as streamflow approached zero support a scenario in which variations in groundwater recharge from the river contributes to the diurnal head change in the aquifer. Analysis of river temperature should be considered during coupled simulations of hydrodynamic interactions between rivers and riparian corridors along losing reaches in semiarid regions; furthermore, the conceptual model developed in this thesis indicates that the estimation of evapotranspirative fluxes using well hydrographs that contain diurnal groundwater fluctuations should be exercised with caution.

index terms: groundwater/surface water interactions; evapotranspiration; riparian systems; diel, seasonal, and annual cycles; water/energy interactions

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1. INTRODUCTION

In the American Southwest, water is a limited natural resource. Demands placed on this fragile resource—through human, industrial, and agricultural consumption—are often at odds with the need to balance competitive water supplies in order to sustain native ecological communities and meet interstate-compact demands. This balancing act often begins with determining the quantity of water distributed within a riparian corridor, which requires quantifying seasonal, spatial, and temporal variations of surface and groundwater interactions. Variations in the exchange of water across the stream-aquifer interface can be measured and used in calibrating hydrologic models in order to predict water quantity and quality on local and regional scales. The resulting models of hydrologic systems can then serve to evaluate sustainable water resource management policies (Sophocleous, 2000), in which integration of quantitative research with resource management practices can be an effective tool for balancing competitive demands. Understanding seasonal and cyclic changes in streamflow and groundwater levels is essential in developing sustainable water resource management plans along semiarid riparian corridors in the Southwest.

In order to understand seasonal and cyclic changes in surface water-groundwater interactions, environmental sensors are commonly deployed throughout a riparian corridor to collect high-resolution measurements within time and space. Measurements of river stage and groundwater levels often show tightly coupled stream-aquifer interactions along gaining and losing reaches. Very commonly, the magnitude and timing of a stream

or aquifer's response will depend on the frequency of the fluctuations. For example, rapid changes in streamflow and groundwater levels along a riparian corridor may be directly linked to transient changes due to flooding (e.g., Jung et al., 2004; Lamontagne et al., 2005; Vivoni et al., 2006) or precipitation (e.g., Wenninger et al., 2004). Additionally, variations in streamflow or groundwater levels may result from periodic forcing mechanisms that vary as a sinusoidal function in time. Periodic forcing mechanisms in nature commonly include effluent and reservoir discharge, tidal effects, snowmelt, barometric pressure effects, evapotranspiration (e.g, Townley, 1995), or temperature-induced seepage (e.g., Stonestrom and Constantz, 2003). In response to these time-dependent forcings, cyclic fluctuations of streamflow and groundwater levels are frequently diurnal (diel) in nature and the responses are characterized by small-amplitude changes.

Many studies have examined interactions along gaining reaches in humid environments during a single instance or multiple precipitation and streamflow events. However, a comparison of stream-aquifer interactions as a function of streamflow conditions along losing reaches has not been fully addressed. The purpose of this study was to evaluate the effects of different streamflow conditions on stream-aquifer interactions along a losing reach of the Río Grande in central New Mexico, United States. The stream-aquifer system was instrumented with temperature- and pressure-recording sensors to (i) compare groundwater responses during flood-induced and cyclic streamflow changes for high and low river-stage conditions; (ii) evaluate the effects of seasonal changes in streamflow on diurnal river-temperature variations; (iii) determine mechanisms that may be responsible for controlling diurnal groundwater fluctuations;

and (iv) quantify the effects of diurnal river-temperature variations on stream-aquifer interactions.

2. BACKGROUND

2.1 Stream-Aquifer Interactions

Surface water-groundwater interactions along riparian corridors are significantly affected by the variability and distribution of streambed sediments, hydraulic conductivities, and hydraulic gradients, in addition to the geometry of the fluvial plain (e.g., Larkin and Sharp, 1992; Woessner, 2000; Sophocleous, 2002). Fluxes from a stream to an aquifer, which are a metric of the aquifer connectivity, are primarily a function of the hydraulic conductivity of the streambed. However, measuring and predicting such fluxes is an exceptionally challenging endeavor (Conant, 2004), especially for riparian networks that contain a large degree of seasonal, spatial, and temporal variability, or have complex boundary conditions and dynamic interactions (e.g., Nyholm et al., 2003; Kollet and Zlotnik, 2003). Additionally, during low-flow conditions, the deposition of fines may effectively seal the channel and prevent transmission losses, which can complicate hydrodynamic interactions (e.g., Blasch et al., 2004; Lange, 2005). Moreover, when buried in the subsurface, streambed materials comprised of finer-grained sediments (sandy-silt, clay, and organics) with a low hydraulic conductivity may restrict surface water-groundwater interactions (e.g., Bartolino and Niswonger, 1999).

In addition to the hydraulic constraints caused by streambed sediment, rapid and seasonal fluctuations of streamflow along losing reaches strongly control the distribution

of hydraulic head in the aquifer. Surface water-groundwater interactions during transient flood events may yield insight into connections within the coupled system. For example, observations along gaining and losing reaches have indicated that rapid changes in streamflow and groundwater levels during flooding arise from the translation and diffusion of a pressure wave within the aquifer. Because groundwater is only slightly compressible, the response is transmitted nearly instantaneously. As a result, pressure-wave velocities travel many orders of magnitude faster than fluid velocities based on Darcian flux predictions (e.g., Jung et al., 2004; Lamontagne et al., 2005; Vivoni et al., 2006). Additionally, flood events that significantly stress the system may be used prognostically to quantify hydraulic properties of the aquifer (e.g., Singh, 2003; Jha et al., 2004; Lamontagne et al., 2005) and exchanges of solutes across the stream-aquifer interface (Hinzman et al., 2000; Martí et al., 2000).

Generally, seasonal fluctuations of streamflow determine the groundwater elevation during the year, especially for aquifers adjacent to losing reaches of main-stem perennial rivers. Along semiarid riparian corridors the magnitude of winter snowpack, the timing of spring snowmelt and summer monsoon rains, and diversions for irrigation strongly control the river stage and hydraulic head distribution within a watershed. For example, along the Río Grande in central New Mexico, winterflow conditions are generally correlated with high river stage and elevated groundwater levels for wells in close proximity to the river (Wilcox, 2003). A reduction in streamflow following the peak in snowmelt runoff during spring, in addition to agricultural diversions and evapotranspiration from riparian vegetation, cause groundwater levels to decline significantly (Wilcox, 2003). Excluding temporary responses due to monsoon rains and

flooding (Vivoni et al., 2006), streamflow during the summer is characterized by low river stage and groundwater levels. During periods of extended drought, rivers in the American Southwest (e.g., the Río Grande) may reach low-flow conditions or dry along certain reaches (unpublished field observations, 2003–2005).

2.2 Stream Temperature and Streamflow

Complimentary with hydraulic testing and synoptic/continuous measurements of stream-aquifer levels, temperature measurements have been used extensively to better understand and quantify surface water-groundwater interactions (e.g., Stonestrom and Constantz, 2003; Anderson, 2005). For example, temperature measurements have been used to constrain infiltration-rate measurements (e.g., Jaynes, 1990) and identify gaining and losing reaches (e.g., Silliman and Booth, 1993; Conant, 2004). Studies utilizing a combination of hydraulic and thermal measurements have been used to determine groundwater fluxes (Bravo et al., 2002), measure streamflow loss (e.g., Constantz et al., 1994; Ronan et al., 1998; Niswonger et al., 2005), calibrate coupled surface water-groundwater flow models (Su et al., 2004), and understand biogeochemical interactions (e.g., Nimick et al., 2003; Conant et al., 2004).

The subsurface temperature distribution can strongly influence stream and aquifer hydraulics. The dependence of hydraulic conductivity on temperature is represented by equation 1 (Muskat 1937, p. 71, modified after equation 3):

$$K = k * g * \frac{\rho}{\mu} \qquad (1)$$

Here K is hydraulic conductivity of the saturated sediments [L T^{-1}], k is intrinsic permeability [L^2], g is average gravitational acceleration constant [L^2 T^{-1}], ρ is fluid density [M L^{-3}], and μ is fluid dynamic viscosity [M $L^{-1}T^{-1}$]. The effects of gravity and

fluid density may be removed by substituting a pressure-gradient term. Density and dynamic viscosity are temperature-dependent properties that depend solely on the fluid, whereas the intrinsic permeability is strictly a function of the porous medium.

For losing streams, infiltration of surface water and advection of heat can strongly influence the hydrologic response, especially for main stem rivers where seepage losses may be significantly greater than in lower-order streams. Constantz et al. (1994) demonstrated how coupling between diurnal changes in river temperature and streambed infiltration can affect streamflow loss and groundwater recharge under appropriate atmospheric and hydrologic conditions. The authors concluded that a diurnal change in the streambed hydraulic conductivity is almost entirely a function of the fluid viscosity (equation 1) and that streamflow is related inversely to river temperature and directly to streamflow loss. Numerical simulations of field observations completed by Constantz (1998) indicated that the presence of a diurnal streamflow signal, modulated by diurnal variations in river temperature, was dependent on the depth and conductivity of a restricting layer, in addition to upstream variations in flow.

In accordance with the conceptual model developed by Constantz et al. (1994) and discussed in the work of Anderson (2005), this paper investigates whether a losing stream containing a diurnal streambed hydraulic conductivity (infiltration) signal could be expected to produce a transient boundary condition that would propagate through the aquifer. It is also hypothesized that the transient perturbation could be coupled with an evapotranspirative response. Because the actual forcing mechanism(s) and potential feedbacks are difficult to distinguish (i.e., solutions are nonunique), end-member scenarios investigating two competing hypotheses are presented to explain the diurnal

groundwater fluctuations, which include diurnal variations in evapotranspiration and temperature-induced streambed infiltration.

2.3 Evapotranspiration

In addition to thermally modulated stream-aquifer interactions, daily variations in earth's radiation budget have been closely linked to fluctuations of riparian evapotranspiration (ET), which in turn may affect the hydraulic response along a riparian corridor. Riparian vegetation that uses groundwater during transpiration may cause diurnal fluctuations of hydraulic head in an aquifer (e.g, White, 1932) and in the streamflow signal for gaining streams (Troxell, 1936; Meyboom, 1967; Bren, 1997; Bond et al., 2002; Nyholm et al., 2003). During the daytime, water levels in an aquifer will decline because the transpiration requirements exceed groundwater inflow (recharge). In the evening, groundwater levels may reach a daily minimum as evapotranspirative fluxes are counterbalanced by groundwater recharge. When ET approaches zero, groundwater inflow exceeds transpiration requirements, and the groundwater elevation increases to a daily maximum, at which point the process is repeated. The cumulative response results in a well or stream hydrograph with a quasi-sinusoidal shape.

During a 24-h period, the evapotranspirative flux across the land surface is spatially and temporally variable (e.g., Loheide and Gorelick, 2005), and a nonlinear function of atmospheric, hydrologic, and ecophysiologic interactions. Despite the nonlinear nature of the forcing mechanism, methods have been developed (White, 1932; Loheide et al., 2005) and implemented to predict the quantity of water consumed by riparian vegetation during a 24-h period through the analysis of diurnal water-table fluctuations (e.g., White, 1932; Troxell, 1936; Meyboom, 1967; Rosenberry and Winter,

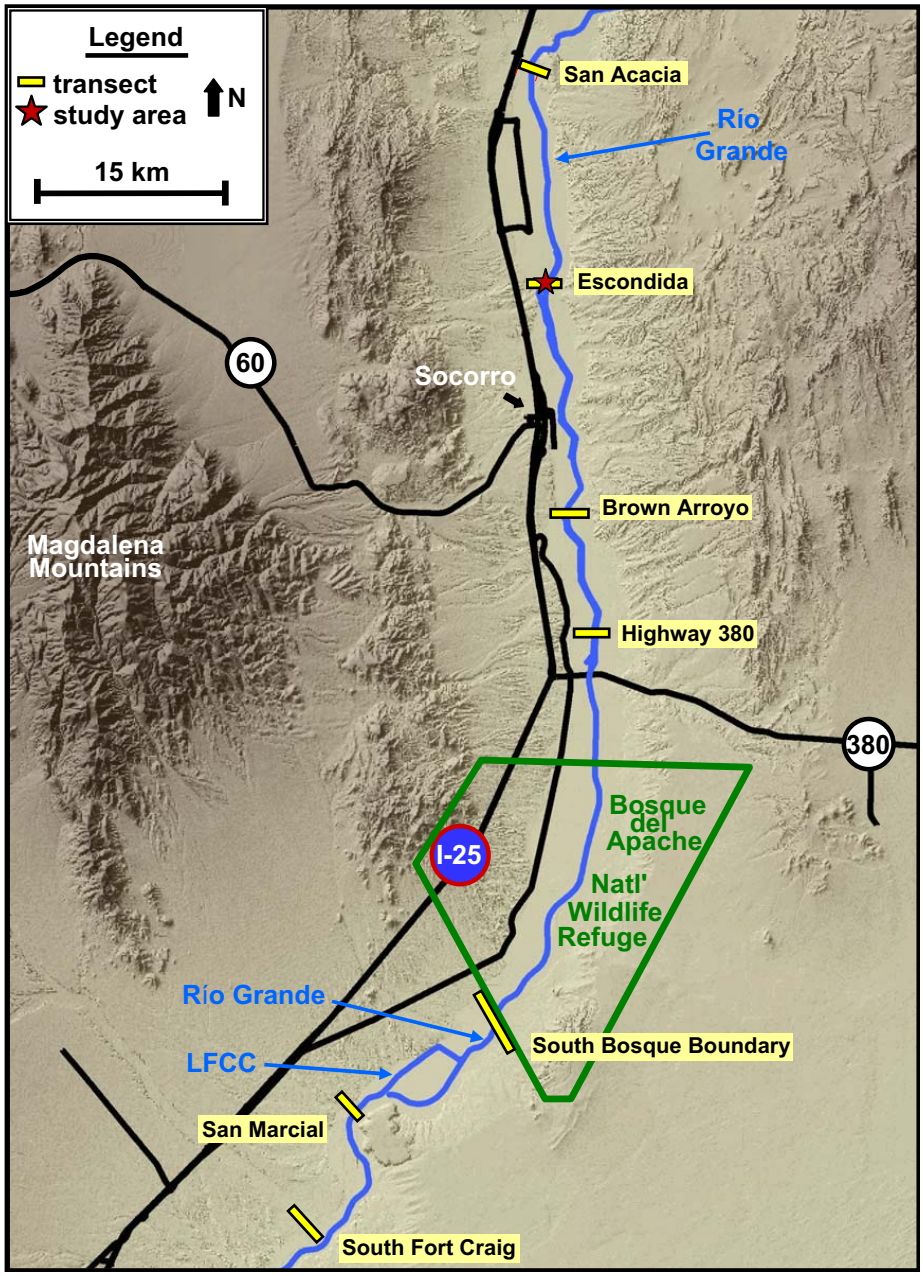
1997; Loheide et al., 2005). Taken together, interactions among transient changes in channel geomorphology and hydraulic properties, river temperature and streambed infiltration, and evapotranspiration and water consumption, complicate the quantitative analysis of seasonal and diurnal stream-aquifer interactions significantly.

3. FIELD SETTING, INSTRUMENTATION, AND STATISTICAL METHODS

3.1 Study Area

Riparian restoration efforts and interstate-compact demands have motivated intense hydrologic characterization along a 90-km stretch of the Río Grande Basin between San Acacia and Fort Craig in central New Mexico (Figure 1). Previous estimates of transmission losses (seepage) to the shallow aquifer characterized this area as a losing reach that exhibited a pronounced variability in spatial and seasonal dynamics (Newton et al., 2002; S.S. Papadopulos and Associates, 2002). Additional depletions from the riparian corridor include agricultural diversions for irrigation, evaporation from the river and other surface-water bodies, and transpiration by riparian vegetation, which is strongly driven by the basin's semiarid climate (Wilcox et al., 2006). Conditions in the Río Grande strongly control water levels in the floodplain aquifer (Richards, 2006; Vivoni et al., 2006) and possibly seepage losses (Newton et al., 2002; S.S. Papadopulos and Associates, 2002, Figure 48). As previously stated, stream and aquifer levels are a function of the magnitude of winter snowpack, timing of spring snowmelt and summer monsoon rains, and diversions for irrigation (Wilcox, 2003).

In order to better understand surface water-groundwater interactions within the Socorro reach of the Río Grande, an extensive monitoring network comprised of surface water gauges and nested monitoring wells/piezometers was constructed along seven



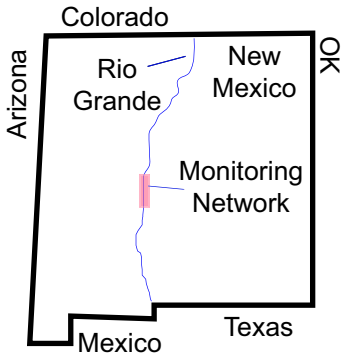


Figure 1. Map of New Mexico illustrating location of the Río Grande and surface water-groundwater monitoring network. Digital elevation model of Río Grande Valley, monitoring network, and study area. At this scale the Río Grande and Low Flow Conveyance Channel (LFCC) overlie one another. This figure was modifed after Wilcox (2003).

transects (S.S. Papadopulos and Associates, 2003; Wilcox, 2003). This study focused on the Escondida (ESC) transect due to the high density of instrumentation and relatively low density of riparian vegetation (Figures 2a, 2b, and 2c).

3.2 Hydrogeology

Unconsolidated alluvium deposited by the Río Grande consists of braided fluvial materials, including sand with scattered lenses of silt and clay, and occasional layers of gravel. Units are vertically and laterally discontinuous, growing coarser with increasing depth (S.S. Papadopulos and Associates, 2003).

Estimates of the physical properties of the aquifer at Escondida were determined from a constant-rate, 48-h aquifer test (Appendices A, B, and C; S.S. Papadopulos and Associates, 2004). Fine-grained lenses in the shallow subsurface caused the groundwater to respond as a semiconfined, leaky aquifer during the test. Assuming the aquifer response can be conceptually represented by Theis conditions (e.g., confined, homogeneous, isotropic, fully penetrating) and mathematically represented by the Cooper-Jacob simplification, the aquifer responses at four intermediate-depth monitoring wells, as a function of the radial distance from the extraction (pumping) well, resulted in a transmissivity estimate of 590 m^2/d and a storativity estimate of 2×10^{-2} (Appendix B). The estimated horizontal hydraulic conductivity was approximately 24 m/d assuming an aquifer thickness of 24 m. Aquifer testing at another transect (Highway 380) yielded depth-dependent vertical-to-horizontal hydraulic-conductivity ratios from 0.05 to 0.08 for the upper 9 m and 0.3 to 0.7 for the deeper 18 m of the aquifer (S.S. Papadopulos and Associates, 2004).

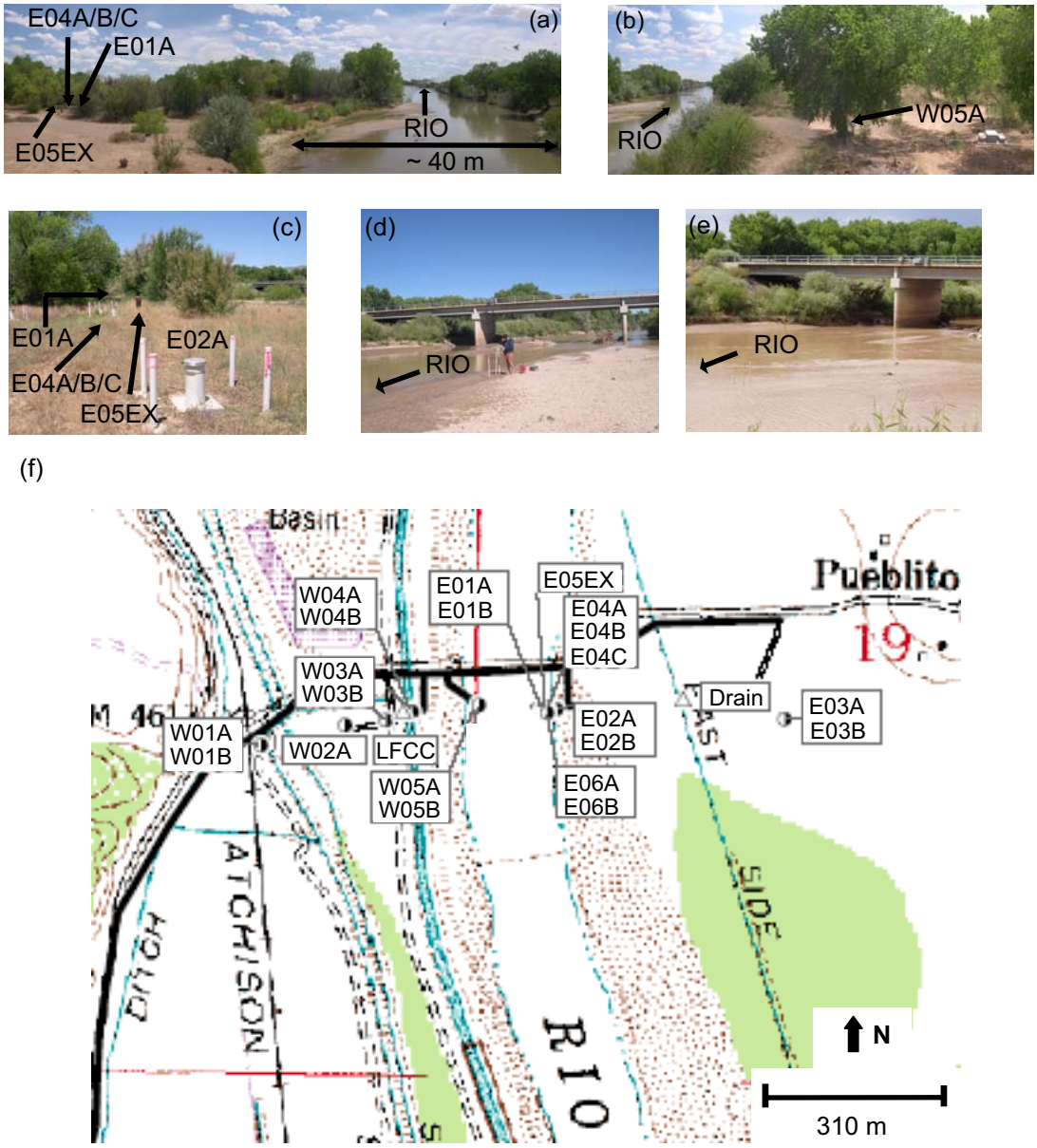


Figure 2. Photographs and map view of the Escondida transect. **(a)** View looking downstream from a bridge crossing the river toward the east and **(b)** west banks of the Río Grande 1 May 2006. **(c)** Inset of (a) perpendicular to the river illustrating well cluster (Table 1) looking west. **(d)** Río Grande during low river-stage conditions taken 15 September 2005. Three piezometers installed beneath the dry shallow streambed floodplain are shown. **(e)** Inundation of the shallow streambed floodplain on 5 September 2005. A series of small-magnitude, short-duration flood events 5-9 September 2005 resulted in a flood-induced pressure boundary. Both (d) and (e) are looking upstream toward the northwest. **(f)** Map view of the Escondida transect. The Low Flow Conveyance Channel (LFCC) is located to the west of the river. Figure modified after S.S. Papadopulos (2003).

Estimates of the physical properties of the streambed were obtained from a test with a conservative tracer (sulfur hexafluoride) injected into the shallow (~ 0.5 m depth) streambed at the Escondida transect during December 2003. Analysis of tracer breakthrough and application of Darcy's law yielded a range of vertical hydraulic conductivities between 6.4 and 12.8 m/d (Cardenas, 2006).

3.3 Surface and Groundwater Monitoring Points

At the ESC transect, nested monitoring wells were installed with a truck-mounted hollow-stem auger. Split-spoon sampling was conducted at a subset of the monitoring locations. Borings were logged on-site and grain-size analyses were completed for the deepest well (S.S. Papadopulos and Associates, 2003). Well casings were constructed with 5.08-cm-diameter polyvinyl chloride (PVC) tubing and were installed at three depths. Shallow A-wells were screened across the water table. Intermediate B-wells were constructed to ~ 15 m below ground surface (bgs) and one deep C-well was constructed to 25.6 m bgs and intended to intersect the Santa Fe Formation (ancestral Río Grande deposits). Both B- and C-well types were screened over the lower 1.5 m. A 25.40-cm-diameter aquifer test (extraction) well was constructed 16.9 m bgs and screened over the lower 5.7 m. Monitoring wells were identified by transect name, well depth, and position (east or west) with respect to the Río Grande (S.S. Papadopulos and Associates, 2003). Well identification, construction, and location information presented in this paper are summarized in Table 1.

Table 1. Well identification, construction, and location information at the Escondida transect[a] sorted by lateral distance and position from the river.

Well Id[b]	lateral distance (m)[c]	total depth (m)	screened interval (m)	surface elevation (m)[d]
E01A	30	6.0	1.4 - 5.9	1407.54
E04A	36	6.1	1.5 - 6.1	1407.65
E04B	collocated with A	15.5	13.9 - 15.4	1407.65
E04C	37	25.6	23.9 - 25.4	1407.61
E05EX[e]	38	16.9	9.3 - 15.0	1407.87
E02A	52	6.2	1.4 - 6.0	1407.67
W05A	30	5.9	1.2 - 5.8	1407.60
W04A	142	5.0	2.0 - 5.0	1406.85

[a] Data reproduced after S.S. Papadopulos and Associates, 2003.
[b] Monitoring well names begin with the prefix ESC and are shortened here for convenience.
[c] Measured from the edge of the river channel at bankfull conditions.
[d] Elevation measurements are relative to mean sea level and referenced to NGVD 88.
[e] Large-diameter extraction well.

During August 2005, a 1.5-m-deep trench was dug in a dry section of the streambed near the west bank of the Río Grande at the ESC transect. The trench's cross section revealed relatively homogeneous fine-grained sands with a prominent ~ 2 cm thick silty-clay layer within 1 m below the floodplain surface. In September 2005, three 3.18-cm-diameter PVC pipes with stainless-steel-screened drivepoints and 20 cm screen intervals were installed with a post-driver into the Río Grande shallow streambed floodplain near the center of the channel (Figures 2d and 2e). The shallow piezometer was screened 0.5 m below the streambed (PZ-1). The intermediate piezometer was driven 1.0 m below the streambed (PZ-2) and the deep piezometer was screened 1.5 m below the shallow streambed floodplain (PZ-3). Piezometers were developed immediately following installation by repeated flushing/injection with distilled water. Difficulty encountered during installation of PZ-3 was interpreted to result from the presence of fine-grained, low-permeability sediments at ~ 1.25 m depth beneath the shallow

streambed floodplain. This postulated unit near the channel center appeared to be correlative with the silty-clay unit identified in the trench on the west bank. Measurements of groundwater responses in the aquifer support this correlation.

3.4 Surface and Groundwater Elevation Measurements

Monitoring wells and streambed piezometers were instrumented with miniTROLL gauged pressure transducers (In-Situ, Inc., Fort Collins, Colorado). A vent tube allowed fluid pressure in the monitoring well to be measured relative to atmospheric pressure. Transducer cables were contained within a surface casing to minimize noise in pressure readings resulting from variations in solar radiation (Cain et al., 2004). The miniTROLL has a stated accuracy of ± 22 mm with a resolution of 1 mm over the full pressure (0 to 21 m or 0 to 206.8 kPa) and temperature (-5 to 50°C) range. Pressure readings are temperature-compensated automatically. The temperature sensor is accurate to ± 0.25°C with a resolution of ± 0.001°C. The pressure transducers were calibrated with a water-level meter accurate to 1 mm and programmed to record data in 60-min intervals or 15-min intervals during late summer, fall, and winter 2005 (Appendices D and E). Some of the pressure transducers also stored temperature measurements. Fluid pressure was converted to water elevation—in meters above mean sea level (m above MSL)—assuming a constant water density of 1000 kg/m^3 and an average gravitational acceleration constant of 9.8066 m^2/s. For a subset of the data, hydrographs were detrended in Matlab (The MathWorks Inc., Natick, Massachusetts), where a line of best fit was computed and the resultant function was subtracted from the data.

In April 2005 the United States Geological Survey (USGS) installed a H-360 radar water-level meter (USGS gauge ID 08355050; Design Analysis Associates, Inc.,

Logan, Utah) mounted to a bridge immediately upstream of the ESC transect (Figures 2d and 2e). The sensor generates a microwave signal that is transmitted and reflected from the water surface where the echo is detected and evaluated for changes in phase to determine the distance to the water. Río Grande stage was computed from an arbitrary datum beneath the streambed in 15-min intervals (Appendix D). The instrument was accurate to ± 3.0 mm over the full distance range of 0 to 35 m. The operating temperature range for the electronics is from -40°C to 60°C. The microwave signal is unaffected by mist, surface agitation, temperature changes, or pressure changes. Dynamic process-tracking software ensures a quick response to changing water levels by automatically reducing the normal averaging time constant. In Matlab, high-frequency noise was removed from the river-stage measurements with a zero-phase forward and reverse filter with a one-hour moving window.

3.5 Stream Temperature Measurements

Río Grande water temperature was recorded in 15-min intervals with a HOBO Water Temp Pro logger (Onset Computer Corp., Bourne, Massachusetts) 29 June to 8 July 2005 (Appendix F) and 3 September to 14 December 2005 (Appendix G). The temperature sensor has a stated accuracy of ± 0.2°C with a resolution of 0.02°C at 25°C. The sensor was anchored to the bottom of the streambed with a metal disc brake and installed where the channel was deepest near the west bank beneath the bridge (Figures 2d and 2e). All temperature, river-stage, and groundwater-elevation measurements were synchronized and programmed (or corrected) to a 24-h clock referenced to Mountain Standard Time (MST).

3.6 Statistical Methods

Cross-correlation analyses were completed in Minitab (Minitab Inc., State College, Pennsylvania) to statistically optimize computed time lags and the degree of correlation between measurements of atmospheric, hydrologic, and ecologic variables. Regression was also computed in Minitab, and coefficients of determination (r^2) are presented at the 95% confidence level (5% significance level), and p-values are reported to test for statistical significance of the regression. P-values equal to 0.000 were taken directly from software output, and in actuality correspond to a number greater than zero (i.e., < 0.001). Optimized time lags were used in regression analyses to systematically assess which processes may be controlling the diurnal groundwater fluctuations.

4.0 OBSERVATIONS, RESULTS, AND DISCUSSION

4.1 Flood-induced Stream-Aquifer Interactions

At the Escondida (ESC) transect, a series of small- and large-magnitude flood events occurred during September and October 2005. Water-level responses in the Río Grande, streambed, and aquifer are examined to yield insight into the lateral and vertical propagation and attenuation of the floodwave signals within the stream-aquifer system. Additionally, groundwater responses for different flood scenarios are compared to determine whether the propagation of a pressure wave in an aquifer is sensitive to antecedent conditions in addition to the magnitude of the perturbation.

4.1.1 Small-magnitude (~ 0.1 to 0.3 m) Short-duration Events

A series of transient, high-river-flow events recorded 5–9 September 2005 resulted in a flood-induced pressure boundary that propagated laterally and vertically through the streambed (Table H-1). Figure 3 compares changes in river stage to hydraulic responses measured by piezometers in the shallow streambed. The small-magnitude, short-duration flood events created conditions where the piezometers and shallow floodplain were continuously inundated (Figure 2e), excluding the first eight hours of the time series. Water remained within the river banks during the flood events. In the inundated shallow floodplain, the hydraulic responses at shallow and intermediate piezometers PZ-1 and PZ-2, respectively, were concurrent while the responses measured

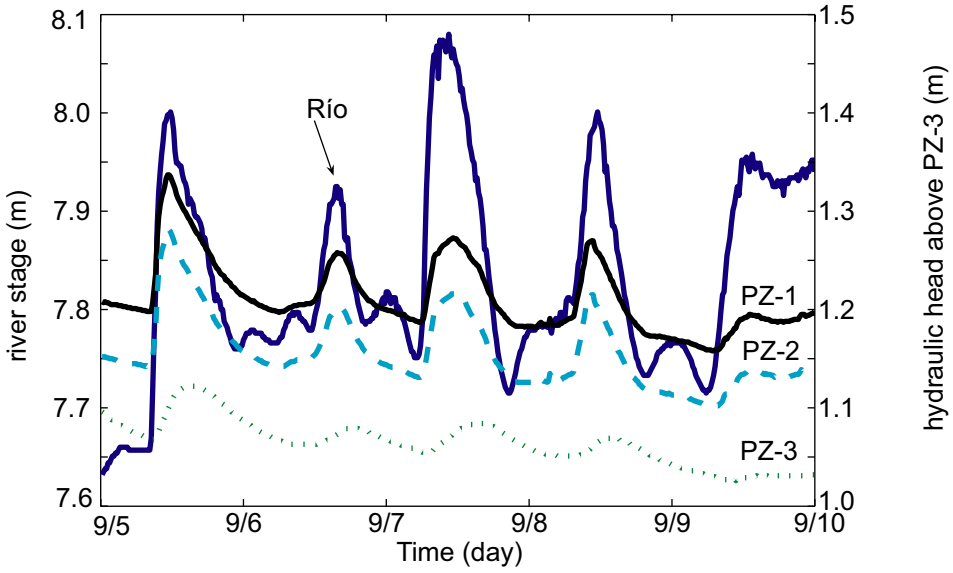


Figure 3. Río Grande stage and groundwater levels measured in the streambed during small-magnitude, short-duration flood events 5-9 September 2005. Stage and head measurements were recorded in 15-min intervals. River stage was referenced from an arbitrary datum beneath the streambed. PZ-1, PZ-2, and PZ-3 were located 0.5, 1.0, and 1.5 m beneath the shallow streambed floodplain. For the piezometers, hydraulic head is referenced from PZ-3.

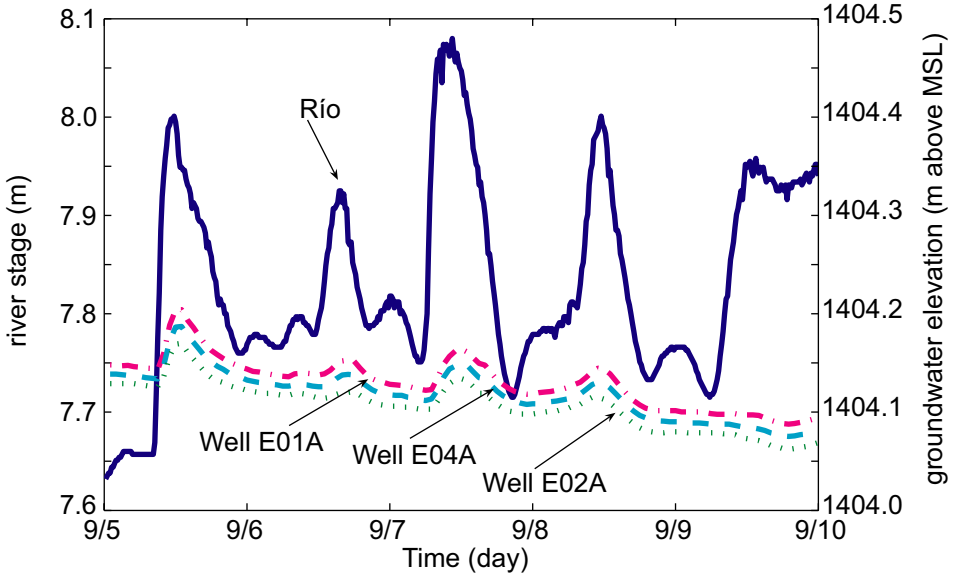


Figure 4. Río Grande stage and groundwater elevation measured in the aquifer during small-magnitude, short-duration flood events 5-9 September 2005. Stage and head measurements were recorded in 15- and 60-min intervals, respectively (E01A originally recorded in 15-min intervals). River stage was referenced from an arbitrary datum beneath the streambed. Groundwater elevation measurements were referenced to meters above mean sea level (m above MSL). Wells E01A, E04A, and E02A are located 30, 36, and 52 m east of the Río Grande, respectively.

at the deeper piezometer PZ-3 were dampened, attenuated, and lagged with respect to river stage and the other two piezometers. Cross-correlation analysis between PZ-1 and PZ-2 hydrographs 5–8 September 2005 yielded a zero time lag that was strongly correlated (r^2 of 1.000; Table H-2); whereas between PZ-1 and PZ-3 hydrographs a 2.5 h positive time lag was obtained (r^2 of 0.679; Table H-3).

For the September 6 and 7 events, the pressure transients, or changes in hydraulic head as a function of vertical distance from the river surface to piezometer depth, decreased exponentially with depth (r^2 of 0.999, $p = 0.005$ and r^2 of 0.979, $p = 0.024$; Figure H-1), excluding PZ-2. The change in hydraulic head was calculated from the onset of hydrograph-increase to the maximum value for that daily flood event. On September 6, the water-level responses were 51 mm for PZ-1 and 16 mm for PZ-3 (Table H-4); differences between the maximum water-level response times in river stage and piezometers were 8 min for PZ-1 and 158 min for PZ-3 (median time for multiple maximum values; Table H-5). On September 7, the water-level responses were 81 mm for PZ-1 and 31 mm for PZ-3 (Table H-4); differences between the maximum water-level response times in river stage and piezometers were 68 min for PZ-1 and 285 min for PZ-3 (Table H-5). The delayed hydraulic responses measured in PZ-3 provided evidence for the postulated low-permeability layer located at ~ 1.25 m depth beneath the shallow streambed floodplain, which would correspond to ~ 0.6 m beneath the deepest part of the channel.

Figure 4 shows river and well hydrographs during the September 5–9 transient flood events and can be used to compare lateral groundwater responses with the flood pulses. On September 6 and 7, the aquifer responses at E01A were 16 and 42 mm,

respectively, which incidentally were similar in magnitude to the head responses measured at PZ-3. A decrease in amplitude with respect to lateral distance from the river was recorded. For example, during the events that occurred on September 6 and 7, the water-level responses at E04A were 12 and 37 mm, and the responses at E02A were 7 and 31 mm, respectively. The three shallow wells—E01A, E04A, and E02A—were located 30, 36, and 52 m east of the Río Grande, respectively (Table 1). The lateral head change that propagated through the aquifer on September 6 and 7 decreased exponentially (r^2 of 0.967, p = 0.003 and r^2 of 0.895, p = 0.005; Figure H-2). On September 6, differences between the maximum water-elevation response times for E01A and E02A, separated by a distance of 22 m, yielded a horizontal pressure-wave velocity of ~ 382 m/d (median time for multiple maximum values; Table H-5). Also on September 6, calculated pressure-wave velocities between E01A and E04A (6 m apart) and E04A and E02A (16 m apart) were ~ 393 m/d and 384 m/d, respectively (Table H-5). The timing of maximum water-level responses recorded September 7 at E01A, E04A, and E02A were identical. However, as a result of different recording intervals (15-min for E01A; 60-min for E04A, E02A), uncertainty in the exact timing of the lateral responses in the aquifer remained.

During September 6 and 7, the intermediate-depth wells E04B and E05EX recorded a larger, flood-induced head change between 2 and 5 mm, as compared to the water-table well E04A (Table H-1). Less attenuation of the floodwave signal with respect to increased vertical aquifer depth is consistent with a conceptual model where the aquifer responded as a semiconfined leaky system. These observations agree with drawdown responses measured in well nests during an aquifer test at the ESC transect.

Even though the groundwater responses were larger for E04B, a gradient reversal in vertical flow was not recorded at the well nest, which contrasts with conditions observed during the large-magnitude flood event, as discussed below.

In response to the small-magnitude, short-duration flood pulses, groundwater in the streambed and aquifer responded rapidly to the transient changes in pressure. Overall, water-level responses (i) dampened exponentially during vertical propagation in the inundated shallow streambed floodplain; (ii) dampened exponentially during lateral propagation through the aquifer; and (iii) attenuated less during vertical transmission through the aquifer. Travel times between monitoring wells indicated that the small-magnitude (~ 0.1 m) changes in river stage were propagated rapidly as a pressure wave through the aquifer. For the flood events presented, the onset of flood-induced water-level responses and timing of maximum water elevations recorded at E01A were nearly equivalent with PZ-1 and PZ-2, where no significant time lags were measured (Table H-5); however, comparison between PZ-3 and E02A indicated that the floodwave was transmitted preferentially in the horizontal direction, indicative of stream-aquifer anisotropy. The flood event on September 9, and negligible head change measured in the aquifer (Figure 4), indicated that the slow increase in river stage did not significantly affect the magnitude of the groundwater responses in the aquifer.

4.1.2 Large-magnitude (~ 1 m) Multi-day Event

Stream-aquifer interactions during a large-magnitude, multi-day flood event on the Río Grande from 27 September to 6 October 2005 are presented for comparison with water-level changes outlined in the preceding section. The monsoon flood event was a response to tributary inflows to the Río Grande upstream from the northern extent of the

surface water-groundwater monitoring network (unpublished field observations, 2005). Flow was constrained within the river banks. Figure 5 contains river and well hydrographs illustrating the lateral extent of the floodwave east and west of the river. Pressure transducers were removed from the piezometers on September 29, which was fortunate considering PZ-1 was washed downstream during the large-magnitude flood event.

Similar to the groundwater responses recorded during the small-magnitude flood events, the large-magnitude flood event created a perturbation that was transmitted rapidly through the aquifer. For the river-stage peak of September 29 and the first peak during September 30, differences between the response times of maximum water elevations for E01A and E02A, separated by a distance of 22 m, yielded horizontal pressure-wave velocities of ~ 860 and 1060 m/d (Table H-6). The response times of maximum water elevations at E01A and E02A, east of the Río Grande, were equivalent during the second peak in water levels on September 30 and maximum water level recorded on October 3 (actual responses constrained by 15-min recording interval). Overall, the measured pressure-wave velocities were approximately four orders of magnitude larger than the calculated seepage velocities (~ 0.1 m/d) assuming Darcian flow. Rapid travel times indicated that the floodwave was propagated as a pressure wave through the aquifer, consistent with another monsoon-induced, large-magnitude, multi-day flood event measured along the monitoring network during September 2003 (Vivoni et al., 2006).

Pressure-wave propagation west of the Río Grande was more variable. Calculated pressure-wave velocities between W05A and W04A, separated by a distance of 112 m,

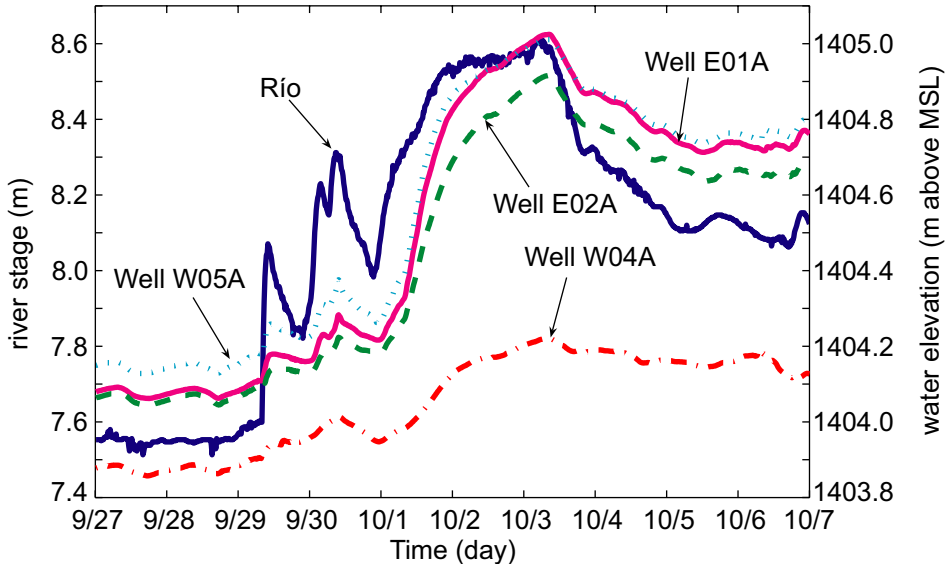


Figure 5. Río Grande stage and groundwater elevation measured in the aquifer during a large-magnitude, multi-day flood event 27 September to 6 October 2005. Stage and head measurements were recorded in 15-min intervals. Diurnal groundwater fluctuations in the aquifer were clearly discernible leading up to the flood event. Wells E01A and E02A are located 30 and 52 m east of the Río Grande; wells W05A and W04A are 30 and 142 m west of the Río Grande, respectively.

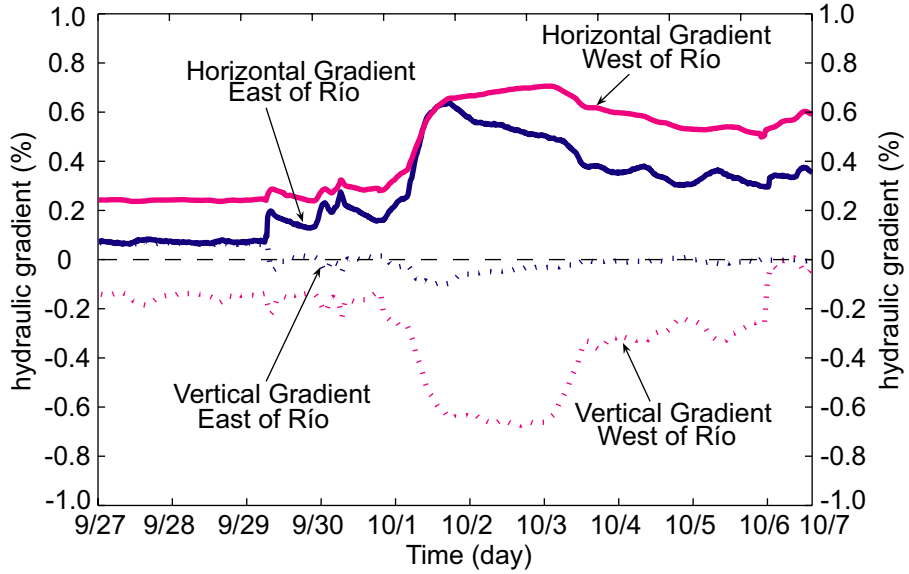


Figure 6. Horizontal and vertical hydraulic gradients east and west of the river illustrating the propagation of the passing floodwave 27 September to 6 October 2005. Horizontal and vertical hydraulic gradients were recorded in 15-min and 60-min intervals, respectively. Positive and negative values indicate downward and upward groundwater flow directions, respectively. The horizontal dashed line at zero is included for reference, and indicates a no-flow condition. Along the horizontal direction, hydraulic gradients were calculated between wells E01A and E02A and W05A and W04A separated by distances of 22 and 112 m, respectively. Vertical gradients were calculated for the E04 and W05 well nests located 36 m and 30 m from the river, respectively.

were ~ 2,690, 10,750, and 5,380 m/d on September 29, for the second river-stage peak of September 30, and October 3, respectively (Table H-6). The variability in calculated wave speeds probably resulted from a nonlinear aquifer response to changes in river stage, antecedent moisture conditions, and interactions with a large drain located to the west of W04A (Figure 2f).

At the ESC transect, and elsewhere along the monitoring network, large-magnitude, rapid changes in stream and aquifer levels have affected groundwater flow, resulting in reversals from downward to upward flow (Vivoni et al., 2006). Earlier response times and less attenuation of the floodwave signal with respect to increased vertical aquifer depth is consistent with a conceptual model where the aquifer responded as a semiconfined leaky system. During a rapid change in streamflow, deeper portions of the aquifer become pressurized due to the presence of fine-grained materials that together may act as a semiconfined layer, which in addition to a more direct connection between the river and deeper portions of the aquifer, induces upward flow (Verkerdy and Meijerink, 1998).

Figure 6 illustrates the floodwave propagation as a function of the horizontal and vertical hydraulic gradients east and west of the Río Grande. Vertical distances were referenced from well-screen midpoints. Positive and negative values indicate downward and upward flow directions, respectively. Horizontal hydraulic gradients west of the river between W05A and W04A closely mirrored the river stage during the passing floodwave. Vertical hydraulic gradients at the W05 well nest were continuously upward, and presumably driven by the presence of a large conveyance channel that parallels the river and acts as a drain (Figure 2f). Interactions between the river and the drain during the

passing floodwave likely increased the magnitude of vertical flow and groundwater discharge to the conveyance channel. Horizontal hydraulic gradients east of the river between E01A and E02A were attenuated compared to the river stage. The timing of groundwater responses recorded 1–3 October 2005 at E04B during river-stage peaks preceded responses at E04A, which was interpreted to represent the temporary reversal of groundwater flow in a vertical direction. The difference of maximum and minimum groundwater elevations 1–3 October at E04B and E05EX were ~ 4 to 8 mm larger than E04A.

Observations of stream-aquifer interactions during the large-magnitude, multi-day flood event indicated that the floodwave was (i) transmitted laterally and vertically very rapidly in all directions, though more quickly for the deeper wells during peaks in streamflow; (ii) attenuated less during vertical transmission through the aquifer; and (iii) dampened during lateral transmission through the aquifer. Together, small- and large-magnitude flood-induced changes in streamflow resulted in a series of corresponding pressure transients that were propagated rapidly through the aquifer, regardless of the flood event magnitude. Pressure-wave velocities exceeded, by several orders of magnitude, seepage velocities assuming Darcian flow, and suggested that the calculated pressure-wave velocities indicate translational water movement. The presence of a low-permeability unit in the shallow subsurface (~ 0.6 m depth) beneath the channel would facilitate the lateral propagation of a pressure wave into the aquifer during rapid changes in river stage. Furthermore, the propagation of a pressure wave for a semiconfined aquifer, as compared to an unconfined aquifer, would be facilitated during a passing floodwave (e.g., Vekerdy and Meijerink, 1998). It is also important to note that during

peak streamflow between 1–3 October vertical flow east of the river temporarily reversed. Comparison with the small-magnitude, flood-induced perturbations that occurred on 6–7 September indicated that the transition from downward to upward flow was dependent on the magnitude of the flood event (e.g., ~ 1 m versus 0.1 m), the rate of change in river stage, and proximity to boundaries.

4.2 Seasonal Transition in Stream-Aquifer Interactions

Following the flood events outlined in the previous section, a pronounced change in streamflow and river temperatures was observed at the ESC transect. A comparison between changes in river stage and river temperature can be used to assess seasonal transients in stream-aquifer interactions that occurred 1 September to 15 December 2005. Figure 7 illustrates that the 2005 return to winterflow conditions was accompanied by three rapid increases in river stage that occurred around 1 October, 1 November, and 15 November. The diurnal change in river temperature during early July (summer) and November (fall) were similar (~ 3°C, Table 2) when the river stage was elevated. Between July (summer) and late September (late summer-early fall) there was a significant increase in the corresponding diurnal temperature change (~ 10°C, Table 2), even though the incoming net solar radiation was similar.

The seasonal change to increased streamflow was strongly coupled with decreased diurnal changes in river temperature. Measurements summarized in Table 2 demonstrate that the diurnal river-temperature variations at the ESC transect were dependent on the volume of water flowing in the river channel (i.e., river stage/streamflow) and diurnal solar input (i.e., net radiation), which is in agreement with findings discussed in the work of Poole and Berman (2001) and Johnson (2003). Large

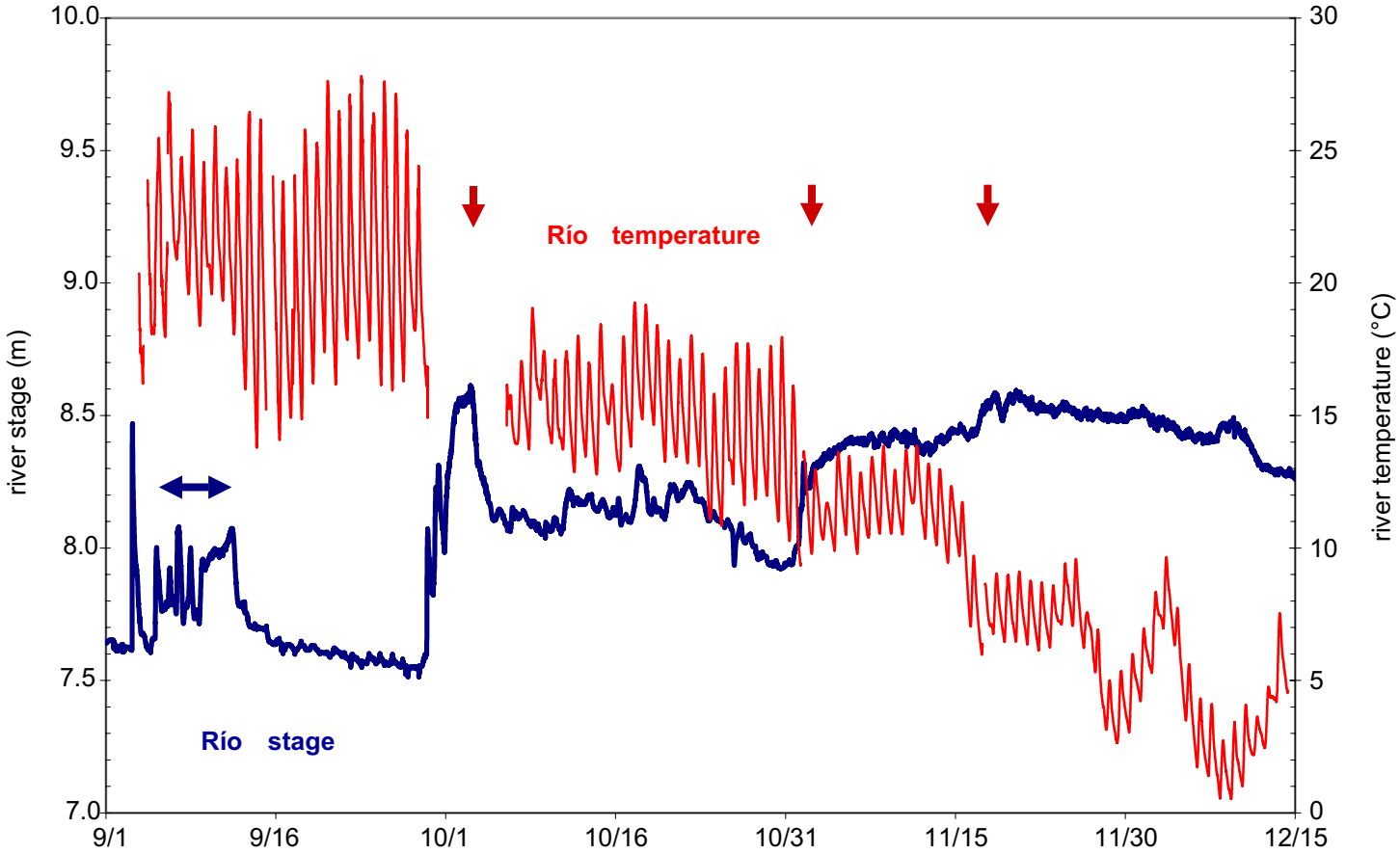


Figure 7. Río Grande hydrograph and thermograph 1 September to 15 December 2005. River stage and temperatures were recorded in 15-min intervals. The return to winterflow conditions was represented by three rapid increases in river stage and subsequent decreases in diurnal stream temperature changes, as denoted with the arrows. The temporal duration of the small-magnitude, short-duration flood events presented in Figures 3 and 4 is noted for convenience. The large-magnitude, multi-day flood event presented in Figure 5 occurred during the gap in river temperature measurements.

diurnal river-temperature swings during late September likely resulted from shallow water depths and reduced open-channel velocities due to decreased river stage. The losing nature of the Río Grande could also facilitate a cumulative heating response of the river water during fall, similar to observations presented in the work of Constantz (1998). Changes in Río Grande stage and river temperature during November (fall) and late September (late summer-early fall) 2005 were hypothesized to affect surface water-groundwater interactions and are discussed in sections 4.3.1 and 4.3.2.

Table 2. Hydrologic, thermal, and atmospheric measurements recorded at a nearby flux tower and the Escondida transect July, September, and November 2005

Variable	1 July[a]	20 September[a]	15 November[a]
Average river stage (m)	8.88	7.60	8.44
Range in net radiation (W/m^2)[b]	834	765	554
Range in river temperature (°C)	2.8	10.2	2.6
Minimum/Maximum river temperature (°C)	23.0 - 25.8	17.4 - 27.6	9.1 - 11.7

[a] July, September, and November measurements correspond to summer, late summer-early fall, and fall, respectively.

[b] Measurements of net radiation were obtained from Cleverly et al. (2006, sev station). The Sevilleta-San Acacia or sev micrometeorological station (Appendix D) was selected for analysis due to its close proximity to the Escondida transect.

4.3 Diurnal Stream-Aquifer Interactions

In order to evaluate the degree of coupling between the stream-aquifer system, and determine mechanisms that may be responsible for controlling diurnal stream-aquifer interactions, the following section presents measurements of river temperature, river stage, and groundwater elevation unaffected by flood-induced changes in streamflow. The hypothesis to be tested posits that the seasonal variation in stream-aquifer interactions during different streamflow scenarios (high and low river stage) is controlled

by changes in river stage and river temperature. In order to evaluate changes in the subsurface temperature field, and resultant streambed hydraulic conductivity, coupled heat and mass transport beneath the streambed was simulated for river temperatures measured during high and low river-stage conditions.

To test this hypothesis, observations for November (fall) 2005 are presented, a period characterized by elevated streamflow due to increased precipitation/runoff, small diurnal river-temperature changes (~ 3°C; Table 2), and negligible losses from agricultural diversions and ET. Next, measurements recorded during late September (late summer-early fall) 2005 are presented to evaluate the responsiveness of the shallow groundwater in the streambed and aquifer when streamflow was low, diurnal river-temperature changes were large (~ 10°C; Table 2), and ET-demand was high. Additionally, conditions from mid July to early September (summer) 2003 are presented, during which time streamflow approached zero.

4.3.1 High River Stage

Diurnal fluctuations in river stage and groundwater levels were observed 12–16 November 2005 at the ESC transect. Figure 8 illustrates the similarity in water-level responses between the river and well hydrographs at E01A and E02A, where high-frequency noise was removed from the river-stage signal. The aquifer responded almost simultaneously and with equal magnitudes at E01A and E02A, in which the difference in diurnal head changes between the two wells was 1 to 2 mm. River stage and groundwater elevations at E01A and E02A were strongly correlated with zero time lag (r^2 of 0.912 and r^2 of 0.895; Tables H-7 and H-8). Approximately 91% of the variation in groundwater levels at E01A can be explained by a linear relationship to changes in river stage (p =

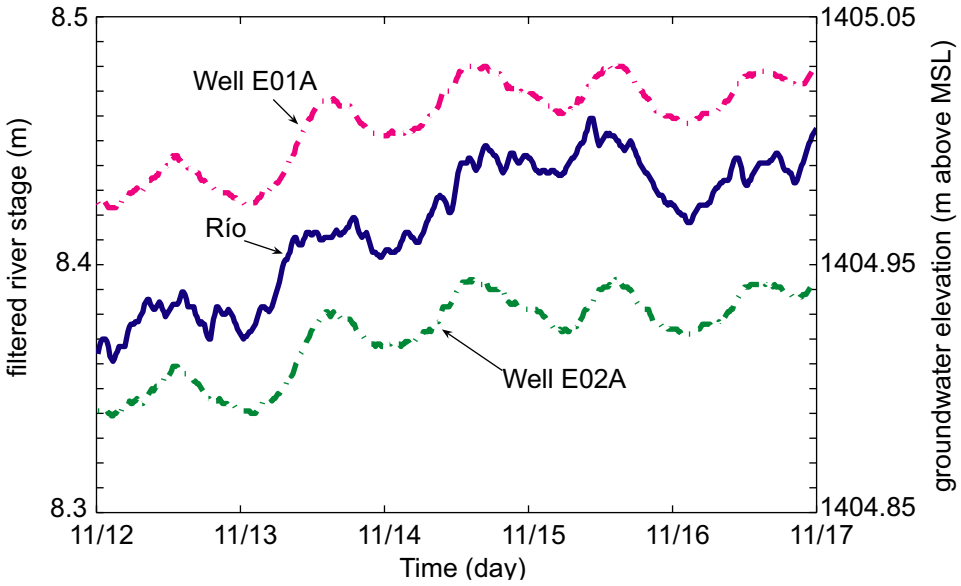


Figure 8. Río Grande stage and groundwater elevation measured 12-16 November 2005. Data were recorded in 15-min intervals. High-frequency noise was removed from the river stage signal with a zero-phase forward and reverse filter with a one-hour moving window. Wells E01A and E02A are located 30 and 52 m east of the Río Grande, respectively.

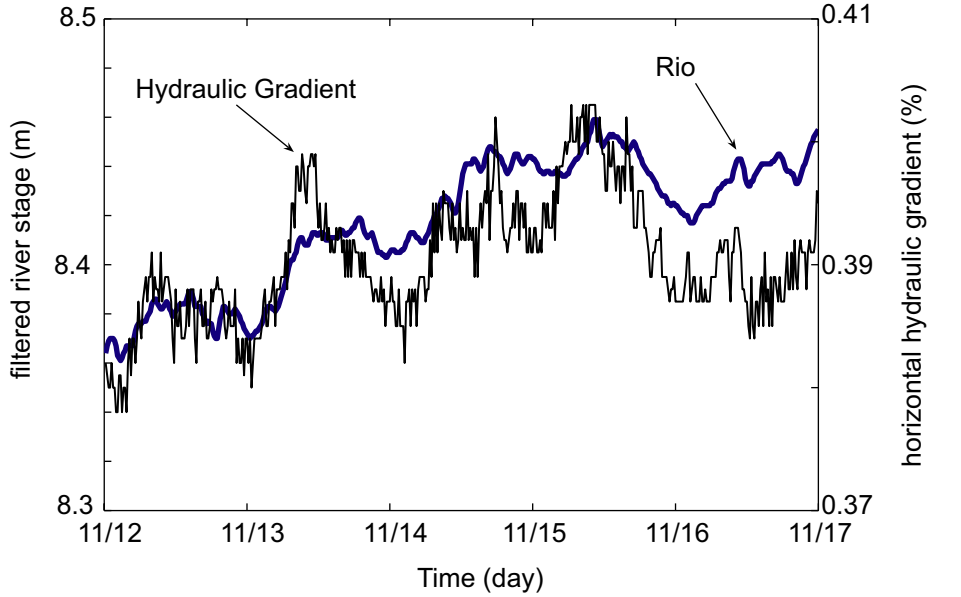


Figure 9. Río Grande stage and horizontal hydraulic gradient 12-16 November 2005. Data were recorded and computed in 15-min intervals. High-frequency noise was removed from the river stage signal with a zero-phase forward and reverse filter with a one-hour moving window. Wells E01A and E02A are separated by a distance of 22 m.

0.000; Figure H-3a). The average diurnal change in river stage (39 mm) was larger than the average diurnal aquifer response (27 mm) by a factor of ~ 1.5 (Figure 8; Table H-9).

Wells E04A, E04B, and E05EX had similar hydraulic responses (Table H-9); in other words, diurnal changes in river stage and transient changes in pressure were rapidly propagated laterally and vertically through the aquifer with minimal amplitude decay. Coherent responses between the A-, B-, and EX-wells indicated that the size of the well casing and screen length did not affect the magnitude of the measured water-level responses in the aquifer. Rapid responses in groundwater are consistent with the behavior of a semiconfined leaky aquifer with a large horizontal hydraulic conductivity (24 m/d) and diffusivity (29,500 m^2/d) determined from the aquifer test (Appendix B). Townley (1995) presented evidence that indicated water-level fluctuations may propagate far from a boundary with minimal amplitude decay and time lag, given a large transmissivity and small storativity for an aquifer.

Despite the similarity in timing of the well responses at E01A and E02A (Figure 8), a quasi-sinusoidal, horizontal pressure gradient was measured from the river toward the aquifer and the more distant well E02A. Figure 9 presents the filtered Río Grande stage and calculated horizontal hydraulic gradient between E01A and E02A located 30 and 52 m east of the Río Grande, respectively (Table 1). Maximum and minimum values of river stage and horizontal hydraulic gradient in the aquifer were positively correlated, with zero time lag (r^2 of 0.494; Table H-10).

The strong degree of correlation between the stream-aquifer system and losing nature of this reach suggested that the river stage was the principal driver of the groundwater fluctuations. During a diurnal cycle, decreased river stage resulted in a

water-table drop in response to a decreased hydraulic gradient across the aquifer; this process was then followed by a rise in the water table as the river stage increased. The nearly instantaneous transmission of a periodic pressure wave generated near the stream boundary explained the similarity and strong degree of association between the river-stage and groundwater-elevation measurements recorded during November 2005 in wells east of the Río Grande. But the processes that controlled the diurnal river-stage signal are more difficult to determine.

4.3.1.1 Possible Forcing Mechanisms

Cyclic fluctuations in river stage, excluding tidal and snowmelt effects, may be ascribed to upstream variations in streamflow, river temperature, or evapotranspiration. As a result of limited quantification of surface water-groundwater interactions (i.e., losses and gains) upstream of the Escondida transect, diurnal variations in streamflow from upstream influences were difficult to discern. Discounting random streamflow changes, a diurnal variation in river temperature and expected hydraulic responses is a plausible explanation.

A diurnal change in river temperature could affect the river-stage signal by modulating the river's fluid density or coupling with temperature-induced seepage. If variations in density controlled river-stage fluctuations through expansion/contraction of the river's surface, river temperature should be positively correlated to water levels in the river with minimal time lag, which was not observed (negative correlation with a r^2 value of 0.139 for zero time lag; Table H-11). Furthermore, the expected variation in river stage considering thermal expansion of water at 10°C equaled ~ 0.4 mm, a negligible effect on water levels in the river.

Because of temperature differences between the river and groundwater (~ 10ºC in the river versus 22ºC at E01A), density-induced gradients within the stream-aquifer system could control river-stage fluctuations and groundwater responses. However, the expected difference in pressure head between two separate 1.38 m columns of river water (measured) and groundwater of the same height, with the measured temperatures, would equal ~ 0.5 mm, likewise a negligible effect. Temperature-induced stream-aquifer fluctuations, potentially a much stronger driver, are discussed in detail below.

Streambed Hydraulic Conductivity

If a streambed infiltration signal was dominant, river temperature and river stage should be negatively correlated (e.g., Constantz et al., 1994), as was demonstrated above. Figure 10 presents the Río Grande thermograph and filtered-detrended hydrograph 12–16 November 2005. High-frequency noise was filtered from the river-stage signal and then detrended to facilitate comparison with the thermograph. Assuming a positive time lag, minimum river temperatures occurred ~ 4 to 8 h prior to the maximum river-stage peaks. The relationship between maximum river temperatures and river-stage minima varied from ~ 6 to 11 h November 12–14 and ~ 2 h on November 15.

The potential importance of temperature-induced variations in seepage on river stage was assessed with an order-of-magnitude calculation. The streamflow loss between the San Acacia and Escondida transects was quantified assuming measured changes in river temperatures at ESC could be used to predict variations in streambed hydraulic conductivity and streamflow loss through the reach. The San Acacia transect is located ~ 16 km upstream from ESC. Assuming a uniform river channel width of 40 m, the calculated streambed area was equal to 640,000 m^2. Using measured river temperatures

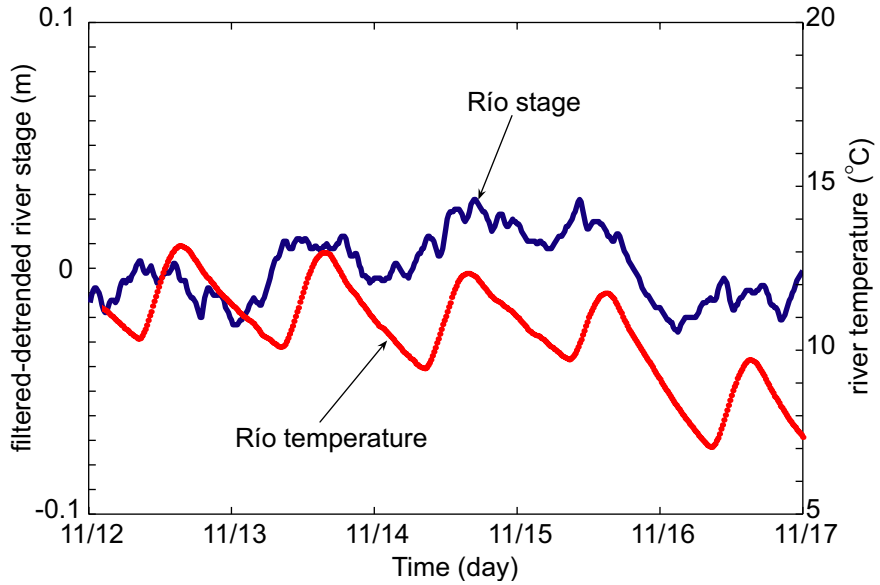


Figure 10. Río Grande hydrograph and thermograph recorded in 15-min intervals 12-16 November 2005. River stage measurements were filtered and detrended to facilitate comparison with the thermograph.

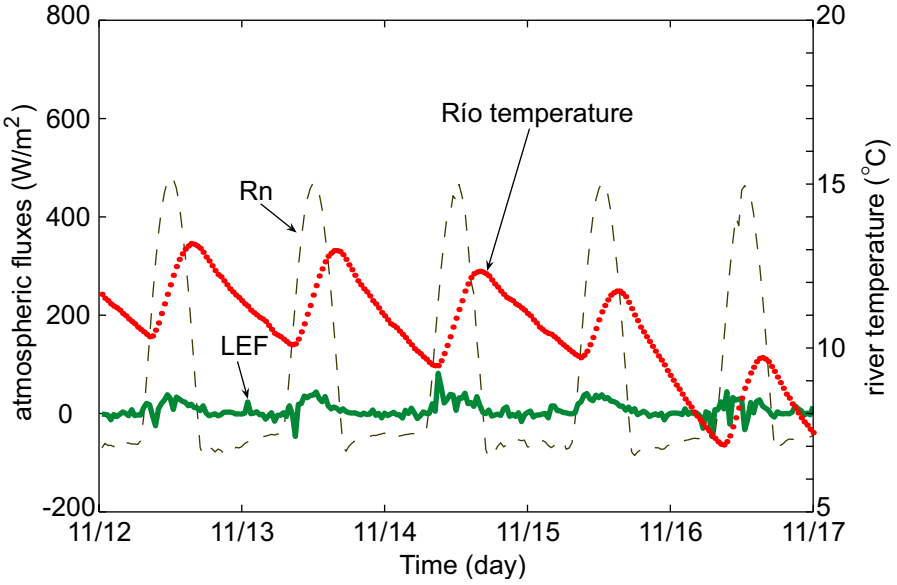


Figure 11. Atmospheric fluxes of net radiation (Rn) and latent heat fluxes (LEF) and Río Grande thermograph 12-16 November 2005. Atmospheric fluxes were measured at a nearby ET flux tower (Cleverly et al., 2006, sev station), and were recorded in 30-min intervals. River temperatures were resampled from the original 15-min dataset for statistical comparisons.

from November 2005 (fall) as a boundary condition for one-dimensional coupled heat and mass transport (Appendix I) yields a predicted ~ 10% change in temperature above the postulated restricting layer located at ~ 0.6 m depth beneath the channel. The estimated change in subsurface temperatures would generate an average diurnal streambed hydraulic conductivity change of 1 m/d (10% of 10 m/d). Assuming a uniform change in conductivity and a vertical hydraulic gradient of 0.1, the streamflow loss through the reach would equal ~ 0.7 m^3/s. For comparison, two estimates of seepage losses (differential gauging) measured late January 2001 between the reach ranged between 0.07 and 0.8 m^3/s (Newton et al., 2002; S.S. Papadopulos and Associates, 2002, Table 5). The thermal estimate was comparable to the measured seepage losses, but significantly smaller than the measured diurnal change in streamflow equal to 3.5 m^3/s (Appendix J).

Furthermore, the calculated temperature-induced streamflow loss of ~ 0.7 m^3/s through the reach was similar in magnitude to the error associated with measuring streamflow velocities, assuming a rating curve accuracy of 5% (L. Miller, personal communication, 2006) and an average streamflow of 26.8 m^3/s measured 12–16 November 2005 (Appendix J). Consequently, a link between temperature-dependent variations in seepage and stream-aquifer interactions is not possible to quantitatively demonstrate with the current dataset.

Evapotranspiration

The discussion presented above assumes that evapotranspiration effects on water-level fluctuations during November (fall) 2005 were negligible. Figure 11 compares measurements of net radiation and latent heat flux (Cleverly et al., 2006, Sevilleta-San

Acacia or sev micrometeorological station; Appendix D) with the Río Grande thermograph. River temperature was correlated with incoming net radiation with a 4 h positive time lag (r^2 of 0.239; Table H-12), and minor changes of latent heat flux indicated ET fluxes were small. In fact, total day-and-night evapotranspiration measured 12–16 November at a nearby ET flux tower averaged 0.4 mm/d with a standard deviation of 0.1 mm/d (Cleverly et al., 2006, sev station; Appendix D).

If riparian ET or evaporation of river water were controlling the aquifer (and river) fluctuations, minimum water levels would be expected to occur during the day or early afternoon, which was not observed at ESC. Furthermore, low ET fluxes, which closely resemble measurements of evaporation (J. Cleverly, personal communication, 2006), suggest that riparian vegetation did not significantly affect water-level fluctuations during November 2005. Considering that maximum net radiation and river stage were correlated positively, evaporative controls on river stage and stream-aquifer interactions during November 2005 were deemed unlikely. At this time, diurnal variations in streamflow cannot be explained by a single mechanism; however, a temperature-induced variation in seepage on river stage is a strong candidate.

4.3.2 Low River Stage

Coupled responses between river stage and groundwater elevation were not pronounced 19–28 September 2005. As presented in Figures 12 and 13, the river stage contained an inconsistent diurnal signal, whereas the groundwater responses were consistently diurnal, but spatially and temporally variable with respect to location in the streambed or aquifer. Reduced streamflow and hydraulic gradients relative to November 2005, in addition to increased evapotranspirative fluxes and diurnal changes in river

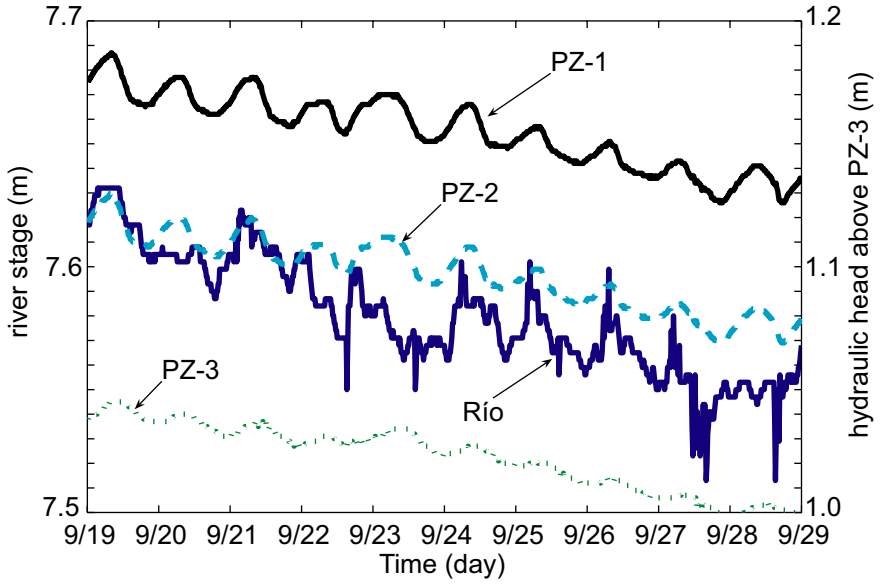


Figure 12. Río Grande stage and groundwater levels measured in the streambed 19-28 September 2005. Stage and head measurements were recorded in 15-min intervals. River stage was referenced from an arbitrary datum beneath the streambed. PZ-1, PZ-2, and PZ-3 were located 0.5, 1.0, and 1.5 m beneath the shallow streambed floodplain. For the piezometers, total hydraulic head is referenced from PZ-3. During late September the shallow streambed floodplain was dry, and the piezometers were located a few meters from the edge of the river (Figure 2d).

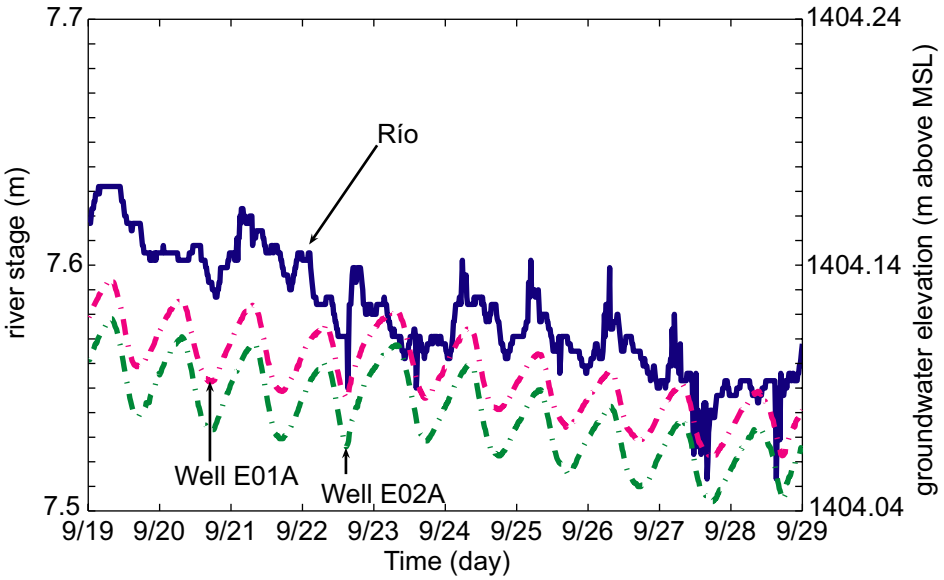


Figure 13. Río Grande stage and groundwater elevation measured in the aquifer 19-28 September 2005. Stage and head measurements were recorded in 15-min intervals. River stage was referenced from an arbitrary datum beneath the streambed. Groundwater elevation measurements were referenced to meters above mean sea level (m above MSL). Wells E01A and E02A are located 30 and 52 m east of the Río Grande, respectively.

temperature, were hypothesized to affect stream-aquifer interactions during late September (late summer-early fall) 2005. Streamflow measured at Escondida during late September 2005 averaged 1.4 m^3/s, as compared to 26.7 m^3/s for conditions presented in November, which corresponded to a river-stage difference of ~ 1 m (Appendix J).

Figure 12 compares the measured hydraulic responses 19–28 September for the Río Grande and streambed piezometers, which at this time were located a few meters from the edge of the river (Figure 2d). During late September 2005, the shallow streambed floodplain was dry. Horizontal hydraulic gradients were from the river toward the piezometers and distant well E02A. Diurnal groundwater fluctuations in PZ-1 and PZ-2 were synchronous and similar in magnitude while the responses in PZ-3 were attenuated, dampened, and lagged. For example, the average diurnal head change between PZ-1 and PZ-3 was dampened ~ 4 mm and lagged ~ 1 to 5 h. Groundwater levels in PZ-1 and PZ-2 were strongly correlated with zero time lag (r^2 of 0.998; Table K-1); whereas between PZ-1 and PZ-3 a positive time lag from 1 to 1.75 h was obtained (r^2 of 0.914; Table K-2). The variability in hydraulic responses below the streambed during low river-stage conditions provided additional evidence for the postulated low-permeability layer located at ~ 1.25 m depth beneath the shallow streambed floodplain.

Figure 13 compares the measured hydraulic responses 19–28 September for the Río Grande and shallow monitoring wells E01A and E02A located ~ 50 and 72 m east of the piezometer nest, respectively. The diurnal head change increased with lateral distance east of the river. For example, diurnal fluctuations in the aquifer ranged from 26 to 36 mm for E01A and from 29 to 40 mm for E02A (Table K-3). The timing of daily

maximum head values for the two wells was generally the same, but occasionally lagged for E02A (r^2 of 0.994 for a 0.75 h positive time lag; Table K-4).

Two observations show that diurnal changes in river stage were not controlling the water-level fluctuations in the streambed and aquifer: the variability in river stage and instances when groundwater levels increased prior to an increase in stream levels. Additionally, cross correlation between streamflow and the detrended water-level deviation from the time-series minimum value at E01A supported these observations (all positive r^2-values < 0.016; Table K-5). Rather, another process such as evapotranspirative demand or temperature-dependent changes in streambed infiltration were driving the diurnal groundwater responses.

Hydrographs recorded 19–28 September 2005 at PZ-1 and E01A were normalized to evaluate whether the streambed and aquifer responded to identical forcing mechanisms. The normalization procedure involved detrending the hydrograph, calculating the water-level deviation from the time-series minimum value, and dividing by the diurnal head change for each 24-h period, resulting in a dimensionless number. The normalized water-level responses at PZ-1 and E01A presented in Figure 14a were strongly correlated (r^2 of 0.852 for a negative time lag of -0.25 h; Table K-6). The negative time lag computed indicates that the responses measured at PZ-1 were lagged behind E01A; however, a zero and positive time lag of 0.25 h were also strongly correlated (r^2 of 0.845 and 0.824; Table K-6). Though not discernable due to the time-series length presented in Figure 12, on September 22, an anomalous ~ 1 h, 0.01 m rise and fall in river stage affected the normalized hydrographs, in which amplification of the signal was an artifact of the normalization procedure. The overall similarity of the

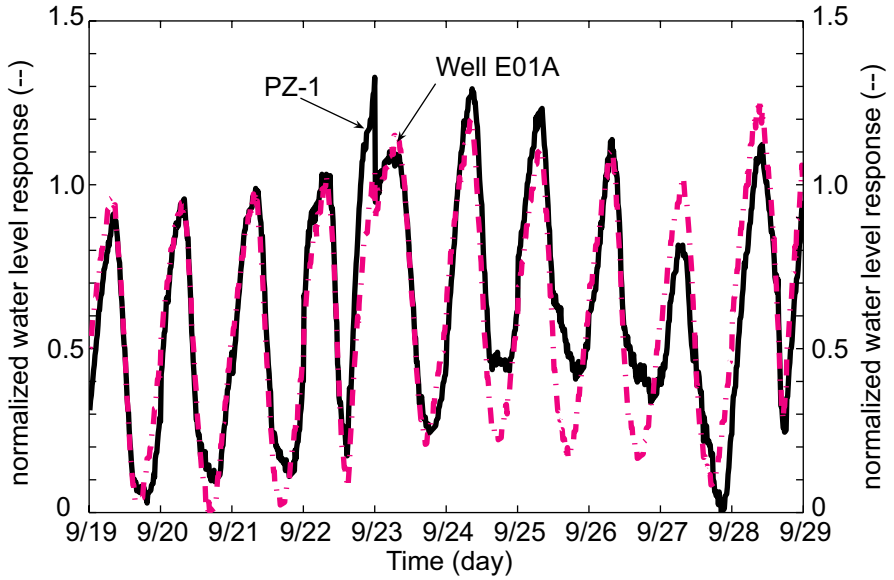


Figure 14a. Normalized hydrographs for PZ-1 and E01A recorded in 15-min intervals 19-28 September 2005. The normalization procedure involved detrending the hydrograph, calculating the water level deviation from the time series minimum value, and dividing by the diurnal head change for each 24-h period, resulting in a dimensionless number. PZ-1 was located 0.5 m beneath the shallow streambed floodplain. Well E01A is located 30 m east of the Río Grande.

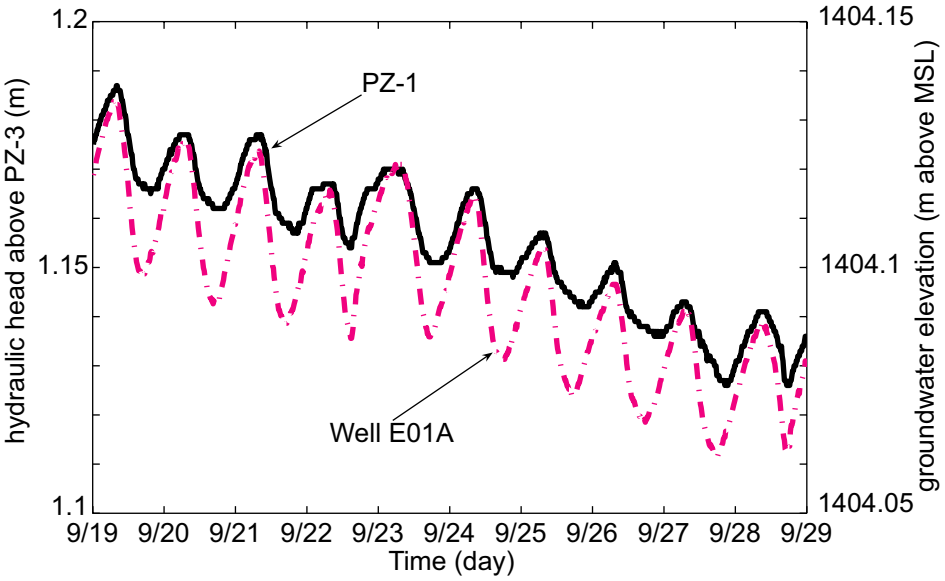


Figure 14b. Hydrographs for PZ-1 and E01A recorded in 15-min intervals 19-28 September 2005. PZ-1 was located 0.5 m beneath the shallow streambed floodplain, and hydraulic head was referenced from PZ-3. Groundwater elevation measurements were referenced to meters above mean sea level (m above MSL). Well E01A is located 30 m east of the Río Grande.

normalized hydrographs (Figure 14a) suggested that the streambed and aquifer responded to identical forcings. For a subset of the time series recorded 24–26 September, variations in normalized piezometer head during the evenings (hydrograph minima) appeared to agree with changes in river stage presented in Figure 12. Variability of the normalized groundwater responses at PZ-1 implied that the shallow streambed floodplain was slightly more sensitive to changes, presumably from variations in river stage.

For comparison, hydrographs recorded at PZ-1 and E01A are presented in Figure 14b. The disparity in the magnitude of diurnal head changes recorded in the streambed and aquifer could be attributed to the expected propagation of a transient perturbation transmitted through an unconfined and confined aquifer. The unconfined streambed sediments have a large storage capacity, which would delay and mute changes in groundwater levels. At Escondida, aquifer testing and gradient reversals recorded during large-magnitude flood events indicated the aquifer is semiconfined in nature. Accordingly, a more rapid and larger magnitude water-level response in the aquifer, compared to the unconfined streambed sediments, could be attributed to the aquifer's low storage capacity. Similarity in normalized hydrographs and sensitivity of responses in hydraulic head at PZ-1 indicated that the diurnal groundwater fluctuations 19–28 September 2005 responded to (i) forcing by riparian vegetation ET; (ii) forcing near the stream boundary; or (iii) a combination of the two, depending on the lateral distance from the Río Grande.

4.3.2.1 Possible Forcing Mechanisms

Two competing hypotheses are examined to explain the diurnal groundwater fluctuations: evapotranspirative fluxes and temperature-induced changes in streambed

infiltration. These two processes and their influence on groundwater fluctuations were reviewed in sections 2.3 and 2.2, respectively. Because the (potential) degree of coupling between these processes is unknown, end member scenarios testing the two hypotheses are presented. The relationship between evapotranspirative fluxes, groundwater elevation, streambed and aquifer fluxes, streamflow, and river temperature during low river-stage conditions late September 2005 were evaluated to elucidate how the hypothesized processes could affect diurnal groundwater fluctuations measured in the piezometers and wells. For statistical comparisons between measured variables, the stream-aquifer dataset, including filtered-detrended data, were resampled for 30-min intervals.

Evapotranspiration

Evidence evaluating the first hypothesis, evapotranspiration and groundwater consumption, is presented in Figures 15 and 16. Latent heat flux measurements recorded at a nearby ET flux tower (Cleverly et al., 2006, sev station; Appendix D) represent a qualitative metric of the half-hour evapotranspiration rate, for which greater latent heat fluxes correspond to larger ET rates. Positive and negative values of latent heat fluxes correspond to potential evaporation and condensation of water vapor, respectively. In Minitab, latent heat fluxes were interpolated between missing data points and smoothed with a four-point centered moving average. Total day-and-night ET measured at the flux tower 19–27 September 2005 averaged 4.0 mm/d with a standard deviation of 0.6 mm/d (Cleverly et al., 2006, sev station, no data for 28 September; Appendix D).

Presented in Figure 15, water levels in the aquifer decreased between the daytime hours of 8:00 and 18:00 MST (24-h clock) when plants were transpiring and latent heat fluxes were large. Cross-correlation analysis between latent heat flux and groundwater

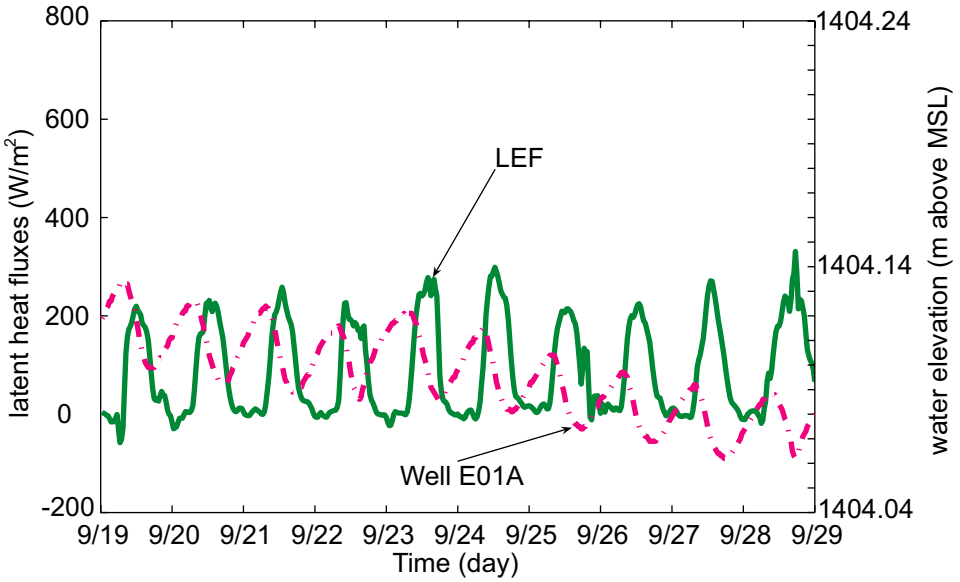


Figure 15. Time series of latent heat fluxes and groundwater elevation at E01A 19-28 September 2005. Measurements of latent heat fluxes (LEF) and water elevations in the aquifer are presented for 30-min intervals. Water elevations were originally recorded in 15-min intervals, but were resampled for statistical comparison. Latent heat fluxes were measured at a nearby ET flux tower (Cleverly et al., 2006, sev station).

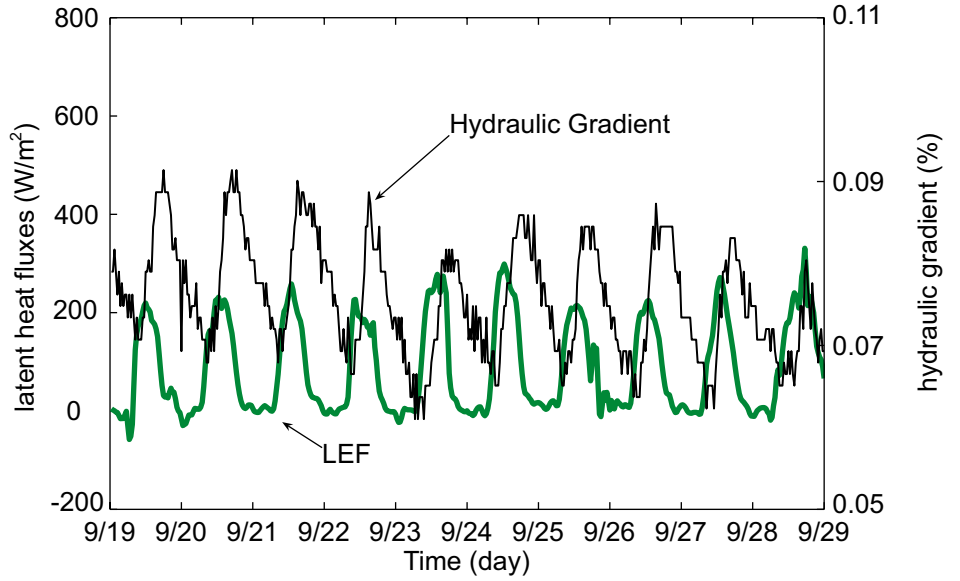


Figure 16. Time series of latent heat fluxes and horizontal hydraulic gradient 19-28 September 2005. Wells E01A and E02A are separated by a distance of 22 m. Measurements of latent heat fluxes (LEF) and water elevations in the aquifer are presented for 30-min intervals. Water elevations were originally recorded in 15-min intervals but were resampled for statistical comparison. Latent heat fluxes were measured at a nearby ET flux tower (Cleverly et al., 2006, sev station).

elevation measured at E01A yielded a fair correlation with a 4 h positive time lag (r^2 of 0.343, p = 0.000; Figure and Table L-1a). However, the degree of association increased 30% when latent heat flux was used to predict the detrended water-level deviation from the time-series minimum value (r^2 of 0.635, p = 0.000; Figure L-1c). The improved coefficient of determination was attributed to elimination of the decreasing well hydrograph trend, which was associated with a slowly decreasing river stage during late September 2005. The amplitude difference in diurnal head changes for E01A and E02A and larger head drop across the aquifer is consistent with ET-driven water-table fluctuations (Figure 16). The linear-regression analyses presented above indicate that at least a portion of the well hydrograph was associated with evapotranspiration and groundwater consumption.

Diurnal water-table fluctuations were used to predict the evapotranspirative fluxes for comparison with measurements obtained at a nearby flux tower. For a period when the water table was dropping, the quantity of water consumed during a diurnal cycle was equal to the summation of the groundwater recharge rate (rate of inflow between 0:00 and 4:00 [$L\ T^{-1}$]) and change in storage (water-table drop or rise over a 24-h period [$L\ T^{-1}$]), multiplied by the specific yield (White, 1932). The temporal and spatial dependence of specific yield can be simplified by using the concept of readily available specific yield described in the work of Loheide et al. (2005, Figure 10).

During late summer-early fall, the groundwater hydrograph 20–21 September 2005 at E01A was selected for estimating ET due to relatively steady streamflow conditions. By applying the White method (White, 1932), and assuming a specific yield for a fine-grained sand equal to 0.15 (Loheide et al., 2005, Figure 10), the rate of

evapotranspirative consumption of groundwater on September 20 was 9.1 mm/d, which was larger than the measured value of total ET (4.0 mm/d) by a factor of two. Assuming that atmospheric, hydrogeologic, and ecologic conditions at the nearby flux tower can be considered representative of conditions at E01A, solving for the specific yield with the measured ET rate resulted in an estimate of 0.07, probably too small for a sample almost entirely comprised of fine sand. The minimum and maximum mesh/grain size for the shallow (< 6.1 m) subsurface sediments at E04C ranged between ~ 0.01 to 0.47 mm (S.S. Papadopulos and Associates 2003, Figure 18). Estimates of ET and specific yield using the White method, in addition to linear-regression analyses between the well hydrograph and latent heat fluxes, suggested that the diurnal groundwater signal at E01A was not entirely a function of evapotranspirative demand.

Streambed Hydraulic Conductivity

Evidence evaluating the second hypothesis, temperature-induced infiltration controls on groundwater fluctuations, is presented in Figures 17 and 18. During late September 2005, net radiation and river temperature were correlated strongly with a positive 3 h time lag (r^2 of 0.773; Table L-2), similar to conditions presented during November 2005. Reduced streamflow and increased diurnal variations in radiative fluxes resulted in large diurnal river-temperature fluctuations (~ 10ºC; Table 2). According to the conceptual model presented by Constantz et al. (1994), river temperature and streamflow should be negatively correlated. Measurements recorded 24–26 September 2005 indicated that the minimum river temperature occurred nearly simultaneous with the maximum streamflow, while the maximum river temperature occurred ~ 6 to 9 h prior to the minimum streamflow (Figure 17). High-frequency noise was removed from the

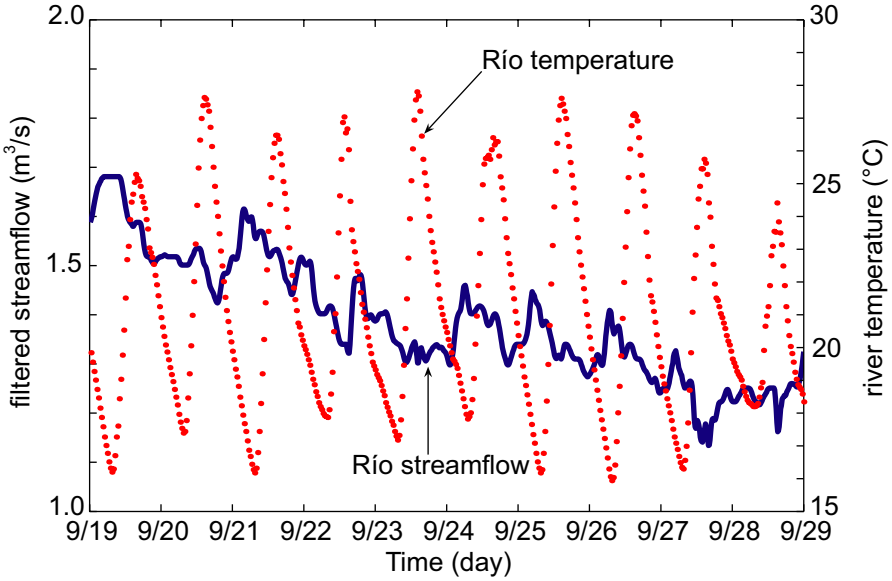


Figure 17. Río Grande hydrograph and thermograph 19-28 September 2005. High-frequency noise was removed from the streamflow signal with a zero-phase forward and reverse filter with a one-hour moving window. Data are presented in 30-min intervals, resampled from the original 15-min dataset for statistical comparison.

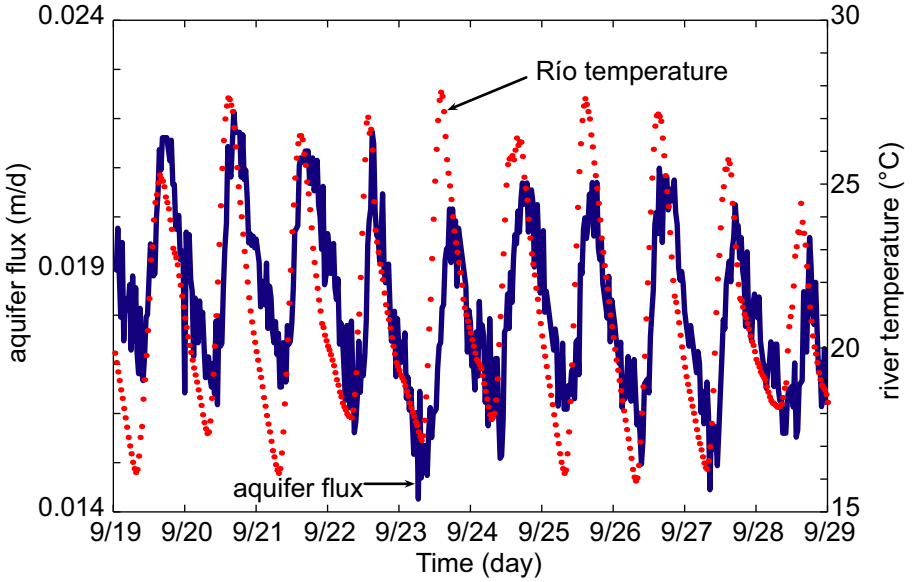


Figure 18. Río Grande thermograph and calculated flux between wells E01A and E02A 19-28 September 2005. Aquifer flux was obtained from the horizontal hydraulic conductivity determined from the aquifer test and measured horizontal hydraulic gradient. Data are presented in 30-min intervals, resampled from the original 15-min dataset for statistical comparison. River temperature was used to estimate lateral fluxes from the streambed to the aquifer, and can be thought of as a surrogate for streambed infiltration.

streamflow signal presented in Figure 17. Assuming variations in river temperature were controlling streamflow, the large time lag could be attributed to the pronounced asymmetry of the thermograph and rapid transition to a daily maximum stream temperature.

The potential importance of temperature-induced variations in seepage on river stage was assessed with an order-of-magnitude calculation. One-dimensional coupled heat and mass transport (Appendix I) of measured diurnal river temperatures during late September 2005 predicted a ~ 20% change in temperature above the postulated restricting layer at 0.6 m depth, which would roughly equal an average diurnal streambed hydraulic conductivity change of 2 m/d (20% of 10 m/d). Assuming a uniform change in conductivity and river channel width of 25 m between the San Acacia and Escondida transects, a conservative estimate of streamflow loss is ~ 0.9 m^3/s for a vertical gradient of 0.1. For comparison, eight measurements of seepage losses (differential gauging) measured between the transects late June to late September 2000-2001 ranged from ~ 0 to 1.1 m^3/s (Newton et al., 2002; S.S. Papadopulos and Associates, 2002, Table 5). The thermal estimate was comparable to the measured seepage losses, but larger than the diurnal change in streamflow equal to 0.2 m^3/s. It is conceivable that during a short subset of the time series in late September 2005 diurnal variations in seepage due to river-temperature variations may have controlled streamflow at the ESC transect.

If temperature-induced seepage occurred, could subsurface variations in flux control the groundwater fluctuations measured in the shallow streambed and aquifer? Ronan et al. (1998, Figures 4 and 6) presented field evidence that indicated coupled interactions between diurnal changes in river temperature and streambed infiltration

occurred while streamflow was variable (i.e., not diurnal). Assuming a rectangular "Río | Aquifer" stream-aquifer geometry for a losing reach, changes in river temperature and hydraulic conductivity were hypothesized to affect lateral fluxes from the streambed to the aquifer. As river temperatures and streambed hydraulic conductivities increased during a diurnal cycle, streambed infiltration was hypothesized to either increase concurrently or with a positive time lag (e.g., Constantz et al., 1994). Increased fluxes across the stream-aquifer interface were expected to correspond to increased aquifer fluxes.

In order to evaluate the sensitivity of groundwater fluctuations to temperature-dependent changes in streambed hydraulic conductivity and infiltration, the calculated change in flux through the aquifer was compared to the estimated change in flux through the streambed. This order-of-magnitude calculation was conducted for an end-member scenario in which ET-induced fluctuations were assumed to have a negligible effect on water-level fluctuations.

The change in flux through the aquifer 19–28 September 2005 was calculated between wells E01A and E02A using the measured head gradients and estimated hydraulic conductivity from the aquifer test (24 m/d; Appendix B). The increased aquifer flux relative to the average flux (maximum minus average) through the aquifer for the duration of the time series was 0.0039 m/d. The lateral flux though the streambed was estimated in three steps. First, the hydraulic conductivity of the streambed measured with a conservative tracer (10 m/d; Cardenas, 2006) was used with equation 1 to estimate an intrinsic permeability of the sediments, yielding a value of 1.2×10^{-11} m^2. Second, the streambed permeability was used to calculate the streambed hydraulic conductivity as a

function of measured river temperatures during late September 2005, also using equation 1. Third, the temperature-dependent hydraulic conductivity was multiplied by the average head gradient measured in the aquifer (0.0007) to calculate a time-dependent lateral flux from the streambed to the aquifer. The increased streambed flux relative to the average flux was 0.0012 m/d, which was smaller than the aquifer flux by a factor of three. Uncertainty in the streambed permeability, hydraulic conductivity, and subsurface temperature field prevented a more quantitative analysis.

Figure 18 compares river temperatures and aquifer fluxes calculated between E01A and E02A for water elevations measured 19–28 September 2005. In agreement with the conceptual model, river temperatures (and hence variations in streambed infiltration) were strongly correlated to aquifer fluxes considering a 2.5 h positive time lag (r^2 of 0.682; Table L-3). Similar time lags between maximum river temperatures and infiltration rates have been observed along low-order streams (Constantz et al., 1994; Constantz, 1998). Approximately 68.2% of the variation between river temperature and aquifer fluxes can be explained by a linear relationship ($p = 0.000$; Figure L-2a). However, the degree of association increased 6% when the river temperature was used to predict the aquifer fluxes calculated with the detrended water-level deviations (r^2 of 0.745, $p = 0.000$; Figure L-2c).

The similarity between numerical estimates of streambed and aquifer fluxes, and asymmetric patterns presented in Figure 18, indicated that the groundwater fluctuations in the aquifer were at least partially controlled by temperature variations in seepage, and not entirely a function of evapotranspirative fluxes. Furthermore, linear regression and correlation analyses indicated that changes in streambed fluxes (river temperature r^2 of

0.682) provided a better statistical fit compared to evapotranspirative fluxes (latent heat fluxes r^2 of 0.343).

4.3.3 Low-flow Conditions

Stream-aquifer interactions during summer 2003 are presented for comparison with the September 2005 observations to evaluate how low-flow conditions affected the diurnal groundwater fluctuations. Summer 2003 was characterized by a weak monsoon season, which in addition to the extended drought in the region, resulted in low streamflow and groundwater levels at the ESC transect. Toward the end of July 2003, the Río Grande at Escondida consisted of discontinuous puddles and was dry immediately downstream of the transect. The nearly monotonic drop in groundwater levels recorded 4–7 and 11–17 August 2003 indicated a significant streamflow reduction and potential hydraulic disconnection with the aquifer (Figure 19). Moreover, as the streamflow approached zero, the groundwater did not respond diurnally. The presence of diurnal groundwater fluctuations during 8–10 and 18–26 August 2003 were partially explained by field observations of increased flow in the Río Grande resulting from tributary inflow derived from monsoon rains (P. Pegram, personal communication, 2006).

Figure 20 shows the calculated diurnal head change in groundwater levels June to September 2003. During the snowmelt runoff pulse 2–24 June (between spring and early summer), there was a large variability in the diurnal head change corresponding to large amplitude fluctuations, presumably from changes in river stage. For example, the diurnal head change 2–15 June at E04A was variable and fluctuated between 66 and 130 mm. The diurnal head changes at the intermediate E04B (results not presented) and deep E04C wells were roughly 2% and 10% smaller, respectively, than the shallow E04A well.

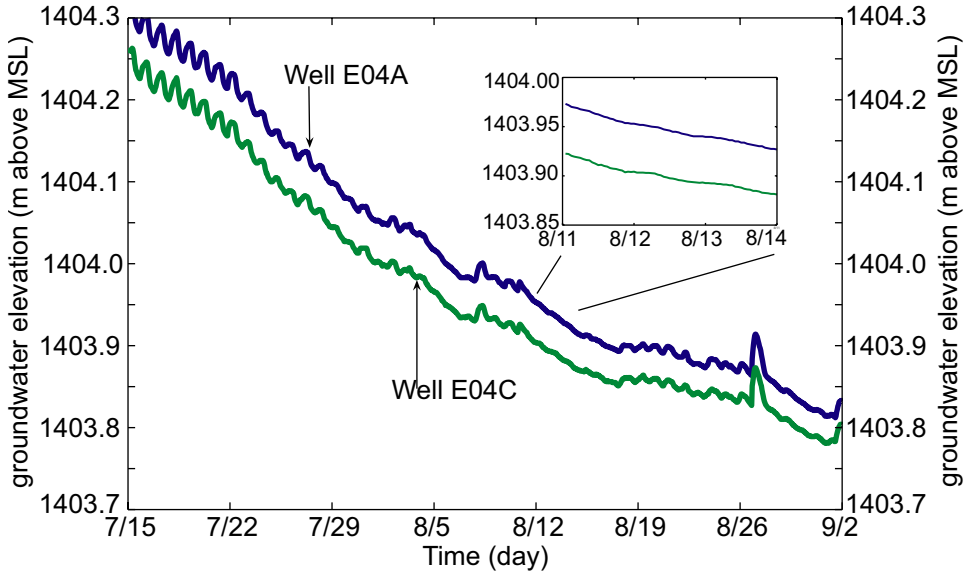


Figure 19. Groundwater elevation measurements 15 July to 1 September 2003. Wells E04A and E04C are located 36 m and 37 m east of the Río Grande, respectively. Head measurements were recorded in 60-min intervals, and referenced to meters above mean sea level (m above MSL). The decrease in aquifer levels was controlled by a linearly decreasing river stage, not presented. The inset hydrograph illustrates a 3-d time series when the groundwater did not respond diurnally.

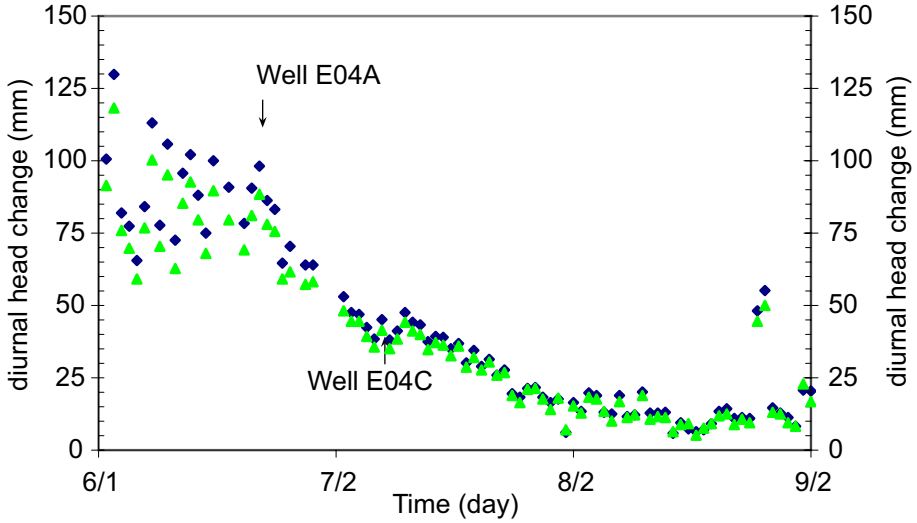


Figure 20. Diurnal head change for wells E04A and E04C during 2 June to 2 September 2003. Wells E04A and E04C are located 36 m and 37 m east of the Río Grande, respectively.

During mid-to-late summer, the fluctuations exhibited an overall decreasing trend and reduced amplitudes. For the period 26 June to 1 August, the diurnal head change calculated at E04A decreased linearly from 71 to 6 mm (r^2 of 0.919, p = 0.000) while during this time, daily evapotranspiration measured at a nearby ET flux tower was relatively constant averaging 5.4 mm/d with a standard deviation of 0.8 mm/d (Cleverly et al., 2006, sev station; Appendix D).

The following observations during late summer 2003 indicated that the diurnal groundwater fluctuations were not solely a function of evapotranspirative demand: (i) deceasing trend in diurnal head changes while ET was approximately constant and (ii) cessation of diurnal fluctuations as streamflow approached zero. First, it was expected that a linear decrease in water levels would be correlated with a linear decrease in evapotranspiration as the depth to water increased (Baird and Maddock, 2005). However, ET measurements at the flux tower were relatively constant (Cleverly et al., 2006, sev station; Appendix D), whereas groundwater decreased linearly at ESC. Second, diurnal water-table fluctuations attributed to riparian ET were measured along a riparian corridor adjacent to a *dry* streambed in central Kansas (Loheide et al., 2005, Figures 1 and 2b). Therefore, if diurnal groundwater fluctuations were coupled with an evapotranspirative response at ESC, the postulated short-duration hydraulic disconnection of the Río Grande with the shallow aquifer during low-flow conditions could still produce an oscillatory well hydrograph, which was not observed.

4.4 Relative Significance of Forcing Mechanisms

Stream-aquifer interactions during different atmospheric and hydrologic conditions were examined in an attempt to separate effects of evapotranspiration and

river temperature (seepage) on groundwater-level fluctuations in the aquifer. The relative significance of ET and river temperature was evaluated with a parameter-minimization approach, in which the chi-squared function was calculated for a linear signal-response model representing the two forcing mechanisms and the measured change in groundwater-levels.

Five time frames were selected for analysis, which corresponded to end-member scenarios when evapotranspirative fluxes and changes in river temperature were expected to be at a maximum, intermediary, or minimum (Appendix M). Three time series during July, September, and November 2005 were selected to represent conditions in which diurnal groundwater fluctuations were pronounced. July measurements were characterized by large ET fluxes, small diurnal changes in river temperature, and large water-level fluctuations. The September time frame corresponded to conditions characterized by moderate ET fluxes, large diurnal changes in river temperature, and moderate water-level fluctuations. November measurements were characterized by minimal ET fluxes, small diurnal changes in river temperature, and small water-level fluctuations. Two time series during late November and early December were selected to evaluate longer-term (i.e., not diurnal) changes in river temperature on groundwater fluctuations over a multi-day period, during which time conditions were characterized by minimal ET fluxes, large multi-day changes in river temperature, and small multi-day water-level fluctuations. For the latter scenario, the proportion of variation in groundwater levels due to changes in river stage was removed from the well hydrograph to isolate temperature effects from changing streamflow conditions.

Water-level measurements were obtained from the well-hydrograph record at E01A located 30 m east of the Río Grande. Measurements of total day-and-night ET were obtained from the nearby flux tower (Cleverly et al., 2006, sev station; Appendix D). River temperature was converted to dynamic viscosity to account for the nonlinearity of the temperature-viscosity function (Appendix M).

Statistically, the relative significance of ET and river temperature effects was evaluated with a parameter-minimization approach for the chi-squared function assuming a linear signal-response model:

$$R = aS_1 + bS_2 \qquad (2)$$

Here R is the system response (diurnal or multi-day change in groundwater levels), S_1 and S_2 are the two forcing mechanisms (diurnal or multi-day change in river temperature and ET), and a and b are the fitting parameters for the two forcing mechanisms (river temperature and ET). The sum of the chi-squared function (χ^2) was calculated for each period of interest as follows:

$$\chi^2 = \sum_{i=1}^{n} \frac{(O_i - M_i)^2}{S_i^2} \qquad (3)$$

Here O_i is the observed head change for each time period i, M_i is the modeled head change, and S_i is the standard deviation of the (diurnal or multi-day) head change for the same time interval (Bevington and Robinson, 1992). Uncertainty in the magnitude of the measured water-level fluctuations was accounted for in the variance term in the denominator of equation 3. For each time period, the three parameters were averaged to minimize natural variability of the forcing mechanisms and response variable.

Additionally, the reduced sum of the chi-squared statistic χ_v^2 was computed, which is equal to the sum of χ^2 divided by the number of samples for a given time frame.

The magnitude of χ_v^2 is a metric of the goodness-of-fit for the model to the dataset. For a well-defined system, in which all sources of uncertainty are adequately accounted, and the model provides a complete description of the dataset, a value of χ_v^2 less than one is considered to denote a satisfactory fit (Bevington and Robinson, 1992). For a natural system that generally contains unaccounted-for uncertainty, a χ_v^2 value slightly larger than one is often considered acceptable.

A contoured matrix of the chi-squared function was computed as described above. From this, the minimum value of the sum of χ^2 was selected, which corresponded to the best estimate to explain the proportion of variation in water-level fluctuations in the aquifer due to ET and river temperature (seepage). The minimum value of the chi-squared function (χ_{min}^2) for the optimized fitting parameters was 8.3, which was equal to a χ_v^2 value of 1.7, which is considered reasonable for the field conditions and limited intervals for each time series examined. At χ_{min}^2 the optimal values for *a* and *b* were (37 ± 10) × 10^3 and 6.8 ± 1.1. Within the ET-river temperature parameter space, one-standard-deviation uncertainty bounds were estimated for the specified level of confidence and the number of fitted parameters (Appendix M).

Overall, estimates for three end-member scenarios are consistent with the expected hydrologic response. The maximum computed percentage (87 ± 23%) of water-level fluctuations due to temperature-dependent changes in river seepage occurred during the multi-day time period in early December. Conversely, the maximum percentage (96 ± 15%) of water-level fluctuations due to ET occurred during July. For the intermediate ET-scenario characteristic of September field conditions, approximately 33 ± 9% of the water-level fluctuations were due to temperature-dependent changes in river seepage,

with the residual (67 ± 11%) attributed to ET effects. Because the computed percentages are sensitive to the fitted-values within the ET-river temperature (dynamic viscosity) parameter space, which are in-turn dependent on the linear-system response model and assumption that only ET and river temperature affect the groundwater responses, the estimates presented above should be considered in the context of ancillary evidence supporting the hypothesized coupling between the two forcing mechanisms. The chi-squared parameter minimization approach provides statistical support for the hypothesis that diurnal and multi-day groundwater fluctuations due to temperature-dependent changes in river seepage may impart a significant percentage of the variation of water levels in aquifers connected to shallow rivers.

5. CONCLUSIONS

This paper presents a comparative study of stream-aquifer interactions for different streamflow scenarios along a losing reach of the Río Grande in central New Mexico. Field measurements are synthesized and interpreted to develop a conceptual model of stream-aquifer interactions to explain the rapid flood-induced and diurnal changes in groundwater at Escondida. Observations indicate that groundwater responses were tightly coupled to changes in river stage during flood-induced streamflow events and high river-stage conditions. For both streamflow conditions, changes in streamflow produced a series of corresponding pressure transients that were rapidly propagated as a pressure wave within the streambed and aquifer.

The magnitude of groundwater responses, as a function of distance from the river, was partially dependent on the magnitude of the flood event: small flood events exhibited a decreasing exponential water-level response and the large flood event exhibited a variable water-level response. During high river-stage conditions, water-level responses propagated with minimal amplitude decay and time lag. Temporary reversals in vertical gradients and the degree of stream-aquifer connectivity were dependent on the magnitude of the change in river stage.

Stream-aquifer interactions during low river-stage conditions indicated a decoupling between changes in river stage and groundwater levels in the streambed and

aquifer; rather, diurnal groundwater fluctuations were attributed to temperature-dependent changes in seepage and evapotranspirative fluxes from riparian vegetation. A periodic change in streambed infiltration modulated by changes in river temperature produced a transient flux into the streambed sediments and aquifer; rapid water-level responses suggested that the perturbation resulted from the translation and diffusion of a pressure wave. The presence of a streambed restricting layer in the shallow subsurface, large diurnal changes in river temperature, and cessation of diurnal groundwater fluctuations as streamflow approached zero support a scenario in which groundwater recharge from the river contributed to the diurnal head change in the aquifer. Linear-regression and cross-correlation analyses indicated that changes in streambed fluxes driven by river temperature provided a better statistical fit compared to evapotranspirative fluxes. The chi-squared parameter minimization approach provided additional support that temperature-dependent changes in river seepage can drive diurnal and multi-day groundwater fluctuations. However, limited spatial coverage of instrumentation and inadequate hydrogeologic characterization within the stream-aquifer system precluded precise quantification of the relative contribution of the two forcing mechanisms.

Pressure-wave velocities exceeded, by several orders of magnitude, seepage velocities assuming Darcian flow, and were facilitated by site-specific conditions, namely the likely presence of a restricting layer in the shallow subsurface beneath the channel and a semiconfined aquifer. Comparison of pressure-wave velocities between small- and large-magnitude flood events indicated a strong degree of coupling that was affected by the magnitude and duration of the floodwave, proximity to boundaries, and antecedent

moisture conditions. For the large-magnitude flood event, the calculated pressure-wave velocities were approximately one order-of-magnitude greater than the small-magnitude events, and similar in magnitude to conditions during high and low river-stage conditions.

The results of this work indicate that quantifying pressure-wave velocities under varying streamflow scenarios and antecedent moisture conditions, in addition to numerical simulations, should be incorporated as a major objective for surface water-groundwater monitoring networks to augment conceptual models of stream-aquifer interactions, and hydrologic processes within riparian corridors. With this in mind, a high level of instrumentation and sampling frequencies is necessary to capture the transient events, which may not be recorded with 60-min recording intervals. Observations of pressure-wave velocities along closely spaced, multi-dimensional monitoring networks should be used conjunctively to develop conceptual and mathematical groundwater flow models and quantitative resource-management practices.

6. RECOMMENDATIONS FOR FUTURE WORK

The limiting factors for determining the relative contributions of evapotranspirative fluxes and temperature-induced changes in streambed infiltration on controlling diurnal groundwater fluctuations during low river-stage conditions were limited spatial coverage of instrumentation and inadequate hydrogeologic characterization of stream-aquifer sediments. These hindrances could be addressed by the following, sorted by forcing mechanism and listed in approximate order of importance:

Streambed Hydraulic Conductivity

- Install additional streambed piezometers and shallow monitoring wells for a closely spaced two-dimensional network centered at the Escondida transect;
- Obtain representative samples of streambed sediments for permeability, hydraulic conductivity, and flux measurements;
- Collect simultaneous measurements of temperature and head within the streambed to quantify streambed fluxes for comparison with the laboratory estimates;
- Measure streamflow loss through the proposed subreach to quantify the flux through an areal section of the streambed; and
- Calibrate a two-dimensional heat and mass transport model to quantify how changes in streambed hydraulic conductivity may affect groundwater interactions.

Evapotranspiration

- Measure the spatial and temporal changes in evapotranspirative fluxes within the subreach incorporating the method proposed in the work of Loheide and Gorelick (2005); and
- In conjunction with the calibrated groundwater flow model simulate the effects of diurnal changes in evapotranspirative fluxes on water-level fluctuations in the aquifer.

In addition to the inherent difficulties of solving this type of inverse problem, spatial and temporal variations in atmospheric, hydrologic, and ecologic variables complicate a field-based study significantly. It is for this reason that laboratory studies in a flume or column under ideal conditions should be conducted to verify the hypotheses presented in this paper. A laboratory experiment in a column could be completed in four steps. First, instrument a column with nested pressure transducers. Second, add aquifer sediments that are capped with a thin restricting layer near the inflow valve. Third, conduct steady flow hydraulic tests, in which the water contains a salt tracer, to obtain estimates of hydraulic conductivity, flux, and average linear velocity of the column. Fourth, conduct transient hydraulic tests where the inflowing water temperature (and salt tracer) varies as a sinusoidal function in time. Pressure-wave velocities should exceed the tracer velocities if temperature-induced variations in flux are controlling the water-level responses in the column. A similar column experiment, but carried-out with short-duration irrigation pulses for unsaturated materials, was presented in the work of Rasmussen et al. (2000).

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APPENDIX A
Aquifer test hydraulic head measurements

Constant rate aquifer test conducted at Escondida by S.S. Papadopulos & Assoc., Inc..
Minor details of aquifer test are included in SSPA (2004); subset of head data included below.

For generation of diagnostic plots, feet of water was converted to fluid pressure above transducer for E04B assuming 2.989067 Pa = 1 ft of water (from "www.onlineconversion.com") and a groundwater temperature of 4°C.

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B (ft H_2O)	head E02B (ft H_2O)	head E04B (ft H_2O)	head E01B (ft H_2O)	head E05EX (ft H_2O)	barometric pressure (in Hg)	pressure E04B (kPa H_2O)
	0		0.000	19.064	19.277	19.364	17.905	18.624	25.747	57.880
6/30/2003 8:40:02	2.9	2.9	0.048	19.066	19.277	19.364	17.905	18.621	25.751	57.880
6/30/2003 8:40:05	5.9	3.0	0.098	19.065	19.277	19.364	17.905	18.624	25.745	57.880
6/30/2003 8:40:08	8.8	2.9	0.147	19.066	19.277	19.364	17.905	18.624	25.749	57.880
6/30/2003 8:40:11	11.7	2.9	0.195	19.066	19.276	19.364	17.905	18.624	25.745	57.880
6/30/2003 8:40:14	14.7	3.0	0.245	19.065	19.277	19.364	17.905	18.624	25.749	57.880
6/30/2003 8:40:17	17.6	2.9	0.293	19.064	19.287	19.344	17.896	17.218	25.745	57.821
6/30/2003 8:40:20	20.5	2.9	0.342	19.059	19.277	19.297	17.872	16.244	25.749	57.680
6/30/2003 8:40:23	23.4	2.9	0.390	19.040	19.271	19.208	17.833	15.350	25.747	57.414
6/30/2003 8:40:26	26.4	3.0	0.440	19.020	19.264	19.122	17.793	14.508	25.745	57.157
6/30/2003 8:40:29	29.3	2.9	0.488	18.991	19.260	19.031	17.747	13.802	25.749	56.885
6/30/2003 8:40:32	32.2	2.9	0.537	18.973	19.253	18.938	17.705	13.123	25.747	56.607
6/30/2003 8:40:35	35.2	3.0	0.587	18.942	19.241	18.869	17.673	12.571	25.745	56.401
6/30/2003 8:40:38	38.1	2.9	0.635	18.912	19.232	18.791	17.631	12.005	25.747	56.168
6/30/2003 8:40:41	41.0	2.9	0.683	18.888	19.225	18.735	17.596	11.504	25.747	56.000
6/30/2003 8:40:43	44.0	3.0	0.733	18.864	19.215	18.670	17.563	11.083	25.743	55.806
6/30/2003 8:40:46	46.9	2.9	0.782	18.847	19.205	18.622	17.537	10.679	25.747	55.662
6/30/2003 8:40:49	49.8	2.9	0.830	18.824	19.196	18.579	17.506	10.361	25.745	55.534
6/30/2003 8:40:52	52.7	2.9	0.878	18.804	19.186	18.529	17.484	10.003	25.745	55.384
6/30/2003 8:40:55	55.7	3.0	0.928	18.785	19.179	18.488	17.462	9.704	25.747	55.262
6/30/2003 8:40:58	58.6	2.9	0.977	18.766	19.170	18.456	17.440	9.482	25.745	55.166
6/30/2003 8:41:01	61.8	3.2	1.030	18.752	19.162	18.417	17.414	9.190	25.747	55.050
6/30/2003 8:41:05	65.1	3.3	1.085	18.738	19.155	18.384	17.403	8.991	25.747	54.951
6/30/2003 8:41:08	68.7	3.6	1.145	18.723	19.146	18.363	17.381	8.769	25.747	54.888
6/30/2003 8:41:12	72.4	3.7	1.207	18.712	19.142	18.324	17.370	8.473	25.745	54.772
6/30/2003 8:41:16	76.4	4.0	1.273	18.693	19.129	18.309	17.346	8.354	25.743	54.727
6/30/2003 8:41:20	80.6	4.2	1.343	18.680	19.126	18.272	17.329	8.104	25.743	54.616
6/30/2003 8:41:25	85.1	4.5	1.418	18.671	19.114	18.253	17.318	7.982	25.743	54.559
6/30/2003 8:41:29	89.8	4.7	1.497	18.648	19.104	18.216	17.298	7.731	25.741	54.449
6/30/2003 8:41:34	94.9	5.1	1.582	18.639	19.094	18.188	17.274	7.558	25.743	54.365
6/30/2003 8:41:40	100.2	5.3	1.670	18.621	19.088	18.168	17.258	7.416	25.745	54.305
6/30/2003 8:41:45	105.8	5.6	1.763	18.605	19.078	18.145	17.247	7.274	25.741	54.237
6/30/2003 8:41:51	111.8	6.0	1.863	18.596	19.069	18.121	17.234	7.135	25.743	54.165
6/30/2003 8:41:58	118.1	6.3	1.968	18.582	19.061	18.101	17.219	6.990	25.743	54.105
6/30/2003 8:42:04	124.8	6.7	2.080	18.567	19.054	18.082	17.199	6.893	25.741	54.048
6/30/2003 8:42:11	131.8	7.0	2.197	18.559	19.048	18.069	17.193	6.814	25.739	54.009
6/30/2003 8:42:19	139.4	7.6	2.323	18.546	19.036	18.047	17.177	6.723	25.741	53.944
6/30/2003 8:42:27	147.3	7.9	2.455	18.543	19.029	18.034	17.166	6.666	25.741	53.905
6/30/2003 8:42:35	155.7	8.4	2.595	18.528	19.023	18.021	17.160	6.583	25.737	53.866
6/30/2003 8:42:44	164.7	9.0	2.745	18.517	19.016	18.015	17.153	6.509	25.741	53.848
6/30/2003 8:42:54	174.1	9.4	2.902	18.511	19.012	17.998	17.140	6.450	25.735	53.797
6/30/2003 8:43:04	184.1	10.0	3.068	18.504	19.004	17.987	17.131	6.396	25.735	53.764
6/30/2003 8:43:14	194.7	10.6	3.245	18.492	18.997	17.974	17.129	6.393	25.735	53.725
6/30/2003 8:43:25	206.0	11.3	3.433	18.487	18.991	17.970	17.118	6.342	25.735	53.714
6/30/2003 8:43:37	217.9	11.9	3.632	18.481	18.981	17.965	17.105	6.325	25.733	53.699
6/30/2003 8:43:50	230.5	12.6	3.842	18.474	18.977	17.957	17.103	6.282	25.733	53.675
6/30/2003 8:44:03	243.8	13.3	4.063	18.468	18.970	17.950	17.096	6.271	25.733	53.654
6/30/2003 8:44:18	258.0	14.2	4.300	18.465	18.968	17.950	17.096	6.274	25.733	53.654
6/30/2003 8:44:32	273.0	15.0	4.550	18.452	18.963	17.941	17.087	6.257	25.729	53.627
6/30/2003 8:44:48	288.9	15.9	4.815	18.455	18.957	17.935	17.081	6.248	25.731	53.609
6/30/2003 8:45:05	305.7	16.8	5.095	18.446	18.954	17.931	17.081	6.225	25.733	53.597
6/30/2003 8:45:23	323.5	17.8	5.392	18.445	18.948	17.924	17.074	6.234	25.729	53.576
6/30/2003 8:45:42	342.4	18.9	5.707	18.436	18.945	17.916	17.068	6.205	25.727	53.552
6/30/2003 8:46:02	362.4	20.0	6.040	18.433	18.942	17.916	17.066	6.214	25.729	53.552
6/30/2003 8:46:23	383.5	21.1	6.392	18.427	18.937	17.913	17.061	6.214	25.725	53.543
6/30/2003 8:46:45	406.0	22.5	6.767	18.423	18.935	17.911	17.057	6.197	25.725	53.537
6/30/2003 8:47:09	429.7	23.7	7.162	18.423	18.928	17.900	17.057	6.166	25.725	53.504
6/30/2003 8:47:34	454.9	25.2	7.582	18.416	18.927	17.900	17.050	6.168	25.723	53.504
6/30/2003 8:48:01	481.5	26.6	8.025	18.413	18.922	17.892	17.048	6.180	25.721	53.480
6/30/2003 8:48:29	509.8	28.3	8.497	18.410	18.918	17.894	17.041	6.160	25.721	53.486
6/30/2003 8:48:59	539.7	29.9	8.995	18.409	18.912	17.887	17.039	6.146	25.721	53.465
6/30/2003 8:49:31	571.4	31.7	9.523	18.404	18.911	17.883	17.035	6.151	25.719	53.453

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
6/30/2003 8:50:04	604.9	33.5	10.082	18.403	18.906	17.881	17.037	6.146	25.717	53.448
6/30/2003 8:50:40	640.5	35.6	10.675	18.400	18.903	17.879	17.028	6.137	25.715	53.442
6/30/2003 8:51:18	678.1	37.6	11.302	18.396	18.898	17.872	17.026	6.109	25.715	53.421
6/30/2003 8:51:58	718.0	39.9	11.967	18.388	18.895	17.872	17.026	6.109	25.711	53.421
6/30/2003 8:52:40	760.3	42.3	12.672	18.384	18.893	17.870	17.026	6.129	25.715	53.415
6/30/2003 8:53:25	805.0	44.7	13.417	18.383	18.889	17.866	17.022	6.129	25.713	53.403
6/30/2003 8:54:12	852.4	47.4	14.207	18.380	18.885	17.859	17.017	6.078	25.709	53.382
6/30/2003 8:55:02	902.6	50.2	15.043	18.378	18.879	17.857	17.015	6.095	25.711	53.376
6/30/2003 8:55:55	955.8	53.2	15.930	18.370	18.873	17.859	17.015	6.043	25.709	53.382
6/30/2003 8:56:52	1012.2	56.4	16.870	18.374	18.872	17.849	17.004	6.055	25.707	53.352
6/30/2003 8:57:51	1071.8	59.6	17.863	18.368	18.873	17.849	17.004	6.072	25.698	53.352
6/30/2003 8:58:55	1135.1	63.3	18.918	18.368	18.866	17.851	17.000	6.069	25.698	53.358
6/30/2003 9:00:02	1202.0	66.9	20.033	18.361	18.859	17.846	17.002	6.069	25.696	53.343
6/30/2003 9:01:12	1273.0	71.0	21.217	18.363	18.851	17.833	16.993	6.069	25.694	53.304
6/30/2003 9:02:28	1348.1	75.1	22.468	18.354	18.851	17.836	16.991	6.066	25.696	53.313
6/30/2003 9:03:47	1427.7	79.6	23.795	18.350	18.847	17.831	16.989	6.080	25.692	53.298
6/30/2003 9:05:11	1512.0	84.3	25.200	18.348	18.846	17.831	16.987	6.061	25.688	53.298
6/30/2003 9:06:41	1601.3	89.3	26.688	18.345	18.837	17.829	16.982	6.066	25.696	53.292
6/30/2003 9:08:15	1695.9	94.6	28.265	18.338	18.839	17.823	16.980	6.052	25.692	53.274
6/30/2003 9:09:56	1796.1	100.2	29.935	18.335	18.834	17.820	16.974	6.041	25.690	53.265
6/30/2003 9:11:42	1902.2	106.1	31.703	18.337	18.827	17.816	16.969	6.035	25.678	53.253
6/30/2003 9:13:34	2014.6	112.4	33.577	18.329	18.823	17.812	16.967	6.026	25.672	53.241
6/30/2003 9:15:33	2133.7	119.1	35.562	18.325	18.818	17.805	16.963	6.004	25.674	53.220
6/30/2003 9:17:39	2259.8	126.1	37.663	18.322	18.814	17.805	16.960	6.029	25.676	53.220
6/30/2003 9:19:53	2393.4	133.6	39.890	18.322	18.814	17.803	16.960	6.007	25.676	53.214
6/30/2003 9:22:14	2535.0	141.6	42.250	18.313	18.804	17.797	16.954	6.007	25.676	53.196
6/30/2003 9:24:44	2684.9	149.9	44.748	18.313	18.804	17.792	16.949	6.043	25.674	53.181
6/30/2003 9:27:23	2843.7	158.8	47.395	18.306	18.800	17.795	16.945	6.015	25.672	53.190
6/30/2003 9:30:11	3011.9	168.2	50.198	18.306	18.792	17.788	16.943	5.989	25.662	53.170
6/30/2003 9:33:10	3190.1	178.2	53.168	18.299	18.788	17.788	16.945	5.995	25.670	53.170
6/30/2003 9:36:18	3378.8	188.7	56.313	18.305	18.785	17.777	16.936	5.972	25.682	53.137
6/30/2003 9:39:38	3578.7	199.9	59.645	18.299	18.785	17.775	16.932	5.947	25.686	53.131
6/30/2003 9:43:10	3790.5	211.8	63.175	18.293	18.778	17.771	16.928	5.933	25.686	53.119
6/30/2003 9:46:54	4014.8	224.3	66.913	18.286	18.775	17.766	16.925	5.924	25.684	53.104
6/30/2003 9:50:52	4252.4	237.6	70.873	18.287	18.771	17.764	16.923	5.913	25.688	53.098
6/30/2003 9:55:04	4504.1	251.7	75.068	18.285	18.758	17.762	16.914	5.944	25.688	53.092
6/30/2003 9:59:30	4770.7	266.6	79.512	18.276	18.759	17.753	16.912	5.893	25.688	53.065
6/30/2003 10:04:13	5053.1	282.4	84.218	18.273	18.759	17.753	16.910	5.867	25.684	53.065
6/30/2003 10:09:12	5352.2	299.1	89.203	18.270	18.750	17.745	16.906	5.918	25.686	53.041
6/30/2003 10:14:12	5652.2	300.0	94.203	18.267	18.748	17.747	16.901	5.899	25.684	53.047
6/30/2003 10:19:12	5952.2	300.0	99.203	18.262	18.740	17.738	16.901	5.853	25.684	53.020
6/30/2003 10:24:12	6252.2	300.0	104.203	18.249	18.736	17.732	16.892	5.870	25.678	53.002
6/30/2003 10:29:12	6552.2	300.0	109.203	18.253	18.732	17.736	16.890	5.893	25.660	53.014
6/30/2003 10:34:12	6852.2	300.0	114.203	18.244	18.726	17.728	16.888	5.862	25.666	52.990
6/30/2003 10:39:12	7152.2	300.0	119.203	18.246	18.720	17.723	16.882	5.847	25.666	52.975
6/30/2003 10:44:12	7452.2	300.0	124.203	18.240	18.720	17.725	16.882	5.876	25.666	52.981
6/30/2003 10:49:12	7752.2	300.0	129.203	18.237	18.714	17.721	16.877	5.847	25.666	52.969
6/30/2003 10:54:12	8052.2	300.0	134.203	18.234	18.716	17.719	16.877	5.856	25.662	52.963
6/30/2003 10:59:12	8352.2	300.0	139.203	18.231	18.710	17.721	16.873	5.859	25.662	52.969
6/30/2003 11:04:12	8652.2	300.0	144.203	18.225	18.709	17.712	16.868	5.850	25.664	52.942
6/30/2003 11:09:12	8952.2	300.0	149.203	18.227	18.701	17.710	16.868	5.836	25.660	52.936
6/30/2003 11:14:12	9252.2	300.0	154.203	18.220	18.700	17.708	16.864	5.830	25.660	52.930
6/30/2003 11:19:12	9552.2	300.0	159.203	18.221	18.706	17.706	16.864	5.850	25.656	52.924
6/30/2003 11:24:12	9852.2	300.0	164.203	18.217	18.690	17.702	16.860	5.845	25.656	52.912
6/30/2003 11:29:12	10152.2	300.0	169.203	18.217	18.700	17.697	16.857	5.813	25.650	52.898
6/30/2003 11:34:12	10452.2	300.0	174.203	18.214	18.687	17.699	16.855	5.842	25.650	52.903
6/30/2003 11:39:12	10752.2	300.0	179.203	18.205	18.684	17.699	16.860	5.822	25.650	52.903
6/30/2003 11:44:12	11052.2	300.0	184.203	18.208	18.687	17.693	16.855	5.842	25.647	52.886
6/30/2003 11:49:12	11352.2	300.0	189.203	18.204	18.683	17.693	16.849	5.808	25.643	52.886
6/30/2003 11:54:12	11652.2	300.0	194.203	18.194	18.674	17.686	16.846	5.816	25.619	52.865
6/30/2003 11:59:12	11952.2	300.0	199.203	18.201	18.683	17.689	16.851	5.810	25.625	52.874
6/30/2003 12:04:12	12252.2	300.0	204.203	18.200	18.677	17.689	16.842	5.808	25.629	52.874
6/30/2003 12:09:12	12552.2	300.0	209.203	18.194	18.683	17.686	16.844	5.813	25.627	52.865
6/30/2003 12:14:12	12852.2	300.0	214.203	18.197	18.674	17.684	16.842	5.802	25.627	52.859
6/30/2003 12:19:12	13152.2	300.0	219.203	18.192	18.678	17.684	16.842	5.816	25.627	52.859
6/30/2003 12:24:12	13452.2	300.0	224.203	18.187	18.662	17.676	16.833	5.799	25.621	52.835
6/30/2003 12:29:12	13752.2	300.0	229.203	18.188	18.660	17.676	16.840	5.808	25.619	52.835
6/30/2003 12:34:12	14052.2	300.0	234.203	18.187	18.661	17.676	16.833	5.825	25.619	52.835
6/30/2003 12:39:12	14352.2	300.0	239.203	18.181	18.665	17.676	16.835	5.816	25.613	52.835
6/30/2003 12:44:12	14652.2	300.0	244.203	18.182	18.667	17.674	16.831	5.808	25.609	52.829
6/30/2003 12:49:12	14952.2	300.0	249.203	18.179	18.649	17.667	16.827	5.816	25.609	52.808
6/30/2003 12:54:12	15252.2	300.0	254.203	18.171	18.647	17.665	16.829	5.779	25.607	52.802
6/30/2003 12:59:12	15552.2	300.0	259.203	18.171	18.651	17.665	16.825	5.779	25.580	52.802
6/30/2003 13:04:12	15852.2	300.0	264.203	18.172	18.654	17.665	16.827	5.802	25.593	52.802

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
6/30/2003 13:09:12	16152.2	300.0	269.203	18.171	18.639	17.661	16.822	5.754	25.588	52.790
6/30/2003 13:14:12	16452.2	300.0	274.203	18.171	18.642	17.663	16.822	5.759	25.588	52.796
6/30/2003 13:19:12	16752.2	300.0	279.203	18.171	18.655	17.665	16.829	5.802	25.590	52.802
6/30/2003 13:24:12	17052.2	300.0	284.203	18.168	18.636	17.656	16.816	5.776	25.586	52.775
6/30/2003 13:29:12	17352.2	300.0	289.203	18.165	18.645	17.658	16.818	5.791	25.582	52.781
6/30/2003 13:34:12	17652.2	300.0	294.203	18.165	18.638	17.656	16.814	5.788	25.578	52.775
6/30/2003 13:39:12	17952.2	300.0	299.203	18.162	18.634	17.652	16.816	5.751	25.576	52.763
6/30/2003 13:44:12	18252.2	300.0	304.203	18.162	18.625	17.652	16.814	5.799	25.574	52.763
6/30/2003 13:49:12	18552.2	300.0	309.203	18.158	18.635	17.654	16.807	5.788	25.574	52.769
6/30/2003 13:54:12	18852.2	300.0	314.203	18.152	18.635	17.652	16.807	5.776	25.544	52.763
6/30/2003 13:59:12	19152.2	300.0	319.203	18.161	18.628	17.648	16.809	5.779	25.560	52.751
6/30/2003 14:04:12	19452.2	300.0	324.203	18.152	18.625	17.650	16.807	5.785	25.562	52.757
6/30/2003 14:09:12	19752.2	300.0	329.203	18.152	18.631	17.648	16.805	5.774	25.560	52.751
6/30/2003 14:14:12	20052.2	300.0	334.203	18.150	18.621	17.648	16.805	5.774	25.556	52.751
6/30/2003 14:19:12	20352.2	300.0	339.203	18.149	18.632	17.645	16.807	5.791	25.556	52.742
6/30/2003 14:24:12	20652.2	300.0	344.203	18.149	18.623	17.641	16.798	5.754	25.558	52.730
6/30/2003 14:29:12	20952.2	300.0	349.203	18.145	18.622	17.643	16.805	5.751	25.558	52.736
6/30/2003 14:34:12	21252.2	300.0	354.203	18.143	18.621	17.639	16.798	5.714	25.556	52.724
6/30/2003 14:39:12	21552.2	300.0	359.203	18.146	18.618	17.641	16.800	5.782	25.554	52.730
6/30/2003 14:44:12	21852.2	300.0	364.203	18.140	18.615	17.637	16.800	5.793	25.552	52.718
6/30/2003 14:49:12	22152.2	300.0	369.203	18.149	18.625	17.643	16.803	5.788	25.548	52.736
6/30/2003 14:54:12	22452.2	300.0	374.203	18.137	18.611	17.635	16.798	5.819	25.521	52.712
6/30/2003 14:59:12	22752.2	300.0	379.203	18.139	18.616	17.639	16.798	5.808	25.531	52.724
6/30/2003 15:04:12	23052.2	300.0	384.203	18.145	18.613	17.639	16.798	5.788	25.542	52.724
6/30/2003 15:09:12	23352.2	300.0	389.203	18.137	18.611	17.639	16.798	5.776	25.542	52.724
6/30/2003 15:14:12	23652.2	300.0	394.203	18.139	18.609	17.635	16.794	5.816	25.548	52.712
6/30/2003 15:19:12	23952.2	300.0	399.203	18.137	18.615	17.637	16.794	5.782	25.544	52.718
6/30/2003 15:24:12	24252.2	300.0	404.203	18.136	18.606	17.641	16.796	5.799	25.542	52.730
6/30/2003 15:29:12	24552.2	300.0	409.203	18.133	18.603	17.632	16.789	5.810	25.533	52.703
6/30/2003 15:34:12	24852.2	300.0	414.203	18.132	18.609	17.635	16.798	5.799	25.533	52.712
6/30/2003 15:39:12	25152.2	300.0	419.203	18.133	18.606	17.637	16.796	5.788	25.538	52.718
6/30/2003 15:44:12	25452.2	300.0	424.203	18.129	18.605	17.632	16.785	5.771	25.536	52.703
6/30/2003 15:49:12	25752.2	300.0	429.203	18.135	18.608	17.632	16.794	5.768	25.529	52.703
6/30/2003 15:54:12	26052.2	300.0	434.203	18.129	18.602	17.637	16.794	5.791	25.527	52.718
6/30/2003 15:59:12	26352.2	300.0	439.203	18.133	18.608	17.635	16.789	5.825	25.531	52.712
6/30/2003 16:04:12	26652.2	300.0	444.203	18.130	18.600	17.632	16.787	5.771	25.525	52.703
6/30/2003 16:09:12	26952.2	300.0	449.203	18.127	18.602	17.632	16.792	5.816	25.525	52.703
6/30/2003 16:14:12	27252.2	300.0	454.203	18.129	18.602	17.628	16.787	5.788	25.525	52.691
6/30/2003 16:19:12	27552.2	300.0	459.203	18.129	18.606	17.630	16.785	5.799	25.523	52.697
6/30/2003 16:24:12	27852.2	300.0	464.203	18.132	18.600	17.628	16.785	5.819	25.525	52.691
6/30/2003 16:29:12	28152.2	300.0	469.203	18.127	18.599	17.630	16.787	5.805	25.519	52.697
6/30/2003 16:34:12	28452.2	300.0	474.203	18.125	18.598	17.628	16.787	5.813	25.517	52.691
6/30/2003 16:39:12	28752.2	300.0	479.203	18.125	18.596	17.630	16.783	5.819	25.521	52.697
6/30/2003 16:44:12	29052.2	300.0	484.203	18.126	18.596	17.624	16.785	5.833	25.519	52.679
6/30/2003 16:49:12	29352.2	300.0	489.203	18.122	18.596	17.624	16.783	5.799	25.519	52.679
6/30/2003 16:54:12	29652.2	300.0	494.203	18.125	18.598	17.628	16.779	5.825	25.515	52.691
6/30/2003 16:59:12	29952.2	300.0	499.203	18.125	18.598	17.626	16.781	5.836	25.515	52.685
6/30/2003 17:04:12	30252.2	300.0	504.203	18.122	18.595	17.628	16.781	5.867	25.515	52.691
6/30/2003 17:09:12	30552.2	300.0	509.203	18.126	18.595	17.628	16.785	5.845	25.513	52.691
6/30/2003 17:14:12	30852.2	300.0	514.203	18.120	18.603	17.632	16.783	5.845	25.513	52.703
6/30/2003 17:19:12	31152.2	300.0	519.203	18.114	18.589	17.622	16.783	5.816	25.511	52.673
6/30/2003 17:24:12	31452.2	300.0	524.203	18.117	18.598	17.628	16.783	5.845	25.479	52.691
6/30/2003 17:29:12	31752.2	300.0	529.203	18.117	18.592	17.624	16.785	5.845	25.476	52.679
6/30/2003 17:34:12	32052.2	300.0	534.203	18.114	18.593	17.626	16.783	5.828	25.470	52.685
6/30/2003 17:39:12	32352.2	300.0	539.203	18.110	18.598	17.626	16.785	5.825	25.464	52.685
6/30/2003 17:44:12	32652.2	300.0	544.203	18.113	18.593	17.624	16.781	5.853	25.464	52.679
6/30/2003 17:49:12	32952.2	300.0	549.203	18.114	18.605	17.628	16.785	5.864	25.460	52.691
6/30/2003 17:54:12	33252.2	300.0	554.203	18.114	18.595	17.624	16.781	5.847	25.458	52.679
6/30/2003 17:59:12	33552.2	300.0	559.203	18.112	18.592	17.624	16.785	5.847	25.456	52.679
6/30/2003 18:04:12	33852.2	300.0	564.203	18.113	18.593	17.628	16.783	5.870	25.454	52.691
6/30/2003 18:09:12	34152.2	300.0	569.203	18.113	18.595	17.626	16.785	5.867	25.452	52.685
6/30/2003 18:14:12	34452.2	300.0	574.203	18.113	18.592	17.630	16.787	5.830	25.452	52.697
6/30/2003 18:19:12	34752.2	300.0	579.203	18.113	18.593	17.624	16.781	5.847	25.450	52.679
6/30/2003 18:24:12	35052.2	300.0	584.203	18.113	18.593	17.626	16.783	5.839	25.450	52.685
6/30/2003 18:29:12	35352.2	300.0	589.203	18.113	18.590	17.630	16.783	5.856	25.450	52.697
6/30/2003 18:34:12	35652.2	300.0	594.203	18.112	18.593	17.626	16.785	5.896	25.450	52.685
6/30/2003 18:39:12	35952.2	300.0	599.203	18.116	18.590	17.628	16.785	5.893	25.456	52.691
6/30/2003 18:44:12	36252.2	300.0	604.203	18.120	18.596	17.630	16.783	5.890	25.470	52.697
6/30/2003 18:49:12	36552.2	300.0	609.203	18.117	18.592	17.626	16.785	5.901	25.487	52.685
6/30/2003 18:54:12	36852.2	300.0	614.203	18.120	18.592	17.626	16.783	5.890	25.491	52.685
6/30/2003 18:59:12	37152.2	300.0	619.203	18.117	18.596	17.628	16.787	5.887	25.499	52.691
6/30/2003 19:04:12	37452.2	300.0	624.203	18.117	18.595	17.635	16.783	5.839	25.507	52.712
6/30/2003 19:09:12	37752.2	300.0	629.203	18.122	18.595	17.632	16.785	5.850	25.507	52.703
6/30/2003 19:14:12	38052.2	300.0	634.203	18.120	18.596	17.628	16.787	5.862	25.511	52.691

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
6/30/2003 19:19:12	38352.2	300.0	639.203	18.123	18.595	17.632	16.789	5.884	25.519	52.703
6/30/2003 19:24:12	38652.2	300.0	644.203	18.125	18.595	17.632	16.787	5.882	25.523	52.703
6/30/2003 19:29:12	38952.2	300.0	649.203	18.126	18.598	17.639	16.785	5.890	25.525	52.724
6/30/2003 19:34:12	39252.2	300.0	654.203	18.123	18.599	17.641	16.787	5.910	25.529	52.730
6/30/2003 19:39:12	39552.2	300.0	659.203	18.125	18.602	17.632	16.792	5.876	25.531	52.703
6/30/2003 19:44:12	39852.2	300.0	664.203	18.127	18.605	17.637	16.792	5.918	25.531	52.718
6/30/2003 19:49:12	40152.2	300.0	669.203	18.129	18.603	17.641	16.789	5.904	25.533	52.730
6/30/2003 19:54:12	40452.2	300.0	674.203	18.130	18.602	17.641	16.789	5.853	25.536	52.730
6/30/2003 19:59:12	40752.2	300.0	679.203	18.130	18.606	17.639	16.789	5.864	25.538	52.724
6/30/2003 20:04:12	41052.2	300.0	684.203	18.133	18.608	17.639	16.794	5.876	25.538	52.724
6/30/2003 20:09:12	41352.2	300.0	689.203	18.135	18.609	17.641	16.796	5.901	25.544	52.730
6/30/2003 20:14:12	41652.2	300.0	694.203	18.133	18.609	17.641	16.794	5.879	25.548	52.730
6/30/2003 20:19:12	41952.2	300.0	699.203	18.127	18.611	17.643	16.794	5.884	25.536	52.736
6/30/2003 20:24:12	42252.2	300.0	704.203	18.135	18.612	17.648	16.800	5.901	25.540	52.751
6/30/2003 20:29:12	42552.2	300.0	709.203	18.137	18.615	17.645	16.796	5.870	25.552	52.742
6/30/2003 20:34:12	42852.2	300.0	714.203	18.139	18.618	17.648	16.796	5.887	25.554	52.751
6/30/2003 20:39:12	43152.2	300.0	719.203	18.140	18.619	17.645	16.800	5.867	25.558	52.742
6/30/2003 20:44:12	43452.2	300.0	724.203	18.143	18.619	17.643	16.798	5.859	25.564	52.736
6/30/2003 20:49:12	43752.2	300.0	729.203	18.143	18.622	17.654	16.805	5.856	25.566	52.769
6/30/2003 20:54:12	44052.2	300.0	734.203	18.146	18.623	17.654	16.805	5.830	25.570	52.769
6/30/2003 20:59:12	44352.2	300.0	739.203	18.146	18.623	17.650	16.805	5.879	25.574	52.757
6/30/2003 21:04:12	44652.2	300.0	744.203	18.150	18.628	17.654	16.809	5.884	25.580	52.769
6/30/2003 21:09:12	44952.2	300.0	749.203	18.148	18.631	17.656	16.809	5.890	25.582	52.775
6/30/2003 21:14:12	45252.2	300.0	754.203	18.152	18.632	17.654	16.809	5.876	25.586	52.769
6/30/2003 21:19:12	45552.2	300.0	759.203	18.150	18.636	17.665	16.807	5.890	25.586	52.802
6/30/2003 21:24:12	45852.2	300.0	764.203	18.153	18.635	17.663	16.811	5.899	25.590	52.796
6/30/2003 21:29:12	46152.2	300.0	769.203	18.156	18.641	17.658	16.814	5.876	25.601	52.781
6/30/2003 21:34:12	46452.2	300.0	774.203	18.158	18.641	17.665	16.818	5.887	25.599	52.802
6/30/2003 21:39:12	46752.2	300.0	779.203	18.156	18.639	17.661	16.818	5.896	25.601	52.790
6/30/2003 21:44:12	47052.2	300.0	784.203	18.158	18.644	17.667	16.811	5.938	25.605	52.808
6/30/2003 21:49:12	47352.2	300.0	789.203	18.159	18.647	17.665	16.816	5.882	25.607	52.802
6/30/2003 21:54:12	47652.2	300.0	794.203	18.159	18.645	17.669	16.814	5.901	25.609	52.814
6/30/2003 21:59:12	47952.2	300.0	799.203	18.163	18.649	17.669	16.814	5.853	25.613	52.814
6/30/2003 22:04:12	48252.2	300.0	804.203	18.163	18.645	17.674	16.818	5.867	25.617	52.829
6/30/2003 22:09:12	48552.2	300.0	809.203	18.163	18.648	17.671	16.820	5.893	25.619	52.820
6/30/2003 22:14:12	48852.2	300.0	814.203	18.163	18.651	17.674	16.818	5.879	25.623	52.829
6/30/2003 22:19:12	49152.2	300.0	819.203	18.163	18.654	17.674	16.820	5.876	25.623	52.829
6/30/2003 22:24:12	49452.2	300.0	824.203	18.168	18.657	17.674	16.825	5.864	25.627	52.829
6/30/2003 22:29:12	49752.2	300.0	829.203	18.166	18.657	17.676	16.825	5.899	25.631	52.835
6/30/2003 22:34:12	50052.2	300.0	834.203	18.169	18.657	17.678	16.825	5.884	25.627	52.841
6/30/2003 22:39:12	50352.2	300.0	839.203	18.168	18.658	17.682	16.825	5.907	25.631	52.853
6/30/2003 22:44:12	50652.2	300.0	844.203	18.168	18.658	17.678	16.825	5.887	25.629	52.841
6/30/2003 22:49:12	50952.2	300.0	849.203	18.169	18.657	17.676	16.822	5.856	25.629	52.835
6/30/2003 22:54:12	51252.2	300.0	854.203	18.171	18.662	17.682	16.831	5.884	25.635	52.853
6/30/2003 22:59:12	51552.2	300.0	859.203	18.166	18.661	17.676	16.829	5.867	25.639	52.835
6/30/2003 23:04:12	51852.2	300.0	864.203	18.168	18.662	17.682	16.829	5.893	25.641	52.853
6/30/2003 23:09:12	52152.2	300.0	869.203	18.174	18.662	17.680	16.825	5.870	25.639	52.847
6/30/2003 23:14:12	52452.2	300.0	874.203	18.175	18.667	17.682	16.827	5.870	25.639	52.853
6/30/2003 23:19:12	52752.2	300.0	879.203	18.163	18.665	17.680	16.825	5.862	25.631	52.847
6/30/2003 23:24:12	53052.2	300.0	884.203	18.174	18.667	17.684	16.833	5.882	25.627	52.859
6/30/2003 23:29:12	53352.2	300.0	889.203	18.175	18.667	17.682	16.829	5.842	25.629	52.853
6/30/2003 23:34:12	53652.2	300.0	894.203	18.175	18.668	17.686	16.833	5.882	25.633	52.865
6/30/2003 23:39:12	53952.2	300.0	899.203	18.175	18.668	17.691	16.833	5.870	25.637	52.880
6/30/2003 23:44:12	54252.2	300.0	904.203	18.178	18.673	17.691	16.831	5.882	25.639	52.880
6/30/2003 23:49:12	54552.2	300.0	909.203	18.185	18.674	17.686	16.840	5.867	25.639	52.865
6/30/2003 23:54:12	54852.2	300.0	914.203	18.182	18.674	17.689	16.833	5.839	25.641	52.874
6/30/2003 23:59:12	55152.2	300.0	919.203	18.184	18.675	17.689	16.833	5.864	25.643	52.874
7/1/2003 0:04:12	55452.2	300.0	924.203	18.182	18.677	17.689	16.831	5.850	25.643	52.874
7/1/2003 0:09:12	55752.2	300.0	929.203	18.181	18.678	17.689	16.835	5.870	25.643	52.874
7/1/2003 0:14:12	56052.2	300.0	934.203	18.179	18.675	17.693	16.833	5.887	25.647	52.886
7/1/2003 0:19:12	56352.2	300.0	939.203	18.189	18.677	17.691	16.831	5.896	25.650	52.880
7/1/2003 0:24:12	56652.2	300.0	944.203	18.185	18.678	17.695	16.844	5.896	25.654	52.892
7/1/2003 0:29:12	56952.2	300.0	949.203	18.187	18.681	17.697	16.842	5.870	25.650	52.898
7/1/2003 0:34:12	57252.2	300.0	954.203	18.182	18.681	17.702	16.842	5.870	25.656	52.912
7/1/2003 0:39:12	57552.2	300.0	959.203	18.189	18.683	17.693	16.844	5.864	25.654	52.886
7/1/2003 0:44:12	57852.2	300.0	964.203	18.189	18.684	17.695	16.840	5.864	25.652	52.892
7/1/2003 0:49:12	58152.2	300.0	969.203	18.191	18.686	17.702	16.840	5.882	25.652	52.912
7/1/2003 0:54:12	58452.2	300.0	974.203	18.189	18.687	17.699	16.842	5.810	25.652	52.903
7/1/2003 0:59:12	58752.2	300.0	979.203	18.194	18.688	17.697	16.844	5.864	25.654	52.898
7/1/2003 1:04:12	59052.2	300.0	984.203	18.191	18.688	17.699	16.844	5.850	25.654	52.903
7/1/2003 1:09:12	59352.2	300.0	989.203	18.204	18.691	17.702	16.849	5.847	25.654	52.912
7/1/2003 1:14:12	59652.2	300.0	994.203	18.192	18.693	17.702	16.851	5.884	25.654	52.912
7/1/2003 1:19:12	59952.2	300.0	999.203	18.197	18.691	17.702	16.851	5.870	25.652	52.912
7/1/2003 1:24:12	60252.2	300.0	1004.203	18.198	18.696	17.704	16.849	5.876	25.658	52.918

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
7/1/2003 1:29:12	60552.2	300.0	1009.203	18.201	18.691	17.706	16.851	5.887	25.656	52.924
7/1/2003 1:34:12	60852.2	300.0	1014.203	18.202	18.690	17.706	16.851	5.864	25.662	52.924
7/1/2003 1:39:12	61152.2	300.0	1019.203	18.195	18.697	17.706	16.849	5.887	25.662	52.924
7/1/2003 1:44:12	61452.2	300.0	1024.203	18.201	18.696	17.708	16.849	5.884	25.662	52.930
7/1/2003 1:49:12	61752.2	300.0	1029.203	18.204	18.696	17.708	16.853	5.850	25.666	52.930
7/1/2003 1:54:12	62052.2	300.0	1034.203	18.204	18.696	17.706	16.851	5.847	25.664	52.924
7/1/2003 1:59:12	62352.2	300.0	1039.203	18.200	18.697	17.704	16.855	5.822	25.662	52.918
7/1/2003 2:04:12	62652.2	300.0	1044.203	18.202	18.701	17.710	16.853	5.830	25.664	52.936
7/1/2003 2:09:12	62952.2	300.0	1049.203	18.204	18.700	17.708	16.855	5.853	25.662	52.930
7/1/2003 2:14:12	63252.2	300.0	1054.203	18.208	18.703	17.715	16.857	5.836	25.664	52.951
7/1/2003 2:19:12	63552.2	300.0	1059.203	18.207	18.703	17.710	16.860	5.847	25.662	52.936
7/1/2003 2:24:12	63852.2	300.0	1064.203	18.208	18.706	17.719	16.857	5.884	25.656	52.963
7/1/2003 2:29:12	64152.2	300.0	1069.203	18.210	18.710	17.717	16.860	5.864	25.662	52.957
7/1/2003 2:34:12	64452.2	300.0	1074.203	18.211	18.709	17.723	16.862	5.836	25.660	52.975
7/1/2003 2:39:12	64752.2	300.0	1079.203	18.212	18.707	17.723	16.866	5.853	25.660	52.975
7/1/2003 2:44:12	65052.2	300.0	1084.203	18.218	18.712	17.723	16.868	5.845	25.662	52.975
7/1/2003 2:49:12	65352.2	300.0	1089.203	18.218	18.714	17.725	16.866	5.856	25.662	52.981
7/1/2003 2:54:12	65652.2	300.0	1094.203	18.218	18.714	17.723	16.868	5.873	25.660	52.975
7/1/2003 2:59:12	65952.2	300.0	1099.203	18.220	18.714	17.728	16.871	5.873	25.662	52.990
7/1/2003 3:04:12	66252.2	300.0	1104.203	18.223	18.719	17.728	16.875	5.876	25.666	52.990
7/1/2003 3:09:12	66552.2	300.0	1109.203	18.223	18.717	17.732	16.875	5.893	25.670	53.002
7/1/2003 3:14:12	66852.2	300.0	1114.203	18.218	18.719	17.730	16.871	5.847	25.686	52.996
7/1/2003 3:19:12	67152.2	300.0	1119.203	18.217	18.719	17.732	16.875	5.853	25.674	53.002
7/1/2003 3:24:12	67452.2	300.0	1124.203	18.230	18.725	17.736	16.882	5.867	25.662	53.014
7/1/2003 3:29:12	67752.2	300.0	1129.203	18.233	18.727	17.736	16.882	5.887	25.666	53.014
7/1/2003 3:34:12	68052.2	300.0	1134.203	18.233	18.727	17.741	16.886	5.833	25.674	53.029
7/1/2003 3:39:12	68352.2	300.0	1139.203	18.237	18.732	17.741	16.886	5.853	25.674	53.029
7/1/2003 3:44:12	68652.2	300.0	1144.203	18.236	18.732	17.741	16.890	5.819	25.678	53.029
7/1/2003 3:49:12	68952.2	300.0	1149.203	18.241	18.735	17.743	16.892	5.808	25.680	53.035
7/1/2003 3:54:12	69252.2	300.0	1154.203	18.244	18.737	17.743	16.895	5.879	25.682	53.035
7/1/2003 3:59:12	69552.2	300.0	1159.203	18.244	18.739	17.751	16.897	5.836	25.684	53.059
7/1/2003 4:04:12	69852.2	300.0	1164.203	18.249	18.739	17.753	16.903	5.822	25.688	53.065
7/1/2003 4:09:12	70152.2	300.0	1169.203	18.250	18.740	17.751	16.906	5.867	25.690	53.059
7/1/2003 4:14:12	70452.2	300.0	1174.203	18.246	18.742	17.760	16.910	5.842	25.694	53.086
7/1/2003 4:19:12	70752.2	300.0	1179.203	18.254	18.748	17.758	16.908	5.842	25.692	53.080
7/1/2003 4:24:12	71052.2	300.0	1184.203	18.254	18.750	17.760	16.908	5.862	25.692	53.086
7/1/2003 4:29:12	71352.2	300.0	1189.203	18.256	18.753	17.762	16.908	5.867	25.692	53.092
7/1/2003 4:34:12	71652.2	300.0	1194.203	18.257	18.753	17.762	16.908	5.859	25.694	53.092
7/1/2003 4:39:12	71952.2	300.0	1199.203	18.259	18.756	17.764	16.912	5.904	25.696	53.098
7/1/2003 4:44:12	72252.2	300.0	1204.203	18.263	18.756	17.764	16.914	5.876	25.696	53.098
7/1/2003 4:49:12	72552.2	300.0	1209.203	18.262	18.758	17.769	16.919	5.876	25.692	53.113
7/1/2003 4:54:12	72852.2	300.0	1214.203	18.264	18.761	17.769	16.919	5.876	25.694	53.113
7/1/2003 4:59:12	73152.2	300.0	1219.203	18.264	18.761	17.773	16.917	5.856	25.696	53.125
7/1/2003 5:04:12	73452.2	300.0	1224.203	18.266	18.762	17.769	16.919	5.904	25.700	53.113
7/1/2003 5:09:12	73752.2	300.0	1229.203	18.273	18.763	17.771	16.923	5.847	25.702	53.119
7/1/2003 5:14:12	74052.2	300.0	1234.203	18.269	18.765	17.775	16.925	5.856	25.702	53.131
7/1/2003 5:19:12	74352.2	300.0	1239.203	18.275	18.766	17.777	16.923	5.890	25.704	53.137
7/1/2003 5:24:12	74652.2	300.0	1244.203	18.275	18.768	17.777	16.925	5.896	25.702	53.137
7/1/2003 5:29:12	74952.2	300.0	1249.203	18.277	18.769	17.775	16.930	5.887	25.702	53.131
7/1/2003 5:34:12	75252.2	300.0	1254.203	18.276	18.769	17.779	16.930	5.901	25.704	53.143
7/1/2003 5:39:12	75552.2	300.0	1259.203	18.277	18.771	17.779	16.930	5.876	25.702	53.143
7/1/2003 5:44:12	75852.2	300.0	1264.203	18.273	18.774	17.782	16.930	5.867	25.704	53.152
7/1/2003 5:49:12	76152.2	300.0	1269.203	18.280	18.771	17.779	16.932	5.896	25.702	53.143
7/1/2003 5:54:12	76452.2	300.0	1274.203	18.277	18.772	17.784	16.930	5.862	25.704	53.158
7/1/2003 5:59:12	76752.2	300.0	1279.203	18.279	18.774	17.779	16.932	5.882	25.702	53.143
7/1/2003 6:04:12	77052.2	300.0	1284.203	18.280	18.775	17.784	16.936	5.853	25.707	53.158
7/1/2003 6:09:12	77352.2	300.0	1289.203	18.280	18.775	17.786	16.932	5.867	25.704	53.164
7/1/2003 6:14:12	77652.2	300.0	1294.203	18.280	18.776	17.786	16.936	5.867	25.704	53.164
7/1/2003 6:19:12	77952.2	300.0	1299.203	18.282	18.774	17.782	16.936	5.913	25.707	53.152
7/1/2003 6:24:12	78252.2	300.0	1304.203	18.283	18.776	17.784	16.930	5.867	25.707	53.158
7/1/2003 6:29:12	78552.2	300.0	1309.203	18.282	18.778	17.788	16.934	5.850	25.704	53.170
7/1/2003 6:34:12	78852.2	300.0	1314.203	18.285	18.779	17.790	16.936	5.847	25.709	53.176
7/1/2003 6:39:12	79152.2	300.0	1319.203	18.286	18.778	17.784	16.936	5.828	25.704	53.158
7/1/2003 6:44:12	79452.2	300.0	1324.203	18.285	18.779	17.786	16.938	5.850	25.709	53.164
7/1/2003 6:49:12	79752.2	300.0	1329.203	18.282	18.779	17.784	16.938	5.847	25.711	53.158
7/1/2003 6:54:12	80052.2	300.0	1334.203	18.282	18.779	17.790	16.934	5.847	25.709	53.176
7/1/2003 6:59:12	80352.2	300.0	1339.203	18.286	18.781	17.784	16.934	5.845	25.707	53.158
7/1/2003 7:04:12	80652.2	300.0	1344.203	18.285	18.779	17.784	16.934	5.853	25.711	53.158
7/1/2003 7:09:12	80952.2	300.0	1349.203	18.285	18.778	17.788	16.936	5.859	25.709	53.170
7/1/2003 7:14:12	81252.2	300.0	1354.203	18.285	18.779	17.784	16.932	5.853	25.709	53.158
7/1/2003 7:19:12	81552.2	300.0	1359.203	18.272	18.774	17.779	16.936	5.828	25.715	53.143
7/1/2003 7:24:12	81852.2	300.0	1364.203	18.282	18.772	17.786	16.934	5.859	25.698	53.164
7/1/2003 7:29:12	82152.2	300.0	1369.203	18.277	18.776	17.784	16.932	5.813	25.702	53.158
7/1/2003 7:34:12	82452.2	300.0	1374.203	18.279	18.775	17.784	16.934	5.853	25.700	53.158

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
7/1/2003 7:39:12	82752.2	300.0	1379.203	18.279	18.774	17.784	16.934	5.836	25.698	53.158
7/1/2003 7:44:12	83052.2	300.0	1384.203	18.277	18.774	17.779	16.930	5.828	25.698	53.143
7/1/2003 7:49:12	83352.2	300.0	1389.203	18.282	18.775	17.782	16.932	5.887	25.696	53.152
7/1/2003 7:54:12	83652.2	300.0	1394.203	18.277	18.774	17.779	16.928	5.839	25.700	53.143
7/1/2003 7:59:12	83952.2	300.0	1399.203	18.275	18.769	17.779	16.930	5.864	25.696	53.143
7/1/2003 8:04:12	84252.2	300.0	1404.203	18.272	18.769	17.782	16.925	5.839	25.692	53.152
7/1/2003 8:09:12	84552.2	300.0	1409.203	18.263	18.768	17.777	16.925	5.847	25.694	53.137
7/1/2003 8:14:12	84852.2	300.0	1414.203	18.272	18.765	17.773	16.928	5.853	25.692	53.125
7/1/2003 8:19:12	85152.2	300.0	1419.203	18.269	18.761	17.771	16.923	5.870	25.692	53.119
7/1/2003 8:24:12	85452.2	300.0	1424.203	18.264	18.759	17.771	16.923	5.856	25.692	53.119
7/1/2003 8:29:12	85752.2	300.0	1429.203	18.262	18.755	17.769	16.921	5.862	25.690	53.113
7/1/2003 8:34:12	86052.2	300.0	1434.203	18.260	18.753	17.769	16.919	5.839	25.686	53.113
7/1/2003 8:39:12	86352.2	300.0	1439.203	18.259	18.753	17.769	16.917	5.879	25.686	53.113
7/1/2003 8:44:12	86652.2	300.0	1444.203	18.256	18.749	17.762	16.914	5.862	25.682	53.092
7/1/2003 8:49:12	86952.2	300.0	1449.203	18.250	18.748	17.762	16.910	5.845	25.684	53.092
7/1/2003 8:54:12	87252.2	300.0	1454.203	18.251	18.742	17.760	16.906	5.847	25.680	53.086
7/1/2003 8:59:12	87552.2	300.0	1459.203	18.247	18.737	17.758	16.906	5.856	25.678	53.080
7/1/2003 9:04:12	87852.2	300.0	1464.203	18.244	18.737	17.753	16.903	5.867	25.674	53.065
7/1/2003 9:09:12	88152.2	300.0	1469.203	18.240	18.733	17.751	16.901	5.870	25.668	53.059
7/1/2003 9:14:12	88452.2	300.0	1474.203	18.241	18.733	17.747	16.897	5.867	25.666	53.047
7/1/2003 9:19:12	88752.2	300.0	1479.203	18.237	18.727	17.741	16.895	5.842	25.664	53.029
7/1/2003 9:24:12	89052.2	300.0	1484.203	18.233	18.722	17.738	16.890	5.819	25.664	53.020
7/1/2003 9:29:12	89352.2	300.0	1489.203	18.230	18.719	17.738	16.886	5.782	25.658	53.020
7/1/2003 9:34:12	89652.2	300.0	1494.203	18.228	18.713	17.736	16.882	5.845	25.654	53.014
7/1/2003 9:39:12	89952.2	300.0	1499.203	18.228	18.716	17.730	16.884	5.845	25.650	52.996
7/1/2003 9:44:12	90252.2	300.0	1504.203	18.218	18.709	17.728	16.879	5.808	25.645	52.990
7/1/2003 9:49:12	90552.2	300.0	1509.203	18.218	18.703	17.728	16.875	5.816	25.643	52.990
7/1/2003 9:54:12	90852.2	300.0	1514.203	18.215	18.701	17.725	16.877	5.828	25.635	52.981
7/1/2003 9:59:12	91152.2	300.0	1519.203	18.211	18.700	17.719	16.873	5.808	25.637	52.963
7/1/2003 10:04:12	91452.2	300.0	1524.203	18.212	18.699	17.717	16.866	5.810	25.633	52.957
7/1/2003 10:09:12	91752.2	300.0	1529.203	18.211	18.688	17.715	16.862	5.808	25.627	52.951
7/1/2003 10:14:12	92052.2	300.0	1534.203	18.202	18.687	17.710	16.860	5.785	25.621	52.936
7/1/2003 10:19:12	92352.2	300.0	1539.203	18.202	18.681	17.706	16.862	5.788	25.619	52.924
7/1/2003 10:24:12	92652.2	300.0	1544.203	18.195	18.684	17.702	16.855	5.810	25.619	52.912
7/1/2003 10:29:12	92952.2	300.0	1549.203	18.194	18.675	17.704	16.853	5.782	25.611	52.918
7/1/2003 10:34:12	93252.2	300.0	1554.203	18.188	18.670	17.695	16.846	5.810	25.607	52.892
7/1/2003 10:39:12	93552.2	300.0	1559.203	18.187	18.670	17.689	16.846	5.748	25.609	52.874
7/1/2003 10:44:12	93852.2	300.0	1564.203	18.185	18.665	17.693	16.846	5.788	25.605	52.886
7/1/2003 10:49:12	94152.2	300.0	1569.203	18.181	18.662	17.691	16.844	5.765	25.601	52.880
7/1/2003 10:54:12	94452.2	300.0	1574.203	18.179	18.664	17.691	16.840	5.771	25.599	52.880
7/1/2003 10:59:12	94752.2	300.0	1579.203	18.175	18.654	17.684	16.840	5.765	25.593	52.859
7/1/2003 11:04:12	95052.2	300.0	1584.203	18.174	18.657	17.682	16.833	5.779	25.588	52.853
7/1/2003 11:09:12	95352.2	300.0	1589.203	18.166	18.651	17.680	16.831	5.802	25.588	52.847
7/1/2003 11:14:12	95652.2	300.0	1594.203	18.159	18.652	17.676	16.831	5.748	25.572	52.835
7/1/2003 11:19:12	95952.2	300.0	1599.203	18.162	18.648	17.674	16.829	5.785	25.566	52.829
7/1/2003 11:24:12	96252.2	300.0	1604.203	18.159	18.644	17.674	16.829	5.765	25.570	52.829
7/1/2003 11:29:12	96552.2	300.0	1609.203	18.149	18.639	17.669	16.822	5.765	25.570	52.814
7/1/2003 11:34:12	96852.2	300.0	1614.203	18.150	18.636	17.667	16.825	5.793	25.566	52.808
7/1/2003 11:39:12	97152.2	300.0	1619.203	18.153	18.639	17.667	16.816	5.754	25.568	52.808
7/1/2003 11:44:12	97452.2	300.0	1624.203	18.145	18.629	17.663	16.816	5.776	25.564	52.796
7/1/2003 11:49:12	97752.2	300.0	1629.203	18.146	18.628	17.661	16.809	5.765	25.558	52.790
7/1/2003 11:54:12	98052.2	300.0	1634.203	18.137	18.629	17.661	16.807	5.748	25.552	52.790
7/1/2003 11:59:12	98352.2	300.0	1639.203	18.143	18.623	17.656	16.809	5.734	25.552	52.775
7/1/2003 12:04:12	98652.2	300.0	1644.203	18.139	18.618	17.652	16.805	5.725	25.546	52.763
7/1/2003 12:09:12	98952.2	300.0	1649.203	18.139	18.612	17.652	16.803	5.765	25.546	52.763
7/1/2003 12:14:12	99252.2	300.0	1654.203	18.132	18.618	17.654	16.805	5.711	25.538	52.769
7/1/2003 12:19:12	99552.2	300.0	1659.203	18.130	18.613	17.643	16.800	5.739	25.538	52.736
7/1/2003 12:24:12	99852.2	300.0	1664.203	18.127	18.619	17.648	16.798	5.751	25.531	52.751
7/1/2003 12:29:12	100152.2	300.0	1669.203	18.129	18.605	17.648	16.798	5.759	25.527	52.751
7/1/2003 12:34:12	100452.2	300.0	1674.203	18.123	18.609	17.643	16.796	5.737	25.523	52.736
7/1/2003 12:39:12	100752.2	300.0	1679.203	18.125	18.602	17.643	16.796	5.739	25.517	52.736
7/1/2003 12:44:12	101052.2	300.0	1684.203	18.122	18.603	17.641	16.796	5.722	25.513	52.730
7/1/2003 12:49:12	101352.2	300.0	1689.203	18.116	18.605	17.637	16.789	5.720	25.511	52.718
7/1/2003 12:54:12	101652.2	300.0	1694.203	18.119	18.596	17.630	16.787	5.720	25.507	52.697
7/1/2003 12:59:12	101952.2	300.0	1699.203	18.113	18.598	17.630	16.789	5.754	25.474	52.697
7/1/2003 13:04:12	102252.2	300.0	1704.203	18.107	18.592	17.630	16.787	5.722	25.476	52.697
7/1/2003 13:09:12	102552.2	300.0	1709.203	18.110	18.590	17.632	16.787	5.751	25.487	52.703
7/1/2003 13:14:12	102852.2	300.0	1714.203	18.114	18.595	17.632	16.787	5.717	25.487	52.703
7/1/2003 13:19:12	103152.2	300.0	1719.203	18.113	18.589	17.630	16.783	5.751	25.487	52.697
7/1/2003 13:24:12	103452.2	300.0	1724.203	18.110	18.586	17.630	16.781	5.754	25.487	52.697
7/1/2003 13:29:12	103752.2	300.0	1729.203	18.112	18.589	17.637	16.776	5.714	25.481	52.718
7/1/2003 13:34:12	104052.2	300.0	1734.203	18.106	18.585	17.622	16.781	5.788	25.476	52.673
7/1/2003 13:39:12	104352.2	300.0	1739.203	18.106	18.586	17.624	16.781	5.737	25.470	52.679
7/1/2003 13:44:12	104652.2	300.0	1744.203	18.104	18.586	17.624	16.776	5.757	25.472	52.679

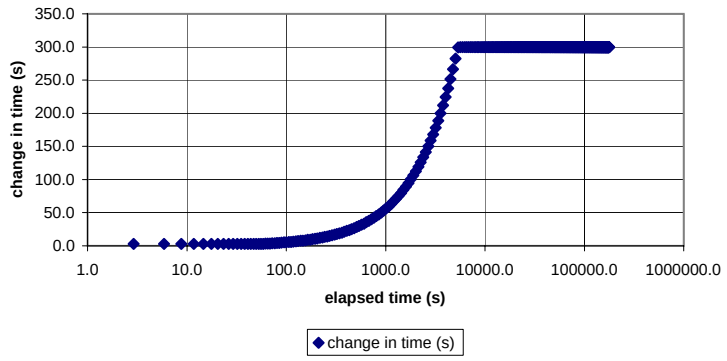
time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
7/1/2003 13:49:12	104952.2	300.0	1749.203	18.104	18.589	17.624	16.781	5.737	25.466	52.679
7/1/2003 13:54:12	105252.2	300.0	1754.203	18.103	18.580	17.622	16.779	5.728	25.466	52.673
7/1/2003 13:59:12	105552.2	300.0	1759.203	18.101	18.582	17.622	16.774	5.757	25.464	52.673
7/1/2003 14:04:12	105852.2	300.0	1764.203	18.099	18.582	17.622	16.781	5.771	25.458	52.673
7/1/2003 14:09:12	106152.2	300.0	1769.203	18.100	18.585	17.624	16.774	5.765	25.460	52.679
7/1/2003 14:14:12	106452.2	300.0	1774.203	18.101	18.583	17.617	16.776	5.734	25.456	52.658
7/1/2003 14:19:12	106752.2	300.0	1779.203	18.103	18.583	17.626	16.776	5.762	25.460	52.685
7/1/2003 14:24:12	107052.2	300.0	1784.203	18.101	18.579	17.622	16.774	5.725	25.452	52.673
7/1/2003 14:29:12	107352.2	300.0	1789.203	18.100	18.579	17.620	16.774	5.757	25.454	52.667
7/1/2003 14:34:12	107652.2	300.0	1794.203	18.100	18.579	17.617	16.774	5.754	25.454	52.658
7/1/2003 14:39:12	107952.2	300.0	1799.203	18.096	18.582	17.617	16.774	5.714	25.456	52.658
7/1/2003 14:44:12	108252.2	300.0	1804.203	18.099	18.577	17.620	16.774	5.762	25.456	52.667
7/1/2003 14:49:12	108552.2	300.0	1809.203	18.094	18.579	17.615	16.774	5.748	25.458	52.652
7/1/2003 14:54:12	108852.2	300.0	1814.203	18.096	18.577	17.615	16.774	5.793	25.458	52.652
7/1/2003 14:59:12	109152.2	300.0	1819.203	18.094	18.576	17.617	16.770	5.785	25.458	52.658
7/1/2003 15:04:12	109452.2	300.0	1824.203	18.096	18.573	17.620	16.772	5.759	25.458	52.667
7/1/2003 15:09:12	109752.2	300.0	1829.203	18.087	18.572	17.615	16.768	5.739	25.430	52.652
7/1/2003 15:14:12	110052.2	300.0	1834.203	18.093	18.573	17.620	16.772	5.782	25.444	52.667
7/1/2003 15:19:12	110352.2	300.0	1839.203	18.090	18.572	17.615	16.772	5.825	25.448	52.652
7/1/2003 15:24:12	110652.2	300.0	1844.203	18.096	18.576	17.615	16.772	5.805	25.452	52.652
7/1/2003 15:29:12	110952.2	300.0	1849.203	18.090	18.570	17.620	16.768	5.751	25.452	52.667
7/1/2003 15:34:12	111252.2	300.0	1854.203	18.096	18.572	17.615	16.770	5.791	25.450	52.652
7/1/2003 15:39:12	111552.2	300.0	1859.203	18.093	18.572	17.613	16.765	5.734	25.452	52.646
7/1/2003 15:44:12	111852.2	300.0	1864.203	18.093	18.573	17.615	16.772	5.791	25.450	52.652
7/1/2003 15:49:12	112152.2	300.0	1869.203	18.093	18.573	17.615	16.770	5.776	25.448	52.652
7/1/2003 15:54:12	112452.2	300.0	1874.203	18.091	18.570	17.615	16.772	5.796	25.446	52.652
7/1/2003 15:59:12	112752.2	300.0	1879.203	18.087	18.569	17.617	16.770	5.742	25.448	52.658
7/1/2003 16:04:12	113052.2	300.0	1884.203	18.090	18.570	17.615	16.765	5.768	25.446	52.652
7/1/2003 16:09:12	113352.2	300.0	1889.203	18.096	18.570	17.615	16.770	5.808	25.446	52.652
7/1/2003 16:14:12	113652.2	300.0	1894.203	18.087	18.574	17.613	16.768	5.757	25.446	52.646
7/1/2003 16:19:12	113952.2	300.0	1899.203	18.088	18.573	17.620	16.772	5.782	25.446	52.667
7/1/2003 16:24:12	114252.2	300.0	1904.203	18.088	18.566	17.620	16.768	5.813	25.444	52.667
7/1/2003 16:29:12	114552.2	300.0	1909.203	18.090	18.566	17.617	16.770	5.791	25.444	52.658
7/1/2003 16:34:12	114852.2	300.0	1914.203	18.087	18.569	17.611	16.765	5.765	25.440	52.640
7/1/2003 16:39:12	115152.2	300.0	1919.203	18.090	18.569	17.613	16.770	5.759	25.442	52.646
7/1/2003 16:44:12	115452.2	300.0	1924.203	18.090	18.567	17.613	16.765	5.839	25.442	52.646
7/1/2003 16:49:12	115752.2	300.0	1929.203	18.084	18.564	17.611	16.765	5.796	25.436	52.640
7/1/2003 16:54:12	116052.2	300.0	1934.203	18.084	18.580	17.615	16.768	5.805	25.432	52.652
7/1/2003 16:59:12	116352.2	300.0	1939.203	18.087	18.561	17.613	16.765	5.822	25.426	52.646
7/1/2003 17:04:12	116652.2	300.0	1944.203	18.087	18.563	17.607	16.763	5.779	25.428	52.629
7/1/2003 17:09:12	116952.2	300.0	1949.203	18.084	18.564	17.611	16.763	5.791	25.428	52.640
7/1/2003 17:14:12	117252.2	300.0	1954.203	18.081	18.561	17.613	16.763	5.776	25.424	52.646
7/1/2003 17:19:12	117552.2	300.0	1959.203	18.083	18.563	17.611	16.761	5.793	25.426	52.640
7/1/2003 17:24:12	117852.2	300.0	1964.203	18.084	18.566	17.615	16.768	5.862	25.428	52.652
7/1/2003 17:29:12	118152.2	300.0	1969.203	18.086	18.559	17.615	16.765	5.856	25.419	52.652
7/1/2003 17:34:12	118452.2	300.0	1974.203	18.084	18.563	17.615	16.765	5.853	25.421	52.652
7/1/2003 17:39:12	118752.2	300.0	1979.203	18.086	18.564	17.617	16.772	5.884	25.419	52.658
7/1/2003 17:44:12	119052.2	300.0	1984.203	18.088	18.567	17.617	16.765	5.879	25.424	52.658
7/1/2003 17:49:12	119352.2	300.0	1989.203	18.084	18.567	17.613	16.768	5.856	25.419	52.646
7/1/2003 17:54:12	119652.2	300.0	1994.203	18.093	18.567	17.622	16.763	5.862	25.419	52.673
7/1/2003 17:59:12	119952.2	300.0	1999.203	18.088	18.564	17.615	16.763	5.870	25.419	52.652
7/1/2003 18:04:12	120252.2	300.0	2004.203	18.088	18.566	17.615	16.774	5.845	25.421	52.652
7/1/2003 18:09:12	120552.2	300.0	2009.203	18.086	18.564	17.620	16.768	5.856	25.417	52.667
7/1/2003 18:14:12	120852.2	300.0	2014.203	18.084	18.566	17.617	16.765	5.847	25.417	52.658
7/1/2003 18:19:12	121152.2	300.0	2019.203	18.086	18.564	17.620	16.765	5.830	25.417	52.667
7/1/2003 18:24:12	121452.2	300.0	2024.203	18.084	18.567	17.611	16.763	5.896	25.419	52.640
7/1/2003 18:29:12	121752.2	300.0	2029.203	18.087	18.566	17.613	16.768	5.813	25.417	52.646
7/1/2003 18:34:12	122052.2	300.0	2034.203	18.088	18.569	17.617	16.768	5.884	25.421	52.658
7/1/2003 18:39:12	122352.2	300.0	2039.203	18.088	18.566	17.617	16.763	5.850	25.419	52.658
7/1/2003 18:44:12	122652.2	300.0	2044.203	18.090	18.569	17.620	16.772	5.864	25.417	52.667
7/1/2003 18:49:12	122952.2	300.0	2049.203	18.087	18.567	17.617	16.763	5.853	25.424	52.658
7/1/2003 18:54:12	123252.2	300.0	2054.203	18.088	18.570	17.622	16.768	5.884	25.424	52.673
7/1/2003 18:59:12	123552.2	300.0	2059.203	18.088	18.569	17.615	16.770	5.876	25.424	52.652
7/1/2003 19:04:12	123852.2	300.0	2064.203	18.090	18.567	17.620	16.770	5.853	25.424	52.667
7/1/2003 19:09:12	124152.2	300.0	2069.203	18.088	18.572	17.624	16.770	5.847	25.424	52.679
7/1/2003 19:14:12	124452.2	300.0	2074.203	18.086	18.572	17.620	16.772	5.882	25.424	52.667
7/1/2003 19:19:12	124752.2	300.0	2079.203	18.088	18.573	17.624	16.772	5.879	25.393	52.679
7/1/2003 19:24:12	125052.2	300.0	2084.203	18.096	18.576	17.622	16.770	5.853	25.409	52.673
7/1/2003 19:29:12	125352.2	300.0	2089.203	18.094	18.574	17.628	16.776	5.839	25.421	52.691
7/1/2003 19:34:12	125652.2	300.0	2094.203	18.097	18.576	17.622	16.779	5.873	25.424	52.673
7/1/2003 19:39:12	125952.2	300.0	2099.203	18.099	18.579	17.628	16.779	5.833	25.428	52.691
7/1/2003 19:44:12	126252.2	300.0	2104.203	18.100	18.583	17.628	16.779	5.879	25.428	52.691
7/1/2003 19:49:12	126552.2	300.0	2109.203	18.099	18.582	17.630	16.776	5.862	25.426	52.697
7/1/2003 19:54:12	126852.2	300.0	2114.203	18.104	18.585	17.628	16.781	5.887	25.434	52.691

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
7/1/2003 19:59:12	127152.2	300.0	2119.203	18.106	18.585	17.632	16.785	5.876	25.436	52.703
7/1/2003 20:04:12	127452.2	300.0	2124.203	18.106	18.586	17.635	16.779	5.876	25.432	52.712
7/1/2003 20:09:12	127752.2	300.0	2129.203	18.106	18.592	17.635	16.785	5.847	25.436	52.712
7/1/2003 20:14:12	128052.2	300.0	2134.203	18.099	18.592	17.645	16.785	5.842	25.440	52.742
7/1/2003 20:19:12	128352.2	300.0	2139.203	18.117	18.596	17.641	16.785	5.833	25.442	52.730
7/1/2003 20:24:12	128652.2	300.0	2144.203	18.114	18.600	17.641	16.794	5.862	25.446	52.730
7/1/2003 20:29:12	128952.2	300.0	2149.203	18.122	18.599	17.641	16.787	5.813	25.446	52.730
7/1/2003 20:34:12	129252.2	300.0	2154.203	18.122	18.603	17.643	16.792	5.779	25.450	52.736
7/1/2003 20:39:12	129552.2	300.0	2159.203	18.125	18.605	17.645	16.796	5.793	25.454	52.742
7/1/2003 20:44:12	129852.2	300.0	2164.203	18.126	18.606	17.643	16.798	5.802	25.456	52.736
7/1/2003 20:49:12	130152.2	300.0	2169.203	18.129	18.612	17.648	16.796	5.856	25.456	52.751
7/1/2003 20:54:12	130452.2	300.0	2174.203	18.123	18.612	17.654	16.805	5.796	25.458	52.769
7/1/2003 20:59:12	130752.2	300.0	2179.203	18.129	18.615	17.650	16.803	5.810	25.462	52.757
7/1/2003 21:04:12	131052.2	300.0	2184.203	18.130	18.616	17.652	16.816	5.805	25.464	52.763
7/1/2003 21:09:12	131352.2	300.0	2189.203	18.135	18.621	17.656	16.809	5.853	25.464	52.775
7/1/2003 21:14:12	131652.2	300.0	2194.203	18.137	18.621	17.663	16.811	5.859	25.472	52.796
7/1/2003 21:19:12	131952.2	300.0	2199.203	18.139	18.623	17.663	16.811	5.853	25.481	52.796
7/1/2003 21:24:12	132252.2	300.0	2204.203	18.139	18.628	17.663	16.814	5.862	25.483	52.796
7/1/2003 21:29:12	132552.2	300.0	2209.203	18.142	18.628	17.663	16.809	5.876	25.489	52.796
7/1/2003 21:34:12	132852.2	300.0	2214.203	18.146	18.631	17.663	16.818	5.864	25.491	52.796
7/1/2003 21:39:12	133152.2	300.0	2219.203	18.146	18.632	17.667	16.814	5.833	25.497	52.808
7/1/2003 21:44:12	133452.2	300.0	2224.203	18.150	18.632	17.667	16.822	5.819	25.499	52.808
7/1/2003 21:49:12	133752.2	300.0	2229.203	18.146	18.636	17.669	16.818	5.842	25.505	52.814
7/1/2003 21:54:12	134052.2	300.0	2234.203	18.149	18.635	17.674	16.827	5.836	25.503	52.829
7/1/2003 21:59:12	134352.2	300.0	2239.203	18.152	18.638	17.678	16.822	5.850	25.509	52.841
7/1/2003 22:04:12	134652.2	300.0	2244.203	18.152	18.642	17.669	16.827	5.828	25.513	52.814
7/1/2003 22:09:12	134952.2	300.0	2249.203	18.153	18.641	17.671	16.822	5.850	25.519	52.820
7/1/2003 22:14:12	135252.2	300.0	2254.203	18.155	18.641	17.674	16.825	5.856	25.521	52.829
7/1/2003 22:19:12	135552.2	300.0	2259.203	18.156	18.642	17.678	16.825	5.864	25.523	52.841
7/1/2003 22:24:12	135852.2	300.0	2264.203	18.158	18.645	17.676	16.825	5.845	25.527	52.835
7/1/2003 22:29:12	136152.2	300.0	2269.203	18.158	18.645	17.678	16.829	5.864	25.529	52.841
7/1/2003 22:34:12	136452.2	300.0	2274.203	18.163	18.648	17.678	16.825	5.847	25.538	52.841
7/1/2003 22:39:12	136752.2	300.0	2279.203	18.162	18.649	17.678	16.829	5.867	25.544	52.841
7/1/2003 22:44:12	137052.2	300.0	2284.203	18.159	18.648	17.678	16.827	5.828	25.548	52.841
7/1/2003 22:49:12	137352.2	300.0	2289.203	18.158	18.648	17.678	16.829	5.828	25.554	52.841
7/1/2003 22:54:12	137652.2	300.0	2294.203	18.162	18.647	17.680	16.822	5.810	25.554	52.847
7/1/2003 22:59:12	137952.2	300.0	2299.203	18.163	18.651	17.682	16.833	5.842	25.550	52.853
7/1/2003 23:04:12	138252.2	300.0	2304.203	18.163	18.657	17.682	16.829	5.876	25.554	52.853
7/1/2003 23:09:12	138552.2	300.0	2309.203	18.168	18.655	17.686	16.833	5.867	25.552	52.865
7/1/2003 23:14:12	138852.2	300.0	2314.203	18.152	18.652	17.682	16.831	5.805	25.554	52.853
7/1/2003 23:19:12	139152.2	300.0	2319.203	18.162	18.660	17.689	16.833	5.876	25.538	52.874
7/1/2003 23:24:12	139452.2	300.0	2324.203	18.169	18.658	17.691	16.838	5.845	25.540	52.880
7/1/2003 23:29:12	139752.2	300.0	2329.203	18.166	18.660	17.686	16.842	5.893	25.542	52.865
7/1/2003 23:34:12	140052.2	300.0	2334.203	18.168	18.665	17.693	16.840	5.873	25.542	52.886
7/1/2003 23:39:12	140352.2	300.0	2339.203	18.166	18.664	17.693	16.835	5.896	25.548	52.886
7/1/2003 23:44:12	140652.2	300.0	2344.203	18.174	18.668	17.697	16.842	5.884	25.548	52.898
7/1/2003 23:49:12	140952.2	300.0	2349.203	18.174	18.667	17.695	16.840	5.864	25.544	52.892
7/1/2003 23:54:12	141252.2	300.0	2354.203	18.172	18.667	17.693	16.838	5.887	25.548	52.886
7/1/2003 23:59:12	141552.2	300.0	2359.203	18.172	18.667	17.695	16.838	5.893	25.552	52.892
7/2/2003 0:04:12	141852.2	300.0	2364.203	18.172	18.664	17.691	16.840	5.867	25.550	52.880
7/2/2003 0:09:12	142152.2	300.0	2369.203	18.169	18.671	17.695	16.842	5.867	25.552	52.892
7/2/2003 0:14:12	142452.2	300.0	2374.203	18.168	18.671	17.695	16.840	5.850	25.552	52.892
7/2/2003 0:19:12	142752.2	300.0	2379.203	18.174	18.673	17.697	16.844	5.830	25.552	52.898
7/2/2003 0:24:12	143052.2	300.0	2384.203	18.172	18.671	17.702	16.840	5.896	25.554	52.912
7/2/2003 0:29:12	143352.2	300.0	2389.203	18.176	18.675	17.699	16.842	5.876	25.554	52.903
7/2/2003 0:34:12	143652.2	300.0	2394.203	18.175	18.674	17.695	16.846	5.853	25.556	52.892
7/2/2003 0:39:12	143952.2	300.0	2399.203	18.176	18.677	17.699	16.846	5.884	25.558	52.903
7/2/2003 0:44:12	144252.2	300.0	2404.203	18.176	18.675	17.699	16.844	5.867	25.558	52.903
7/2/2003 0:49:12	144552.2	300.0	2409.203	18.179	18.677	17.702	16.844	5.845	25.552	52.912
7/2/2003 0:54:12	144852.2	300.0	2414.203	18.176	18.678	17.702	16.844	5.873	25.558	52.912
7/2/2003 0:59:12	145152.2	300.0	2419.203	18.176	18.678	17.702	16.846	5.859	25.558	52.912
7/2/2003 1:04:12	145452.2	300.0	2424.203	18.175	18.677	17.699	16.846	5.845	25.556	52.903
7/2/2003 1:09:12	145752.2	300.0	2429.203	18.178	18.678	17.704	16.849	5.870	25.556	52.918
7/2/2003 1:14:12	146052.2	300.0	2434.203	18.182	18.678	17.702	16.846	5.873	25.556	52.912
7/2/2003 1:19:12	146352.2	300.0	2439.203	18.169	18.678	17.702	16.844	5.884	25.548	52.912
7/2/2003 1:24:12	146652.2	300.0	2444.203	18.178	18.680	17.702	16.846	5.890	25.546	52.912
7/2/2003 1:29:12	146952.2	300.0	2449.203	18.181	18.678	17.704	16.851	5.833	25.544	52.918
7/2/2003 1:34:12	147252.2	300.0	2454.203	18.181	18.680	17.702	16.851	5.890	25.550	52.912
7/2/2003 1:39:12	147552.2	300.0	2459.203	18.178	18.681	17.697	16.842	5.876	25.550	52.898
7/2/2003 1:44:12	147852.2	300.0	2464.203	18.176	18.681	17.704	16.844	5.847	25.552	52.918
7/2/2003 1:49:12	148152.2	300.0	2469.203	18.184	18.680	17.706	16.846	5.850	25.554	52.924
7/2/2003 1:54:12	148452.2	300.0	2474.203	18.184	18.683	17.706	16.844	5.845	25.558	52.924
7/2/2003 1:59:12	148752.2	300.0	2479.203	18.181	18.681	17.704	16.849	5.870	25.556	52.918
7/2/2003 2:04:12	149052.2	300.0	2484.203	18.182	18.684	17.706	16.853	5.839	25.556	52.924

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
7/2/2003 2:09:12	149352.2	300.0	2489.203	18.187	18.681	17.708	16.851	5.879	25.554	52.930
7/2/2003 2:14:12	149652.2	300.0	2494.203	18.184	18.686	17.708	16.853	5.876	25.554	52.930
7/2/2003 2:19:12	149952.2	300.0	2499.203	18.185	18.688	17.704	16.851	5.884	25.552	52.918
7/2/2003 2:24:12	150252.2	300.0	2504.203	18.181	18.687	17.704	16.849	5.845	25.558	52.918
7/2/2003 2:29:12	150552.2	300.0	2509.203	18.182	18.688	17.704	16.853	5.884	25.556	52.918
7/2/2003 2:34:12	150852.2	300.0	2514.203	18.184	18.687	17.708	16.853	5.879	25.558	52.930
7/2/2003 2:39:12	151152.2	300.0	2519.203	18.187	18.688	17.715	16.851	5.867	25.556	52.951
7/2/2003 2:44:12	151452.2	300.0	2524.203	18.187	18.688	17.712	16.855	5.867	25.554	52.942
7/2/2003 2:49:12	151752.2	300.0	2529.203	18.189	18.688	17.708	16.853	5.856	25.552	52.930
7/2/2003 2:54:12	152052.2	300.0	2534.203	18.192	18.688	17.710	16.857	5.856	25.552	52.936
7/2/2003 2:59:12	152352.2	300.0	2539.203	18.189	18.693	17.710	16.855	5.867	25.550	52.936
7/2/2003 3:04:12	152652.2	300.0	2544.203	18.192	18.688	17.710	16.853	5.873	25.550	52.936
7/2/2003 3:09:12	152952.2	300.0	2549.203	18.191	18.693	17.710	16.855	5.836	25.546	52.936
7/2/2003 3:14:12	153252.2	300.0	2554.203	18.192	18.680	17.710	16.857	5.853	25.544	52.936
7/2/2003 3:19:12	153552.2	300.0	2559.203	18.189	18.693	17.715	16.857	5.862	25.544	52.951
7/2/2003 3:24:12	153852.2	300.0	2564.203	18.189	18.693	17.712	16.857	5.882	25.546	52.942
7/2/2003 3:29:12	154152.2	300.0	2569.203	18.191	18.693	17.715	16.860	5.901	25.546	52.951
7/2/2003 3:34:12	154452.2	300.0	2574.203	18.188	18.694	17.717	16.860	5.893	25.544	52.957
7/2/2003 3:39:12	154752.2	300.0	2579.203	18.194	18.694	17.712	16.857	5.904	25.548	52.942
7/2/2003 3:44:12	155052.2	300.0	2584.203	18.191	18.693	17.715	16.855	5.873	25.546	52.951
7/2/2003 3:49:12	155352.2	300.0	2589.203	18.191	18.696	17.715	16.860	5.850	25.546	52.951
7/2/2003 3:54:12	155652.2	300.0	2594.203	18.192	18.694	17.712	16.860	5.864	25.552	52.942
7/2/2003 3:59:12	155952.2	300.0	2599.203	18.194	18.693	17.715	16.857	5.859	25.556	52.951
7/2/2003 4:04:12	156252.2	300.0	2604.203	18.189	18.696	17.712	16.855	5.830	25.558	52.942
7/2/2003 4:09:12	156552.2	300.0	2609.203	18.192	18.696	17.710	16.855	5.879	25.558	52.936
7/2/2003 4:14:12	156852.2	300.0	2614.203	18.189	18.696	17.712	16.857	5.856	25.558	52.942
7/2/2003 4:19:12	157152.2	300.0	2619.203	18.192	18.699	17.710	16.860	5.842	25.560	52.936
7/2/2003 4:24:12	157452.2	300.0	2624.203	18.189	18.694	17.715	16.857	5.859	25.564	52.951
7/2/2003 4:29:12	157752.2	300.0	2629.203	18.192	18.699	17.712	16.860	5.856	25.558	52.942
7/2/2003 4:34:12	158052.2	300.0	2634.203	18.191	18.700	17.717	16.860	5.839	25.562	52.957
7/2/2003 4:39:12	158352.2	300.0	2639.203	18.192	18.700	17.719	16.857	5.853	25.566	52.963
7/2/2003 4:44:12	158652.2	300.0	2644.203	18.197	18.697	17.719	16.853	5.828	25.566	52.963
7/2/2003 4:49:12	158952.2	300.0	2649.203	18.192	18.699	17.719	16.853	5.842	25.568	52.963
7/2/2003 4:54:12	159252.2	300.0	2654.203	18.191	18.699	17.717	16.857	5.813	25.568	52.957
7/2/2003 4:59:12	159552.2	300.0	2659.203	18.194	18.703	17.712	16.857	5.862	25.568	52.942
7/2/2003 5:04:12	159852.2	300.0	2664.203	18.192	18.700	17.717	16.857	5.859	25.568	52.957
7/2/2003 5:09:12	160152.2	300.0	2669.203	18.191	18.700	17.712	16.860	5.870	25.574	52.942
7/2/2003 5:14:12	160452.2	300.0	2674.203	18.185	18.697	17.712	16.857	5.810	25.590	52.942
7/2/2003 5:19:12	160752.2	300.0	2679.203	18.187	18.699	17.708	16.862	5.828	25.580	52.930
7/2/2003 5:24:12	161052.2	300.0	2684.203	18.195	18.701	17.715	16.860	5.845	25.570	52.951
7/2/2003 5:29:12	161352.2	300.0	2689.203	18.195	18.696	17.719	16.860	5.825	25.580	52.963
7/2/2003 5:34:12	161652.2	300.0	2694.203	18.195	18.701	17.719	16.860	5.808	25.580	52.963
7/2/2003 5:39:12	161952.2	300.0	2699.203	18.192	18.703	17.717	16.862	5.836	25.584	52.957
7/2/2003 5:44:12	162252.2	300.0	2704.203	18.192	18.701	17.712	16.862	5.813	25.586	52.942
7/2/2003 5:49:12	162552.2	300.0	2709.203	18.195	18.701	17.717	16.860	5.836	25.595	52.957
7/2/2003 5:54:12	162852.2	300.0	2714.203	18.197	18.703	17.719	16.862	5.802	25.593	52.963
7/2/2003 5:59:12	163152.2	300.0	2719.203	18.197	18.704	17.715	16.860	5.768	25.595	52.951
7/2/2003 6:04:12	163452.2	300.0	2724.203	18.192	18.704	17.712	16.860	5.782	25.601	52.942
7/2/2003 6:09:12	163752.2	300.0	2729.203	18.191	18.703	17.719	16.862	5.796	25.605	52.963
7/2/2003 6:14:12	164052.2	300.0	2734.203	18.197	18.706	17.719	16.866	5.805	25.603	52.963
7/2/2003 6:19:12	164352.2	300.0	2739.203	18.195	18.707	17.717	16.866	5.782	25.607	52.957
7/2/2003 6:24:12	164652.2	300.0	2744.203	18.201	18.709	17.719	16.868	5.791	25.605	52.963
7/2/2003 6:29:12	164952.2	300.0	2749.203	18.200	18.707	17.721	16.864	5.776	25.609	52.969
7/2/2003 6:34:12	165252.2	300.0	2754.203	18.200	18.707	17.719	16.864	5.828	25.611	52.963
7/2/2003 6:39:12	165552.2	300.0	2759.203	18.197	18.709	17.721	16.866	5.799	25.611	52.969
7/2/2003 6:44:12	165852.2	300.0	2764.203	18.197	18.707	17.719	16.864	5.793	25.615	52.963
7/2/2003 6:49:12	166152.2	300.0	2769.203	18.197	18.709	17.717	16.864	5.813	25.621	52.957
7/2/2003 6:54:12	166452.2	300.0	2774.203	18.200	18.709	17.721	16.860	5.793	25.621	52.969
7/2/2003 6:59:12	166752.2	300.0	2779.203	18.202	18.709	17.719	16.862	5.782	25.621	52.963
7/2/2003 7:04:12	167052.2	300.0	2784.203	18.200	18.712	17.721	16.866	5.776	25.623	52.969
7/2/2003 7:09:12	167352.2	300.0	2789.203	18.204	18.712	17.723	16.866	5.757	25.623	52.975
7/2/2003 7:14:12	167652.2	300.0	2794.203	18.205	18.713	17.719	16.868	5.802	25.623	52.963
7/2/2003 7:19:12	167952.2	300.0	2799.203	18.194	18.709	17.723	16.864	5.796	25.631	52.975
7/2/2003 7:24:12	168252.2	300.0	2804.203	18.195	18.709	17.723	16.862	5.782	25.621	52.975
7/2/2003 7:29:12	168552.2	300.0	2809.203	18.200	18.709	17.723	16.866	5.785	25.609	52.975
7/2/2003 7:34:12	168852.2	300.0	2814.203	18.200	18.709	17.721	16.868	5.782	25.613	52.969
7/2/2003 7:39:12	169152.2	300.0	2819.203	18.198	18.709	17.719	16.862	5.799	25.617	52.963
7/2/2003 7:44:12	169452.2	300.0	2824.203	18.202	18.707	17.723	16.864	5.782	25.621	52.975
7/2/2003 7:49:12	169752.2	300.0	2829.203	18.198	18.706	17.721	16.864	5.782	25.617	52.969
7/2/2003 7:54:12	170052.2	300.0	2834.203	18.194	18.707	17.719	16.862	5.799	25.621	52.963
7/2/2003 7:59:12	170352.2	300.0	2839.203	18.194	18.709	17.719	16.860	5.808	25.615	52.963
7/2/2003 8:04:12	170652.2	300.0	2844.203	18.194	18.704	17.719	16.868	5.822	25.613	52.963
7/2/2003 8:09:12	170952.2	300.0	2849.203	18.197	18.701	17.719	16.864	5.785	25.617	52.963
7/2/2003 8:14:12	171252.2	300.0	2854.203	18.189	18.704	17.717	16.857	5.759	25.615	52.957

time stamp (local time)	elapsed time (s)	change in time (s)	elapsed time (min)	head E06B ($ft\ H_2O$)	head E02B ($ft\ H_2O$)	head E04B ($ft\ H_2O$)	head E01B ($ft\ H_2O$)	head E05EX ($ft\ H_2O$)	barometric pressure (in Hg)	pressure E04B ($kPa\ H_2O$)
7/2/2003 8:19:12	171552.2	300.0	2859.203	18.192	18.701	17.712	16.860	5.788	25.613	52.942
7/2/2003 8:24:12	171852.2	300.0	2864.203	18.194	18.701	17.712	16.862	5.774	25.607	52.942
7/2/2003 8:29:12	172152.2	300.0	2869.203	18.194	18.699	17.717	16.855	5.776	25.609	52.957
7/2/2003 8:34:12	172452.2	300.0	2874.203	18.189	18.694	17.712	16.857	5.802	25.607	52.942
7/2/2003 8:39:12	172752.2	300.0	2879.203	18.187	18.696	17.710	16.855	5.833	25.605	52.936
7/2/2003 8:44:12	173052.2	300.0	2884.203	18.187	18.694	17.710	16.851	5.819	25.605	52.936
7/2/2003 8:49:12	173352.2	300.0	2889.203	18.184	18.687	17.708	16.853	5.799	25.597	52.930
7/2/2003 8:54:12	173652.2	300.0	2894.203	18.181	18.688	17.708	16.853	5.796	25.595	52.930
7/2/2003 8:59:12	173952.2	300.0	2899.203	18.179	18.686	17.704	16.849	5.799	25.597	52.918
7/2/2003 9:04:12	174252.2	300.0	2904.203	18.174	18.680	17.697	16.840	5.768	25.590	52.898
7/2/2003 9:09:12	174552.2	300.0	2909.203	18.175	18.677	17.697	16.844	5.828	25.593	52.898
7/2/2003 9:14:12	174852.2	300.0	2914.203	18.169	18.680	17.697	16.840	5.810	25.586	52.898
7/2/2003 9:19:12	175152.2	300.0	2919.203	18.169	18.674	17.695	16.842	5.808	25.588	52.892
7/2/2003 9:24:12	175452.2	300.0	2924.203	18.169	18.671	17.691	16.838	5.782	25.582	52.880
7/2/2003 9:29:12	175752.2	300.0	2929.203	18.168	18.670	17.693	16.838	5.805	25.580	52.886
7/2/2003 9:34:12	176052.2	300.0	2934.203	18.161	18.664	17.686	16.833	5.768	25.576	52.865
7/2/2003 9:39:12	176352.2	300.0	2939.203	18.158	18.658	17.689	16.831	5.771	25.574	52.874
7/2/2003 9:44:12	176652.2	300.0	2944.203	18.156	18.652	17.684	16.822	5.810	25.568	52.859
7/2/2003 9:49:12	176952.2	300.0	2949.203	18.152	18.651	17.680	16.822	5.791	25.566	52.847
7/2/2003 9:54:12	177252.2	300.0	2954.203	18.148	18.647	17.676	16.827	5.793	25.564	52.835

Figure A-1. Elapsed time versus the change in time (recording interval) during the aquifer test



APPENDIX B
Aquifer test drawdown and calculations of hydraulic properties

Constant rate aquifer test conducted at Escondida by S.S. Papadopulos & Assoc., Inc..
Minor details of aquifer test are included in SSPA (2004); subset of drawdown data included below.

time stamp (local time)	elapsed time (min)	drawdown E06B (ft H_2O)	drawdown E02B (ft H_2O)	drawdown E04B (ft H_2O)	drawdown E01B (ft H_2O)	drawdown E05EX (ft H_2O)	drawdown baro. press. (in Hg)
------	------	------	------	------	------	------	------
	0	0	0	0	0	0	0
6/30/2003 8:40:02	0.048	-0.002	0	0	0	0.003	-0.004
6/30/2003 8:40:05	0.098	-0.001	0	0	0	0	0.002
6/30/2003 8:40:08	0.147	-0.002	0	0	0	0	-0.002
6/30/2003 8:40:11	0.195	-0.002	0.001	0	0	0	0.002
6/30/2003 8:40:14	0.245	-0.001	0	0	0	0	-0.002
6/30/2003 8:40:17	0.293	0	-0.010	0.020	0.009	1.406	0.002
6/30/2003 8:40:20	0.342	0.005	0	0.067	0.033	2.380	-0.002
6/30/2003 8:40:23	0.390	0.024	0.006	0.156	0.072	3.274	0
6/30/2003 8:40:26	0.440	0.044	0.013	0.242	0.112	4.116	0.002
6/30/2003 8:40:29	0.488	0.073	0.017	0.333	0.158	4.822	-0.002
6/30/2003 8:40:32	0.537	0.091	0.024	0.426	0.200	5.501	0
6/30/2003 8:40:35	0.587	0.122	0.036	0.495	0.232	6.053	0.002
6/30/2003 8:40:38	0.635	0.152	0.045	0.573	0.274	6.619	0
6/30/2003 8:40:41	0.683	0.176	0.052	0.629	0.309	7.120	0
6/30/2003 8:40:43	0.733	0.200	0.062	0.694	0.342	7.541	0.004
6/30/2003 8:40:46	0.782	0.217	0.072	0.742	0.368	7.945	0
6/30/2003 8:40:49	0.830	0.240	0.081	0.785	0.399	8.263	0.002
6/30/2003 8:40:52	0.878	0.260	0.091	0.835	0.421	8.621	0.002
6/30/2003 8:40:55	0.928	0.279	0.098	0.876	0.443	8.920	0
6/30/2003 8:40:58	0.977	0.298	0.107	0.908	0.465	9.142	0.002
6/30/2003 8:41:01	1.030	0.312	0.115	0.947	0.491	9.434	0
6/30/2003 8:41:05	1.085	0.326	0.122	0.980	0.502	9.633	0
6/30/2003 8:41:08	1.145	0.341	0.131	1.001	0.524	9.855	0
6/30/2003 8:41:12	1.207	0.352	0.135	1.040	0.535	10.151	0.002
6/30/2003 8:41:16	1.273	0.371	0.148	1.055	0.559	10.270	0.004
6/30/2003 8:41:20	1.343	0.384	0.151	1.092	0.576	10.520	0.004
6/30/2003 8:41:25	1.418	0.393	0.163	1.111	0.587	10.642	0.004
6/30/2003 8:41:29	1.497	0.416	0.173	1.148	0.607	10.893	0.006
6/30/2003 8:41:34	1.582	0.425	0.183	1.176	0.631	11.066	0.004
6/30/2003 8:41:40	1.670	0.443	0.189	1.196	0.647	11.208	0.002
6/30/2003 8:41:45	1.763	0.459	0.199	1.219	0.658	11.350	0.006
6/30/2003 8:41:51	1.863	0.468	0.208	1.243	0.671	11.489	0.004
6/30/2003 8:41:58	1.968	0.482	0.216	1.263	0.686	11.634	0.004
6/30/2003 8:42:04	2.080	0.497	0.223	1.282	0.706	11.731	0.006
6/30/2003 8:42:11	2.197	0.505	0.229	1.295	0.712	11.810	0.008
6/30/2003 8:42:19	2.323	0.518	0.241	1.317	0.728	11.901	0.006
6/30/2003 8:42:27	2.455	0.521	0.248	1.330	0.739	11.958	0.006
6/30/2003 8:42:35	2.595	0.536	0.254	1.343	0.745	12.041	0.010
6/30/2003 8:42:44	2.745	0.547	0.261	1.349	0.752	12.115	0.006
6/30/2003 8:42:54	2.902	0.553	0.265	1.366	0.765	12.174	0.012
6/30/2003 8:43:04	3.068	0.560	0.273	1.377	0.774	12.228	0.012
6/30/2003 8:43:14	3.245	0.572	0.280	1.390	0.776	12.231	0.012
6/30/2003 8:43:25	3.433	0.577	0.286	1.394	0.787	12.282	0.012
6/30/2003 8:43:37	3.632	0.583	0.296	1.399	0.800	12.299	0.014
6/30/2003 8:43:50	3.842	0.590	0.300	1.407	0.802	12.342	0.014
6/30/2003 8:44:03	4.063	0.596	0.307	1.414	0.809	12.353	0.014
6/30/2003 8:44:18	4.300	0.599	0.309	1.414	0.809	12.350	0.014
6/30/2003 8:44:32	4.550	0.612	0.314	1.423	0.818	12.367	0.018
6/30/2003 8:44:48	4.815	0.609	0.320	1.429	0.824	12.376	0.016
6/30/2003 8:45:05	5.095	0.618	0.323	1.433	0.824	12.399	0.014
6/30/2003 8:45:23	5.392	0.619	0.329	1.440	0.831	12.390	0.018
6/30/2003 8:45:42	5.707	0.628	0.332	1.448	0.837	12.419	0.020
6/30/2003 8:46:02	6.040	0.631	0.335	1.448	0.839	12.410	0.018
6/30/2003 8:46:23	6.392	0.637	0.340	1.451	0.844	12.410	0.022
6/30/2003 8:46:45	6.767	0.641	0.342	1.453	0.848	12.427	0.022
6/30/2003 8:47:09	7.162	0.641	0.349	1.464	0.848	12.458	0.022

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft\ H_2O$)	drawdown E02B ($ft\ H_2O$)	drawdown E04B ($ft\ H_2O$)	drawdown E01B ($ft\ H_2O$)	drawdown E05EX ($ft\ H_2O$)	drawdown baro. press. (in Hg)
6/30/2003 8:47:34	7.582	0.648	0.350	1.464	0.855	12.456	0.024
6/30/2003 8:48:01	8.025	0.651	0.355	1.472	0.857	12.444	0.026
6/30/2003 8:48:29	8.497	0.654	0.359	1.470	0.864	12.464	0.026
6/30/2003 8:48:59	8.995	0.655	0.365	1.477	0.866	12.478	0.026
6/30/2003 8:49:31	9.523	0.660	0.366	1.481	0.870	12.473	0.028
6/30/2003 8:50:04	10.082	0.661	0.371	1.483	0.868	12.478	0.030
6/30/2003 8:50:40	10.675	0.664	0.374	1.485	0.877	12.487	0.032
6/30/2003 8:51:18	11.302	0.668	0.379	1.492	0.879	12.515	0.032
6/30/2003 8:51:58	11.967	0.676	0.382	1.492	0.879	12.515	0.036
6/30/2003 8:52:40	12.672	0.680	0.384	1.494	0.879	12.495	0.032
6/30/2003 8:53:25	13.417	0.681	0.388	1.498	0.883	12.495	0.034
6/30/2003 8:54:12	14.207	0.684	0.392	1.505	0.888	12.546	0.038
6/30/2003 8:55:02	15.043	0.686	0.398	1.507	0.890	12.529	0.036
6/30/2003 8:55:55	15.930	0.694	0.404	1.505	0.890	12.581	0.038
6/30/2003 8:56:52	16.870	0.690	0.405	1.515	0.901	12.569	0.040
6/30/2003 8:57:51	17.863	0.696	0.404	1.515	0.901	12.552	0.049
6/30/2003 8:58:55	18.918	0.696	0.411	1.513	0.905	12.555	0.049
6/30/2003 9:00:02	20.033	0.703	0.418	1.518	0.903	12.555	0.051
6/30/2003 9:01:12	21.217	0.701	0.426	1.531	0.912	12.555	0.053
6/30/2003 9:02:28	22.468	0.710	0.426	1.528	0.914	12.558	0.051
6/30/2003 9:03:47	23.795	0.714	0.430	1.533	0.916	12.544	0.055
6/30/2003 9:05:11	25.200	0.716	0.431	1.533	0.918	12.563	0.059
6/30/2003 9:06:41	26.688	0.719	0.440	1.535	0.923	12.558	0.051
6/30/2003 9:08:15	28.265	0.726	0.438	1.541	0.925	12.572	0.055
6/30/2003 9:09:56	29.935	0.729	0.443	1.544	0.931	12.583	0.057
6/30/2003 9:11:42	31.703	0.727	0.450	1.548	0.936	12.589	0.069
6/30/2003 9:13:34	33.577	0.735	0.454	1.552	0.938	12.598	0.075
6/30/2003 9:15:33	35.562	0.739	0.459	1.559	0.942	12.620	0.073
6/30/2003 9:17:39	37.663	0.742	0.463	1.559	0.945	12.595	0.071
6/30/2003 9:19:53	39.890	0.742	0.463	1.561	0.945	12.617	0.071
6/30/2003 9:22:14	42.250	0.751	0.473	1.567	0.951	12.617	0.071
6/30/2003 9:24:44	44.748	0.751	0.473	1.572	0.956	12.581	0.073
6/30/2003 9:27:23	47.395	0.758	0.477	1.569	0.960	12.609	0.075
6/30/2003 9:30:11	50.198	0.758	0.485	1.576	0.962	12.635	0.085
6/30/2003 9:33:10	53.168	0.765	0.489	1.576	0.960	12.629	0.077
6/30/2003 9:36:18	56.313	0.759	0.492	1.587	0.969	12.652	0.065
6/30/2003 9:39:38	59.645	0.765	0.492	1.589	0.973	12.677	0.061
6/30/2003 9:43:10	63.175	0.771	0.499	1.593	0.977	12.691	0.061
6/30/2003 9:46:54	66.913	0.778	0.502	1.598	0.980	12.700	0.063
6/30/2003 9:50:52	70.873	0.777	0.506	1.600	0.982	12.711	0.059
6/30/2003 9:55:04	75.068	0.779	0.519	1.602	0.991	12.680	0.059
6/30/2003 9:59:30	79.512	0.788	0.518	1.611	0.993	12.731	0.059
6/30/2003 10:04:13	84.218	0.791	0.518	1.611	0.995	12.757	0.063
6/30/2003 10:09:12	89.203	0.794	0.527	1.619	0.999	12.706	0.061
6/30/2003 10:14:12	94.203	0.797	0.529	1.617	1.004	12.725	0.063
6/30/2003 10:19:12	99.203	0.802	0.537	1.626	1.004	12.771	0.063
6/30/2003 10:24:12	104.203	0.815	0.541	1.632	1.013	12.754	0.069
6/30/2003 10:29:12	109.203	0.811	0.545	1.628	1.015	12.731	0.087
6/30/2003 10:34:12	114.203	0.820	0.551	1.636	1.017	12.762	0.081
6/30/2003 10:39:12	119.203	0.818	0.557	1.641	1.023	12.777	0.081
6/30/2003 10:44:12	124.203	0.824	0.557	1.639	1.023	12.748	0.081
6/30/2003 10:49:12	129.203	0.827	0.563	1.643	1.028	12.777	0.081
6/30/2003 10:54:12	134.203	0.830	0.561	1.645	1.028	12.768	0.085
6/30/2003 10:59:12	139.203	0.833	0.567	1.643	1.032	12.765	0.085
6/30/2003 11:04:12	144.203	0.839	0.568	1.652	1.037	12.774	0.083
6/30/2003 11:09:12	149.203	0.837	0.576	1.654	1.037	12.788	0.087
6/30/2003 11:14:12	154.203	0.844	0.577	1.656	1.041	12.794	0.087
6/30/2003 11:19:12	159.203	0.843	0.571	1.658	1.041	12.774	0.091
6/30/2003 11:24:12	164.203	0.847	0.587	1.662	1.045	12.779	0.091
6/30/2003 11:29:12	169.203	0.847	0.577	1.667	1.048	12.811	0.097
6/30/2003 11:34:12	174.203	0.850	0.590	1.665	1.050	12.782	0.097
6/30/2003 11:39:12	179.203	0.859	0.593	1.665	1.045	12.802	0.097
6/30/2003 11:44:12	184.203	0.856	0.590	1.671	1.050	12.782	0.100
6/30/2003 11:49:12	189.203	0.860	0.594	1.671	1.056	12.816	0.104

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft H_2O$)	drawdown E02B ($ft H_2O$)	drawdown E04B ($ft H_2O$)	drawdown E01B ($ft H_2O$)	drawdown E05EX ($ft H_2O$)	drawdown baro. press. (in Hg)
6/30/2003 11:54:12	194.203	0.870	0.603	1.678	1.059	12.808	0.128
6/30/2003 11:59:12	199.203	0.863	0.594	1.675	1.054	12.814	0.122
6/30/2003 12:04:12	204.203	0.864	0.600	1.675	1.063	12.816	0.118
6/30/2003 12:09:12	209.203	0.870	0.594	1.678	1.061	12.811	0.120
6/30/2003 12:14:12	214.203	0.867	0.603	1.680	1.063	12.822	0.120
6/30/2003 12:19:12	219.203	0.872	0.599	1.680	1.063	12.808	0.120
6/30/2003 12:24:12	224.203	0.877	0.615	1.688	1.072	12.825	0.126
6/30/2003 12:29:12	229.203	0.876	0.617	1.688	1.065	12.816	0.128
6/30/2003 12:34:12	234.203	0.877	0.616	1.688	1.072	12.799	0.128
6/30/2003 12:39:12	239.203	0.883	0.612	1.688	1.070	12.808	0.134
6/30/2003 12:44:12	244.203	0.882	0.610	1.690	1.074	12.816	0.138
6/30/2003 12:49:12	249.203	0.885	0.628	1.697	1.078	12.808	0.138
6/30/2003 12:54:12	254.203	0.893	0.630	1.699	1.076	12.845	0.140
6/30/2003 12:59:12	259.203	0.893	0.626	1.699	1.080	12.845	0.167
6/30/2003 13:04:12	264.203	0.892	0.623	1.699	1.078	12.822	0.154
6/30/2003 13:09:12	269.203	0.893	0.638	1.703	1.083	12.870	0.159
6/30/2003 13:14:12	274.203	0.893	0.635	1.701	1.083	12.865	0.159
6/30/2003 13:19:12	279.203	0.893	0.622	1.699	1.076	12.822	0.157
6/30/2003 13:24:12	284.203	0.896	0.641	1.708	1.089	12.848	0.161
6/30/2003 13:29:12	289.203	0.899	0.632	1.706	1.087	12.833	0.165
6/30/2003 13:34:12	294.203	0.899	0.639	1.708	1.091	12.836	0.169
6/30/2003 13:39:12	299.203	0.902	0.643	1.712	1.089	12.873	0.171
6/30/2003 13:44:12	304.203	0.902	0.652	1.712	1.091	12.825	0.173
6/30/2003 13:49:12	309.203	0.906	0.642	1.710	1.098	12.836	0.173
6/30/2003 13:54:12	314.203	0.912	0.642	1.712	1.098	12.848	0.203
6/30/2003 13:59:12	319.203	0.903	0.649	1.716	1.096	12.845	0.187
6/30/2003 14:04:12	324.203	0.912	0.652	1.714	1.098	12.839	0.185
6/30/2003 14:09:12	329.203	0.912	0.646	1.716	1.100	12.850	0.187
6/30/2003 14:14:12	334.203	0.914	0.656	1.716	1.100	12.850	0.191
6/30/2003 14:19:12	339.203	0.915	0.645	1.719	1.098	12.833	0.191
6/30/2003 14:24:12	344.203	0.915	0.654	1.723	1.107	12.870	0.189
6/30/2003 14:29:12	349.203	0.919	0.655	1.721	1.100	12.873	0.189
6/30/2003 14:34:12	354.203	0.921	0.656	1.725	1.107	12.910	0.191
6/30/2003 14:39:12	359.203	0.918	0.659	1.723	1.105	12.842	0.193
6/30/2003 14:44:12	364.203	0.924	0.662	1.727	1.105	12.831	0.195
6/30/2003 14:49:12	369.203	0.915	0.652	1.721	1.102	12.836	0.199
6/30/2003 14:54:12	374.203	0.927	0.666	1.729	1.107	12.805	0.226
6/30/2003 14:59:12	379.203	0.925	0.661	1.725	1.107	12.816	0.216
6/30/2003 15:04:12	384.203	0.919	0.664	1.725	1.107	12.836	0.205
6/30/2003 15:09:12	389.203	0.927	0.666	1.725	1.107	12.848	0.205
6/30/2003 15:14:12	394.203	0.925	0.668	1.729	1.111	12.808	0.199
6/30/2003 15:19:12	399.203	0.927	0.662	1.727	1.111	12.842	0.203
6/30/2003 15:24:12	404.203	0.928	0.671	1.723	1.109	12.825	0.205
6/30/2003 15:29:12	409.203	0.931	0.674	1.732	1.116	12.814	0.214
6/30/2003 15:34:12	414.203	0.932	0.668	1.729	1.107	12.825	0.214
6/30/2003 15:39:12	419.203	0.931	0.671	1.727	1.109	12.836	0.209
6/30/2003 15:44:12	424.203	0.935	0.672	1.732	1.120	12.853	0.211
6/30/2003 15:49:12	429.203	0.929	0.669	1.732	1.111	12.856	0.218
6/30/2003 15:54:12	434.203	0.935	0.675	1.727	1.111	12.833	0.220
6/30/2003 15:59:12	439.203	0.931	0.669	1.729	1.116	12.799	0.216
6/30/2003 16:04:12	444.203	0.934	0.677	1.732	1.118	12.853	0.222
6/30/2003 16:09:12	449.203	0.937	0.675	1.732	1.113	12.808	0.222
6/30/2003 16:14:12	454.203	0.935	0.675	1.736	1.118	12.836	0.222
6/30/2003 16:19:12	459.203	0.935	0.671	1.734	1.120	12.825	0.224
6/30/2003 16:24:12	464.203	0.932	0.677	1.736	1.120	12.805	0.222
6/30/2003 16:29:12	469.203	0.937	0.678	1.734	1.118	12.819	0.228
6/30/2003 16:34:12	474.203	0.939	0.679	1.736	1.118	12.811	0.230
6/30/2003 16:39:12	479.203	0.939	0.681	1.734	1.122	12.805	0.226
6/30/2003 16:44:12	484.203	0.938	0.681	1.740	1.120	12.791	0.228
6/30/2003 16:49:12	489.203	0.942	0.681	1.740	1.122	12.825	0.228
6/30/2003 16:54:12	494.203	0.939	0.679	1.736	1.126	12.799	0.232
6/30/2003 16:59:12	499.203	0.939	0.679	1.738	1.124	12.788	0.232
6/30/2003 17:04:12	504.203	0.942	0.682	1.736	1.124	12.757	0.232
6/30/2003 17:09:12	509.203	0.938	0.682	1.736	1.120	12.779	0.234

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft\ H_2O$)	drawdown E02B ($ft\ H_2O$)	drawdown E04B ($ft\ H_2O$)	drawdown E01B ($ft\ H_2O$)	drawdown E05EX ($ft\ H_2O$)	drawdown baro. press. (in Hg)
6/30/2003 17:14:12	514.203	0.944	0.674	1.732	1.122	12.779	0.234
6/30/2003 17:19:12	519.203	0.950	0.688	1.742	1.122	12.808	0.236
6/30/2003 17:24:12	524.203	0.947	0.679	1.736	1.122	12.779	0.268
6/30/2003 17:29:12	529.203	0.947	0.685	1.740	1.120	12.779	0.271
6/30/2003 17:34:12	534.203	0.950	0.684	1.738	1.122	12.796	0.277
6/30/2003 17:39:12	539.203	0.954	0.679	1.738	1.120	12.799	0.283
6/30/2003 17:44:12	544.203	0.951	0.684	1.740	1.124	12.771	0.283
6/30/2003 17:49:12	549.203	0.950	0.672	1.736	1.120	12.760	0.287
6/30/2003 17:54:12	554.203	0.950	0.682	1.740	1.124	12.777	0.289
6/30/2003 17:59:12	559.203	0.952	0.685	1.740	1.120	12.777	0.291
6/30/2003 18:04:12	564.203	0.951	0.684	1.736	1.122	12.754	0.293
6/30/2003 18:09:12	569.203	0.951	0.682	1.738	1.120	12.757	0.295
6/30/2003 18:14:12	574.203	0.951	0.685	1.734	1.118	12.794	0.295
6/30/2003 18:19:12	579.203	0.951	0.684	1.740	1.124	12.777	0.297
6/30/2003 18:24:12	584.203	0.951	0.684	1.738	1.122	12.785	0.297
6/30/2003 18:29:12	589.203	0.951	0.687	1.734	1.122	12.768	0.297
6/30/2003 18:34:12	594.203	0.952	0.684	1.738	1.120	12.728	0.297
6/30/2003 18:39:12	599.203	0.948	0.687	1.736	1.120	12.731	0.291
6/30/2003 18:44:12	604.203	0.944	0.681	1.734	1.122	12.734	0.277
6/30/2003 18:49:12	609.203	0.947	0.685	1.738	1.120	12.723	0.260
6/30/2003 18:54:12	614.203	0.944	0.685	1.738	1.122	12.734	0.256
6/30/2003 18:59:12	619.203	0.947	0.681	1.736	1.118	12.737	0.248
6/30/2003 19:04:12	624.203	0.947	0.682	1.729	1.122	12.785	0.240
6/30/2003 19:09:12	629.203	0.942	0.682	1.732	1.120	12.774	0.240
6/30/2003 19:14:12	634.203	0.944	0.681	1.736	1.118	12.762	0.236
6/30/2003 19:19:12	639.203	0.941	0.682	1.732	1.116	12.740	0.228
6/30/2003 19:24:12	644.203	0.939	0.682	1.732	1.118	12.742	0.224
6/30/2003 19:29:12	649.203	0.938	0.679	1.725	1.120	12.734	0.222
6/30/2003 19:34:12	654.203	0.941	0.678	1.723	1.118	12.714	0.218
6/30/2003 19:39:12	659.203	0.939	0.675	1.732	1.113	12.748	0.216
6/30/2003 19:44:12	664.203	0.937	0.672	1.727	1.113	12.706	0.216
6/30/2003 19:49:12	669.203	0.935	0.674	1.723	1.116	12.720	0.214
6/30/2003 19:54:12	674.203	0.934	0.675	1.723	1.116	12.771	0.211
6/30/2003 19:59:12	679.203	0.934	0.671	1.725	1.116	12.760	0.209
6/30/2003 20:04:12	684.203	0.931	0.669	1.725	1.111	12.748	0.209
6/30/2003 20:09:12	689.203	0.929	0.668	1.723	1.109	12.723	0.203
6/30/2003 20:14:12	694.203	0.931	0.668	1.723	1.111	12.745	0.199
6/30/2003 20:19:12	699.203	0.937	0.666	1.721	1.111	12.740	0.211
6/30/2003 20:24:12	704.203	0.929	0.665	1.716	1.105	12.723	0.207
6/30/2003 20:29:12	709.203	0.927	0.662	1.719	1.109	12.754	0.195
6/30/2003 20:34:12	714.203	0.925	0.659	1.716	1.109	12.737	0.193
6/30/2003 20:39:12	719.203	0.924	0.658	1.719	1.105	12.757	0.189
6/30/2003 20:44:12	724.203	0.921	0.658	1.721	1.107	12.765	0.183
6/30/2003 20:49:12	729.203	0.921	0.655	1.710	1.100	12.768	0.181
6/30/2003 20:54:12	734.203	0.918	0.654	1.710	1.100	12.794	0.177
6/30/2003 20:59:12	739.203	0.918	0.654	1.714	1.100	12.745	0.173
6/30/2003 21:04:12	744.203	0.914	0.649	1.710	1.096	12.740	0.167
6/30/2003 21:09:12	749.203	0.916	0.646	1.708	1.096	12.734	0.165
6/30/2003 21:14:12	754.203	0.912	0.645	1.710	1.096	12.748	0.161
6/30/2003 21:19:12	759.203	0.914	0.641	1.699	1.098	12.734	0.161
6/30/2003 21:24:12	764.203	0.911	0.642	1.701	1.094	12.725	0.157
6/30/2003 21:29:12	769.203	0.908	0.636	1.706	1.091	12.748	0.146
6/30/2003 21:34:12	774.203	0.906	0.636	1.699	1.087	12.737	0.148
6/30/2003 21:39:12	779.203	0.908	0.638	1.703	1.087	12.728	0.146
6/30/2003 21:44:12	784.203	0.906	0.633	1.697	1.094	12.686	0.142
6/30/2003 21:49:12	789.203	0.905	0.630	1.699	1.089	12.742	0.140
6/30/2003 21:54:12	794.203	0.905	0.632	1.695	1.091	12.723	0.138
6/30/2003 21:59:12	799.203	0.901	0.628	1.695	1.091	12.771	0.134
6/30/2003 22:04:12	804.203	0.901	0.632	1.690	1.087	12.757	0.130
6/30/2003 22:09:12	809.203	0.901	0.629	1.693	1.085	12.731	0.128
6/30/2003 22:14:12	814.203	0.901	0.626	1.690	1.087	12.745	0.124
6/30/2003 22:19:12	819.203	0.901	0.623	1.690	1.085	12.748	0.124
6/30/2003 22:24:12	824.203	0.896	0.620	1.690	1.080	12.760	0.120
6/30/2003 22:29:12	829.203	0.898	0.620	1.688	1.080	12.725	0.116

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft\ H_2O$)	drawdown E02B ($ft\ H_2O$)	drawdown E04B ($ft\ H_2O$)	drawdown E01B ($ft\ H_2O$)	drawdown E05EX ($ft\ H_2O$)	drawdown baro. press. (in Hg)
6/30/2003 22:34:12	834.203	0.895	0.620	1.686	1.080	12.740	0.120
6/30/2003 22:39:12	839.203	0.896	0.619	1.682	1.080	12.717	0.116
6/30/2003 22:44:12	844.203	0.896	0.619	1.686	1.080	12.737	0.118
6/30/2003 22:49:12	849.203	0.895	0.620	1.688	1.083	12.768	0.118
6/30/2003 22:54:12	854.203	0.893	0.615	1.682	1.074	12.740	0.112
6/30/2003 22:59:12	859.203	0.898	0.616	1.688	1.076	12.757	0.108
6/30/2003 23:04:12	864.203	0.896	0.615	1.682	1.076	12.731	0.106
6/30/2003 23:09:12	869.203	0.890	0.615	1.684	1.080	12.754	0.108
6/30/2003 23:14:12	874.203	0.889	0.610	1.682	1.078	12.754	0.108
6/30/2003 23:19:12	879.203	0.901	0.612	1.684	1.080	12.762	0.116
6/30/2003 23:24:12	884.203	0.890	0.610	1.680	1.072	12.742	0.120
6/30/2003 23:29:12	889.203	0.889	0.610	1.682	1.076	12.782	0.118
6/30/2003 23:34:12	894.203	0.889	0.609	1.678	1.072	12.742	0.114
6/30/2003 23:39:12	899.203	0.889	0.609	1.673	1.072	12.754	0.110
6/30/2003 23:44:12	904.203	0.886	0.604	1.673	1.074	12.742	0.108
6/30/2003 23:49:12	909.203	0.879	0.603	1.678	1.065	12.757	0.108
6/30/2003 23:54:12	914.203	0.882	0.603	1.675	1.072	12.785	0.106
6/30/2003 23:59:12	919.203	0.880	0.602	1.675	1.072	12.760	0.104
7/1/2003 0:04:12	924.203	0.882	0.600	1.675	1.074	12.774	0.104
7/1/2003 0:09:12	929.203	0.883	0.599	1.675	1.070	12.754	0.104
7/1/2003 0:14:12	934.203	0.885	0.602	1.671	1.072	12.737	0.100
7/1/2003 0:19:12	939.203	0.875	0.600	1.673	1.074	12.728	0.097
7/1/2003 0:24:12	944.203	0.879	0.599	1.669	1.061	12.728	0.093
7/1/2003 0:29:12	949.203	0.877	0.596	1.667	1.063	12.754	0.097
7/1/2003 0:34:12	954.203	0.882	0.596	1.662	1.063	12.754	0.091
7/1/2003 0:39:12	959.203	0.875	0.594	1.671	1.061	12.760	0.093
7/1/2003 0:44:12	964.203	0.875	0.593	1.669	1.065	12.760	0.095
7/1/2003 0:49:12	969.203	0.873	0.591	1.662	1.065	12.742	0.095
7/1/2003 0:54:12	974.203	0.875	0.590	1.665	1.063	12.814	0.095
7/1/2003 0:59:12	979.203	0.870	0.589	1.667	1.061	12.760	0.093
7/1/2003 1:04:12	984.203	0.873	0.589	1.665	1.061	12.774	0.093
7/1/2003 1:09:12	989.203	0.860	0.586	1.662	1.056	12.777	0.093
7/1/2003 1:14:12	994.203	0.872	0.584	1.662	1.054	12.740	0.093
7/1/2003 1:19:12	999.203	0.867	0.586	1.662	1.054	12.754	0.095
7/1/2003 1:24:12	1004.203	0.866	0.581	1.660	1.056	12.748	0.089
7/1/2003 1:29:12	1009.203	0.863	0.586	1.658	1.054	12.737	0.091
7/1/2003 1:34:12	1014.203	0.862	0.587	1.658	1.054	12.760	0.085
7/1/2003 1:39:12	1019.203	0.869	0.580	1.658	1.056	12.737	0.085
7/1/2003 1:44:12	1024.203	0.863	0.581	1.656	1.056	12.740	0.085
7/1/2003 1:49:12	1029.203	0.860	0.581	1.656	1.052	12.774	0.081
7/1/2003 1:54:12	1034.203	0.860	0.581	1.658	1.054	12.777	0.083
7/1/2003 1:59:12	1039.203	0.864	0.580	1.660	1.050	12.802	0.085
7/1/2003 2:04:12	1044.203	0.862	0.576	1.654	1.052	12.794	0.083
7/1/2003 2:09:12	1049.203	0.860	0.577	1.656	1.050	12.771	0.085
7/1/2003 2:14:12	1054.203	0.856	0.574	1.649	1.048	12.788	0.083
7/1/2003 2:19:12	1059.203	0.857	0.574	1.654	1.045	12.777	0.085
7/1/2003 2:24:12	1064.203	0.856	0.571	1.645	1.048	12.740	0.091
7/1/2003 2:29:12	1069.203	0.854	0.567	1.647	1.045	12.760	0.085
7/1/2003 2:34:12	1074.203	0.853	0.568	1.641	1.043	12.788	0.087
7/1/2003 2:39:12	1079.203	0.852	0.570	1.641	1.039	12.771	0.087
7/1/2003 2:44:12	1084.203	0.846	0.565	1.641	1.037	12.779	0.085
7/1/2003 2:49:12	1089.203	0.846	0.563	1.639	1.039	12.768	0.085
7/1/2003 2:54:12	1094.203	0.846	0.563	1.641	1.037	12.751	0.087
7/1/2003 2:59:12	1099.203	0.844	0.563	1.636	1.034	12.751	0.085
7/1/2003 3:04:12	1104.203	0.841	0.558	1.636	1.030	12.748	0.081
7/1/2003 3:09:12	1109.203	0.841	0.560	1.632	1.030	12.731	0.077
7/1/2003 3:14:12	1114.203	0.846	0.558	1.634	1.034	12.777	0.061
7/1/2003 3:19:12	1119.203	0.847	0.558	1.632	1.030	12.771	0.073
7/1/2003 3:24:12	1124.203	0.834	0.552	1.628	1.023	12.757	0.085
7/1/2003 3:29:12	1129.203	0.831	0.550	1.628	1.023	12.737	0.081
7/1/2003 3:34:12	1134.203	0.831	0.550	1.623	1.019	12.791	0.073
7/1/2003 3:39:12	1139.203	0.827	0.545	1.623	1.019	12.771	0.073
7/1/2003 3:44:12	1144.203	0.828	0.545	1.623	1.015	12.805	0.069
7/1/2003 3:49:12	1149.203	0.823	0.542	1.621	1.013	12.816	0.067

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft H_2O$)	drawdown E02B ($ft H_2O$)	drawdown E04B ($ft H_2O$)	drawdown E01B ($ft H_2O$)	drawdown E05EX ($ft H_2O$)	drawdown baro. press. (in Hg)
7/1/2003 3:54:12	1154.203	0.820	0.540	1.621	1.010	12.745	0.065
7/1/2003 3:59:12	1159.203	0.820	0.538	1.613	1.008	12.788	0.063
7/1/2003 4:04:12	1164.203	0.815	0.538	1.611	1.002	12.802	0.059
7/1/2003 4:09:12	1169.203	0.814	0.537	1.613	0.999	12.757	0.057
7/1/2003 4:14:12	1174.203	0.818	0.535	1.604	0.995	12.782	0.053
7/1/2003 4:19:12	1179.203	0.810	0.529	1.606	0.997	12.782	0.055
7/1/2003 4:24:12	1184.203	0.810	0.527	1.604	0.997	12.762	0.055
7/1/2003 4:29:12	1189.203	0.808	0.524	1.602	0.997	12.757	0.055
7/1/2003 4:34:12	1194.203	0.807	0.524	1.602	0.997	12.765	0.053
7/1/2003 4:39:12	1199.203	0.805	0.521	1.600	0.993	12.720	0.051
7/1/2003 4:44:12	1204.203	0.801	0.521	1.600	0.991	12.748	0.051
7/1/2003 4:49:12	1209.203	0.802	0.519	1.595	0.986	12.748	0.055
7/1/2003 4:54:12	1214.203	0.800	0.516	1.595	0.986	12.748	0.053
7/1/2003 4:59:12	1219.203	0.800	0.516	1.591	0.988	12.768	0.051
7/1/2003 5:04:12	1224.203	0.798	0.515	1.595	0.986	12.720	0.047
7/1/2003 5:09:12	1229.203	0.791	0.514	1.593	0.982	12.777	0.045
7/1/2003 5:14:12	1234.203	0.795	0.512	1.589	0.980	12.768	0.045
7/1/2003 5:19:12	1239.203	0.789	0.511	1.587	0.982	12.734	0.043
7/1/2003 5:24:12	1244.203	0.789	0.509	1.587	0.980	12.728	0.045
7/1/2003 5:29:12	1249.203	0.787	0.508	1.589	0.975	12.737	0.045
7/1/2003 5:34:12	1254.203	0.788	0.508	1.585	0.975	12.723	0.043
7/1/2003 5:39:12	1259.203	0.787	0.506	1.585	0.975	12.748	0.045
7/1/2003 5:44:12	1264.203	0.791	0.503	1.582	0.975	12.757	0.043
7/1/2003 5:49:12	1269.203	0.784	0.506	1.585	0.973	12.728	0.045
7/1/2003 5:54:12	1274.203	0.787	0.505	1.580	0.975	12.762	0.043
7/1/2003 5:59:12	1279.203	0.785	0.503	1.585	0.973	12.742	0.045
7/1/2003 6:04:12	1284.203	0.784	0.502	1.580	0.969	12.771	0.040
7/1/2003 6:09:12	1289.203	0.784	0.502	1.578	0.973	12.757	0.043
7/1/2003 6:14:12	1294.203	0.784	0.501	1.578	0.969	12.757	0.043
7/1/2003 6:19:12	1299.203	0.782	0.503	1.582	0.969	12.711	0.040
7/1/2003 6:24:12	1304.203	0.781	0.501	1.580	0.975	12.757	0.040
7/1/2003 6:29:12	1309.203	0.782	0.499	1.576	0.971	12.774	0.043
7/1/2003 6:34:12	1314.203	0.779	0.498	1.574	0.969	12.777	0.038
7/1/2003 6:39:12	1319.203	0.778	0.499	1.580	0.969	12.796	0.043
7/1/2003 6:44:12	1324.203	0.779	0.498	1.578	0.967	12.774	0.038
7/1/2003 6:49:12	1329.203	0.782	0.498	1.580	0.967	12.777	0.036
7/1/2003 6:54:12	1334.203	0.782	0.498	1.574	0.971	12.777	0.038
7/1/2003 6:59:12	1339.203	0.778	0.496	1.580	0.971	12.779	0.040
7/1/2003 7:04:12	1344.203	0.779	0.498	1.580	0.971	12.771	0.036
7/1/2003 7:09:12	1349.203	0.779	0.499	1.576	0.969	12.765	0.038
7/1/2003 7:14:12	1354.203	0.779	0.498	1.580	0.973	12.771	0.038
7/1/2003 7:19:12	1359.203	0.792	0.503	1.585	0.969	12.796	0.032
7/1/2003 7:24:12	1364.203	0.782	0.505	1.578	0.971	12.765	0.049
7/1/2003 7:29:12	1369.203	0.787	0.501	1.580	0.973	12.811	0.045
7/1/2003 7:34:12	1374.203	0.785	0.502	1.580	0.971	12.771	0.047
7/1/2003 7:39:12	1379.203	0.785	0.503	1.580	0.971	12.788	0.049
7/1/2003 7:44:12	1384.203	0.787	0.503	1.585	0.975	12.796	0.049
7/1/2003 7:49:12	1389.203	0.782	0.502	1.582	0.973	12.737	0.051
7/1/2003 7:54:12	1394.203	0.787	0.503	1.585	0.977	12.785	0.047
7/1/2003 7:59:12	1399.203	0.789	0.508	1.585	0.975	12.760	0.051
7/1/2003 8:04:12	1404.203	0.792	0.508	1.582	0.980	12.785	0.055
7/1/2003 8:09:12	1409.203	0.801	0.509	1.587	0.980	12.777	0.053
7/1/2003 8:14:12	1414.203	0.792	0.512	1.591	0.977	12.771	0.055
7/1/2003 8:19:12	1419.203	0.795	0.516	1.593	0.982	12.754	0.055
7/1/2003 8:24:12	1424.203	0.800	0.518	1.593	0.982	12.768	0.055
7/1/2003 8:29:12	1429.203	0.802	0.522	1.595	0.984	12.762	0.057
7/1/2003 8:34:12	1434.203	0.804	0.524	1.595	0.986	12.785	0.061
7/1/2003 8:39:12	1439.203	0.805	0.524	1.595	0.988	12.745	0.061
7/1/2003 8:44:12	1444.203	0.808	0.528	1.602	0.991	12.762	0.065
7/1/2003 8:49:12	1449.203	0.814	0.529	1.602	0.995	12.779	0.063
7/1/2003 8:54:12	1454.203	0.813	0.535	1.604	0.999	12.777	0.067
7/1/2003 8:59:12	1459.203	0.817	0.540	1.606	0.999	12.768	0.069
7/1/2003 9:04:12	1464.203	0.820	0.540	1.611	1.002	12.757	0.073
7/1/2003 9:09:12	1469.203	0.824	0.544	1.613	1.004	12.754	0.079

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft H_2O$)	drawdown E02B ($ft H_2O$)	drawdown E04B ($ft H_2O$)	drawdown E01B ($ft H_2O$)	drawdown E05EX ($ft H_2O$)	drawdown baro. press. (in Hg)
7/1/2003 9:14:12	1474.203	0.823	0.544	1.617	1.008	12.757	0.081
7/1/2003 9:19:12	1479.203	0.827	0.550	1.623	1.010	12.782	0.083
7/1/2003 9:24:12	1484.203	0.831	0.555	1.626	1.015	12.805	0.083
7/1/2003 9:29:12	1489.203	0.834	0.558	1.626	1.019	12.842	0.089
7/1/2003 9:34:12	1494.203	0.836	0.564	1.628	1.023	12.779	0.093
7/1/2003 9:39:12	1499.203	0.836	0.561	1.634	1.021	12.779	0.097
7/1/2003 9:44:12	1504.203	0.846	0.568	1.636	1.026	12.816	0.102
7/1/2003 9:49:12	1509.203	0.846	0.574	1.636	1.030	12.808	0.104
7/1/2003 9:54:12	1514.203	0.849	0.576	1.639	1.028	12.796	0.112
7/1/2003 9:59:12	1519.203	0.853	0.577	1.645	1.032	12.816	0.110
7/1/2003 10:04:12	1524.203	0.852	0.578	1.647	1.039	12.814	0.114
7/1/2003 10:09:12	1529.203	0.853	0.589	1.649	1.043	12.816	0.120
7/1/2003 10:14:12	1534.203	0.862	0.590	1.654	1.045	12.839	0.126
7/1/2003 10:19:12	1539.203	0.862	0.596	1.658	1.043	12.836	0.128
7/1/2003 10:24:12	1544.203	0.869	0.593	1.662	1.050	12.814	0.128
7/1/2003 10:29:12	1549.203	0.870	0.602	1.660	1.052	12.842	0.136
7/1/2003 10:34:12	1554.203	0.876	0.607	1.669	1.059	12.814	0.140
7/1/2003 10:39:12	1559.203	0.877	0.607	1.675	1.059	12.876	0.138
7/1/2003 10:44:12	1564.203	0.879	0.612	1.671	1.059	12.836	0.142
7/1/2003 10:49:12	1569.203	0.883	0.615	1.673	1.061	12.859	0.146
7/1/2003 10:54:12	1574.203	0.885	0.613	1.673	1.065	12.853	0.148
7/1/2003 10:59:12	1579.203	0.889	0.623	1.680	1.065	12.859	0.154
7/1/2003 11:04:12	1584.203	0.890	0.620	1.682	1.072	12.845	0.159
7/1/2003 11:09:12	1589.203	0.898	0.626	1.684	1.074	12.822	0.159
7/1/2003 11:14:12	1594.203	0.905	0.625	1.688	1.074	12.876	0.175
7/1/2003 11:19:12	1599.203	0.902	0.629	1.690	1.076	12.839	0.181
7/1/2003 11:24:12	1604.203	0.905	0.633	1.690	1.076	12.859	0.177
7/1/2003 11:29:12	1609.203	0.915	0.638	1.695	1.083	12.859	0.177
7/1/2003 11:34:12	1614.203	0.914	0.641	1.697	1.080	12.831	0.181
7/1/2003 11:39:12	1619.203	0.911	0.638	1.697	1.089	12.870	0.179
7/1/2003 11:44:12	1624.203	0.919	0.648	1.701	1.089	12.848	0.183
7/1/2003 11:49:12	1629.203	0.918	0.649	1.703	1.096	12.859	0.189
7/1/2003 11:54:12	1634.203	0.927	0.648	1.703	1.098	12.876	0.195
7/1/2003 11:59:12	1639.203	0.921	0.654	1.708	1.096	12.890	0.195
7/1/2003 12:04:12	1644.203	0.925	0.659	1.712	1.100	12.899	0.201
7/1/2003 12:09:12	1649.203	0.925	0.665	1.712	1.102	12.859	0.201
7/1/2003 12:14:12	1654.203	0.932	0.659	1.710	1.100	12.913	0.209
7/1/2003 12:19:12	1659.203	0.934	0.664	1.721	1.105	12.885	0.209
7/1/2003 12:24:12	1664.203	0.937	0.658	1.716	1.107	12.873	0.216
7/1/2003 12:29:12	1669.203	0.935	0.672	1.716	1.107	12.865	0.220
7/1/2003 12:34:12	1674.203	0.941	0.668	1.721	1.109	12.887	0.224
7/1/2003 12:39:12	1679.203	0.939	0.675	1.721	1.109	12.885	0.230
7/1/2003 12:44:12	1684.203	0.942	0.674	1.723	1.109	12.902	0.234
7/1/2003 12:49:12	1689.203	0.948	0.672	1.727	1.116	12.904	0.236
7/1/2003 12:54:12	1694.203	0.945	0.681	1.734	1.118	12.904	0.240
7/1/2003 12:59:12	1699.203	0.951	0.679	1.734	1.116	12.870	0.273
7/1/2003 13:04:12	1704.203	0.957	0.685	1.734	1.118	12.902	0.271
7/1/2003 13:09:12	1709.203	0.954	0.687	1.732	1.118	12.873	0.260
7/1/2003 13:14:12	1714.203	0.950	0.682	1.732	1.118	12.907	0.260
7/1/2003 13:19:12	1719.203	0.951	0.688	1.734	1.122	12.873	0.260
7/1/2003 13:24:12	1724.203	0.954	0.691	1.734	1.124	12.870	0.260
7/1/2003 13:29:12	1729.203	0.952	0.688	1.727	1.129	12.910	0.266
7/1/2003 13:34:12	1734.203	0.958	0.692	1.742	1.124	12.836	0.271
7/1/2003 13:39:12	1739.203	0.958	0.691	1.740	1.124	12.887	0.277
7/1/2003 13:44:12	1744.203	0.960	0.691	1.740	1.129	12.867	0.275
7/1/2003 13:49:12	1749.203	0.960	0.688	1.740	1.124	12.887	0.281
7/1/2003 13:54:12	1754.203	0.961	0.697	1.742	1.126	12.896	0.281
7/1/2003 13:59:12	1759.203	0.963	0.695	1.742	1.131	12.867	0.283
7/1/2003 14:04:12	1764.203	0.965	0.695	1.742	1.124	12.853	0.289
7/1/2003 14:09:12	1769.203	0.964	0.692	1.740	1.131	12.859	0.287
7/1/2003 14:14:12	1774.203	0.963	0.694	1.747	1.129	12.890	0.291
7/1/2003 14:19:12	1779.203	0.961	0.694	1.738	1.129	12.862	0.287
7/1/2003 14:24:12	1784.203	0.963	0.698	1.742	1.131	12.899	0.295
7/1/2003 14:29:12	1789.203	0.964	0.698	1.744	1.131	12.867	0.293

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft\ H_2O$)	drawdown E02B ($ft\ H_2O$)	drawdown E04B ($ft\ H_2O$)	drawdown E01B ($ft\ H_2O$)	drawdown E05EX ($ft\ H_2O$)	drawdown baro. press. (in Hg)
7/1/2003 14:34:12	1794.203	0.964	0.698	1.747	1.131	12.870	0.293
7/1/2003 14:39:12	1799.203	0.968	0.695	1.747	1.131	12.910	0.291
7/1/2003 14:44:12	1804.203	0.965	0.700	1.744	1.131	12.862	0.291
7/1/2003 14:49:12	1809.203	0.970	0.698	1.749	1.131	12.876	0.289
7/1/2003 14:54:12	1814.203	0.968	0.700	1.749	1.131	12.831	0.289
7/1/2003 14:59:12	1819.203	0.970	0.701	1.747	1.135	12.839	0.289
7/1/2003 15:04:12	1824.203	0.968	0.704	1.744	1.133	12.865	0.289
7/1/2003 15:09:12	1829.203	0.977	0.705	1.749	1.137	12.885	0.317
7/1/2003 15:14:12	1834.203	0.971	0.704	1.744	1.133	12.842	0.303
7/1/2003 15:19:12	1839.203	0.974	0.705	1.749	1.133	12.799	0.299
7/1/2003 15:24:12	1844.203	0.968	0.701	1.749	1.133	12.819	0.295
7/1/2003 15:29:12	1849.203	0.974	0.707	1.744	1.137	12.873	0.295
7/1/2003 15:34:12	1854.203	0.968	0.705	1.749	1.135	12.833	0.297
7/1/2003 15:39:12	1859.203	0.971	0.705	1.751	1.140	12.890	0.295
7/1/2003 15:44:12	1864.203	0.971	0.704	1.749	1.133	12.833	0.297
7/1/2003 15:49:12	1869.203	0.971	0.704	1.749	1.135	12.848	0.299
7/1/2003 15:54:12	1874.203	0.973	0.707	1.749	1.133	12.828	0.301
7/1/2003 15:59:12	1879.203	0.977	0.708	1.747	1.135	12.882	0.299
7/1/2003 16:04:12	1884.203	0.974	0.707	1.749	1.140	12.856	0.301
7/1/2003 16:09:12	1889.203	0.968	0.707	1.749	1.135	12.816	0.301
7/1/2003 16:14:12	1894.203	0.977	0.703	1.751	1.137	12.867	0.301
7/1/2003 16:19:12	1899.203	0.976	0.704	1.744	1.133	12.842	0.301
7/1/2003 16:24:12	1904.203	0.976	0.711	1.744	1.137	12.811	0.303
7/1/2003 16:29:12	1909.203	0.974	0.711	1.747	1.135	12.833	0.303
7/1/2003 16:34:12	1914.203	0.977	0.708	1.753	1.140	12.859	0.307
7/1/2003 16:39:12	1919.203	0.974	0.708	1.751	1.135	12.865	0.305
7/1/2003 16:44:12	1924.203	0.974	0.710	1.751	1.140	12.785	0.305
7/1/2003 16:49:12	1929.203	0.980	0.713	1.753	1.140	12.828	0.311
7/1/2003 16:54:12	1934.203	0.980	0.697	1.749	1.137	12.819	0.315
7/1/2003 16:59:12	1939.203	0.977	0.716	1.751	1.140	12.802	0.321
7/1/2003 17:04:12	1944.203	0.977	0.714	1.757	1.142	12.845	0.319
7/1/2003 17:09:12	1949.203	0.980	0.713	1.753	1.142	12.833	0.319
7/1/2003 17:14:12	1954.203	0.983	0.716	1.751	1.142	12.848	0.323
7/1/2003 17:19:12	1959.203	0.981	0.714	1.753	1.144	12.831	0.321
7/1/2003 17:24:12	1964.203	0.980	0.711	1.749	1.137	12.762	0.319
7/1/2003 17:29:12	1969.203	0.978	0.718	1.749	1.140	12.768	0.328
7/1/2003 17:34:12	1974.203	0.980	0.714	1.749	1.140	12.771	0.326
7/1/2003 17:39:12	1979.203	0.978	0.713	1.747	1.133	12.740	0.328
7/1/2003 17:44:12	1984.203	0.976	0.710	1.747	1.140	12.745	0.323
7/1/2003 17:49:12	1989.203	0.980	0.710	1.751	1.137	12.768	0.328
7/1/2003 17:54:12	1994.203	0.971	0.710	1.742	1.142	12.762	0.328
7/1/2003 17:59:12	1999.203	0.976	0.713	1.749	1.142	12.754	0.328
7/1/2003 18:04:12	2004.203	0.976	0.711	1.749	1.131	12.779	0.326
7/1/2003 18:09:12	2009.203	0.978	0.713	1.744	1.137	12.768	0.330
7/1/2003 18:14:12	2014.203	0.980	0.711	1.747	1.140	12.777	0.330
7/1/2003 18:19:12	2019.203	0.978	0.713	1.744	1.140	12.794	0.330
7/1/2003 18:24:12	2024.203	0.980	0.710	1.753	1.142	12.728	0.328
7/1/2003 18:29:12	2029.203	0.977	0.711	1.751	1.137	12.811	0.330
7/1/2003 18:34:12	2034.203	0.976	0.708	1.747	1.137	12.740	0.326
7/1/2003 18:39:12	2039.203	0.976	0.711	1.747	1.142	12.774	0.328
7/1/2003 18:44:12	2044.203	0.974	0.708	1.744	1.133	12.760	0.330
7/1/2003 18:49:12	2049.203	0.977	0.710	1.747	1.142	12.771	0.323
7/1/2003 18:54:12	2054.203	0.976	0.707	1.742	1.137	12.740	0.323
7/1/2003 18:59:12	2059.203	0.976	0.708	1.749	1.135	12.748	0.323
7/1/2003 19:04:12	2064.203	0.974	0.710	1.744	1.135	12.771	0.323
7/1/2003 19:09:12	2069.203	0.976	0.705	1.740	1.135	12.777	0.323
7/1/2003 19:14:12	2074.203	0.978	0.705	1.744	1.133	12.742	0.323
7/1/2003 19:19:12	2079.203	0.976	0.704	1.740	1.133	12.745	0.354
7/1/2003 19:24:12	2084.203	0.968	0.701	1.742	1.135	12.771	0.338
7/1/2003 19:29:12	2089.203	0.970	0.703	1.736	1.129	12.785	0.326
7/1/2003 19:34:12	2094.203	0.967	0.701	1.742	1.126	12.751	0.323
7/1/2003 19:39:12	2099.203	0.965	0.698	1.736	1.126	12.791	0.319
7/1/2003 19:44:12	2104.203	0.964	0.694	1.736	1.126	12.745	0.319
7/1/2003 19:49:12	2109.203	0.965	0.695	1.734	1.129	12.762	0.321

time stamp (local time)	elapsed time (min)	drawdown E06B (ft H_2O)	drawdown E02B (ft H_2O)	drawdown E04B (ft H_2O)	drawdown E01B (ft H_2O)	drawdown E05EX (ft H_2O)	drawdown baro. press. (in Hg)
7/1/2003 19:54:12	2114.203	0.960	0.692	1.736	1.124	12.737	0.313
7/1/2003 19:59:12	2119.203	0.958	0.692	1.732	1.120	12.748	0.311
7/1/2003 20:04:12	2124.203	0.958	0.691	1.729	1.126	12.748	0.315
7/1/2003 20:09:12	2129.203	0.958	0.685	1.729	1.120	12.777	0.311
7/1/2003 20:14:12	2134.203	0.965	0.685	1.719	1.120	12.782	0.307
7/1/2003 20:19:12	2139.203	0.947	0.681	1.723	1.120	12.791	0.305
7/1/2003 20:24:12	2144.203	0.950	0.677	1.723	1.111	12.762	0.301
7/1/2003 20:29:12	2149.203	0.942	0.678	1.723	1.118	12.811	0.301
7/1/2003 20:34:12	2154.203	0.942	0.674	1.721	1.113	12.845	0.297
7/1/2003 20:39:12	2159.203	0.939	0.672	1.719	1.109	12.831	0.293
7/1/2003 20:44:12	2164.203	0.938	0.671	1.721	1.107	12.822	0.291
7/1/2003 20:49:12	2169.203	0.935	0.665	1.716	1.109	12.768	0.291
7/1/2003 20:54:12	2174.203	0.941	0.665	1.710	1.100	12.828	0.289
7/1/2003 20:59:12	2179.203	0.935	0.662	1.714	1.102	12.814	0.285
7/1/2003 21:04:12	2184.203	0.934	0.661	1.712	1.089	12.819	0.283
7/1/2003 21:09:12	2189.203	0.929	0.656	1.708	1.096	12.771	0.283
7/1/2003 21:14:12	2194.203	0.927	0.656	1.701	1.094	12.765	0.275
7/1/2003 21:19:12	2199.203	0.925	0.654	1.701	1.094	12.771	0.266
7/1/2003 21:24:12	2204.203	0.925	0.649	1.701	1.091	12.762	0.264
7/1/2003 21:29:12	2209.203	0.922	0.649	1.701	1.096	12.748	0.258
7/1/2003 21:34:12	2214.203	0.918	0.646	1.701	1.087	12.760	0.256
7/1/2003 21:39:12	2219.203	0.918	0.645	1.697	1.091	12.791	0.250
7/1/2003 21:44:12	2224.203	0.914	0.645	1.697	1.083	12.805	0.248
7/1/2003 21:49:12	2229.203	0.918	0.641	1.695	1.087	12.782	0.242
7/1/2003 21:54:12	2234.203	0.915	0.642	1.690	1.078	12.788	0.244
7/1/2003 21:59:12	2239.203	0.912	0.639	1.686	1.083	12.774	0.238
7/1/2003 22:04:12	2244.203	0.912	0.635	1.695	1.078	12.796	0.234
7/1/2003 22:09:12	2249.203	0.911	0.636	1.693	1.083	12.774	0.228
7/1/2003 22:14:12	2254.203	0.909	0.636	1.690	1.080	12.768	0.226
7/1/2003 22:19:12	2259.203	0.908	0.635	1.686	1.080	12.760	0.224
7/1/2003 22:24:12	2264.203	0.906	0.632	1.688	1.080	12.779	0.220
7/1/2003 22:29:12	2269.203	0.906	0.632	1.686	1.076	12.760	0.218
7/1/2003 22:34:12	2274.203	0.901	0.629	1.686	1.080	12.777	0.209
7/1/2003 22:39:12	2279.203	0.902	0.628	1.686	1.076	12.757	0.203
7/1/2003 22:44:12	2284.203	0.905	0.629	1.686	1.078	12.796	0.199
7/1/2003 22:49:12	2289.203	0.906	0.629	1.686	1.076	12.796	0.193
7/1/2003 22:54:12	2294.203	0.902	0.630	1.684	1.083	12.814	0.193
7/1/2003 22:59:12	2299.203	0.901	0.626	1.682	1.072	12.782	0.197
7/1/2003 23:04:12	2304.203	0.901	0.620	1.682	1.076	12.748	0.193
7/1/2003 23:09:12	2309.203	0.896	0.622	1.678	1.072	12.757	0.195
7/1/2003 23:14:12	2314.203	0.912	0.625	1.682	1.074	12.819	0.193
7/1/2003 23:19:12	2319.203	0.902	0.617	1.675	1.072	12.748	0.209
7/1/2003 23:24:12	2324.203	0.895	0.619	1.673	1.067	12.779	0.207
7/1/2003 23:29:12	2329.203	0.898	0.617	1.678	1.063	12.731	0.205
7/1/2003 23:34:12	2334.203	0.896	0.612	1.671	1.065	12.751	0.205
7/1/2003 23:39:12	2339.203	0.898	0.613	1.671	1.070	12.728	0.199
7/1/2003 23:44:12	2344.203	0.890	0.609	1.667	1.063	12.740	0.199
7/1/2003 23:49:12	2349.203	0.890	0.610	1.669	1.065	12.760	0.203
7/1/2003 23:54:12	2354.203	0.892	0.610	1.671	1.067	12.737	0.199
7/1/2003 23:59:12	2359.203	0.892	0.610	1.669	1.067	12.731	0.195
7/2/2003 0:04:12	2364.203	0.892	0.613	1.673	1.065	12.757	0.197
7/2/2003 0:09:12	2369.203	0.895	0.606	1.669	1.063	12.757	0.195
7/2/2003 0:14:12	2374.203	0.896	0.606	1.669	1.065	12.774	0.195
7/2/2003 0:19:12	2379.203	0.890	0.604	1.667	1.061	12.794	0.195
7/2/2003 0:24:12	2384.203	0.892	0.606	1.662	1.065	12.728	0.193
7/2/2003 0:29:12	2389.203	0.888	0.602	1.665	1.063	12.748	0.193
7/2/2003 0:34:12	2394.203	0.889	0.603	1.669	1.059	12.771	0.191
7/2/2003 0:39:12	2399.203	0.888	0.600	1.665	1.059	12.740	0.189
7/2/2003 0:44:12	2404.203	0.888	0.602	1.665	1.061	12.757	0.189
7/2/2003 0:49:12	2409.203	0.885	0.600	1.662	1.061	12.779	0.195
7/2/2003 0:54:12	2414.203	0.888	0.599	1.662	1.061	12.751	0.189
7/2/2003 0:59:12	2419.203	0.888	0.599	1.662	1.059	12.765	0.189
7/2/2003 1:04:12	2424.203	0.889	0.600	1.665	1.059	12.779	0.191
7/2/2003 1:09:12	2429.203	0.886	0.599	1.660	1.056	12.754	0.191

time stamp (local time)	elapsed time (min)	drawdown E06B ($ft\ H_2O$)	drawdown E02B ($ft\ H_2O$)	drawdown E04B ($ft\ H_2O$)	drawdown E01B ($ft\ H_2O$)	drawdown E05EX ($ft\ H_2O$)	drawdown baro. press. (in Hg)
7/2/2003 1:14:12	2434.203	0.882	0.599	1.662	1.059	12.751	0.191
7/2/2003 1:19:12	2439.203	0.895	0.599	1.662	1.061	12.740	0.199
7/2/2003 1:24:12	2444.203	0.886	0.597	1.662	1.059	12.734	0.201
7/2/2003 1:29:12	2449.203	0.883	0.599	1.660	1.054	12.791	0.203
7/2/2003 1:34:12	2454.203	0.883	0.597	1.662	1.054	12.734	0.197
7/2/2003 1:39:12	2459.203	0.886	0.596	1.667	1.063	12.748	0.197
7/2/2003 1:44:12	2464.203	0.888	0.596	1.660	1.061	12.777	0.195
7/2/2003 1:49:12	2469.203	0.880	0.597	1.658	1.059	12.774	0.193
7/2/2003 1:54:12	2474.203	0.880	0.594	1.658	1.061	12.779	0.189
7/2/2003 1:59:12	2479.203	0.883	0.596	1.660	1.056	12.754	0.191
7/2/2003 2:04:12	2484.203	0.882	0.593	1.658	1.052	12.785	0.191
7/2/2003 2:09:12	2489.203	0.877	0.596	1.656	1.054	12.745	0.193
7/2/2003 2:14:12	2494.203	0.880	0.591	1.656	1.052	12.748	0.193
7/2/2003 2:19:12	2499.203	0.879	0.589	1.660	1.054	12.740	0.195
7/2/2003 2:24:12	2504.203	0.883	0.590	1.660	1.056	12.779	0.189
7/2/2003 2:29:12	2509.203	0.882	0.589	1.660	1.052	12.740	0.191
7/2/2003 2:34:12	2514.203	0.880	0.590	1.656	1.052	12.745	0.189
7/2/2003 2:39:12	2519.203	0.877	0.589	1.649	1.054	12.757	0.191
7/2/2003 2:44:12	2524.203	0.877	0.589	1.652	1.050	12.757	0.193
7/2/2003 2:49:12	2529.203	0.875	0.589	1.656	1.052	12.768	0.195
7/2/2003 2:54:12	2534.203	0.872	0.589	1.654	1.048	12.768	0.195
7/2/2003 2:59:12	2539.203	0.875	0.584	1.654	1.050	12.757	0.197
7/2/2003 3:04:12	2544.203	0.872	0.589	1.654	1.052	12.751	0.197
7/2/2003 3:09:12	2549.203	0.873	0.584	1.654	1.050	12.788	0.201
7/2/2003 3:14:12	2554.203	0.872	0.597	1.654	1.048	12.771	0.203
7/2/2003 3:19:12	2559.203	0.875	0.584	1.649	1.048	12.762	0.203
7/2/2003 3:24:12	2564.203	0.875	0.584	1.652	1.048	12.742	0.201
7/2/2003 3:29:12	2569.203	0.873	0.584	1.649	1.045	12.723	0.201
7/2/2003 3:34:12	2574.203	0.876	0.583	1.647	1.045	12.731	0.203
7/2/2003 3:39:12	2579.203	0.870	0.583	1.652	1.048	12.720	0.199
7/2/2003 3:44:12	2584.203	0.873	0.584	1.649	1.050	12.751	0.201
7/2/2003 3:49:12	2589.203	0.873	0.581	1.649	1.045	12.774	0.201
7/2/2003 3:54:12	2594.203	0.872	0.583	1.652	1.045	12.760	0.195
7/2/2003 3:59:12	2599.203	0.870	0.584	1.649	1.048	12.765	0.191
7/2/2003 4:04:12	2604.203	0.875	0.581	1.652	1.050	12.794	0.189
7/2/2003 4:09:12	2609.203	0.872	0.581	1.654	1.050	12.745	0.189
7/2/2003 4:14:12	2614.203	0.875	0.581	1.652	1.048	12.768	0.189
7/2/2003 4:19:12	2619.203	0.872	0.578	1.654	1.045	12.782	0.187
7/2/2003 4:24:12	2624.203	0.875	0.583	1.649	1.048	12.765	0.183
7/2/2003 4:29:12	2629.203	0.872	0.578	1.652	1.045	12.768	0.189
7/2/2003 4:34:12	2634.203	0.873	0.577	1.647	1.045	12.785	0.185
7/2/2003 4:39:12	2639.203	0.872	0.577	1.645	1.048	12.771	0.181
7/2/2003 4:44:12	2644.203	0.867	0.580	1.645	1.052	12.796	0.181
7/2/2003 4:49:12	2649.203	0.872	0.578	1.645	1.052	12.782	0.179
7/2/2003 4:54:12	2654.203	0.873	0.578	1.647	1.048	12.811	0.179
7/2/2003 4:59:12	2659.203	0.870	0.574	1.652	1.048	12.762	0.179
7/2/2003 5:04:12	2664.203	0.872	0.577	1.647	1.048	12.765	0.179
7/2/2003 5:09:12	2669.203	0.873	0.577	1.652	1.045	12.754	0.173
7/2/2003 5:14:12	2674.203	0.879	0.580	1.652	1.048	12.814	0.157
7/2/2003 5:19:12	2679.203	0.877	0.578	1.656	1.043	12.796	0.167
7/2/2003 5:24:12	2684.203	0.869	0.576	1.649	1.045	12.779	0.177
7/2/2003 5:29:12	2689.203	0.869	0.581	1.645	1.045	12.799	0.167
7/2/2003 5:34:12	2694.203	0.869	0.576	1.645	1.045	12.816	0.167
7/2/2003 5:39:12	2699.203	0.872	0.574	1.647	1.043	12.788	0.163
7/2/2003 5:44:12	2704.203	0.872	0.576	1.652	1.043	12.811	0.161
7/2/2003 5:49:12	2709.203	0.869	0.576	1.647	1.045	12.788	0.152
7/2/2003 5:54:12	2714.203	0.867	0.574	1.645	1.043	12.822	0.154
7/2/2003 5:59:12	2719.203	0.867	0.573	1.649	1.045	12.856	0.152
7/2/2003 6:04:12	2724.203	0.872	0.573	1.652	1.045	12.842	0.146
7/2/2003 6:09:12	2729.203	0.873	0.574	1.645	1.043	12.828	0.142
7/2/2003 6:14:12	2734.203	0.867	0.571	1.645	1.039	12.819	0.144
7/2/2003 6:19:12	2739.203	0.869	0.570	1.647	1.039	12.842	0.140
7/2/2003 6:24:12	2744.203	0.863	0.568	1.645	1.037	12.833	0.142
7/2/2003 6:29:12	2749.203	0.864	0.570	1.643	1.041	12.848	0.138

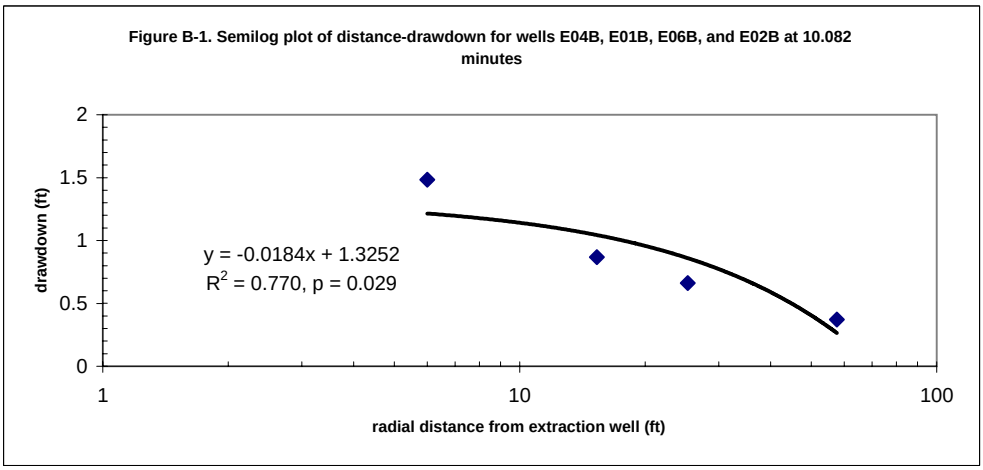
time stamp (local time)	elapsed time (min)	drawdown E06B ($ft\ H_2O$)	drawdown E02B ($ft\ H_2O$)	drawdown E04B ($ft\ H_2O$)	drawdown E01B ($ft\ H_2O$)	drawdown E05EX ($ft\ H_2O$)	drawdown baro. press. (in Hg)
7/2/2003 6:34:12	2754.203	0.864	0.570	1.645	1.041	12.796	0.136
7/2/2003 6:39:12	2759.203	0.867	0.568	1.643	1.039	12.825	0.136
7/2/2003 6:44:12	2764.203	0.867	0.570	1.645	1.041	12.831	0.132
7/2/2003 6:49:12	2769.203	0.867	0.568	1.647	1.041	12.811	0.126
7/2/2003 6:54:12	2774.203	0.864	0.568	1.643	1.045	12.831	0.126
7/2/2003 6:59:12	2779.203	0.862	0.568	1.645	1.043	12.842	0.126
7/2/2003 7:04:12	2784.203	0.864	0.565	1.643	1.039	12.848	0.124
7/2/2003 7:09:12	2789.203	0.860	0.565	1.641	1.039	12.867	0.124
7/2/2003 7:14:12	2794.203	0.859	0.564	1.645	1.037	12.822	0.124
7/2/2003 7:19:12	2799.203	0.870	0.568	1.641	1.041	12.828	0.116
7/2/2003 7:24:12	2804.203	0.869	0.568	1.641	1.043	12.842	0.126
7/2/2003 7:29:12	2809.203	0.864	0.568	1.641	1.039	12.839	0.138
7/2/2003 7:34:12	2814.203	0.864	0.568	1.643	1.037	12.842	0.134
7/2/2003 7:39:12	2819.203	0.866	0.568	1.645	1.043	12.825	0.130
7/2/2003 7:44:12	2824.203	0.862	0.570	1.641	1.041	12.842	0.126
7/2/2003 7:49:12	2829.203	0.866	0.571	1.643	1.041	12.842	0.130
7/2/2003 7:54:12	2834.203	0.870	0.570	1.645	1.043	12.825	0.126
7/2/2003 7:59:12	2839.203	0.870	0.568	1.645	1.045	12.816	0.132
7/2/2003 8:04:12	2844.203	0.870	0.573	1.645	1.037	12.802	0.134
7/2/2003 8:09:12	2849.203	0.867	0.576	1.645	1.041	12.839	0.130
7/2/2003 8:14:12	2854.203	0.875	0.573	1.647	1.048	12.865	0.132
7/2/2003 8:19:12	2859.203	0.872	0.576	1.652	1.045	12.836	0.134
7/2/2003 8:24:12	2864.203	0.870	0.576	1.652	1.043	12.850	0.140
7/2/2003 8:29:12	2869.203	0.870	0.578	1.647	1.050	12.848	0.138
7/2/2003 8:34:12	2874.203	0.875	0.583	1.652	1.048	12.822	0.140
7/2/2003 8:39:12	2879.203	0.877	0.581	1.654	1.050	12.791	0.142
7/2/2003 8:44:12	2884.203	0.877	0.583	1.654	1.054	12.805	0.142
7/2/2003 8:49:12	2889.203	0.880	0.590	1.656	1.052	12.825	0.150
7/2/2003 8:54:12	2894.203	0.883	0.589	1.656	1.052	12.828	0.152
7/2/2003 8:59:12	2899.203	0.885	0.591	1.660	1.056	12.825	0.150
7/2/2003 9:04:12	2904.203	0.890	0.597	1.667	1.065	12.856	0.157
7/2/2003 9:09:12	2909.203	0.889	0.600	1.667	1.061	12.796	0.154
7/2/2003 9:14:12	2914.203	0.895	0.597	1.667	1.065	12.814	0.161
7/2/2003 9:19:12	2919.203	0.895	0.603	1.669	1.063	12.816	0.159
7/2/2003 9:24:12	2924.203	0.895	0.606	1.673	1.067	12.842	0.165
7/2/2003 9:29:12	2929.203	0.896	0.607	1.671	1.067	12.819	0.167
7/2/2003 9:34:12	2934.203	0.903	0.613	1.678	1.072	12.856	0.171
7/2/2003 9:39:12	2939.203	0.906	0.619	1.675	1.074	12.853	0.173
7/2/2003 9:44:12	2944.203	0.908	0.625	1.680	1.083	12.814	0.179
7/2/2003 9:49:12	2949.203	0.912	0.626	1.684	1.083	12.833	0.181
7/2/2003 9:54:12	2954.203	0.916	0.630	1.688	1.078	12.831	0.183

For the constant rate aquifer test (pumping rate of 11.898 ft^3/min) drawdown responses are presented graphically (linear, semilog, and log-log) to facilitate calculations of aquifer transmissivity, horizontal hydraulic conductivity, and storativity.

Included below are calculations for determining hydraulic properties of the aquifer. The Cooper-Jacob distance-drawdown analytical equations are used in the calculations. Pressure derivatives presented in Appendix C were used to verify the time selected for analysis.

	drawdown at 10.082 min					from linear regression	
well	r (ft)	s (ft)	screen depth (ft)	well depth (ft)	surface elev. (ft)	r (ft)	s (ft)
E05EX	0	6.146	30.4 - 49.2	55.3	4618.93	6	1.215
E04B	6	1.483	45.5 - 50.5	50.7	4618.21	60	0.221
E01B	15.3	0.868	44.0 - 49.0	49.2	4617.86		
E06B	25.3	0.661	45.0 - 50.0	50.5	4618.53	r_o (ft)	Δs (ft)
E02B	57.6	0.371	44.3 - 49.3	49.8	4618.30	72.022	0.994

Figure B-1. Semilog plot of distance-drawdown for wells E04B, E01B, E06B, and E02B at 10.082 minutes



Cooper-Jacob distance-drawdown equation for T & S: **$T = [(2.3 * Q) / (2 * \pi * \Delta s)]$**

T = transmissivity [L^2/T]

Q = pump/extraction rate [L^3/T] — $T = [(2.3 * 11.898\ ft^3/min) / (2 * \pi * 0.9936\ ft)]$

Δs = drawdown from two points [L] — $T = 4.383392391\ ft^2/min$

from regression equation — $T = 6312.085043\ ft^2/d$ **or 586.426 m^2/d**

S = storativity [-] **$S = [(2.25 * T * t) / r_o^2]$**

t = time of distance drawdown [T]

r_o^2 = distance at zero drawdown [L^2] — $S = [(2.25 * 4.383\ ft^2/min * 10.082\ min) / 72.022^2\ ft^2]$

from regression — $S = 0.0163$ **or 2×10^{-2}**

T = K / b — $K = [(6307.2\ ft^2/d) / (80\ ft)]$

K = hydraulic conductivity [L/T] — $K = 78.901\ ft/d$ **or 24.049 m/d**

b = aquifer thickness [L]

Figure B-2. Aquifer drawdown against barometric pressure

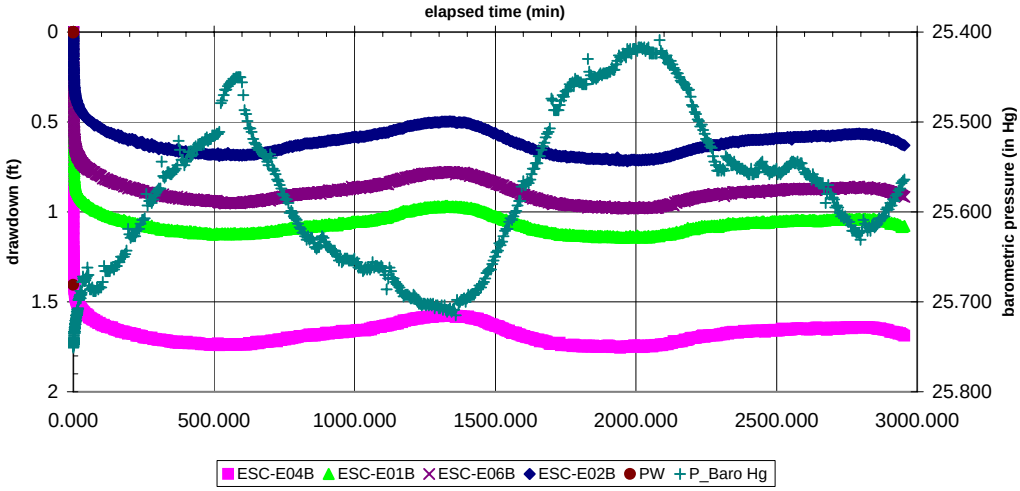


Figure B-3. Semilog plot of aquifer drawdown against barometric pressure

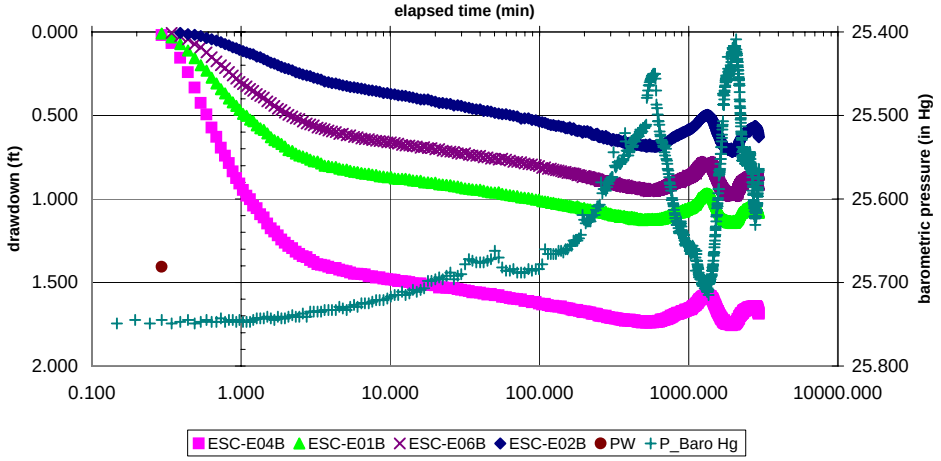
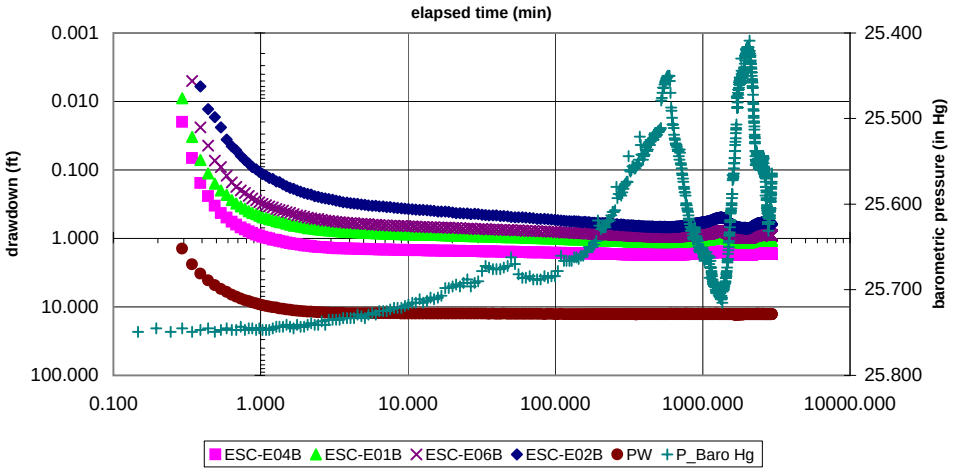


Figure B-4. Log-log plot of aquifer drawdown against barometric pressure



APPENDIX C
Aquifer test pressure change and pressure derivative

Traditional well test analyses have been augmented by the introduction of the derivative plot, which can be used to interpret boundary effects. A derivative plot presents a simultaneous time series of log Dp vs. log Dt and log t dp/dt vs. log Dt. Generally, interpretation of the time series is used to separate the aquifer response according to the following effects: wellbore storage, radial flow, and boundary types. Equations used to calculate the pressure derivative were obtained from Horne (1995)

Derivative plots of fluid pressures recorded at E04B are presented below (data included in Appendix A).
The aquifer test was conducted by SSPA (2004) during summer 2003.
A Matlab script (modified after Weon Shik Han) was used to generate the plots.
Interpretation of the data was facilitated by discussions with Mike Fort.

Figure C-1. At first inspection the pressure derivative suggests a positive one slope indicative of a no-flow boundary.

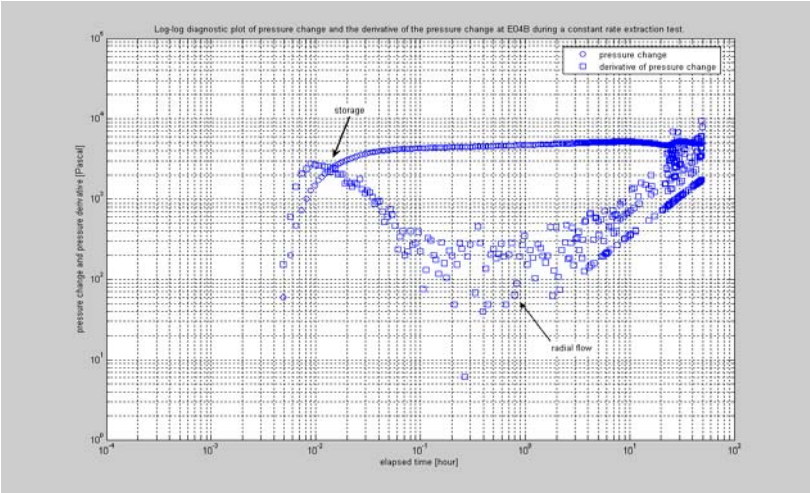


Figure C-2. Changing the pressure scale indicates significant noise in the pressure derivative during late time, which was attributed to diurnal groundwater fluctuations (Appendix B, Figure B-2).
Time selected for distance-drawdown analysis is verified to occur after wellbore storage effects.

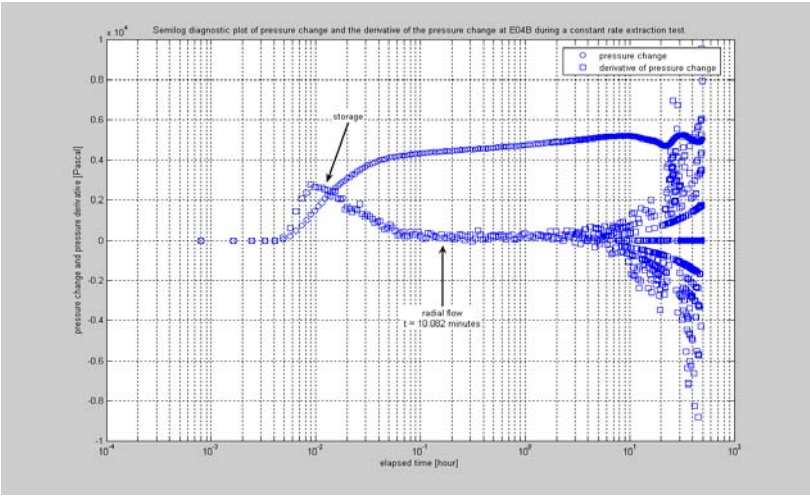
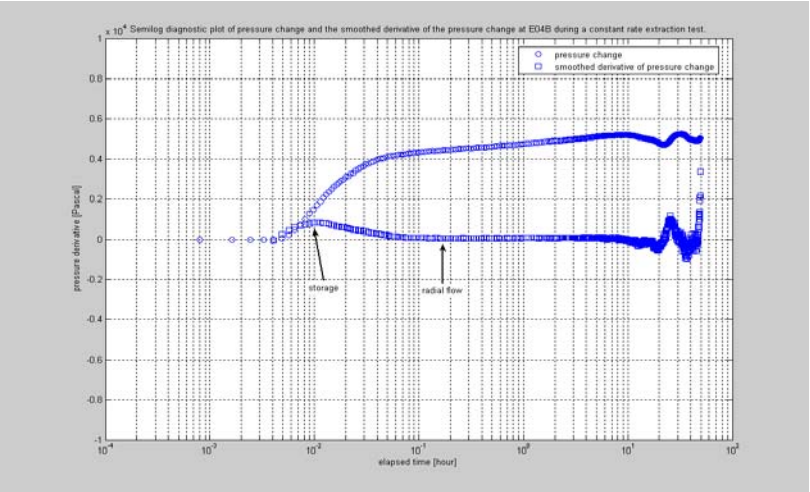


Figure C-3. Pressure derivative noise was removed with a ten-point average. However, interpretation of boundary effects is clouded by the sinusoidal fluctuations in head. Smoothed data courtesy of M. Fort (2006).



Matlab script for generating and plotting pressure change and pressure derivative

```
%5/3/2006
%This code calculates the pressure change and pressure derivative
%Code written by Weonshik at New Mexico Tech, modified by Ryan J

%open('rawdata.dat')
% rawdata
%t=rawdata(:,1);
%p=rawdata(:,2);

clear;

%data from aquifer test at Escondida summer 2003 conducted by SSPA (2004)
%feet of water converted to kPa assuming 2.989067 kPa = 1 foot of water
% at 4 deg. C (from "www.onlineconversion.com")

load('E04B_drawdown_t_P_dP.txt'); %elapsed time (s), pressure (kPa),
%pressure drawdown (kPa)

t = E04B_drawdown_t_P_dP(:,1);
p = E04B_drawdown_t_P_dP(:,2);

load('derivative_from_MikeF_10_pt_window.txt'); %elapsed time (min), pressure drawdown (kPa)
% data were smoothed with a ten-point window

t_smooth = derivative_from_MikeF_10_pt_window(:,1);
p_der_smooth = derivative_from_MikeF_10_pt_window(:,2);

t_smooth_hr = t_smooth / 60;
p_der_smooth_Pa = p_der_smooth * 1000;

% define size of matrix
n=size(p);

% Kilo Pascal to Pascal
for i=1:n;
   p_pa(i)=p(i)*1000;
end

% Unit conversion second to hour and
% calculation of pressure drawdown
   p_max=max(p_pa);
```

```
for i=1:n;
   t(i)=t(i)/3600;
   p_der(i)=p_max-p_pa(i);
end

% log-log diagnostic plot of pressure change and pressure derivative
figure(1)
loglog(t,p_der,'o')
grid on
axis([10^-4 10^2 1 100000])
xlabel('elapsed time [hour]')
ylabel('pressure change and pressure derivative [Pascal]')
title('Log-log diagnostic plot of pressure change and the derivative of the pressure change
% at E04B during a constant rate extraction test.')
% calculation of pressure derivative
for j=2:n-2;
   a1=(t(j)-t(j-1))*p_der(j+1)/((t(j+1)-t(j))*(t(j+1)-t(j-1)));
   a2=(t(j+1)+t(j-1)-2*t(j))*p_der(j)/((t(j+1)-t(j))*(t(j)-t(j-1)));
   a3=(t(j+1)-t(j))*p_der(j-1)/((t(j)-t(j-1))*(t(j+1)-t(j-1)));

p_derivative(j)=t(j)*(a1+a2-a3);
end

for k=1:n-2;
   t_p(k)=t(k+1);
end

hold on
loglog(t_p,p_derivative,'s')
grid on
legend('pressure change','derivative of pressure change')
hold off


% semilog diagnostic plot of linear pressure change and pressure derivative
figure(2)
semilogx(t,p_der,'o')
grid on
hold on
semilogx(t_p,p_derivative,'s')
legend('pressure change','derivative of pressure change')
hold off
axis([10^-4 10^2 -10000 10000])
xlabel('elapsed time [hour]')
ylabel('pressure change and pressure derivative [Pascal]')
title('Semilog diagnostic plot of pressure change and the derivative of the pressure change at E04B
%  during a constant rate extraction test.')

% semilog diagnostic plot of linear pressure change and pressure derivative
figure(3)
semilogx(t,p_der,'o')
grid on
hold on
semilogx(t_smooth_hr,p_der_smooth_Pa,'s')
legend('pressure change','smoothed derivative of pressure change')
hold off
axis([10^-4 10^2 -10000 10000])
xlabel('elapsed time [hour]')
ylabel('pressure derivative [Pascal]')
title('Semilog diagnostic plot of pressure change and the smoothed derivative of the pressure change
%  at E04B during a constant rate extraction test.')
```

APPENDIX D
Database references for groundwater elevation, river stage, and atmospheric fluxes

Database of surface and groundwater elevation measurements:

Manual (monthly) and pressure transducer (60- and 15-min) surface and groundwater elevation measurements collected for the Río Grande Basin Watershed Study (Phase 1: San Acacia Surface Water/Ground Water Investigation) are contained within a database managed by the New Mexico Interstate Stream Commission. In order to receive a copy of the MS Access Database contact: Page Pegram (Hydrogeologist); 121 Tijeras NE, Suite 2000; Albuquerque, NM 87102; (505)-764-3880; ppegram@ose.state.nm.us. The piezometer hydrograph and thermographs were not uploaded to the database and were included in Appendix E. As a result of programming mistakes completed in the field, some tests (pressure transducer datalogger files) required correction; a MS Excel file is available which lists all corrections. Original pressure transducer datalogger (*.bin) files are available, but require software that must be purchased from In-Situ, Inc., Fort Collins, Colorado. For a portion of the data presented in this paper, water elevation measurements were resampled with a 30-min recording interval to evaluate cross correlation and regression with ET/energy measurements (which were recorded in 30-min intervals. Water chemistry data for the surface and groundwater monitoring points are also included in the database.

Database of Río Grande stage and discharge measurements:

Manual and real-time (15-min) Río Grande stage and discharge measurements collected and stored by the United States Geological Survey (USGS) are available from the following locations: San Acacia, Escondida, Highway 380, and San Marcial. A portion of the data is available for downloading from the following Web site: http://waterdata.usgs.gov/nm/nwis/rt. For a subset of the data presented in this paper, river stage was smoothed in Matlab with a zero-phase forward and reverse filter with a one-hour moving window. Occasionally, missing data points were interpolated by averaging. For additional information contact: Lynn K. Miller (Field Office Chief), 5338 Montgomery; IRS Building; Albuquerque, NM 87102; (505)-830-7908; lkmiller@usgs.gov. Additionally, the USGS have installed gauges in the Socorro Main Canal and the Low Flow Conveyance Channel. Additional diversions and drains are monitored by the Middle Río Grande Conservancy District and available at the following Web site: http://www.usbr.gov/pmts/rivers/awards/Nm/rg/RioG/gage/schematic/SCHEMATICsouth.html.

Database of Middle Río Grande bosque ET and energy flux measurements:

Measurements of daily evapotranspiration (ET), energy fluxes, carbon fluxes, barometric pressure, groundwater elevation and temperature, as well as other information necessary to quantify atmospheric and ecologic fluxes and hydrologic interactions are maintained in a database administered by Cleverly et al. (2006), University of New Mexico at Albuquerque. The database is available at the following Web site: http://bosque.unm.edu/~cleverly/bosque/. Access and data queries may be obtained by contacting: Dr. James Cleverly (Research Assistant Professor), Department of Biology; MSC03 2020; 1 University of New Mexico; Albuquerque, NM 87131-0001; (505)-263-9536; cleverly@sevilleta.unm.edu. Data extracted from the flux database and presented in this thesis were obtained from the Sevilleta-San Acacia or sev micrometeorological station (flux tower). With the exception of daily rates of ET, energy fluxes are presented for 30-min recording intervals.

APPENDIX E
Measurements of head and temperature for streambed piezometers September 2005

The following measurements were recorded in piezometers PZ-1, PZ-2, and PZ-3 installed in the shallow streambed floodplain at the Escondida transect.

Pressure transducer sensors were located at the bottom of piezometer. Data were stored in 15-min increments.

[a] MST equal to mountain standard time.
[b] Pressure of water column above pressure transducer.
[c] Total head equal to pressure head plus elevation head measured from bottom of PZ-3.
[d] PZ-3 located 1.5 m beneath streambed surface. The distance between each piezometer was 0.5 m.

Head measurements were converted to metric units assuming 1 m = 3.2808 ft.

	PZ-1	**PZ-1**	**PZ-1**	**PZ-2**	**PZ-2**	**PZ-2**	**PZ-3**	**PZ-3**
time stamp (MST)[a]	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	total head[c,d] (m)
9/3/05 20:00	23.03	0.390	1.389	23.88	0.834	1.334	-	-
9/3/05 20:15	23.03	0.383	1.382	23.88	0.827	1.327	-	-
9/3/05 20:30	23.02	0.377	1.377	23.9	0.821	1.321	-	-
9/3/05 20:45	23.02	0.371	1.370	23.9	0.816	1.316	-	-
9/3/05 21:00	23.01	0.366	1.366	23.91	0.810	1.310	-	-
9/3/05 21:15	22.99	0.361	1.361	23.87	0.805	1.305	-	-
9/3/05 21:30	22.98	0.357	1.357	23.88	0.801	1.301	-	-
9/3/05 21:45	22.97	0.353	1.352	23.9	0.797	1.297	-	-
9/3/05 22:00	22.94	0.349	1.348	23.85	0.793	1.293	-	-
9/3/05 22:15	22.9	0.346	1.346	23.9	0.790	1.290	-	-
9/3/05 22:30	22.88	0.343	1.342	23.87	0.787	1.287	-	-
9/3/05 22:45	22.85	0.339	1.339	23.83	0.782	1.282	-	-
9/3/05 23:00	22.83	0.335	1.335	23.83	0.778	1.278	-	-
9/3/05 23:15	22.82	0.333	1.332	23.86	0.776	1.276	-	-
9/3/05 23:30	22.82	0.329	1.329	23.85	0.773	1.273	-	-
9/3/05 23:45	22.82	0.326	1.326	23.85	0.770	1.270	-	-
9/4/05 0:00	22.82	0.323	1.323	23.9	0.767	1.267	-	-
9/4/05 0:15	22.8	0.321	1.320	23.9	0.764	1.264	-	-
9/4/05 0:30	22.8	0.317	1.317	23.86	0.761	1.261	-	-
9/4/05 0:45	22.8	0.315	1.315	23.92	0.760	1.260	-	-
9/4/05 1:00	22.8	0.313	1.312	23.92	0.757	1.256	-	-
9/4/05 1:15	22.8	0.310	1.309	23.87	0.753	1.253	-	-
9/4/05 1:30	22.8	0.307	1.307	23.9	0.750	1.250	-	-
9/4/05 1:45	22.8	0.305	1.305	23.85	0.749	1.249	-	-
9/4/05 2:00	22.8	0.303	1.303	23.86	0.746	1.246	-	-
9/4/05 2:15	22.8	0.301	1.301	23.87	0.744	1.244	-	-
9/4/05 2:30	22.8	0.298	1.298	23.87	0.742	1.241	-	-
9/4/05 2:45	22.8	0.297	1.296	23.9	0.740	1.240	-	-
9/4/05 3:00	22.8	0.295	1.295	23.87	0.739	1.238	-	-
9/4/05 3:15	22.8	0.294	1.294	23.92	0.738	1.238	-	-
9/4/05 3:30	22.8	0.292	1.292	23.87	0.736	1.236	-	-
9/4/05 3:45	22.8	0.291	1.291	23.92	0.734	1.234	-	-
9/4/05 4:00	22.8	0.289	1.289	23.92	0.733	1.233	-	-
9/4/05 4:15	22.8	0.288	1.288	23.87	0.732	1.231	-	-
9/4/05 4:30	22.8	0.287	1.287	23.88	0.731	1.230	-	-
9/4/05 4:45	22.8	0.286	1.286	23.86	0.730	1.230	-	-
9/4/05 5:00	22.79	0.285	1.284	23.91	0.728	1.228	-	-
9/4/05 5:15	22.8	0.283	1.283	23.88	0.727	1.227	-	-
9/4/05 5:30	22.79	0.283	1.282	23.9	0.726	1.226	-	-
9/4/05 5:45	22.79	0.281	1.281	23.88	0.725	1.224	-	-
9/4/05 6:00	22.78	0.280	1.280	23.83	0.723	1.223	-	-
9/4/05 6:15	22.78	0.279	1.278	23.83	0.722	1.222	-	-
9/4/05 6:30	22.78	0.277	1.277	23.83	0.721	1.221	-	-
9/4/05 6:45	22.78	0.277	1.277	23.85	0.720	1.220	-	-
9/4/05 7:00	22.77	0.276	1.276	23.87	0.719	1.219	-	-
9/4/05 7:15	22.77	0.275	1.275	23.86	0.718	1.218	-	-
9/4/05 7:30	22.75	0.273	1.273	23.87	0.717	1.217	-	-
9/4/05 7:45	22.75	0.272	1.272	23.87	0.716	1.216	-	-
9/4/05 8:00	22.75	0.271	1.271	23.85	0.715	1.215	-	-
9/4/05 8:15	22.75	0.270	1.270	23.83	0.714	1.214	-	-
9/4/05 8:30	22.74	0.269	1.269	23.82	0.714	1.213	-	-

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/4/05 8:45	22.74	0.268	1.268	23.86	0.712	1.212	-	-
9/4/05 9:00	22.73	0.267	1.266	23.81	0.710	1.210	-	-
9/4/05 9:15	22.72	0.266	1.266	23.88	0.710	1.210	-	-
9/4/05 9:30	22.72	0.265	1.265	23.86	0.708	1.208	-	-
9/4/05 9:45	22.72	0.268	1.267	23.83	0.712	1.212	-	-
9/4/05 10:00	22.73	0.269	1.269	23.78	0.713	1.213	-	-
9/4/05 10:15	22.7	0.268	1.267	23.76	0.711	1.211	-	-
9/4/05 10:30	22.7	0.267	1.267	23.78	0.711	1.211	-	-
9/4/05 10:45	22.69	0.265	1.264	23.8	0.709	1.209	-	-
9/4/05 11:00	22.67	0.263	1.263	23.78	0.707	1.207	-	-
9/4/05 11:15	22.65	0.261	1.260	23.83	0.706	1.205	-	-
9/4/05 11:30	22.64	0.259	1.259	23.77	0.704	1.204	-	-
9/4/05 11:45	22.67	0.257	1.257	23.78	0.702	1.202	-	-
9/4/05 12:00	22.65	0.255	1.255	23.77	0.700	1.200	-	-
9/4/05 12:15	22.65	0.253	1.253	23.8	0.698	1.198	-	-
9/4/05 12:30	22.65	0.252	1.252	23.77	0.696	1.196	-	-
9/4/05 12:45	22.65	0.250	1.250	23.78	0.695	1.195	-	-
9/4/05 13:00	22.67	0.249	1.249	23.81	0.693	1.193	-	-
9/4/05 13:15	22.67	0.248	1.247	23.81	0.692	1.192	-	-
9/4/05 13:30	22.67	0.246	1.246	23.81	0.690	1.190	-	-
9/4/05 13:45	22.67	0.245	1.245	23.76	0.689	1.189	-	-
9/4/05 14:00	22.68	0.244	1.244	23.82	0.687	1.187	-	-
9/4/05 14:15	22.68	0.242	1.242	23.76	0.686	1.185	-	-
9/4/05 14:30	22.68	0.241	1.241	23.81	0.685	1.185	-	-
9/4/05 14:45	22.69	0.240	1.240	23.77	0.683	1.183	-	-
9/4/05 15:00	22.68	0.238	1.238	23.82	0.681	1.181	24.14	1.219
9/4/05 15:15	22.69	0.239	1.239	23.78	0.682	1.182	24.07	1.211
9/4/05 15:30	22.69	0.237	1.237	23.78	0.680	1.180	24.09	1.204
9/4/05 15:45	22.69	0.234	1.234	23.8	0.678	1.178	24.14	1.198
9/4/05 16:00	22.72	0.238	1.238	23.81	0.682	1.182	24.14	1.191
9/4/05 16:15	22.72	0.236	1.235	23.77	0.679	1.179	24.14	1.186
9/4/05 16:30	22.72	0.234	1.234	23.82	0.678	1.177	24.14	1.181
9/4/05 16:45	22.73	0.232	1.232	23.83	0.676	1.176	24.13	1.176
9/4/05 17:00	22.73	0.231	1.231	23.83	0.675	1.175	24.17	1.172
9/4/05 17:15	22.74	0.230	1.230	23.85	0.674	1.173	24.17	1.167
9/4/05 17:30	22.74	0.229	1.228	23.85	0.672	1.172	24.14	1.163
9/4/05 17:45	22.75	0.228	1.228	23.83	0.671	1.171	24.14	1.159
9/4/05 18:00	22.75	0.226	1.226	23.85	0.671	1.170	24.17	1.155
9/4/05 18:15	22.77	0.225	1.225	23.85	0.669	1.169	24.18	1.151
9/4/05 18:30	22.77	0.224	1.224	23.85	0.668	1.168	24.17	1.148
9/4/05 18:45	22.78	0.223	1.223	23.88	0.668	1.167	24.18	1.144
9/4/05 19:00	22.79	0.222	1.222	23.9	0.666	1.166	24.19	1.141
9/4/05 19:15	22.79	0.221	1.221	23.88	0.665	1.165	24.19	1.138
9/4/05 19:30	22.8	0.220	1.220	23.91	0.664	1.164	24.18	1.134
9/4/05 19:45	22.82	0.219	1.219	23.88	0.663	1.163	24.21	1.131
9/4/05 20:00	22.83	0.218	1.218	23.91	0.662	1.162	24.19	1.128
9/4/05 20:15	22.83	0.217	1.217	23.9	0.661	1.161	24.21	1.126
9/4/05 20:30	22.84	0.217	1.216	23.92	0.661	1.161	24.17	1.124
9/4/05 20:45	22.85	0.215	1.215	23.91	0.660	1.160	24.21	1.121
9/4/05 21:00	22.85	0.215	1.215	23.91	0.659	1.159	24.19	1.118
9/4/05 21:15	22.87	0.214	1.214	23.92	0.658	1.158	24.19	1.116
9/4/05 21:30	22.87	0.213	1.213	23.92	0.657	1.157	24.19	1.114
9/4/05 21:45	22.88	0.213	1.213	23.92	0.657	1.156	24.22	1.112
9/4/05 22:00	22.89	0.212	1.211	23.93	0.656	1.156	24.18	1.110
9/4/05 22:15	22.9	0.211	1.211	23.92	0.655	1.155	24.22	1.108
9/4/05 22:30	22.92	0.210	1.210	23.92	0.654	1.154	24.19	1.106
9/4/05 22:45	22.92	0.210	1.209	23.93	0.654	1.154	24.19	1.103
9/4/05 23:00	22.93	0.210	1.209	23.92	0.654	1.154	24.18	1.102
9/4/05 23:15	22.94	0.209	1.209	23.93	0.653	1.152	24.18	1.101
9/4/05 23:30	22.96	0.208	1.208	23.93	0.653	1.152	24.22	1.099
9/4/05 23:45	22.96	0.209	1.209	23.95	0.652	1.152	24.22	1.098
9/5/05 0:00	22.97	0.208	1.208	23.95	0.652	1.152	24.22	1.096
9/5/05 0:15	22.98	0.208	1.207	23.95	0.652	1.152	24.23	1.095
9/5/05 0:30	22.99	0.208	1.208	23.95	0.652	1.152	24.24	1.094
9/5/05 0:45	22.99	0.208	1.207	23.93	0.651	1.151	24.24	1.092
9/5/05 1:00	23.01	0.207	1.207	23.93	0.651	1.151	24.22	1.091
9/5/05 1:15	23.01	0.206	1.206	23.95	0.650	1.150	24.23	1.089
9/5/05 1:30	23.02	0.206	1.205	23.95	0.650	1.150	24.23	1.088
9/5/05 1:45	23.03	0.205	1.205	23.95	0.650	1.150	24.22	1.088
9/5/05 2:00	23.03	0.205	1.205	23.93	0.650	1.149	24.23	1.086
9/5/05 2:15	23.03	0.205	1.205	23.93	0.649	1.149	24.22	1.085
9/5/05 2:30	23.04	0.205	1.205	23.95	0.648	1.148	24.22	1.084

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/5/05 2:45	23.06	0.204	1.204	23.95	0.648	1.148	24.23	1.083
9/5/05 3:00	23.06	0.204	1.204	23.95	0.648	1.148	24.23	1.082
9/5/05 3:15	23.06	0.204	1.204	23.95	0.648	1.148	24.23	1.082
9/5/05 3:30	23.07	0.203	1.203	23.93	0.647	1.147	24.22	1.081
9/5/05 3:45	23.07	0.203	1.203	23.95	0.647	1.147	24.22	1.080
9/5/05 4:00	23.07	0.203	1.203	23.95	0.647	1.147	24.22	1.079
9/5/05 4:15	23.08	0.202	1.202	23.95	0.646	1.146	24.23	1.078
9/5/05 4:30	23.08	0.202	1.202	23.93	0.646	1.146	24.24	1.078
9/5/05 4:45	23.08	0.202	1.202	23.93	0.646	1.146	24.22	1.077
9/5/05 5:00	23.08	0.201	1.201	23.95	0.646	1.145	24.23	1.076
9/5/05 5:15	23.09	0.201	1.201	23.95	0.645	1.145	24.23	1.075
9/5/05 5:30	23.09	0.201	1.201	23.93	0.645	1.145	24.22	1.075
9/5/05 5:45	23.09	0.201	1.201	23.92	0.645	1.145	24.22	1.074
9/5/05 6:00	23.09	0.200	1.200	23.93	0.644	1.144	24.22	1.074
9/5/05 6:15	23.08	0.201	1.200	23.93	0.644	1.144	24.22	1.073
9/5/05 6:30	23.08	0.200	1.200	23.93	0.644	1.144	24.23	1.073
9/5/05 6:45	23.09	0.200	1.199	23.93	0.643	1.143	24.22	1.072
9/5/05 7:00	23.09	0.199	1.199	23.93	0.643	1.143	24.22	1.071
9/5/05 7:15	23.09	0.199	1.199	23.93	0.643	1.142	24.22	1.071
9/5/05 7:30	23.09	0.199	1.198	23.92	0.643	1.143	24.22	1.070
9/5/05 7:45	23.09	0.198	1.198	23.92	0.642	1.142	24.22	1.070
9/5/05 8:00	23.08	0.198	1.198	23.92	0.642	1.142	24.21	1.069
9/5/05 8:15	23.08	0.198	1.198	23.92	0.643	1.143	24.19	1.069
9/5/05 8:30	23.08	0.207	1.207	23.95	0.651	1.151	24.21	1.068
9/5/05 8:45	23.09	0.222	1.222	23.97	0.667	1.166	24.21	1.068
9/5/05 9:00	23.09	0.237	1.237	24	0.681	1.181	24.21	1.070
9/5/05 9:15	23.09	0.273	1.273	24.01	0.716	1.216	24.21	1.073
9/5/05 9:30	23.11	0.294	1.294	24.02	0.738	1.238	24.21	1.076
9/5/05 9:45	23.11	0.307	1.306	24.01	0.750	1.250	24.19	1.080
9/5/05 10:00	23.09	0.315	1.314	24.01	0.759	1.259	24.19	1.083
9/5/05 10:15	23.08	0.319	1.319	24.01	0.764	1.264	24.19	1.087
9/5/05 10:30	23.08	0.325	1.325	24.01	0.769	1.269	24.18	1.090
9/5/05 10:45	23.07	0.333	1.333	24.01	0.777	1.277	24.18	1.095
9/5/05 11:00	23.04	0.337	1.337	24.01	0.781	1.281	24.17	1.098
9/5/05 11:15	23.03	0.337	1.337	24	0.781	1.281	24.17	1.101
9/5/05 11:30	23.02	0.336	1.335	24	0.779	1.279	24.14	1.104
9/5/05 11:45	23.01	0.332	1.331	24	0.775	1.275	24.13	1.108
9/5/05 12:00	23.01	0.327	1.327	23.98	0.771	1.271	24.13	1.111
9/5/05 12:15	22.99	0.323	1.323	24	0.767	1.266	24.12	1.113
9/5/05 12:30	22.99	0.318	1.317	23.97	0.761	1.261	24.12	1.114
9/5/05 12:45	23.01	0.313	1.313	23.98	0.758	1.258	24.12	1.116
9/5/05 13:00	23.01	0.310	1.310	23.98	0.755	1.255	24.11	1.118
9/5/05 13:15	22.99	0.308	1.307	24	0.752	1.252	24.11	1.119
9/5/05 13:30	22.99	0.304	1.304	23.98	0.749	1.248	24.11	1.120
9/5/05 13:45	22.99	0.301	1.301	24	0.745	1.245	24.11	1.121
9/5/05 14:00	22.99	0.299	1.299	23.97	0.743	1.243	24.11	1.121
9/5/05 14:15	22.99	0.296	1.296	23.97	0.741	1.241	24.09	1.122
9/5/05 14:30	22.99	0.293	1.293	23.98	0.738	1.238	24.08	1.122
9/5/05 14:45	22.99	0.291	1.291	23.98	0.735	1.235	24.08	1.122
9/5/05 15:00	22.98	0.288	1.288	24	0.733	1.233	24.08	1.122
9/5/05 15:15	22.98	0.286	1.285	24	0.730	1.230	24.07	1.122
9/5/05 15:30	22.98	0.283	1.282	23.98	0.727	1.227	24.08	1.122
9/5/05 15:45	22.97	0.280	1.279	23.97	0.725	1.224	24.09	1.122
9/5/05 16:00	22.97	0.277	1.277	23.98	0.722	1.222	24.08	1.122
9/5/05 16:15	22.97	0.276	1.276	23.98	0.720	1.220	24.08	1.121
9/5/05 16:30	22.97	0.272	1.272	24	0.717	1.217	24.07	1.121
9/5/05 16:45	22.97	0.270	1.270	23.98	0.714	1.214	24.08	1.120
9/5/05 17:00	22.97	0.267	1.267	23.97	0.712	1.212	24.07	1.119
9/5/05 17:15	22.97	0.265	1.265	23.98	0.709	1.209	24.08	1.118
9/5/05 17:30	22.97	0.262	1.261	23.98	0.706	1.205	24.08	1.117
9/5/05 17:45	22.97	0.260	1.260	23.98	0.705	1.205	24.08	1.116
9/5/05 18:00	22.96	0.257	1.257	23.98	0.701	1.201	24.08	1.116
9/5/05 18:15	22.97	0.255	1.255	23.97	0.698	1.198	24.09	1.114
9/5/05 18:30	22.96	0.252	1.252	23.97	0.696	1.196	24.08	1.113
9/5/05 18:45	22.96	0.248	1.247	23.97	0.692	1.191	24.08	1.112
9/5/05 19:00	22.97	0.245	1.245	23.96	0.689	1.189	24.08	1.110
9/5/05 19:15	22.96	0.242	1.242	23.96	0.686	1.186	24.08	1.109
9/5/05 19:30	22.96	0.241	1.241	23.95	0.684	1.184	24.09	1.108
9/5/05 19:45	22.96	0.238	1.238	23.95	0.682	1.182	24.07	1.107
9/5/05 20:00	22.96	0.236	1.236	23.93	0.680	1.180	24.08	1.105
9/5/05 20:15	22.96	0.236	1.235	23.93	0.679	1.179	24.08	1.104
9/5/05 20:30	22.96	0.234	1.234	23.92	0.678	1.177	24.08	1.103

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/5/05 20:45	22.96	0.231	1.230	23.91	0.675	1.175	24.08	1.102
9/5/05 21:00	22.96	0.230	1.230	23.91	0.674	1.173	24.08	1.100
9/5/05 21:15	22.96	0.228	1.228	23.9	0.672	1.172	24.08	1.099
9/5/05 21:30	22.96	0.227	1.227	23.9	0.671	1.171	24.08	1.098
9/5/05 21:45	22.97	0.224	1.224	23.88	0.669	1.169	24.08	1.096
9/5/05 22:00	22.97	0.223	1.223	23.86	0.667	1.167	24.08	1.095
9/5/05 22:15	22.97	0.222	1.222	23.85	0.666	1.166	24.08	1.094
9/5/05 22:30	22.97	0.221	1.220	23.85	0.664	1.164	24.08	1.093
9/5/05 22:45	22.97	0.219	1.218	23.85	0.662	1.162	24.08	1.091
9/5/05 23:00	22.97	0.217	1.217	23.83	0.661	1.161	24.08	1.091
9/5/05 23:15	22.98	0.215	1.215	23.83	0.659	1.159	24.08	1.089
9/5/05 23:30	22.98	0.215	1.215	23.83	0.658	1.158	24.08	1.088
9/5/05 23:45	22.98	0.214	1.214	23.83	0.657	1.157	24.09	1.087
9/6/05 0:00	22.98	0.213	1.213	23.85	0.657	1.156	24.09	1.085
9/6/05 0:15	22.98	0.212	1.212	23.83	0.656	1.156	24.08	1.084
9/6/05 0:30	22.99	0.211	1.211	23.83	0.655	1.155	24.09	1.083
9/6/05 0:45	22.99	0.211	1.210	23.83	0.654	1.154	24.09	1.083
9/6/05 1:00	22.99	0.210	1.209	23.83	0.653	1.153	24.11	1.082
9/6/05 1:15	22.99	0.208	1.208	23.85	0.652	1.152	24.09	1.080
9/6/05 1:30	23.01	0.209	1.209	23.86	0.653	1.153	24.09	1.080
9/6/05 1:45	23.01	0.207	1.207	23.83	0.651	1.151	24.08	1.079
9/6/05 2:00	23.01	0.206	1.206	23.83	0.650	1.150	24.09	1.078
9/6/05 2:15	23.01	0.206	1.205	23.85	0.649	1.149	24.11	1.077
9/6/05 2:30	23.02	0.205	1.204	23.83	0.648	1.148	24.11	1.076
9/6/05 2:45	23.02	0.204	1.204	23.83	0.648	1.148	24.09	1.075
9/6/05 3:00	23.02	0.203	1.203	23.85	0.646	1.146	24.09	1.075
9/6/05 3:15	23.02	0.202	1.202	23.83	0.646	1.146	24.09	1.074
9/6/05 3:30	23.03	0.202	1.202	23.83	0.646	1.145	24.09	1.073
9/6/05 3:45	23.03	0.201	1.201	23.85	0.645	1.145	24.09	1.072
9/6/05 4:00	23.03	0.200	1.200	23.83	0.644	1.144	24.09	1.072
9/6/05 4:15	23.03	0.200	1.200	23.83	0.643	1.143	24.09	1.071
9/6/05 4:30	23.03	0.199	1.199	23.85	0.643	1.143	24.11	1.070
9/6/05 4:45	23.04	0.200	1.199	23.85	0.643	1.143	24.09	1.069
9/6/05 5:00	23.04	0.199	1.199	23.83	0.643	1.142	24.09	1.069
9/6/05 5:15	23.04	0.199	1.198	23.85	0.642	1.142	24.09	1.068
9/6/05 5:30	23.04	0.198	1.198	23.85	0.642	1.142	24.09	1.067
9/6/05 5:45	23.04	0.198	1.197	23.83	0.641	1.141	24.09	1.067
9/6/05 6:00	23.04	0.198	1.198	23.83	0.641	1.141	24.11	1.066
9/6/05 6:15	23.04	0.199	1.198	23.85	0.642	1.142	24.09	1.066
9/6/05 6:30	23.06	0.198	1.198	23.85	0.642	1.142	24.09	1.065
9/6/05 6:45	23.06	0.200	1.199	23.85	0.643	1.143	24.11	1.064
9/6/05 7:00	23.06	0.201	1.200	23.85	0.644	1.144	24.09	1.065
9/6/05 7:15	23.06	0.201	1.201	23.85	0.646	1.145	24.09	1.064
9/6/05 7:30	23.06	0.203	1.202	23.85	0.646	1.146	24.09	1.063
9/6/05 7:45	23.06	0.203	1.202	23.85	0.647	1.147	24.09	1.063
9/6/05 8:00	23.06	0.203	1.203	23.85	0.647	1.147	24.09	1.063
9/6/05 8:15	23.06	0.204	1.204	23.86	0.647	1.147	24.09	1.063
9/6/05 8:30	23.06	0.204	1.204	23.85	0.648	1.148	24.08	1.063
9/6/05 8:45	23.06	0.204	1.204	23.85	0.649	1.149	24.08	1.063
9/6/05 9:00	23.06	0.205	1.205	23.85	0.649	1.149	24.08	1.063
9/6/05 9:15	23.06	0.205	1.205	23.85	0.649	1.149	24.08	1.063
9/6/05 9:30	23.06	0.206	1.205	23.85	0.649	1.149	24.08	1.063
9/6/05 9:45	23.06	0.206	1.205	23.85	0.650	1.150	24.07	1.063
9/6/05 10:00	23.06	0.206	1.205	23.83	0.649	1.149	24.09	1.063
9/6/05 10:15	23.06	0.206	1.206	23.83	0.650	1.150	24.08	1.063
9/6/05 10:30	23.06	0.206	1.206	23.83	0.650	1.150	24.08	1.063
9/6/05 10:45	23.06	0.206	1.206	23.83	0.650	1.150	24.07	1.063
9/6/05 11:00	23.06	0.206	1.206	23.83	0.650	1.150	24.07	1.063
9/6/05 11:15	23.06	0.207	1.207	23.83	0.651	1.151	24.08	1.063
9/6/05 11:30	23.04	0.208	1.208	23.83	0.653	1.153	24.07	1.063
9/6/05 11:45	23.04	0.210	1.209	23.83	0.654	1.154	24.07	1.063
9/6/05 12:00	23.06	0.212	1.212	23.85	0.656	1.156	24.07	1.063
9/6/05 12:15	23.04	0.215	1.215	23.85	0.659	1.159	24.07	1.064
9/6/05 12:30	23.04	0.218	1.218	23.85	0.662	1.162	24.07	1.064
9/6/05 12:45	23.04	0.222	1.221	23.85	0.666	1.166	24.07	1.064
9/6/05 13:00	23.04	0.225	1.225	23.86	0.669	1.169	24.07	1.065
9/6/05 13:15	23.06	0.228	1.228	23.86	0.672	1.172	24.07	1.065
9/6/05 13:30	23.04	0.233	1.233	23.87	0.677	1.177	24.06	1.066
9/6/05 13:45	23.04	0.239	1.239	23.88	0.683	1.183	24.06	1.067
9/6/05 14:00	23.04	0.244	1.244	23.88	0.688	1.188	24.06	1.067
9/6/05 14:15	23.06	0.248	1.248	23.9	0.693	1.193	24.06	1.068
9/6/05 14:30	23.04	0.250	1.250	23.9	0.694	1.194	24.06	1.069

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/6/05 14:45	23.04	0.252	1.252	23.9	0.696	1.196	24.04	1.070
9/6/05 15:00	23.04	0.255	1.255	23.9	0.700	1.199	24.06	1.070
9/6/05 15:15	23.04	0.256	1.256	23.9	0.701	1.201	24.04	1.072
9/6/05 15:30	23.04	0.258	1.258	23.91	0.703	1.202	24.06	1.073
9/6/05 15:45	23.04	0.257	1.257	23.91	0.702	1.202	24.06	1.074
9/6/05 16:00	23.03	0.257	1.257	23.91	0.702	1.202	24.04	1.075
9/6/05 16:15	23.03	0.257	1.257	23.91	0.701	1.201	24.04	1.076
9/6/05 16:30	23.03	0.256	1.255	23.9	0.700	1.200	24.04	1.077
9/6/05 16:45	23.03	0.254	1.254	23.9	0.699	1.198	24.04	1.078
9/6/05 17:00	23.03	0.251	1.250	23.9	0.695	1.195	24.03	1.079
9/6/05 17:15	23.03	0.248	1.247	23.9	0.691	1.191	24.04	1.079
9/6/05 17:30	23.03	0.244	1.244	23.88	0.688	1.188	24.04	1.079
9/6/05 17:45	23.03	0.240	1.240	23.88	0.684	1.184	24.04	1.079
9/6/05 18:00	23.03	0.237	1.236	23.87	0.681	1.181	24.04	1.080
9/6/05 18:15	23.03	0.232	1.232	23.87	0.677	1.177	24.03	1.079
9/6/05 18:30	23.03	0.230	1.229	23.86	0.674	1.174	24.04	1.079
9/6/05 18:45	23.03	0.226	1.226	23.85	0.671	1.171	24.04	1.079
9/6/05 19:00	23.04	0.224	1.224	23.83	0.668	1.168	24.04	1.079
9/6/05 19:15	23.04	0.222	1.221	23.83	0.666	1.166	24.03	1.078
9/6/05 19:30	23.04	0.219	1.219	23.82	0.664	1.164	24.03	1.078
9/6/05 19:45	23.04	0.217	1.217	23.81	0.661	1.161	24.04	1.078
9/6/05 20:00	23.06	0.215	1.215	23.81	0.660	1.159	24.04	1.077
9/6/05 20:15	23.06	0.214	1.213	23.81	0.657	1.157	24.04	1.077
9/6/05 20:30	23.06	0.212	1.211	23.81	0.656	1.156	24.04	1.076
9/6/05 20:45	23.07	0.209	1.209	23.81	0.654	1.154	24.04	1.076
9/6/05 21:00	23.07	0.209	1.209	23.81	0.653	1.153	24.06	1.074
9/6/05 21:15	23.07	0.208	1.208	23.8	0.652	1.152	24.04	1.074
9/6/05 21:30	23.07	0.207	1.207	23.81	0.651	1.151	24.06	1.074
9/6/05 21:45	23.08	0.206	1.205	23.81	0.650	1.150	24.06	1.073
9/6/05 22:00	23.08	0.205	1.204	23.81	0.649	1.149	24.06	1.072
9/6/05 22:15	23.08	0.204	1.203	23.81	0.648	1.148	24.06	1.071
9/6/05 22:30	23.09	0.203	1.203	23.81	0.647	1.147	24.06	1.071
9/6/05 22:45	23.09	0.202	1.202	23.82	0.646	1.146	24.06	1.070
9/6/05 23:00	23.11	0.201	1.201	23.82	0.645	1.145	24.07	1.069
9/6/05 23:15	23.11	0.201	1.201	23.81	0.645	1.145	24.06	1.069
9/6/05 23:30	23.12	0.200	1.200	23.81	0.644	1.144	24.07	1.068
9/6/05 23:45	23.12	0.200	1.200	23.82	0.644	1.144	24.07	1.068
9/7/05 0:00	23.12	0.200	1.199	23.82	0.643	1.143	24.07	1.067
9/7/05 0:15	23.13	0.199	1.199	23.82	0.643	1.142	24.07	1.067
9/7/05 0:30	23.13	0.199	1.199	23.82	0.643	1.142	24.07	1.066
9/7/05 0:45	23.14	0.198	1.198	23.82	0.642	1.141	24.07	1.066
9/7/05 1:00	23.14	0.198	1.198	23.82	0.642	1.141	24.07	1.065
9/7/05 1:15	23.14	0.197	1.197	23.82	0.641	1.141	24.07	1.065
9/7/05 1:30	23.16	0.197	1.196	23.81	0.640	1.140	24.07	1.064
9/7/05 1:45	23.16	0.196	1.195	23.82	0.639	1.139	24.07	1.064
9/7/05 2:00	23.17	0.195	1.195	23.83	0.639	1.139	24.08	1.063
9/7/05 2:15	23.17	0.195	1.195	23.82	0.639	1.139	24.07	1.062
9/7/05 2:30	23.17	0.194	1.194	23.82	0.638	1.138	24.07	1.062
9/7/05 2:45	23.18	0.195	1.195	23.82	0.639	1.139	24.08	1.061
9/7/05 3:00	23.18	0.193	1.193	23.83	0.637	1.137	24.08	1.061
9/7/05 3:15	23.18	0.192	1.192	23.82	0.636	1.136	24.08	1.060
9/7/05 3:30	23.19	0.192	1.191	23.82	0.635	1.135	24.08	1.060
9/7/05 3:45	23.19	0.191	1.190	23.82	0.634	1.134	24.08	1.059
9/7/05 4:00	23.19	0.190	1.190	23.82	0.634	1.134	24.08	1.059
9/7/05 4:15	23.21	0.190	1.190	23.83	0.633	1.133	24.08	1.059
9/7/05 4:30	23.21	0.189	1.189	23.83	0.632	1.132	24.08	1.057
9/7/05 4:45	23.21	0.188	1.188	23.82	0.632	1.132	24.08	1.057
9/7/05 5:00	23.22	0.188	1.188	23.82	0.631	1.131	24.08	1.056
9/7/05 5:15	23.22	0.187	1.187	23.82	0.631	1.131	24.08	1.056
9/7/05 5:30	23.22	0.187	1.187	23.82	0.632	1.131	24.08	1.056
9/7/05 5:45	23.23	0.188	1.188	23.83	0.632	1.132	24.08	1.055
9/7/05 6:00	23.23	0.191	1.191	23.83	0.634	1.134	24.08	1.055
9/7/05 6:15	23.23	0.199	1.198	23.85	0.642	1.142	24.08	1.054
9/7/05 6:30	23.23	0.208	1.208	23.86	0.651	1.151	24.08	1.054
9/7/05 6:45	23.24	0.217	1.217	23.86	0.661	1.161	24.08	1.055
9/7/05 7:00	23.24	0.226	1.226	23.87	0.669	1.169	24.08	1.055
9/7/05 7:15	23.24	0.235	1.234	23.87	0.678	1.177	24.08	1.056
9/7/05 7:30	23.24	0.243	1.243	23.88	0.686	1.186	24.08	1.056
9/7/05 7:45	23.24	0.253	1.253	23.88	0.696	1.196	24.07	1.058
9/7/05 8:00	23.24	0.257	1.256	23.88	0.700	1.200	24.06	1.059
9/7/05 8:15	23.24	0.257	1.257	23.88	0.701	1.201	24.08	1.060
9/7/05 8:30	23.24	0.258	1.257	23.88	0.701	1.201	24.07	1.061

	PZ-1	PZ-1	PZ-1	PZ-2	PZ-2	PZ-2	PZ-3	PZ-3
time stamp (MST)[a]	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	total head[c,d] (m)
9/7/05 8:45	23.24	0.261	1.261	23.88	0.704	1.204	24.08	1.062
9/7/05 9:00	23.24	0.263	1.263	23.88	0.707	1.207	24.07	1.064
9/7/05 9:15	23.24	0.265	1.265	23.88	0.709	1.209	24.07	1.065
9/7/05 9:30	23.24	0.267	1.266	23.88	0.710	1.210	24.07	1.066
9/7/05 9:45	23.26	0.268	1.267	23.88	0.711	1.211	24.07	1.067
9/7/05 10:00	23.24	0.269	1.268	23.88	0.712	1.212	24.07	1.069
9/7/05 10:15	23.24	0.271	1.270	23.88	0.714	1.213	24.07	1.070
9/7/05 10:30	23.24	0.271	1.271	23.88	0.714	1.214	24.07	1.071
9/7/05 10:45	23.24	0.272	1.272	23.88	0.716	1.216	24.07	1.072
9/7/05 11:00	23.24	0.273	1.273	23.88	0.716	1.216	24.07	1.074
9/7/05 11:15	23.24	0.272	1.272	23.88	0.716	1.216	24.07	1.075
9/7/05 11:30	23.24	0.272	1.272	23.88	0.716	1.216	24.07	1.076
9/7/05 11:45	23.24	0.270	1.270	23.88	0.714	1.213	24.07	1.077
9/7/05 12:00	23.24	0.268	1.268	23.88	0.712	1.212	24.06	1.078
9/7/05 12:15	23.24	0.266	1.266	23.88	0.709	1.209	24.06	1.079
new pressure transducer test		-	-	-	-	-	-	-
new pressure transducer test								
9/7/05 13:00	23.23	0.264	1.263	23.87	0.708	1.208	24.08	1.080
9/7/05 13:15	23.23	0.260	1.260	23.87	0.704	1.204	24.09	1.082
9/7/05 13:30	23.23	0.258	1.258	23.87	0.701	1.201	24.06	1.083
9/7/05 13:45	23.23	0.255	1.254	23.87	0.698	1.198	24.03	1.083
9/7/05 14:00	23.23	0.252	1.252	23.87	0.696	1.195	24.03	1.083
9/7/05 14:15	23.23	0.251	1.250	23.87	0.693	1.193	24.02	1.083
9/7/05 14:30	23.23	0.249	1.248	23.87	0.692	1.192	24.02	1.085
9/7/05 14:45	23.23	0.247	1.247	23.87	0.690	1.190	24.01	1.085
9/7/05 15:00	23.22	0.245	1.245	23.87	0.689	1.189	24.02	1.085
9/7/05 15:15	23.22	0.244	1.244	23.87	0.687	1.187	24.02	1.085
9/7/05 15:30	23.22	0.240	1.240	23.87	0.683	1.183	24.01	1.085
9/7/05 15:45	23.22	0.237	1.237	23.87	0.680	1.180	24.01	1.084
9/7/05 16:00	23.22	0.232	1.232	23.87	0.676	1.176	24.01	1.084
9/7/05 16:15	23.21	0.229	1.229	23.86	0.673	1.173	24.01	1.084
9/7/05 16:30	23.21	0.226	1.225	23.86	0.669	1.169	23.99	1.084
9/7/05 16:45	23.21	0.221	1.221	23.86	0.664	1.164	24.01	1.084
9/7/05 17:00	23.21	0.218	1.217	23.86	0.661	1.161	23.99	1.083
9/7/05 17:15	23.21	0.215	1.215	23.86	0.659	1.159	24.01	1.082
9/7/05 17:30	23.19	0.212	1.212	23.85	0.655	1.155	23.99	1.081
9/7/05 17:45	23.19	0.209	1.209	23.85	0.652	1.152	24.01	1.081
9/7/05 18:00	23.19	0.206	1.205	23.85	0.649	1.149	23.99	1.080
9/7/05 18:15	23.19	0.203	1.203	23.83	0.646	1.146	23.99	1.079
9/7/05 18:30	23.19	0.201	1.201	23.83	0.645	1.145	23.99	1.078
9/7/05 18:45	23.18	0.200	1.200	23.82	0.643	1.142	23.99	1.077
9/7/05 19:00	23.18	0.198	1.198	23.82	0.642	1.141	23.99	1.076
9/7/05 19:15	23.18	0.196	1.196	23.82	0.639	1.139	23.99	1.075
9/7/05 19:30	23.18	0.195	1.195	23.81	0.637	1.137	23.99	1.074
9/7/05 19:45	23.18	0.193	1.192	23.81	0.636	1.136	23.99	1.073
9/7/05 20:00	23.18	0.191	1.191	23.8	0.634	1.134	23.99	1.072
9/7/05 20:15	23.18	0.189	1.189	23.8	0.632	1.132	23.99	1.071
9/7/05 20:30	23.18	0.187	1.187	23.8	0.630	1.130	23.99	1.070
9/7/05 20:45	23.18	0.186	1.186	23.8	0.629	1.129	23.99	1.069
9/7/05 21:00	23.18	0.185	1.185	23.8	0.629	1.128	23.99	1.068
9/7/05 21:15	23.18	0.184	1.184	23.8	0.627	1.127	23.99	1.067
9/7/05 21:30	23.18	0.183	1.183	23.8	0.627	1.127	24.01	1.066
9/7/05 21:45	23.18	0.183	1.183	23.8	0.626	1.126	23.99	1.065
9/7/05 22:00	23.18	0.183	1.183	23.8	0.626	1.126	23.99	1.064
9/7/05 22:15	23.18	0.183	1.183	23.8	0.626	1.126	24.01	1.063
9/7/05 22:30	23.18	0.183	1.183	23.8	0.626	1.126	23.99	1.063
9/7/05 22:45	23.18	0.183	1.183	23.8	0.626	1.126	23.99	1.062
9/7/05 23:00	23.19	0.183	1.182	23.8	0.626	1.126	23.99	1.061
9/7/05 23:15	23.18	0.183	1.183	23.8	0.626	1.126	24.01	1.060
9/7/05 23:30	23.18	0.183	1.183	23.8	0.626	1.126	23.99	1.059
9/7/05 23:45	23.18	0.183	1.183	23.8	0.626	1.126	24.01	1.059
9/8/05 0:00	23.18	0.183	1.183	23.8	0.626	1.126	24.01	1.058
9/8/05 0:15	23.18	0.183	1.183	23.8	0.626	1.126	24.01	1.058
9/8/05 0:30	23.19	0.183	1.182	23.8	0.626	1.126	23.99	1.057
9/8/05 0:45	23.19	0.183	1.182	23.8	0.625	1.125	24.01	1.056
9/8/05 1:00	23.19	0.182	1.182	23.8	0.625	1.125	24.01	1.056
9/8/05 1:15	23.19	0.184	1.184	23.8	0.627	1.127	24.01	1.056
9/8/05 1:30	23.19	0.186	1.186	23.8	0.629	1.129	23.99	1.055
9/8/05 1:45	23.19	0.187	1.187	23.8	0.630	1.130	24.01	1.055
9/8/05 2:00	23.19	0.185	1.185	23.8	0.629	1.128	24.01	1.054
9/8/05 2:15	23.19	0.184	1.184	23.8	0.627	1.127	23.99	1.054
9/8/05 2:30	23.19	0.184	1.184	23.8	0.627	1.127	24.01	1.053

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/8/05 2:45	23.19	0.184	1.184	23.8	0.626	1.126	23.99	1.053
9/8/05 3:00	23.19	0.184	1.184	23.8	0.627	1.127	24.01	1.052
9/8/05 3:15	23.19	0.191	1.191	23.8	0.635	1.135	23.99	1.052
9/8/05 3:30	23.19	0.185	1.185	23.8	0.628	1.128	23.99	1.052
9/8/05 3:45	23.19	0.184	1.184	23.8	0.627	1.127	23.99	1.052
9/8/05 4:00	23.19	0.184	1.184	23.8	0.627	1.127	23.99	1.052
9/8/05 4:15	23.19	0.185	1.184	23.8	0.627	1.127	23.99	1.052
9/8/05 4:30	23.19	0.185	1.184	23.8	0.628	1.128	23.99	1.051
9/8/05 4:45	23.19	0.185	1.184	23.8	0.629	1.128	23.99	1.051
9/8/05 5:00	23.19	0.186	1.186	23.78	0.629	1.128	23.99	1.051
9/8/05 5:15	23.19	0.186	1.186	23.8	0.629	1.129	23.99	1.051
9/8/05 5:30	23.19	0.188	1.188	23.8	0.631	1.131	23.99	1.051
9/8/05 5:45	23.19	0.188	1.188	23.8	0.632	1.131	23.99	1.051
9/8/05 6:00	23.19	0.190	1.189	23.8	0.632	1.132	23.99	1.051
9/8/05 6:15	23.19	0.190	1.190	23.8	0.633	1.133	23.99	1.051
9/8/05 6:30	23.19	0.191	1.191	23.8	0.634	1.134	23.99	1.051
9/8/05 6:45	23.19	0.192	1.191	23.8	0.634	1.134	23.99	1.051
9/8/05 7:00	23.19	0.193	1.192	23.8	0.636	1.135	23.99	1.051
9/8/05 7:15	23.19	0.194	1.193	23.8	0.637	1.137	23.99	1.051
9/8/05 7:30	23.19	0.201	1.200	23.81	0.644	1.144	23.99	1.051
9/8/05 7:45	23.19	0.209	1.209	23.82	0.653	1.152	23.99	1.051
9/8/05 8:00	23.19	0.215	1.215	23.82	0.659	1.159	23.99	1.051
9/8/05 8:15	23.19	0.223	1.222	23.83	0.666	1.166	23.98	1.052
9/8/05 8:30	23.19	0.229	1.229	23.83	0.673	1.173	23.99	1.052
9/8/05 8:45	23.19	0.240	1.240	23.85	0.684	1.184	23.98	1.053
9/8/05 9:00	23.18	0.247	1.246	23.85	0.691	1.191	23.98	1.054
9/8/05 9:15	23.18	0.257	1.257	23.85	0.701	1.201	23.98	1.055
9/8/05 9:30	23.18	0.267	1.266	23.85	0.711	1.211	23.98	1.057
9/8/05 9:45	23.18	0.268	1.268	23.85	0.713	1.213	23.98	1.057
9/8/05 10:00	23.18	0.269	1.269	23.85	0.712	1.212	23.98	1.058
9/8/05 10:15	23.18	0.271	1.270	23.85	0.715	1.215	23.98	1.060
9/8/05 10:30	23.17	0.270	1.270	23.85	0.715	1.215	23.97	1.061
9/8/05 10:45	23.17	0.264	1.264	23.83	0.708	1.208	23.97	1.063
9/8/05 11:00	23.17	0.260	1.260	23.85	0.704	1.204	23.97	1.064
9/8/05 11:15	23.17	0.258	1.258	23.85	0.703	1.203	23.97	1.065
9/8/05 11:30	23.16	0.257	1.257	23.83	0.700	1.200	23.97	1.066
9/8/05 11:45	23.16	0.254	1.254	23.85	0.698	1.198	23.97	1.067
9/8/05 12:00	23.16	0.252	1.252	23.83	0.696	1.195	23.97	1.066
9/8/05 12:15	23.16	0.248	1.248	23.83	0.692	1.192	23.97	1.068
9/8/05 12:30	23.14	0.245	1.245	23.83	0.688	1.188	23.95	1.069
9/8/05 12:45	23.14	0.241	1.241	23.83	0.686	1.185	23.95	1.069
9/8/05 13:00	23.14	0.239	1.238	23.83	0.682	1.181	23.95	1.069
9/8/05 13:15	23.14	0.235	1.235	23.83	0.679	1.179	23.95	1.069
9/8/05 13:30	23.13	0.231	1.230	23.83	0.675	1.175	23.95	1.069
9/8/05 13:45	23.13	0.229	1.229	23.83	0.672	1.172	23.95	1.069
9/8/05 14:00	23.13	0.225	1.224	23.82	0.668	1.168	23.95	1.068
9/8/05 14:15	23.12	0.221	1.221	23.82	0.665	1.165	23.94	1.069
9/8/05 14:30	23.12	0.218	1.218	23.82	0.661	1.161	23.94	1.068
9/8/05 14:45	23.12	0.214	1.214	23.81	0.657	1.157	23.94	1.069
9/8/05 15:00	23.11	0.211	1.210	23.81	0.656	1.156	23.94	1.067
9/8/05 15:15	23.11	0.208	1.208	23.8	0.652	1.152	23.94	1.067
9/8/05 15:30	23.09	0.205	1.205	23.8	0.649	1.149	23.94	1.067
9/8/05 15:45	23.09	0.201	1.201	23.78	0.646	1.146	23.94	1.066
9/8/05 16:00	23.08	0.199	1.199	23.77	0.643	1.142	23.94	1.066
9/8/05 16:15	23.08	0.196	1.196	23.76	0.640	1.140	23.94	1.065
9/8/05 16:30	23.08	0.194	1.194	23.76	0.638	1.138	23.94	1.065
9/8/05 16:45	23.08	0.192	1.192	23.76	0.636	1.136	23.94	1.063
9/8/05 17:00	23.07	0.191	1.190	23.75	0.634	1.134	23.94	1.063
9/8/05 17:15	23.07	0.188	1.188	23.75	0.632	1.131	23.94	1.062
9/8/05 17:30	23.07	0.187	1.187	23.75	0.630	1.130	23.93	1.061
9/8/05 17:45	23.07	0.185	1.184	23.73	0.629	1.128	23.93	1.061
9/8/05 18:00	23.06	0.183	1.183	23.73	0.627	1.127	23.93	1.059
9/8/05 18:15	23.06	0.181	1.181	23.73	0.624	1.124	23.93	1.059
9/8/05 18:30	23.06	0.180	1.180	23.73	0.623	1.123	23.93	1.058
9/8/05 18:45	23.06	0.179	1.178	23.73	0.621	1.121	23.93	1.057
9/8/05 19:00	23.06	0.176	1.176	23.73	0.620	1.120	23.93	1.056
9/8/05 19:15	23.06	0.176	1.175	23.73	0.619	1.119	23.93	1.056
9/8/05 19:30	23.06	0.174	1.174	23.73	0.618	1.118	23.93	1.055
9/8/05 19:45	23.04	0.174	1.174	23.73	0.617	1.117	23.92	1.054
9/8/05 20:00	23.04	0.173	1.173	23.73	0.616	1.116	23.93	1.052
9/8/05 20:15	23.06	0.173	1.173	23.75	0.616	1.116	23.93	1.052
9/8/05 20:30	23.06	0.173	1.173	23.75	0.617	1.116	23.93	1.051

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/8/05 20:45	23.06	0.173	1.173	23.75	0.616	1.116	23.93	1.050
9/8/05 21:00	23.04	0.173	1.173	23.73	0.616	1.116	23.93	1.049
9/8/05 21:15	23.06	0.172	1.172	23.73	0.616	1.116	23.93	1.049
9/8/05 21:30	23.06	0.173	1.173	23.73	0.616	1.116	23.93	1.049
9/8/05 21:45	23.06	0.173	1.173	23.73	0.616	1.116	23.93	1.047
9/8/05 22:00	23.06	0.172	1.172	23.73	0.616	1.116	23.93	1.046
9/8/05 22:15	23.06	0.172	1.172	23.73	0.615	1.115	23.93	1.046
9/8/05 22:30	23.06	0.172	1.172	23.73	0.615	1.115	23.93	1.045
9/8/05 22:45	23.06	0.171	1.171	23.73	0.614	1.114	23.93	1.045
9/8/05 23:00	23.06	0.171	1.171	23.73	0.614	1.114	23.93	1.044
9/8/05 23:15	23.06	0.171	1.171	23.73	0.615	1.115	23.93	1.044
9/8/05 23:30	23.06	0.171	1.170	23.73	0.614	1.114	23.93	1.043
9/8/05 23:45	23.06	0.170	1.170	23.73	0.614	1.113	23.93	1.042
9/9/05 0:00	23.06	0.170	1.170	23.73	0.613	1.113	23.93	1.042
9/9/05 0:15	23.06	0.170	1.170	23.73	0.613	1.113	23.93	1.041
9/9/05 0:30	23.06	0.169	1.169	23.73	0.613	1.113	23.93	1.041
9/9/05 0:45	23.06	0.169	1.168	23.73	0.612	1.112	23.93	1.040
9/9/05 1:00	23.06	0.168	1.168	23.73	0.611	1.111	23.93	1.040
9/9/05 1:15	23.06	0.168	1.168	23.73	0.611	1.111	23.93	1.039
9/9/05 1:30	23.06	0.168	1.168	23.73	0.611	1.111	23.93	1.039
9/9/05 1:45	23.07	0.168	1.167	23.73	0.611	1.110	23.93	1.039
9/9/05 2:00	23.06	0.167	1.167	23.73	0.611	1.110	23.93	1.038
9/9/05 2:15	23.06	0.168	1.167	23.73	0.611	1.110	23.93	1.038
9/9/05 2:30	23.06	0.168	1.167	23.73	0.611	1.111	23.93	1.037
9/9/05 2:45	23.06	0.167	1.166	23.72	0.610	1.109	23.93	1.037
9/9/05 3:00	23.06	0.166	1.165	23.73	0.609	1.109	23.92	1.036
9/9/05 3:15	23.06	0.165	1.165	23.72	0.608	1.108	23.92	1.036
9/9/05 3:30	23.06	0.165	1.164	23.72	0.607	1.107	23.92	1.036
9/9/05 3:45	23.06	0.164	1.164	23.72	0.607	1.107	23.92	1.035
9/9/05 4:00	23.06	0.163	1.163	23.72	0.606	1.106	23.93	1.035
9/9/05 4:15	23.06	0.162	1.162	23.72	0.606	1.106	23.92	1.034
9/9/05 4:30	23.06	0.162	1.162	23.72	0.605	1.105	23.92	1.034
9/9/05 4:45	23.06	0.161	1.161	23.72	0.605	1.105	23.92	1.033
9/9/05 5:00	23.06	0.161	1.161	23.72	0.604	1.104	23.92	1.033
9/9/05 5:15	23.06	0.160	1.160	23.72	0.603	1.103	23.92	1.032
9/9/05 5:30	23.06	0.160	1.159	23.72	0.603	1.103	23.93	1.032
9/9/05 5:45	23.06	0.159	1.159	23.72	0.603	1.102	23.92	1.032
9/9/05 6:00	23.06	0.159	1.159	23.72	0.602	1.102	23.92	1.031
9/9/05 6:15	23.04	0.159	1.159	23.72	0.602	1.102	23.92	1.031
9/9/05 6:30	23.04	0.158	1.158	23.72	0.602	1.102	23.92	1.030
9/9/05 6:45	23.04	0.158	1.158	23.72	0.602	1.102	23.92	1.030
9/9/05 7:00	23.04	0.159	1.159	23.72	0.602	1.102	23.92	1.030
9/9/05 7:15	23.04	0.159	1.159	23.72	0.602	1.102	23.92	1.029
9/9/05 7:30	23.04	0.159	1.159	23.72	0.603	1.102	23.92	1.029
9/9/05 7:45	23.03	0.161	1.160	23.72	0.604	1.104	23.92	1.028
9/9/05 8:00	23.03	0.162	1.162	23.72	0.605	1.105	23.92	1.027
9/9/05 8:15	23.03	0.165	1.164	23.72	0.607	1.107	23.92	1.027
9/9/05 8:30	23.03	0.169	1.169	23.72	0.612	1.112	23.92	1.027
9/9/05 8:45	23.02	0.171	1.171	23.72	0.614	1.114	23.92	1.027
9/9/05 9:00	23.02	0.171	1.170	23.72	0.614	1.114	23.92	1.027
9/9/05 9:15	23.01	0.173	1.173	23.72	0.616	1.116	23.9	1.028
9/9/05 9:30	23.01	0.175	1.175	23.73	0.618	1.118	23.9	1.028
9/9/05 9:45	23.01	0.176	1.176	23.73	0.619	1.119	23.9	1.028
9/9/05 10:00	23.01	0.178	1.178	23.73	0.621	1.121	23.9	1.027
9/9/05 10:15	22.99	0.181	1.181	23.73	0.624	1.124	23.9	1.028
9/9/05 10:30	22.99	0.182	1.181	23.73	0.624	1.124	23.9	1.026
9/9/05 10:45	22.98	0.186	1.186	23.73	0.629	1.129	23.9	1.028
9/9/05 11:00	22.98	0.188	1.188	23.73	0.631	1.131	23.89	1.028
9/9/05 11:15	22.97	0.190	1.190	23.75	0.633	1.133	23.89	1.028
9/9/05 11:30	22.97	0.191	1.190	23.75	0.634	1.134	23.89	1.027
9/9/05 11:45	22.96	0.191	1.191	23.73	0.634	1.134	23.89	1.029
9/9/05 12:00	22.96	0.192	1.192	23.75	0.635	1.135	23.89	1.029
9/9/05 12:15	22.94	0.192	1.192	23.75	0.636	1.136	23.89	1.029
9/9/05 12:30	22.94	0.193	1.193	23.73	0.638	1.138	23.88	1.029
9/9/05 12:45	22.93	0.195	1.195	23.73	0.638	1.138	23.89	1.029
9/9/05 13:00	22.92	0.195	1.195	23.73	0.639	1.138	23.88	1.030
9/9/05 13:15	22.9	0.194	1.194	23.73	0.638	1.138	23.88	1.030
9/9/05 13:30	22.9	0.194	1.194	23.73	0.638	1.138	23.88	1.030
9/9/05 13:45	22.89	0.194	1.194	23.73	0.638	1.138	23.88	1.030
9/9/05 14:00	22.89	0.193	1.193	23.73	0.638	1.138	23.88	1.031
9/9/05 14:15	22.88	0.194	1.194	23.72	0.638	1.138	23.87	1.030
9/9/05 14:30	22.87	0.193	1.193	23.72	0.636	1.136	23.87	1.029

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/9/05 14:45	22.87	0.192	1.191	23.72	0.636	1.136	23.87	1.031
9/9/05 15:00	22.85	0.191	1.191	23.72	0.636	1.135	23.87	1.031
9/9/05 15:15	22.84	0.191	1.191	23.71	0.635	1.134	23.87	1.031
9/9/05 15:30	22.84	0.191	1.190	23.71	0.635	1.135	23.85	1.031
9/9/05 15:45	22.83	0.190	1.190	23.71	0.634	1.134	23.85	1.031
9/9/05 16:00	22.82	0.190	1.190	23.7	0.635	1.134	23.85	1.030
9/9/05 16:15	22.82	0.190	1.189	23.7	0.634	1.134	23.85	1.031
9/9/05 16:30	22.8	0.189	1.188	23.68	0.633	1.133	23.85	1.030
9/9/05 16:45	22.8	0.189	1.188	23.68	0.633	1.133	23.84	1.031
9/9/05 17:00	22.79	0.189	1.188	23.68	0.632	1.131	23.84	1.031
9/9/05 17:15	22.79	0.188	1.188	23.67	0.632	1.132	23.84	1.031
9/9/05 17:30	22.78	0.187	1.187	23.67	0.631	1.131	23.84	1.031
9/9/05 17:45	22.78	0.188	1.188	23.67	0.632	1.131	23.84	1.031
9/9/05 18:00	22.77	0.188	1.188	23.66	0.632	1.132	23.83	1.031
9/9/05 18:15	22.75	0.188	1.188	23.66	0.631	1.131	23.83	1.030
9/9/05 18:30	22.75	0.187	1.187	23.66	0.631	1.131	23.83	1.031
9/9/05 18:45	22.74	0.188	1.188	23.65	0.631	1.131	23.83	1.031
9/9/05 19:00	22.74	0.188	1.188	23.65	0.631	1.131	23.83	1.031
9/9/05 19:15	22.73	0.188	1.188	23.65	0.631	1.131	23.83	1.031
9/9/05 19:30	22.73	0.188	1.188	23.65	0.632	1.132	23.83	1.031
9/9/05 19:45	22.73	0.189	1.189	23.65	0.632	1.132	23.82	1.031
9/9/05 20:00	22.73	0.189	1.189	23.63	0.633	1.133	23.82	1.031
9/9/05 20:15	22.72	0.190	1.190	23.63	0.633	1.133	23.82	1.031
9/9/05 20:30	22.72	0.190	1.190	23.63	0.634	1.134	23.82	1.031
9/9/05 20:45	22.72	0.190	1.190	23.62	0.634	1.134	23.82	1.031
9/9/05 21:00	22.7	0.190	1.190	23.62	0.634	1.134	23.8	1.031
9/9/05 21:15	22.7	0.193	1.193	23.62	0.636	1.136	23.8	1.031
9/9/05 21:30	22.7	0.196	1.195	23.63	0.639	1.139	23.8	1.031
9/9/05 21:45	22.7	0.195	1.195	23.62	0.637	1.137	23.8	1.031
9/9/05 22:00	22.7	0.195	1.195	23.62	0.638	1.138	23.8	1.031
9/9/05 22:15	22.7	0.193	1.193	23.62	0.637	1.137	23.8	1.031
9/9/05 22:30	22.7	0.194	1.194	23.62	0.637	1.137	23.8	1.031
9/9/05 22:45	22.69	0.194	1.194	23.62	0.638	1.138	23.8	1.032
9/9/05 23:00	22.69	0.195	1.195	23.62	0.639	1.138	23.8	1.032
9/9/05 23:15	22.69	0.196	1.196	23.61	0.640	1.140	23.8	1.032
9/9/05 23:30	22.69	0.197	1.196	23.61	0.640	1.140	23.8	1.032
9/9/05 23:45	22.69	0.198	1.198	23.61	0.641	1.141	23.8	1.032
9/10/05 0:00	22.69	0.199	1.199	23.62	0.642	1.142	23.79	1.032
9/10/05 0:15	22.69	0.198	1.198	23.61	0.642	1.142	23.79	1.033
9/10/05 0:30	22.69	0.203	1.203	23.62	0.647	1.147	23.79	1.033
9/10/05 0:45	22.69	0.217	1.217	23.63	0.661	1.161	23.79	1.033
9/10/05 1:00	22.69	0.212	1.212	23.63	0.657	1.156	23.79	1.034
9/10/05 1:15	22.69	0.215	1.215	23.63	0.658	1.158	23.79	1.034
9/10/05 1:30	22.69	0.220	1.220	23.65	0.664	1.163	23.79	1.035
9/10/05 1:45	22.69	0.228	1.228	23.66	0.673	1.173	23.79	1.035
9/10/05 2:00	22.69	0.227	1.227	23.66	0.671	1.171	23.79	1.036
9/10/05 2:15	22.69	0.225	1.225	23.66	0.669	1.169	23.78	1.036
9/10/05 2:30	22.69	0.225	1.225	23.66	0.669	1.169	23.78	1.037
9/10/05 2:45	22.69	0.226	1.226	23.66	0.670	1.170	23.78	1.038
9/10/05 3:00	22.69	0.226	1.226	23.66	0.670	1.170	23.78	1.038
9/10/05 3:15	22.68	0.224	1.223	23.66	0.667	1.167	23.78	1.039
9/10/05 3:30	22.68	0.224	1.223	23.65	0.668	1.168	23.78	1.039
9/10/05 3:45	22.68	0.221	1.220	23.65	0.664	1.164	23.78	1.040
9/10/05 4:00	22.68	0.219	1.218	23.63	0.662	1.162	23.77	1.040
9/10/05 4:15	22.68	0.218	1.218	23.63	0.662	1.162	23.77	1.041
9/10/05 4:30	22.68	0.218	1.218	23.62	0.662	1.162	23.77	1.042
9/10/05 4:45	22.68	0.229	1.229	23.63	0.673	1.173	23.77	1.042
9/10/05 5:00	22.68	0.234	1.234	23.65	0.678	1.178	23.77	1.042
9/10/05 5:15	22.68	0.231	1.231	23.65	0.675	1.175	23.77	1.043
9/10/05 5:30	22.68	0.225	1.225	23.63	0.670	1.170	23.75	1.044
9/10/05 5:45	22.68	0.223	1.223	23.62	0.667	1.166	23.77	1.044
9/10/05 6:00	22.68	0.221	1.221	23.62	0.664	1.164	23.75	1.044
9/10/05 6:15	22.68	0.221	1.220	23.61	0.664	1.164	23.75	1.045
9/10/05 6:30	22.67	0.220	1.220	23.61	0.664	1.163	23.75	1.045
9/10/05 6:45	22.67	0.220	1.220	23.6	0.664	1.163	23.75	1.045
9/10/05 7:00	22.67	0.222	1.222	23.6	0.665	1.165	23.75	1.045
9/10/05 7:15	22.67	0.220	1.220	23.6	0.664	1.164	23.75	1.045
9/10/05 7:30	22.67	0.221	1.220	23.58	0.664	1.164	23.75	1.046
9/10/05 7:45	22.67	0.220	1.220	23.58	0.664	1.164	23.75	1.047
9/10/05 8:00	22.67	0.221	1.220	23.58	0.664	1.164	23.75	1.047
9/10/05 8:15	22.65	0.222	1.222	23.58	0.665	1.165	23.74	1.047
9/10/05 8:30	22.65	0.221	1.221	23.58	0.664	1.164	23.75	1.048

	PZ-1	PZ-1	PZ-1	PZ-2	PZ-2	PZ-2	PZ-3	PZ-3
time stamp (MST)[a]	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	total head[c,d] (m)
9/10/05 8:45	22.65	0.221	1.221	23.57	0.664	1.164	23.74	1.048
9/10/05 9:00	22.65	0.220	1.220	23.57	0.663	1.163	23.74	1.048
9/10/05 9:15	22.65	0.220	1.220	23.56	0.664	1.163	23.74	1.049
9/10/05 9:30	22.65	0.219	1.219	23.56	0.664	1.163	23.74	1.049
9/10/05 9:45	22.65	0.219	1.219	23.56	0.663	1.163	23.74	1.049
9/10/05 10:00	22.65	0.219	1.219	23.55	0.662	1.162	23.74	1.049
9/10/05 10:15	22.64	0.218	1.218	23.55	0.662	1.162	23.73	1.049
9/10/05 10:30	22.64	0.218	1.218	23.55	0.662	1.162	23.73	1.049
9/10/05 10:45	22.64	0.218	1.218	23.53	0.661	1.161	23.73	1.049
9/10/05 11:00	22.64	0.218	1.218	23.53	0.661	1.161	23.74	1.049
9/10/05 11:15	22.64	0.218	1.218	23.52	0.661	1.161	23.74	1.050
9/10/05 11:30	22.64	0.218	1.218	23.52	0.662	1.162	23.73	1.049
9/10/05 11:45	22.63	0.219	1.218	23.52	0.662	1.162	23.73	1.050
9/10/05 12:00	22.63	0.219	1.219	23.52	0.663	1.163	23.73	1.050
9/10/05 12:15	22.63	0.220	1.220	23.51	0.664	1.164	23.73	1.049
9/10/05 12:30	22.63	0.221	1.220	23.52	0.665	1.165	23.73	1.050
9/10/05 12:45	22.63	0.221	1.220	23.51	0.665	1.165	23.73	1.050
9/10/05 13:00	22.62	0.221	1.221	23.51	0.665	1.165	23.72	1.050
9/10/05 13:15	22.62	0.221	1.220	23.5	0.666	1.166	23.72	1.050
9/10/05 13:30	22.62	0.222	1.221	23.5	0.666	1.166	23.72	1.050
9/10/05 13:45	22.62	0.222	1.222	23.5	0.667	1.166	23.72	1.051
9/10/05 14:00	22.6	0.223	1.222	23.5	0.667	1.166	23.72	1.051
9/10/05 14:15	22.6	0.223	1.223	23.5	0.668	1.167	23.72	1.051
9/10/05 14:30	22.6	0.224	1.224	23.5	0.669	1.169	23.72	1.051
9/10/05 14:45	22.59	0.225	1.225	23.5	0.669	1.169	23.72	1.052
9/10/05 15:00	22.6	0.226	1.225	23.48	0.669	1.169	23.7	1.052
9/10/05 15:15	22.59	0.226	1.226	23.48	0.670	1.170	23.7	1.052
9/10/05 15:30	22.59	0.227	1.227	23.48	0.671	1.171	23.72	1.052
9/10/05 15:45	22.59	0.228	1.228	23.48	0.672	1.172	23.7	1.052
9/10/05 16:00	22.59	0.229	1.228	23.48	0.672	1.172	23.7	1.052
9/10/05 16:15	22.58	0.233	1.232	23.5	0.677	1.177	23.7	1.052
9/10/05 16:30	22.58	0.233	1.233	23.5	0.678	1.177	23.7	1.054
9/10/05 16:45	22.58	0.236	1.235	23.5	0.679	1.179	23.7	1.054
9/10/05 17:00	22.58	0.236	1.235	23.5	0.680	1.180	23.7	1.054
9/10/05 17:15	22.58	0.235	1.234	23.48	0.678	1.178	23.69	1.054
9/10/05 17:30	22.58	0.235	1.235	23.48	0.679	1.179	23.69	1.055
9/10/05 17:45	22.57	0.235	1.235	23.48	0.679	1.179	23.69	1.055
9/10/05 18:00	22.57	0.236	1.236	23.48	0.680	1.180	23.69	1.056
9/10/05 18:15	22.57	0.236	1.236	23.48	0.680	1.180	23.69	1.056
9/10/05 18:30	22.57	0.237	1.237	23.48	0.681	1.181	23.68	1.057
9/10/05 18:45	22.57	0.238	1.238	23.48	0.682	1.182	23.69	1.057
9/10/05 19:00	22.57	0.239	1.239	23.48	0.682	1.182	23.68	1.057
9/10/05 19:15	22.57	0.240	1.240	23.48	0.684	1.184	23.68	1.058
9/10/05 19:30	22.57	0.241	1.241	23.48	0.685	1.185	23.68	1.059
9/10/05 19:45	22.57	0.242	1.242	23.48	0.686	1.186	23.68	1.059
9/10/05 20:00	22.57	0.243	1.243	23.48	0.687	1.187	23.68	1.060
9/10/05 20:15	22.57	0.245	1.245	23.48	0.689	1.188	23.68	1.060
9/10/05 20:30	22.57	0.245	1.245	23.48	0.689	1.189	23.68	1.061
9/10/05 20:45	22.57	0.247	1.247	23.48	0.690	1.190	23.67	1.062
9/10/05 21:00	22.57	0.252	1.252	23.48	0.695	1.195	23.67	1.063
9/10/05 21:15	22.57	0.251	1.251	23.5	0.695	1.195	23.67	1.063
9/10/05 21:30	22.58	0.251	1.251	23.48	0.694	1.194	23.67	1.064
9/10/05 21:45	22.57	0.251	1.251	23.48	0.694	1.194	23.67	1.065
9/10/05 22:00	22.58	0.252	1.252	23.48	0.696	1.196	23.67	1.066
9/10/05 22:15	22.58	0.254	1.253	23.48	0.697	1.197	23.67	1.067
9/10/05 22:30	22.58	0.255	1.254	23.48	0.699	1.199	23.67	1.067
9/10/05 22:45	22.58	0.256	1.256	23.48	0.700	1.199	23.67	1.068
9/10/05 23:00	22.58	0.257	1.257	23.48	0.701	1.201	23.67	1.069
9/10/05 23:15	22.58	0.258	1.258	23.5	0.702	1.202	23.67	1.070
9/10/05 23:30	22.58	0.260	1.260	23.5	0.704	1.204	23.67	1.071
9/10/05 23:45	22.59	0.261	1.260	23.5	0.704	1.204	23.67	1.072
9/11/05 0:00	22.59	0.262	1.262	23.5	0.705	1.205	23.67	1.073
9/11/05 0:15	22.59	0.264	1.264	23.5	0.707	1.207	23.67	1.073
9/11/05 0:30	22.59	0.264	1.264	23.5	0.708	1.208	23.65	1.074
9/11/05 0:45	22.6	0.265	1.265	23.5	0.709	1.209	23.65	1.075
9/11/05 1:00	22.6	0.266	1.266	23.51	0.710	1.210	23.65	1.077
9/11/05 1:15	22.6	0.267	1.267	23.5	0.711	1.211	23.67	1.077
9/11/05 1:30	22.6	0.269	1.268	23.51	0.712	1.212	23.67	1.078
9/11/05 1:45	22.62	0.270	1.270	23.51	0.713	1.213	23.65	1.079
9/11/05 2:00	22.62	0.271	1.271	23.51	0.715	1.215	23.65	1.081
9/11/05 2:15	22.62	0.272	1.272	23.51	0.715	1.215	23.65	1.081
9/11/05 2:30	22.63	0.274	1.274	23.51	0.717	1.217	23.65	1.082

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/11/05 2:45	22.63	0.273	1.273	23.51	0.717	1.217	23.67	1.083
9/11/05 3:00	22.63	0.275	1.275	23.51	0.718	1.218	23.65	1.085
9/11/05 3:15	22.63	0.276	1.276	23.51	0.719	1.219	23.65	1.086
9/11/05 3:30	22.64	0.278	1.277	23.51	0.721	1.221	23.65	1.087
9/11/05 3:45	22.64	0.279	1.279	23.51	0.723	1.223	23.65	1.088
9/11/05 4:00	22.64	0.280	1.280	23.51	0.723	1.223	23.65	1.089
9/11/05 4:15	22.64	0.281	1.280	23.52	0.724	1.223	23.65	1.090
9/11/05 4:30	22.64	0.282	1.281	23.51	0.725	1.225	23.65	1.091
9/11/05 4:45	22.65	0.283	1.282	23.51	0.726	1.226	23.65	1.092
9/11/05 5:00	22.65	0.284	1.284	23.51	0.727	1.227	23.65	1.093
9/11/05 5:15	22.65	0.285	1.285	23.51	0.728	1.228	23.65	1.094
9/11/05 5:30	22.65	0.286	1.286	23.51	0.729	1.229	23.65	1.095
9/11/05 5:45	22.67	0.287	1.287	23.52	0.730	1.230	23.64	1.096
9/11/05 6:00	22.67	0.288	1.288	23.52	0.732	1.232	23.65	1.097
9/11/05 6:15	22.67	0.289	1.289	23.52	0.732	1.232	23.64	1.098
9/11/05 6:30	22.67	0.290	1.290	23.52	0.734	1.234	23.64	1.099
9/11/05 6:45	22.67	0.291	1.291	23.51	0.734	1.234	23.65	1.101
9/11/05 7:00	22.68	0.293	1.293	23.52	0.736	1.236	23.64	1.101
9/11/05 7:15	22.68	0.294	1.293	23.52	0.736	1.236	23.64	1.102
9/11/05 7:30	22.68	0.295	1.295	23.52	0.739	1.238	23.64	1.104
9/11/05 7:45	22.68	0.297	1.296	23.52	0.739	1.239	23.64	1.105
9/11/05 8:00	22.68	0.297	1.296	23.51	0.740	1.240	23.64	1.106
9/11/05 8:15	22.68	0.298	1.298	23.52	0.741	1.241	23.64	1.107
9/11/05 8:30	22.68	0.300	1.299	23.52	0.743	1.243	23.64	1.108
9/11/05 8:45	22.68	0.300	1.300	23.52	0.743	1.243	23.64	1.109
9/11/05 9:00	22.69	0.301	1.300	23.52	0.745	1.245	23.64	1.110
9/11/05 9:15	22.69	0.302	1.302	23.52	0.745	1.245	23.64	1.111
9/11/05 9:30	22.69	0.303	1.302	23.52	0.746	1.246	23.64	1.112
9/11/05 9:45	22.69	0.304	1.304	23.52	0.747	1.247	23.64	1.114
9/11/05 10:00	22.69	0.305	1.305	23.52	0.749	1.248	23.63	1.114
9/11/05 10:15	22.69	0.306	1.306	23.51	0.750	1.249	23.63	1.116
9/11/05 10:30	22.69	0.307	1.307	23.51	0.750	1.250	23.63	1.116
9/11/05 10:45	22.69	0.308	1.308	23.51	0.752	1.252	23.63	1.117
9/11/05 11:00	22.68	0.309	1.309	23.51	0.753	1.253	23.63	1.118
9/11/05 11:15	22.68	0.310	1.310	23.51	0.754	1.254	23.63	1.119
9/11/05 11:30	22.68	0.311	1.311	23.51	0.754	1.254	23.63	1.120
9/11/05 11:45	22.68	0.311	1.311	23.51	0.755	1.255	23.63	1.121
9/11/05 12:00	22.68	0.311	1.311	23.51	0.756	1.256	23.63	1.121
9/11/05 12:15	22.68	0.313	1.313	23.51	0.757	1.256	23.63	1.123
9/11/05 12:30	22.68	0.314	1.314	23.5	0.758	1.258	23.61	1.124
9/11/05 12:45	22.68	0.315	1.314	23.5	0.758	1.258	23.61	1.125
9/11/05 13:00	22.68	0.316	1.316	23.51	0.760	1.259	23.61	1.126
9/11/05 13:15	22.68	0.316	1.316	23.5	0.760	1.260	23.61	1.126
9/11/05 13:30	22.68	0.318	1.317	23.5	0.762	1.262	23.61	1.126
9/11/05 13:45	22.67	0.317	1.317	23.5	0.763	1.262	23.61	1.128
9/11/05 14:00	22.67	0.320	1.320	23.5	0.764	1.264	23.6	1.129
9/11/05 14:15	22.67	0.319	1.319	23.5	0.764	1.264	23.6	1.130
9/11/05 14:30	22.67	0.321	1.321	23.5	0.764	1.264	23.6	1.129
9/11/05 14:45	22.67	0.321	1.321	23.5	0.766	1.266	23.6	1.130
9/11/05 15:00	22.67	0.321	1.321	23.5	0.766	1.266	23.6	1.131
9/11/05 15:15	22.65	0.323	1.323	23.5	0.766	1.266	23.6	1.133
9/11/05 15:30	22.65	0.323	1.323	23.5	0.767	1.266	23.6	1.135
9/11/05 15:45	22.65	0.325	1.325	23.5	0.769	1.269	23.59	1.135
9/11/05 16:00	22.65	0.326	1.325	23.5	0.769	1.269	23.59	1.136
9/11/05 16:15	22.65	0.327	1.327	23.5	0.771	1.270	23.59	1.136
9/11/05 16:30	22.65	0.329	1.329	23.5	0.773	1.273	23.59	1.138
9/11/05 16:45	22.65	0.329	1.329	23.5	0.773	1.273	23.59	1.138
9/11/05 17:00	22.64	0.329	1.329	23.5	0.773	1.273	23.59	1.139
9/11/05 17:15	22.64	0.331	1.331	23.5	0.774	1.274	23.58	1.141
9/11/05 17:30	22.64	0.331	1.331	23.5	0.775	1.274	23.59	1.141
9/11/05 17:45	22.64	0.333	1.332	23.48	0.776	1.276	23.58	1.142
9/11/05 18:00	22.64	0.333	1.333	23.5	0.777	1.277	23.58	1.143
9/11/05 18:15	22.64	0.335	1.334	23.5	0.778	1.278	23.58	1.144
9/11/05 18:30	22.64	0.336	1.335	23.48	0.779	1.279	23.56	1.145
9/11/05 18:45	22.63	0.337	1.337	23.48	0.780	1.280	23.58	1.146
9/11/05 19:00	22.63	0.338	1.338	23.48	0.781	1.281	23.56	1.147
9/11/05 19:15	22.63	0.340	1.339	23.48	0.782	1.282	23.56	1.148
9/11/05 19:30	22.63	0.340	1.340	23.48	0.783	1.283	23.56	1.149
9/11/05 19:45	22.63	0.342	1.342	23.48	0.785	1.285	23.56	1.150
9/11/05 20:00	22.63	0.343	1.343	23.48	0.786	1.286	23.56	1.151
9/11/05 20:15	22.62	0.344	1.344	23.48	0.788	1.287	23.56	1.152
9/11/05 20:30	22.62	0.346	1.346	23.48	0.790	1.290	23.56	1.153

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/11/05 20:45	22.63	0.347	1.347	23.48	0.791	1.291	23.56	1.153
9/11/05 21:00	22.63	0.348	1.348	23.48	0.792	1.291	23.56	1.154
9/11/05 21:15	22.62	0.350	1.350	23.48	0.793	1.293	23.56	1.155
9/11/05 21:30	22.62	0.352	1.351	23.48	0.794	1.294	23.56	1.156
9/11/05 21:45	22.62	0.353	1.353	23.48	0.796	1.296	23.56	1.157
9/11/05 22:00	22.62	0.354	1.354	23.48	0.798	1.298	23.55	1.159
9/11/05 22:15	22.62	0.356	1.355	23.48	0.799	1.299	23.56	1.160
9/11/05 22:30	22.62	0.357	1.357	23.48	0.800	1.300	23.56	1.160
9/11/05 22:45	22.62	0.359	1.359	23.48	0.802	1.302	23.56	1.162
9/11/05 23:00	22.62	0.361	1.360	23.48	0.804	1.304	23.55	1.163
9/11/05 23:15	22.62	0.362	1.362	23.48	0.806	1.305	23.55	1.164
9/11/05 23:30	22.62	0.364	1.364	23.48	0.807	1.307	23.55	1.166
9/11/05 23:45	22.62	0.367	1.366	23.48	0.810	1.310	23.55	1.167
9/12/05 0:00	22.63	0.368	1.368	23.5	0.812	1.312	23.55	1.168
9/12/05 0:15	22.62	0.370	1.370	23.48	0.814	1.314	23.55	1.169
9/12/05 0:30	22.62	0.372	1.372	23.5	0.815	1.315	23.54	1.170
9/12/05 0:45	22.62	0.374	1.374	23.48	0.818	1.318	23.55	1.172
9/12/05 1:00	22.62	0.376	1.376	23.48	0.820	1.320	23.55	1.173
9/12/05 1:15	22.62	0.378	1.378	23.48	0.821	1.321	23.54	1.174
9/12/05 1:30	22.63	0.380	1.380	23.5	0.823	1.323	23.54	1.176
9/12/05 1:45	22.63	0.382	1.382	23.48	0.826	1.326	23.55	1.177
9/12/05 2:00	22.63	0.383	1.383	23.48	0.827	1.327	23.54	1.178
9/12/05 2:15	22.63	0.384	1.384	23.48	0.828	1.328	23.54	1.180
9/12/05 2:30	22.63	0.386	1.386	23.48	0.830	1.330	23.54	1.181
9/12/05 2:45	22.63	0.388	1.388	23.48	0.831	1.331	23.54	1.182
9/12/05 3:00	22.63	0.389	1.389	23.48	0.832	1.332	23.54	1.184
9/12/05 3:15	22.63	0.390	1.390	23.48	0.833	1.333	23.54	1.185
9/12/05 3:30	22.63	0.391	1.391	23.48	0.835	1.334	23.54	1.186
9/12/05 3:45	22.63	0.392	1.392	23.48	0.835	1.335	23.53	1.188
9/12/05 4:00	22.63	0.393	1.393	23.48	0.836	1.336	23.53	1.189
9/12/05 4:15	22.63	0.394	1.393	23.48	0.837	1.337	23.53	1.191
9/12/05 4:30	22.63	0.394	1.394	23.48	0.838	1.338	23.53	1.192
9/12/05 4:45	22.63	0.395	1.395	23.48	0.838	1.338	23.53	1.193
9/12/05 5:00	22.63	0.396	1.396	23.47	0.839	1.339	23.53	1.195
9/12/05 5:15	22.64	0.396	1.396	23.47	0.839	1.339	23.53	1.196
9/12/05 5:30	22.64	0.397	1.397	23.47	0.840	1.340	23.53	1.197
9/12/05 5:45	22.64	0.397	1.397	23.47	0.841	1.341	23.51	1.198
9/12/05 6:00	22.64	0.397	1.397	23.47	0.841	1.341	23.53	1.200
9/12/05 6:15	22.64	0.397	1.397	23.47	0.841	1.341	23.53	1.201
9/12/05 6:30	22.64	0.397	1.397	23.47	0.840	1.340	23.51	1.202
9/12/05 6:45	22.64	0.397	1.397	23.47	0.840	1.340	23.51	1.203
9/12/05 7:00	22.64	0.397	1.397	23.47	0.839	1.339	23.51	1.205
9/12/05 7:15	22.64	0.396	1.396	23.47	0.839	1.339	23.51	1.205
9/12/05 7:30	22.63	0.396	1.395	23.47	0.839	1.338	23.51	1.207
9/12/05 7:45	22.63	0.394	1.394	23.47	0.837	1.337	23.51	1.207
9/12/05 8:00	22.64	0.392	1.392	23.47	0.836	1.336	23.51	1.208
9/12/05 8:15	22.63	0.391	1.391	23.47	0.834	1.334	23.5	1.209
9/12/05 8:30	22.63	0.389	1.388	23.47	0.832	1.331	23.5	1.210
9/12/05 8:45	22.63	0.388	1.387	23.46	0.830	1.330	23.5	1.211
9/12/05 9:00	22.63	0.384	1.384	23.46	0.828	1.327	23.5	1.212
9/12/05 9:15	22.62	0.383	1.383	23.46	0.826	1.326	23.49	1.212
9/12/05 9:30	22.6	0.381	1.381	23.46	0.824	1.323	23.49	1.212
9/12/05 9:45	22.59	0.379	1.379	23.46	0.822	1.322	23.49	1.213
9/12/05 10:00	22.58	0.377	1.377	23.46	0.820	1.319	23.49	1.213
9/12/05 10:15	22.57	0.375	1.374	23.46	0.817	1.317	23.49	1.213
9/12/05 10:30	22.54	0.372	1.372	23.45	0.815	1.315	23.48	1.214
9/12/05 10:45	22.53	0.370	1.369	23.46	0.812	1.312	23.48	1.215
9/12/05 11:00	22.52	0.367	1.367	23.45	0.810	1.309	23.48	1.214
9/12/05 11:15	22.5	0.365	1.364	23.45	0.807	1.307	23.48	1.214
9/12/05 11:30	22.49	0.363	1.362	23.45	0.804	1.304	23.46	1.214
9/12/05 11:45	22.49	0.359	1.359	23.45	0.802	1.302	23.46	1.214
9/12/05 12:00	22.48	0.355	1.355	23.43	0.799	1.299	23.46	1.213
9/12/05 12:15	22.47	0.354	1.353	23.42	0.796	1.296	23.46	1.213
9/12/05 12:30	22.45	0.349	1.349	23.42	0.792	1.292	23.46	1.211
9/12/05 12:45	22.45	0.347	1.347	23.41	0.790	1.290	23.46	1.213
9/12/05 13:00	22.45	0.343	1.343	23.4	0.786	1.286	23.46	1.212
9/12/05 13:15	22.45	0.340	1.340	23.38	0.784	1.284	23.46	1.211
9/12/05 13:30	22.45	0.338	1.337	23.36	0.781	1.281	23.45	1.210
9/12/05 13:45	22.45	0.336	1.336	23.36	0.779	1.279	23.46	1.209
9/12/05 14:00	22.47	0.333	1.333	23.35	0.776	1.276	23.45	1.209
9/12/05 14:15	22.45	0.330	1.330	23.33	0.774	1.274	23.45	1.206
9/12/05 14:30	22.45	0.328	1.328	23.32	0.771	1.271	23.45	1.207

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/12/05 14:45	22.45	0.328	1.328	23.32	0.771	1.271	23.45	1.205
9/12/05 15:00	22.47	0.326	1.326	23.31	0.769	1.269	23.45	1.205
9/12/05 15:15	22.47	0.324	1.323	23.29	0.767	1.267	23.45	1.202
9/12/05 15:30	22.47	0.322	1.322	23.29	0.765	1.265	23.45	1.202
9/12/05 15:45	22.45	0.319	1.319	23.28	0.763	1.262	23.45	1.201
9/12/05 16:00	22.45	0.317	1.317	23.27	0.761	1.261	23.45	1.201
9/12/05 16:15	22.45	0.314	1.314	23.26	0.758	1.258	23.45	1.199
9/12/05 16:30	22.45	0.312	1.311	23.24	0.755	1.255	23.45	1.199
9/12/05 16:45	22.45	0.309	1.309	23.24	0.753	1.252	23.44	1.196
9/12/05 17:00	22.45	0.307	1.307	23.24	0.750	1.250	23.44	1.196
9/12/05 17:15	22.45	0.305	1.305	23.24	0.748	1.248	23.45	1.195
9/12/05 17:30	22.45	0.303	1.302	23.24	0.746	1.246	23.44	1.193
9/12/05 17:45	22.45	0.301	1.301	23.24	0.744	1.244	23.44	1.192
9/12/05 18:00	22.45	0.300	1.299	23.24	0.743	1.243	23.45	1.191
9/12/05 18:15	22.45	0.299	1.298	23.24	0.741	1.241	23.45	1.190
9/12/05 18:30	22.45	0.297	1.297	23.26	0.740	1.240	23.44	1.189
9/12/05 18:45	22.45	0.296	1.296	23.26	0.739	1.238	23.44	1.187
9/12/05 19:00	22.45	0.295	1.295	23.26	0.738	1.238	23.44	1.186
9/12/05 19:15	22.45	0.294	1.294	23.26	0.737	1.237	23.44	1.185
9/12/05 19:30	22.45	0.293	1.293	23.26	0.736	1.236	23.44	1.184
9/12/05 19:45	22.45	0.293	1.293	23.26	0.736	1.236	23.44	1.183
9/12/05 20:00	22.45	0.292	1.292	23.27	0.735	1.235	23.44	1.182
9/12/05 20:15	22.45	0.292	1.291	23.27	0.735	1.235	23.44	1.181
9/12/05 20:30	22.45	0.292	1.291	23.27	0.735	1.235	23.44	1.180
9/12/05 20:45	22.45	0.291	1.291	23.27	0.734	1.234	23.44	1.179
9/12/05 21:00	22.45	0.294	1.294	23.28	0.737	1.237	23.44	1.178
9/12/05 21:15	22.45	0.292	1.291	23.27	0.735	1.235	23.44	1.177
9/12/05 21:30	22.45	0.292	1.291	23.27	0.735	1.235	23.44	1.176
9/12/05 21:45	22.45	0.292	1.291	23.27	0.735	1.235	23.44	1.176
9/12/05 22:00	22.45	0.291	1.291	23.27	0.734	1.234	23.44	1.175
9/12/05 22:15	22.45	0.291	1.291	23.26	0.734	1.234	23.44	1.173
9/12/05 22:30	22.45	0.291	1.291	23.26	0.734	1.234	23.44	1.173
9/12/05 22:45	22.45	0.291	1.291	23.27	0.734	1.234	23.44	1.173
9/12/05 23:00	22.45	0.292	1.291	23.27	0.734	1.234	23.44	1.172
9/12/05 23:15	22.45	0.292	1.292	23.27	0.735	1.235	23.44	1.171
9/12/05 23:30	22.45	0.292	1.292	23.26	0.735	1.235	23.44	1.170
9/12/05 23:45	22.45	0.293	1.293	23.26	0.736	1.236	23.44	1.170
9/13/05 0:00	22.45	0.293	1.293	23.26	0.736	1.236	23.44	1.170
9/13/05 0:15	22.45	0.294	1.294	23.27	0.737	1.237	23.44	1.169
9/13/05 0:30	22.45	0.294	1.294	23.26	0.737	1.237	23.44	1.169
9/13/05 0:45	22.45	0.295	1.295	23.26	0.738	1.238	23.44	1.168
9/13/05 1:00	22.45	0.295	1.295	23.26	0.738	1.238	23.44	1.167
9/13/05 1:15	22.45	0.295	1.295	23.24	0.738	1.238	23.44	1.167
9/13/05 1:30	22.44	0.295	1.295	23.26	0.738	1.238	23.44	1.167
9/13/05 1:45	22.45	0.295	1.295	23.26	0.738	1.238	23.44	1.167
9/13/05 2:00	22.44	0.295	1.295	23.26	0.738	1.238	23.43	1.166
9/13/05 2:15	22.44	0.295	1.295	23.26	0.738	1.238	23.44	1.166
9/13/05 2:30	22.44	0.294	1.294	23.26	0.737	1.237	23.44	1.166
9/13/05 2:45	22.44	0.294	1.294	23.24	0.737	1.237	23.43	1.166
9/13/05 3:00	22.44	0.295	1.295	23.24	0.738	1.238	23.43	1.165
9/13/05 3:15	22.43	0.294	1.294	23.24	0.737	1.237	23.43	1.165
9/13/05 3:30	22.43	0.293	1.293	23.24	0.736	1.236	23.43	1.165
9/13/05 3:45	22.43	0.293	1.292	23.23	0.735	1.235	23.43	1.165
9/13/05 4:00	22.43	0.291	1.291	23.23	0.735	1.234	23.43	1.164
9/13/05 4:15	22.41	0.291	1.291	23.24	0.734	1.234	23.43	1.164
9/13/05 4:30	22.41	0.290	1.290	23.23	0.734	1.234	23.43	1.163
9/13/05 4:45	22.41	0.290	1.290	23.23	0.732	1.232	23.43	1.163
9/13/05 5:00	22.41	0.290	1.289	23.23	0.732	1.232	23.43	1.163
9/13/05 5:15	22.41	0.289	1.289	23.23	0.732	1.232	23.41	1.163
9/13/05 5:30	22.41	0.288	1.288	23.23	0.732	1.231	23.41	1.162
9/13/05 5:45	22.41	0.288	1.288	23.23	0.731	1.231	23.41	1.162
9/13/05 6:00	22.4	0.287	1.287	23.23	0.730	1.230	23.41	1.162
9/13/05 6:15	22.4	0.287	1.287	23.22	0.730	1.230	23.41	1.161
9/13/05 6:30	22.4	0.287	1.287	23.22	0.729	1.229	23.41	1.161
9/13/05 6:45	22.4	0.287	1.287	23.22	0.729	1.229	23.41	1.161
9/13/05 7:00	22.39	0.287	1.286	23.22	0.729	1.229	23.41	1.160
9/13/05 7:15	22.39	0.286	1.286	23.22	0.729	1.229	23.4	1.159
9/13/05 7:30	22.39	0.286	1.286	23.22	0.728	1.228	23.4	1.159
9/13/05 7:45	22.38	0.286	1.285	23.21	0.728	1.228	23.4	1.159
9/13/05 8:00	22.38	0.286	1.285	23.21	0.728	1.228	23.4	1.159
9/13/05 8:15	22.38	0.285	1.285	23.21	0.727	1.227	23.4	1.158
9/13/05 8:30	22.36	0.285	1.284	23.21	0.727	1.227	23.4	1.158

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/13/05 8:45	22.36	0.284	1.284	23.19	0.727	1.227	23.4	1.157
9/13/05 9:00	22.35	0.284	1.284	23.19	0.726	1.226	23.39	1.157
9/13/05 9:15	22.35	0.283	1.283	23.19	0.726	1.226	23.39	1.157
9/13/05 9:30	22.35	0.282	1.282	23.19	0.725	1.225	23.39	1.156
9/13/05 9:45	22.34	0.282	1.282	23.18	0.725	1.224	23.39	1.156
9/13/05 10:00	22.33	0.281	1.281	23.18	0.725	1.224	23.39	1.155
9/13/05 10:15	22.33	0.281	1.280	23.18	0.723	1.223	23.38	1.155
9/13/05 10:30	22.31	0.280	1.280	23.18	0.723	1.223	23.38	1.155
9/13/05 10:45	22.31	0.279	1.279	23.17	0.721	1.221	23.38	1.154
9/13/05 11:00	22.3	0.278	1.278	23.17	0.721	1.221	23.38	1.154
9/13/05 11:15	22.3	0.277	1.277	23.17	0.720	1.220	23.38	1.153
9/13/05 11:30	22.29	0.277	1.277	23.17	0.720	1.220	23.38	1.152
9/13/05 11:45	22.28	0.276	1.275	23.16	0.719	1.219	23.38	1.152
9/13/05 12:00	22.28	0.275	1.275	23.16	0.718	1.218	23.36	1.152
9/13/05 12:15	22.28	0.273	1.273	23.14	0.717	1.217	23.36	1.151
9/13/05 12:30	22.26	0.272	1.272	23.14	0.716	1.216	23.36	1.150
9/13/05 12:45	22.25	0.271	1.271	23.14	0.714	1.214	23.36	1.150
9/13/05 13:00	22.25	0.270	1.270	23.14	0.713	1.213	23.36	1.149
9/13/05 13:15	22.25	0.269	1.269	23.14	0.713	1.213	23.36	1.148
9/13/05 13:30	22.25	0.269	1.269	23.14	0.712	1.212	23.35	1.148
9/13/05 13:45	22.24	0.266	1.266	23.13	0.710	1.210	23.35	1.147
9/13/05 14:00	22.23	0.266	1.266	23.13	0.709	1.209	23.35	1.147
9/13/05 14:15	22.23	0.265	1.265	23.13	0.708	1.208	23.36	1.146
9/13/05 14:30	22.23	0.263	1.263	23.13	0.707	1.207	23.35	1.145
9/13/05 14:45	22.21	0.262	1.262	23.13	0.706	1.206	23.35	1.144
9/13/05 15:00	22.21	0.262	1.262	23.13	0.705	1.205	23.35	1.143
9/13/05 15:15	22.21	0.260	1.260	23.13	0.704	1.204	23.35	1.143
9/13/05 15:30	22.21	0.259	1.259	23.13	0.703	1.202	23.35	1.142
9/13/05 15:45	22.21	0.259	1.259	23.13	0.703	1.202	23.35	1.141
9/13/05 16:00	22.2	0.257	1.257	23.12	0.701	1.201	23.35	1.140
9/13/05 16:15	22.2	0.256	1.255	23.13	0.700	1.200	23.35	1.140
9/13/05 16:30	22.2	0.255	1.255	23.12	0.699	1.198	23.34	1.139
9/13/05 16:45	22.2	0.254	1.254	23.12	0.698	1.198	23.34	1.138
9/13/05 17:00	22.2	0.253	1.253	23.12	0.696	1.196	23.35	1.138
9/13/05 17:15	22.2	0.253	1.252	23.12	0.695	1.195	23.34	1.137
9/13/05 17:30	22.19	0.252	1.252	23.12	0.695	1.195	23.35	1.136
9/13/05 17:45	22.19	0.251	1.250	23.13	0.694	1.194	23.35	1.135
9/13/05 18:00	22.19	0.250	1.250	23.13	0.693	1.193	23.35	1.134
9/13/05 18:15	22.2	0.249	1.249	23.13	0.693	1.192	23.35	1.134
9/13/05 18:30	22.2	0.248	1.248	23.13	0.692	1.191	23.35	1.133
9/13/05 18:45	22.19	0.248	1.248	23.13	0.692	1.191	23.35	1.132
9/13/05 19:00	22.19	0.248	1.247	23.13	0.690	1.190	23.34	1.131
9/13/05 19:15	22.2	0.247	1.247	23.13	0.690	1.190	23.35	1.131
9/13/05 19:30	22.2	0.246	1.245	23.13	0.689	1.189	23.35	1.130
9/13/05 19:45	22.2	0.245	1.245	23.13	0.689	1.189	23.35	1.129
9/13/05 20:00	22.2	0.245	1.245	23.14	0.688	1.188	23.34	1.130
9/13/05 20:15	22.2	0.245	1.245	23.14	0.688	1.188	23.35	1.128
9/13/05 20:30	22.2	0.244	1.244	23.13	0.687	1.187	23.35	1.127
9/13/05 20:45	22.2	0.244	1.243	23.13	0.687	1.187	23.35	1.127
9/13/05 21:00	22.21	0.243	1.243	23.13	0.687	1.187	23.35	1.127
9/13/05 21:15	22.21	0.243	1.243	23.13	0.686	1.186	23.35	1.126
9/13/05 21:30	22.21	0.243	1.242	23.13	0.686	1.186	23.35	1.125
9/13/05 21:45	22.21	0.243	1.242	23.14	0.686	1.185	23.35	1.125
9/13/05 22:00	22.21	0.243	1.242	23.13	0.685	1.185	23.35	1.124
9/13/05 22:15	22.21	0.242	1.242	23.14	0.685	1.185	23.35	1.124
9/13/05 22:30	22.23	0.242	1.241	23.14	0.685	1.184	23.35	1.123
9/13/05 22:45	22.23	0.241	1.241	23.14	0.685	1.184	23.36	1.123
9/13/05 23:00	22.23	0.241	1.241	23.14	0.685	1.184	23.36	1.122
9/13/05 23:15	22.23	0.241	1.241	23.13	0.684	1.184	23.36	1.122
9/13/05 23:30	22.23	0.241	1.241	23.13	0.684	1.184	23.36	1.121
9/13/05 23:45	22.23	0.241	1.241	23.13	0.684	1.184	23.35	1.121
9/14/05 0:00	22.23	0.241	1.241	23.13	0.684	1.184	23.36	1.120
9/14/05 0:15	22.24	0.241	1.241	23.13	0.684	1.184	23.36	1.120
9/14/05 0:30	22.24	0.241	1.241	23.13	0.684	1.184	23.36	1.120
9/14/05 0:45	22.24	0.240	1.240	23.13	0.684	1.184	23.35	1.119
9/14/05 1:00	22.24	0.241	1.241	23.13	0.684	1.184	23.36	1.119
9/14/05 1:15	22.24	0.241	1.241	23.13	0.684	1.184	23.36	1.118
9/14/05 1:30	22.24	0.241	1.241	23.13	0.684	1.184	23.36	1.118
9/14/05 1:45	22.24	0.241	1.241	23.13	0.684	1.184	23.35	1.118
9/14/05 2:00	22.24	0.241	1.241	23.13	0.684	1.184	23.35	1.118
9/14/05 2:15	22.24	0.241	1.241	23.13	0.684	1.184	23.35	1.117
9/14/05 2:30	22.24	0.241	1.241	23.13	0.685	1.184	23.36	1.117

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/14/05 2:45	22.24	0.241	1.241	23.13	0.684	1.184	23.35	1.117
9/14/05 3:00	22.24	0.242	1.241	23.13	0.685	1.184	23.35	1.117
9/14/05 3:15	22.25	0.242	1.241	23.13	0.685	1.184	23.35	1.116
9/14/05 3:30	22.24	0.242	1.241	23.13	0.685	1.184	23.35	1.116
9/14/05 3:45	22.24	0.242	1.241	23.13	0.685	1.184	23.35	1.116
9/14/05 4:00	22.24	0.242	1.242	23.12	0.685	1.185	23.35	1.116
9/14/05 4:15	22.24	0.242	1.242	23.12	0.685	1.185	23.35	1.116
9/14/05 4:30	22.24	0.242	1.242	23.12	0.685	1.185	23.35	1.115
9/14/05 4:45	22.23	0.242	1.242	23.12	0.685	1.185	23.34	1.115
9/14/05 5:00	22.23	0.242	1.241	23.12	0.685	1.185	23.34	1.115
9/14/05 5:15	22.23	0.242	1.241	23.12	0.685	1.184	23.34	1.115
9/14/05 5:30	22.21	0.242	1.242	23.12	0.685	1.184	23.34	1.115
9/14/05 5:45	22.21	0.243	1.242	23.11	0.685	1.185	23.34	1.115
9/14/05 6:00	22.21	0.241	1.241	23.11	0.685	1.185	23.34	1.115
9/14/05 6:15	22.2	0.241	1.241	23.11	0.685	1.185	23.34	1.115
9/14/05 6:30	22.2	0.241	1.241	23.09	0.684	1.184	23.34	1.115
9/14/05 6:45	22.19	0.242	1.241	23.09	0.685	1.185	23.34	1.114
9/14/05 7:00	22.19	0.242	1.241	23.09	0.684	1.184	23.32	1.114
9/14/05 7:15	22.18	0.242	1.241	23.09	0.684	1.184	23.32	1.114
9/14/05 7:30	22.16	0.242	1.242	23.09	0.684	1.184	23.31	1.114
9/14/05 7:45	22.15	0.241	1.241	23.08	0.684	1.184	23.31	1.113
9/14/05 8:00	22.15	0.241	1.241	23.08	0.683	1.183	23.31	1.113
9/14/05 8:15	22.14	0.241	1.241	23.08	0.683	1.183	23.31	1.113
9/14/05 8:30	22.14	0.240	1.240	23.07	0.684	1.184	23.3	1.113
9/14/05 8:45	22.13	0.240	1.240	23.07	0.683	1.183	23.3	1.113
9/14/05 9:00	22.11	0.240	1.240	23.07	0.682	1.182	23.3	1.113
9/14/05 9:15	22.1	0.240	1.240	23.07	0.682	1.182	23.3	1.113
9/14/05 9:30	22.09	0.239	1.239	23.06	0.682	1.182	23.3	1.112
9/14/05 9:45	22.08	0.238	1.238	23.06	0.682	1.181	23.29	1.112
9/14/05 10:00	22.06	0.239	1.238	23.06	0.682	1.181	23.29	1.112
9/14/05 10:15	22.05	0.238	1.238	23.04	0.681	1.181	23.29	1.112
9/14/05 10:30	22.05	0.238	1.238	23.04	0.681	1.181	23.29	1.111
9/14/05 10:45	22.04	0.238	1.238	23.04	0.681	1.181	23.27	1.111
9/14/05 11:00	22.01	0.237	1.237	23.03	0.680	1.180	23.27	1.110
9/14/05 11:15	22	0.237	1.237	23.03	0.680	1.180	23.27	1.111
9/14/05 11:30	22	0.237	1.236	23.03	0.680	1.180	23.27	1.109
9/14/05 11:45	21.99	0.237	1.236	23.02	0.679	1.179	23.26	1.109
9/14/05 12:00	21.96	0.235	1.235	23.02	0.679	1.179	23.26	1.109
9/14/05 12:15	21.95	0.235	1.235	23.02	0.678	1.178	23.26	1.109
9/14/05 12:30	21.95	0.235	1.234	23.01	0.678	1.178	23.25	1.109
9/14/05 12:45	21.95	0.234	1.234	23.01	0.678	1.178	23.25	1.108
9/14/05 13:00	21.94	0.234	1.234	22.99	0.677	1.177	23.25	1.108
9/14/05 13:15	21.93	0.234	1.234	22.99	0.677	1.177	23.25	1.108
9/14/05 13:30	21.91	0.233	1.233	22.99	0.676	1.176	23.24	1.107
9/14/05 13:45	21.9	0.233	1.233	22.99	0.676	1.176	23.24	1.107
9/14/05 14:00	21.89	0.233	1.233	23.01	0.676	1.176	23.22	1.106
9/14/05 14:15	21.87	0.233	1.233	22.98	0.676	1.176	23.22	1.106
9/14/05 14:30	21.86	0.232	1.232	22.98	0.676	1.176	23.22	1.106
9/14/05 14:45	21.86	0.232	1.232	22.98	0.675	1.175	23.22	1.106
9/14/05 15:00	21.85	0.231	1.231	22.97	0.675	1.175	23.22	1.105
9/14/05 15:15	21.84	0.230	1.230	22.97	0.675	1.174	23.22	1.104
9/14/05 15:30	21.82	0.230	1.230	22.97	0.674	1.174	23.21	1.105
9/14/05 15:45	21.81	0.230	1.230	22.96	0.673	1.173	23.21	1.104
9/14/05 16:00	21.81	0.230	1.230	22.96	0.673	1.173	23.2	1.103
9/14/05 16:15	21.79	0.229	1.229	22.96	0.672	1.172	23.2	1.103
9/14/05 16:30	21.79	0.228	1.228	22.94	0.671	1.171	23.2	1.102
9/14/05 16:45	21.77	0.228	1.228	22.94	0.672	1.172	23.2	1.102
9/14/05 17:00	21.76	0.228	1.228	22.94	0.671	1.171	23.2	1.102
9/14/05 17:15	21.75	0.227	1.227	22.94	0.670	1.170	23.19	1.102
9/14/05 17:30	21.75	0.227	1.227	22.94	0.670	1.170	23.2	1.101
9/14/05 17:45	21.74	0.227	1.227	22.94	0.669	1.169	23.19	1.101
9/14/05 18:00	21.74	0.226	1.226	22.94	0.669	1.169	23.19	1.101
9/14/05 18:15	21.72	0.226	1.226	22.93	0.668	1.168	23.19	1.100
9/14/05 18:30	21.71	0.225	1.225	22.94	0.668	1.168	23.19	1.099
9/14/05 18:45	21.71	0.225	1.225	22.93	0.667	1.167	23.19	1.099
9/14/05 19:00	21.71	0.225	1.225	22.93	0.667	1.167	23.17	1.099
9/14/05 19:15	21.7	0.224	1.224	22.93	0.667	1.167	23.17	1.098
9/14/05 19:30	21.7	0.224	1.224	22.92	0.666	1.166	23.17	1.098
9/14/05 19:45	21.7	0.223	1.223	22.93	0.666	1.166	23.17	1.098
9/14/05 20:00	21.69	0.223	1.223	22.92	0.666	1.166	23.17	1.098
9/14/05 20:15	21.69	0.223	1.223	22.93	0.666	1.166	23.17	1.097
9/14/05 20:30	21.69	0.223	1.223	22.93	0.666	1.166	23.17	1.097

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/14/05 20:45	21.69	0.223	1.222	22.92	0.666	1.166	23.17	1.097
9/14/05 21:00	21.69	0.223	1.222	22.92	0.665	1.165	23.16	1.096
9/14/05 21:15	21.69	0.223	1.222	22.92	0.665	1.165	23.16	1.096
9/14/05 21:30	21.69	0.223	1.222	22.92	0.665	1.165	23.17	1.095
9/14/05 21:45	21.69	0.222	1.222	22.92	0.665	1.165	23.16	1.096
9/14/05 22:00	21.67	0.222	1.222	22.92	0.665	1.165	23.16	1.096
9/14/05 22:15	21.69	0.222	1.222	22.92	0.665	1.165	23.16	1.095
9/14/05 22:30	21.67	0.222	1.222	22.92	0.665	1.165	23.16	1.095
9/14/05 22:45	21.67	0.223	1.222	22.92	0.665	1.165	23.16	1.095
9/14/05 23:00	21.67	0.222	1.222	22.92	0.665	1.165	23.16	1.094
9/14/05 23:15	21.67	0.223	1.222	22.92	0.665	1.165	23.16	1.095
9/14/05 23:30	21.67	0.223	1.223	22.91	0.666	1.166	23.16	1.094
9/14/05 23:45	21.67	0.223	1.223	22.92	0.666	1.166	23.16	1.094
9/15/05 0:00	21.67	0.224	1.223	22.92	0.666	1.166	23.16	1.094
9/15/05 0:15	21.67	0.224	1.223	22.92	0.666	1.166	23.15	1.094
9/15/05 0:30	21.66	0.224	1.224	22.91	0.667	1.167	23.15	1.094
9/15/05 0:45	21.67	0.224	1.224	22.91	0.667	1.167	23.15	1.094
9/15/05 1:00	21.66	0.225	1.224	22.91	0.668	1.167	23.15	1.094
9/15/05 1:15	21.66	0.225	1.225	22.91	0.668	1.168	23.16	1.094
9/15/05 1:30	21.66	0.225	1.225	22.89	0.668	1.168	23.15	1.094
9/15/05 1:45	21.66	0.226	1.226	22.89	0.669	1.169	23.15	1.094
9/15/05 2:00	21.66	0.226	1.226	22.89	0.669	1.169	23.15	1.094
9/15/05 2:15	21.66	0.227	1.227	22.89	0.669	1.169	23.15	1.093
9/15/05 2:30	21.65	0.227	1.227	22.89	0.669	1.169	23.14	1.093
9/15/05 2:45	21.65	0.227	1.227	22.88	0.670	1.170	23.14	1.093
9/15/05 3:00	21.65	0.227	1.227	22.89	0.670	1.170	23.14	1.093
9/15/05 3:15	21.65	0.227	1.227	22.89	0.670	1.170	23.14	1.094
9/15/05 3:30	21.64	0.228	1.227	22.88	0.670	1.170	23.14	1.094
9/15/05 3:45	21.64	0.228	1.227	22.87	0.671	1.170	23.14	1.094
9/15/05 4:00	21.64	0.228	1.227	22.87	0.671	1.170	23.14	1.094
9/15/05 4:15	21.64	0.228	1.227	22.86	0.670	1.170	23.12	1.094
9/15/05 4:30	21.62	0.227	1.227	22.86	0.670	1.170	23.14	1.094
9/15/05 4:45	21.62	0.227	1.227	22.86	0.670	1.170	23.12	1.094
9/15/05 5:00	21.61	0.226	1.226	22.84	0.669	1.169	23.12	1.094
9/15/05 5:15	21.61	0.226	1.226	22.84	0.669	1.169	23.12	1.094
9/15/05 5:30	21.6	0.225	1.225	22.84	0.668	1.168	23.11	1.094
9/15/05 5:45	21.6	0.225	1.224	22.84	0.667	1.167	23.12	1.094
9/15/05 6:00	21.59	0.224	1.223	22.83	0.667	1.166	23.12	1.094
9/15/05 6:15	21.59	0.223	1.223	22.82	0.666	1.166	23.12	1.094
9/15/05 6:30	21.57	0.223	1.222	22.82	0.665	1.165	23.11	1.094
9/15/05 6:45	21.57	0.222	1.222	22.82	0.664	1.164	23.12	1.093
9/15/05 7:00	21.56	0.221	1.221	22.81	0.664	1.164	23.11	1.093
9/15/05 7:15	21.56	0.221	1.221	22.82	0.664	1.163	23.11	1.093
9/15/05 7:30	21.55	0.220	1.220	22.81	0.663	1.163	23.1	1.093
9/15/05 7:45	21.55	0.220	1.220	22.81	0.663	1.163	23.1	1.093
9/15/05 8:00	21.54	0.219	1.219	22.81	0.663	1.163	23.1	1.092
9/15/05 8:15	21.52	0.219	1.219	22.79	0.662	1.162	23.09	1.093
9/15/05 8:30	21.52	0.219	1.218	22.79	0.661	1.160	23.09	1.092
9/15/05 8:45	21.51	0.218	1.218	22.79	0.661	1.160	23.09	1.092
9/15/05 9:00	21.5	0.218	1.218	22.79	0.661	1.160	23.09	1.092
9/15/05 9:15	21.49	0.217	1.217	22.78	0.660	1.159	23.07	1.092
9/15/05 9:30	21.47	0.217	1.217	22.78	0.660	1.159	23.07	1.091
9/15/05 9:45	21.46	0.216	1.216	22.77	0.659	1.159	23.07	1.091
new pressure transducer test		-	-	-	-	-	-	-
9/15/05 10:00	21.47	0.216	1.216	22.77	0.659	1.159	-	-
9/15/05 10:15	21.46	0.216	1.216	22.76	0.659	1.159	23.05	1.090
9/15/05 10:30	21.44	0.216	1.216	22.76	0.658	1.158	23.06	1.090
9/15/05 10:45	21.42	0.215	1.215	22.74	0.658	1.158	23.06	1.090
9/15/05 11:00	21.41	0.214	1.214	22.74	0.657	1.157	23.05	1.089
9/15/05 11:15	21.4	0.214	1.214	22.74	0.657	1.157	23.05	1.089
9/15/05 11:30	21.38	0.214	1.213	22.73	0.656	1.156	23.05	1.088
9/15/05 11:45	21.37	0.213	1.213	22.72	0.656	1.156	23.03	1.088
9/15/05 12:00	21.37	0.212	1.212	22.72	0.655	1.155	23.03	1.088
9/15/05 12:15	21.35	0.212	1.212	22.72	0.655	1.155	23.03	1.088
9/15/05 12:30	21.32	0.212	1.211	22.71	0.654	1.154	23.03	1.087
9/15/05 12:45	21.32	0.212	1.211	22.71	0.654	1.154	23.03	1.087
9/15/05 13:00	21.31	0.211	1.210	22.69	0.653	1.153	23.03	1.086
9/15/05 13:15	21.3	0.210	1.210	22.69	0.653	1.153	23.02	1.085
9/15/05 13:30	21.27	0.210	1.209	22.68	0.653	1.152	23.02	1.085
9/15/05 13:45	21.27	0.209	1.209	22.68	0.652	1.152	23.02	1.085
9/15/05 14:00	21.26	0.209	1.209	22.68	0.652	1.152	23.01	1.084
9/15/05 14:15	21.26	0.208	1.208	22.67	0.651	1.151	23.01	1.084

	PZ-1	PZ-1	PZ-1	PZ-2	PZ-2	PZ-2	PZ-3	PZ-3
time stamp (MST)[a]	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	total head[c,d] (m)
9/15/05 14:30	21.25	0.207	1.207	22.68	0.650	1.150	23.01	1.084
9/15/05 14:45	21.23	0.207	1.207	22.67	0.650	1.150	23.01	1.084
9/15/05 15:00	21.22	0.207	1.206	22.66	0.650	1.150	23	1.083
9/15/05 15:15	21.21	0.206	1.206	22.64	0.649	1.149	23	1.083
9/15/05 15:30	21.21	0.206	1.205	22.66	0.649	1.149	23	1.082
9/15/05 15:45	21.2	0.205	1.205	22.64	0.648	1.148	23	1.081
9/15/05 16:00	21.2	0.205	1.205	22.64	0.648	1.148	23	1.081
9/15/05 16:15	21.18	0.204	1.204	22.64	0.648	1.148	22.98	1.080
9/15/05 16:30	21.17	0.203	1.203	22.63	0.646	1.146	22.98	1.080
9/15/05 16:45	21.16	0.203	1.203	22.63	0.646	1.146	22.98	1.080
9/15/05 17:00	21.16	0.202	1.202	22.62	0.646	1.145	22.97	1.079
9/15/05 17:15	21.15	0.202	1.202	22.62	0.645	1.145	22.97	1.079
9/15/05 17:30	21.13	0.202	1.202	22.62	0.645	1.145	22.96	1.079
9/15/05 17:45	21.13	0.201	1.201	22.61	0.644	1.144	22.96	1.079
9/15/05 18:00	21.12	0.201	1.201	22.62	0.643	1.143	22.96	1.078
9/15/05 18:15	21.12	0.201	1.200	22.61	0.644	1.144	22.95	1.078
9/15/05 18:30	21.11	0.200	1.200	22.61	0.643	1.143	22.95	1.077
9/15/05 18:45	21.11	0.200	1.200	22.61	0.643	1.142	22.95	1.077
9/15/05 19:00	21.11	0.199	1.199	22.61	0.642	1.142	22.95	1.077
9/15/05 19:15	21.1	0.199	1.199	22.59	0.642	1.142	22.93	1.076
9/15/05 19:30	21.1	0.199	1.198	22.59	0.642	1.141	22.93	1.076
9/15/05 19:45	21.1	0.199	1.198	22.59	0.641	1.141	22.95	1.075
9/15/05 20:00	21.1	0.198	1.198	22.58	0.641	1.141	22.93	1.075
9/15/05 20:15	21.08	0.198	1.198	22.59	0.641	1.141	22.95	1.075
9/15/05 20:30	21.08	0.198	1.198	22.58	0.641	1.141	22.93	1.074
9/15/05 20:45	21.08	0.198	1.198	22.58	0.640	1.140	22.93	1.074
9/15/05 21:00	21.08	0.197	1.197	22.58	0.640	1.140	22.93	1.073
9/15/05 21:15	21.08	0.197	1.197	22.58	0.640	1.140	22.93	1.073
9/15/05 21:30	21.08	0.197	1.197	22.58	0.640	1.140	22.92	1.074
9/15/05 21:45	21.08	0.197	1.197	22.58	0.640	1.140	22.92	1.073
9/15/05 22:00	21.08	0.197	1.197	22.58	0.640	1.140	22.93	1.073
9/15/05 22:15	21.08	0.197	1.197	22.57	0.640	1.140	22.92	1.072
9/15/05 22:30	21.08	0.197	1.197	22.57	0.639	1.139	22.92	1.072
9/15/05 22:45	21.08	0.197	1.197	22.57	0.639	1.139	22.91	1.072
9/15/05 23:00	21.08	0.197	1.197	22.57	0.639	1.139	22.92	1.072
9/15/05 23:15	21.08	0.197	1.197	22.57	0.639	1.139	22.92	1.072
9/15/05 23:30	21.08	0.197	1.197	22.57	0.640	1.140	22.92	1.071
9/15/05 23:45	21.08	0.197	1.197	22.58	0.640	1.140	22.92	1.071
9/16/05 0:00	21.08	0.197	1.197	22.58	0.640	1.140	22.92	1.071
9/16/05 0:15	21.1	0.198	1.198	22.58	0.640	1.140	22.92	1.071
9/16/05 0:30	21.1	0.198	1.198	22.58	0.640	1.140	22.92	1.071
9/16/05 0:45	21.1	0.198	1.198	22.57	0.640	1.140	22.92	1.071
9/16/05 1:00	21.1	0.198	1.198	22.57	0.641	1.141	22.91	1.071
9/16/05 1:15	21.1	0.198	1.198	22.57	0.641	1.141	22.91	1.070
9/16/05 1:30	21.1	0.199	1.198	22.57	0.641	1.141	22.92	1.070
9/16/05 1:45	21.1	0.199	1.198	22.57	0.641	1.141	22.92	1.070
9/16/05 2:00	21.1	0.199	1.199	22.57	0.642	1.142	22.91	1.070
9/16/05 2:15	21.11	0.199	1.199	22.57	0.642	1.142	22.92	1.070
9/16/05 2:30	21.1	0.200	1.199	22.57	0.643	1.142	22.91	1.070
9/16/05 2:45	21.1	0.200	1.199	22.57	0.643	1.142	22.91	1.070
9/16/05 3:00	21.1	0.200	1.200	22.56	0.643	1.143	22.91	1.070
9/16/05 3:15	21.1	0.200	1.200	22.57	0.643	1.143	22.91	1.070
9/16/05 3:30	21.1	0.201	1.201	22.56	0.643	1.143	22.9	1.070
9/16/05 3:45	21.1	0.201	1.201	22.56	0.643	1.143	22.91	1.070
9/16/05 4:00	21.1	0.201	1.201	22.54	0.644	1.144	22.9	1.070
9/16/05 4:15	21.1	0.202	1.202	22.54	0.644	1.144	22.9	1.070
9/16/05 4:30	21.1	0.202	1.202	22.54	0.644	1.144	22.88	1.070
9/16/05 4:45	21.1	0.202	1.202	22.54	0.644	1.144	22.91	1.070
9/16/05 5:00	21.1	0.202	1.202	22.53	0.645	1.145	22.9	1.070
9/16/05 5:15	21.08	0.202	1.202	22.53	0.645	1.145	22.88	1.070
9/16/05 5:30	21.08	0.202	1.202	22.53	0.645	1.145	22.88	1.071
9/16/05 5:45	21.08	0.202	1.202	22.52	0.645	1.145	22.88	1.070
9/16/05 6:00	21.08	0.202	1.202	22.52	0.646	1.145	22.87	1.070
9/16/05 6:15	21.08	0.203	1.203	22.52	0.646	1.145	22.88	1.071
9/16/05 6:30	21.07	0.203	1.203	22.51	0.646	1.145	22.88	1.071
9/16/05 6:45	21.07	0.203	1.203	22.52	0.646	1.145	22.88	1.070
9/16/05 7:00	21.06	0.203	1.203	22.51	0.646	1.145	22.86	1.070
9/16/05 7:15	21.06	0.203	1.203	22.51	0.645	1.145	22.87	1.070
9/16/05 7:30	21.05	0.203	1.203	22.49	0.645	1.145	22.87	1.070
9/16/05 7:45	21.03	0.203	1.203	22.49	0.645	1.145	22.86	1.070
9/16/05 8:00	21.02	0.203	1.203	22.49	0.645	1.145	22.87	1.070
9/16/05 8:15	21.02	0.202	1.202	22.48	0.645	1.145	22.86	1.070

	PZ-1	PZ-1	PZ-1	PZ-2	PZ-2	PZ-2	PZ-3	PZ-3
time stamp (MST)[a]	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	total head[c,d] (m)
9/16/05 8:30	21.02	0.201	1.201	22.47	0.644	1.144	22.86	1.070
9/16/05 8:45	21.01	0.201	1.201	22.47	0.644	1.144	22.85	1.070
9/16/05 9:00	21.01	0.201	1.201	22.46	0.643	1.143	22.85	1.070
9/16/05 9:15	21.01	0.200	1.200	22.46	0.642	1.142	22.85	1.070
9/16/05 9:30	21	0.200	1.199	22.46	0.642	1.142	22.85	1.070
9/16/05 9:45	21	0.199	1.199	22.44	0.641	1.141	22.85	1.070
9/16/05 10:00	20.98	0.198	1.198	22.44	0.641	1.141	22.83	1.070
9/16/05 10:15	20.97	0.198	1.198	22.43	0.640	1.140	22.83	1.070
9/16/05 10:30	20.98	0.198	1.197	22.43	0.640	1.140	22.83	1.069
9/16/05 10:45	20.97	0.197	1.197	22.43	0.640	1.140	22.82	1.068
9/16/05 11:00	20.96	0.197	1.197	22.43	0.639	1.139	22.83	1.067
9/16/05 11:15	20.95	0.196	1.196	22.42	0.641	1.141	22.83	1.066
9/16/05 11:30	20.95	0.196	1.196	22.42	0.639	1.138	22.82	1.067
9/16/05 11:45	20.92	0.196	1.195	22.42	0.638	1.138	22.82	1.067
9/16/05 12:00	20.91	0.194	1.194	22.42	0.638	1.138	22.81	1.068
9/16/05 12:15	20.9	0.194	1.194	22.4	0.637	1.137	22.82	1.067
9/16/05 12:30	20.88	0.195	1.195	22.4	0.637	1.137	22.81	1.067
9/16/05 12:45	20.88	0.194	1.194	22.4	0.637	1.137	22.82	1.066
9/16/05 13:00	20.88	0.194	1.194	22.4	0.636	1.136	22.81	1.065
9/16/05 13:15	20.87	0.193	1.193	22.38	0.636	1.136	22.81	1.066
9/16/05 13:30	20.86	0.193	1.193	22.38	0.637	1.137	22.81	1.065
9/16/05 13:45	20.84	0.192	1.192	22.38	0.636	1.135	22.8	1.065
9/16/05 14:00	20.84	0.191	1.191	22.38	0.635	1.135	22.8	1.065
9/16/05 14:15	20.84	0.191	1.191	22.38	0.635	1.134	22.78	1.065
9/16/05 14:30	20.82	0.191	1.191	22.37	0.634	1.134	22.78	1.065
9/16/05 14:45	20.82	0.191	1.191	22.37	0.634	1.134	22.78	1.064
9/16/05 15:00	20.81	0.191	1.191	22.37	0.634	1.134	22.78	1.064
9/16/05 15:15	20.79	0.191	1.190	22.35	0.633	1.133	22.78	1.064
9/16/05 15:30	20.79	0.189	1.189	22.35	0.633	1.133	22.77	1.063
9/16/05 15:45	20.78	0.189	1.189	22.34	0.633	1.133	22.77	1.064
9/16/05 16:00	20.77	0.189	1.189	22.34	0.631	1.131	22.77	1.061
9/16/05 16:15	20.77	0.188	1.188	22.33	0.631	1.131	22.76	1.063
9/16/05 16:30	20.77	0.187	1.187	22.33	0.631	1.131	22.77	1.061
9/16/05 16:45	20.76	0.187	1.187	22.33	0.631	1.131	22.76	1.061
9/16/05 17:00	20.76	0.186	1.186	22.32	0.629	1.129	22.76	1.061
9/16/05 17:15	20.76	0.186	1.186	22.32	0.629	1.129	22.76	1.062
9/16/05 17:30	20.74	0.186	1.185	22.32	0.628	1.128	22.74	1.061
9/16/05 17:45	20.73	0.185	1.184	22.32	0.628	1.127	22.74	1.061
9/16/05 18:00	20.73	0.184	1.184	22.32	0.627	1.127	22.74	1.060
9/16/05 18:15	20.73	0.183	1.183	22.32	0.627	1.127	22.74	1.060
9/16/05 18:30	20.72	0.183	1.183	22.3	0.626	1.126	22.73	1.060
9/16/05 18:45	20.72	0.183	1.183	22.3	0.626	1.126	22.73	1.060
9/16/05 19:00	20.71	0.182	1.182	22.32	0.625	1.125	22.73	1.059
9/16/05 19:15	20.71	0.182	1.182	22.3	0.625	1.124	22.73	1.059
9/16/05 19:30	20.71	0.182	1.181	22.3	0.625	1.124	22.72	1.059
9/16/05 19:45	20.71	0.182	1.181	22.29	0.624	1.124	22.73	1.059
9/16/05 20:00	20.71	0.181	1.181	22.3	0.624	1.124	22.72	1.058
9/16/05 20:15	20.71	0.181	1.181	22.3	0.624	1.124	22.72	1.058
9/16/05 20:30	20.69	0.181	1.181	22.29	0.624	1.124	22.71	1.058
9/16/05 20:45	20.71	0.181	1.181	22.29	0.624	1.124	22.72	1.058
9/16/05 21:00	20.69	0.181	1.181	22.3	0.624	1.124	22.71	1.057
9/16/05 21:15	20.69	0.181	1.181	22.29	0.624	1.124	22.72	1.056
9/16/05 21:30	20.69	0.181	1.181	22.29	0.624	1.124	22.72	1.056
9/16/05 21:45	20.69	0.181	1.181	22.29	0.624	1.124	22.72	1.056
9/16/05 22:00	20.69	0.181	1.181	22.3	0.624	1.124	22.72	1.056
9/16/05 22:15	20.68	0.181	1.181	22.29	0.624	1.124	22.71	1.056
9/16/05 22:30	20.69	0.181	1.181	22.29	0.624	1.124	22.71	1.056
9/16/05 22:45	20.69	0.181	1.181	22.29	0.624	1.124	22.71	1.056
9/16/05 23:00	20.69	0.181	1.181	22.29	0.624	1.124	22.71	1.056
9/16/05 23:15	20.69	0.181	1.181	22.3	0.624	1.124	22.71	1.056
9/16/05 23:30	20.69	0.182	1.181	22.29	0.625	1.125	22.69	1.055
9/16/05 23:45	20.71	0.182	1.181	22.29	0.625	1.125	22.71	1.055
9/17/05 0:00	20.71	0.183	1.183	22.3	0.625	1.125	22.69	1.055
9/17/05 0:15	20.71	0.183	1.183	22.29	0.625	1.125	22.71	1.055
9/17/05 0:30	20.71	0.183	1.183	22.3	0.626	1.126	22.69	1.055
9/17/05 0:45	20.71	0.183	1.183	22.3	0.626	1.126	22.69	1.055
9/17/05 1:00	20.71	0.184	1.184	22.29	0.626	1.126	22.69	1.055
9/17/05 1:15	20.71	0.184	1.184	22.29	0.627	1.127	22.68	1.055
9/17/05 1:30	20.71	0.185	1.184	22.28	0.628	1.127	22.71	1.055
9/17/05 1:45	20.71	0.185	1.185	22.28	0.628	1.128	22.69	1.055
9/17/05 2:00	20.71	0.185	1.185	22.29	0.629	1.128	22.68	1.055
9/17/05 2:15	20.71	0.186	1.186	22.29	0.629	1.129	22.68	1.054

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/17/05 2:30	20.71	0.186	1.186	22.28	0.629	1.129	22.69	1.055
9/17/05 2:45	20.71	0.187	1.186	22.28	0.630	1.130	22.67	1.055
9/17/05 3:00	20.71	0.187	1.186	22.28	0.630	1.130	22.68	1.055
9/17/05 3:15	20.71	0.187	1.186	22.28	0.630	1.130	22.67	1.055
9/17/05 3:30	20.71	0.187	1.187	22.27	0.630	1.130	22.68	1.055
9/17/05 3:45	20.71	0.187	1.187	22.27	0.630	1.130	22.67	1.055
9/17/05 4:00	20.69	0.187	1.187	22.25	0.630	1.130	22.67	1.055
9/17/05 4:15	20.69	0.187	1.187	22.25	0.630	1.130	22.68	1.055
9/17/05 4:30	20.71	0.187	1.187	22.24	0.630	1.130	22.67	1.055
9/17/05 4:45	20.71	0.187	1.187	22.25	0.630	1.130	22.68	1.055
9/17/05 5:00	20.71	0.187	1.187	22.24	0.630	1.130	22.66	1.055
9/17/05 5:15	20.69	0.187	1.187	22.24	0.630	1.130	22.67	1.055
9/17/05 5:30	20.69	0.187	1.187	22.24	0.630	1.130	22.67	1.055
9/17/05 5:45	20.69	0.187	1.187	22.23	0.630	1.130	22.66	1.056
9/17/05 6:00	20.69	0.187	1.187	22.23	0.630	1.130	22.67	1.055
9/17/05 6:15	20.69	0.187	1.187	22.23	0.630	1.130	22.66	1.056
9/17/05 6:30	20.69	0.187	1.187	22.23	0.630	1.130	22.64	1.055
9/17/05 6:45	20.68	0.187	1.187	22.22	0.630	1.130	22.66	1.055
9/17/05 7:00	20.68	0.187	1.187	22.22	0.630	1.130	22.64	1.055
9/17/05 7:15	20.67	0.187	1.187	22.22	0.630	1.130	22.64	1.055
9/17/05 7:30	20.68	0.187	1.187	22.2	0.630	1.130	22.64	1.055
9/17/05 7:45	20.66	0.187	1.187	22.2	0.630	1.130	22.63	1.055
9/17/05 8:00	20.67	0.187	1.187	22.19	0.630	1.130	22.63	1.056
9/17/05 8:15	20.66	0.186	1.186	22.19	0.629	1.129	22.64	1.055
9/17/05 8:30	20.66	0.186	1.186	22.19	0.629	1.129	22.64	1.055
9/17/05 8:45	20.66	0.186	1.186	22.19	0.629	1.129	22.63	1.055
9/17/05 9:00	20.66	0.186	1.186	22.18	0.629	1.128	22.63	1.055
9/17/05 9:15	20.64	0.185	1.185	22.18	0.628	1.128	22.63	1.055
9/17/05 9:30	20.63	0.184	1.184	22.17	0.627	1.127	22.63	1.055
9/17/05 9:45	20.64	0.184	1.184	22.18	0.627	1.127	22.62	1.055
9/17/05 10:00	20.63	0.184	1.184	22.17	0.626	1.126	22.62	1.055
9/17/05 10:15	20.63	0.183	1.183	22.17	0.626	1.126	22.62	1.054
9/17/05 10:30	20.62	0.183	1.183	22.15	0.625	1.125	22.62	1.055
9/17/05 10:45	20.62	0.183	1.182	22.15	0.625	1.125	22.63	1.054
9/17/05 11:00	20.61	0.182	1.181	22.15	0.625	1.125	22.62	1.054
9/17/05 11:15	20.59	0.181	1.181	22.15	0.624	1.124	22.61	1.054
9/17/05 11:30	20.59	0.181	1.181	22.15	0.624	1.124	22.62	1.054
9/17/05 11:45	20.58	0.180	1.180	22.14	0.623	1.123	22.62	1.053
9/17/05 12:00	20.57	0.180	1.180	22.14	0.623	1.123	22.61	1.053
9/17/05 12:15	20.57	0.180	1.180	22.14	0.623	1.123	22.61	1.053
9/17/05 12:30	20.56	0.180	1.180	22.14	0.623	1.123	22.61	1.052
9/17/05 12:45	20.56	0.180	1.180	22.14	0.623	1.123	22.61	1.053
9/17/05 13:00	20.54	0.180	1.179	22.13	0.622	1.122	22.59	1.052
9/17/05 13:15	20.56	0.178	1.178	22.13	0.622	1.122	22.59	1.052
9/17/05 13:30	20.54	0.178	1.178	22.12	0.622	1.122	22.59	1.052
9/17/05 13:45	20.54	0.179	1.179	22.12	0.622	1.122	22.59	1.051
9/17/05 14:00	20.53	0.178	1.178	22.12	0.621	1.121	22.59	1.051
9/17/05 14:15	20.52	0.178	1.177	22.1	0.621	1.121	22.58	1.051
9/17/05 14:30	20.53	0.178	1.178	22.12	0.621	1.121	22.59	1.051
9/17/05 14:45	20.51	0.178	1.178	22.1	0.621	1.121	22.58	1.050
9/17/05 15:00	20.52	0.178	1.177	22.1	0.621	1.120	22.58	1.049
9/17/05 15:15	20.51	0.177	1.177	22.09	0.621	1.120	22.58	1.050
9/17/05 15:30	20.49	0.177	1.177	22.09	0.620	1.120	22.58	1.050
9/17/05 15:45	20.49	0.177	1.177	22.09	0.620	1.120	22.58	1.049
9/17/05 16:00	20.49	0.176	1.176	22.09	0.618	1.118	22.57	1.047
9/17/05 16:15	20.49	0.176	1.175	22.08	0.619	1.119	22.57	1.048
9/17/05 16:30	20.48	0.175	1.174	22.08	0.619	1.119	22.56	1.049
9/17/05 16:45	20.48	0.175	1.174	22.08	0.618	1.118	22.57	1.048
9/17/05 17:00	20.48	0.175	1.174	22.08	0.618	1.117	22.57	1.049
9/17/05 17:15	20.48	0.174	1.174	22.07	0.617	1.117	22.57	1.048
9/17/05 17:30	20.47	0.174	1.173	22.07	0.617	1.116	22.56	1.048
9/17/05 17:45	20.48	0.174	1.173	22.08	0.617	1.116	22.56	1.048
9/17/05 18:00	20.47	0.174	1.173	22.08	0.616	1.116	22.56	1.048
9/17/05 18:15	20.47	0.173	1.173	22.07	0.616	1.116	22.56	1.047
9/17/05 18:30	20.47	0.173	1.173	22.07	0.616	1.116	22.54	1.047
9/17/05 18:45	20.47	0.173	1.173	22.07	0.616	1.116	22.54	1.047
9/17/05 19:00	20.47	0.172	1.172	22.07	0.615	1.115	22.54	1.047
9/17/05 19:15	20.47	0.172	1.172	22.07	0.615	1.115	22.53	1.046
9/17/05 19:30	20.47	0.172	1.172	22.07	0.615	1.115	22.54	1.046
9/17/05 19:45	20.47	0.172	1.171	22.07	0.614	1.114	22.54	1.045
9/17/05 20:00	20.47	0.172	1.171	22.07	0.614	1.114	22.54	1.045
9/17/05 20:15	20.47	0.172	1.171	22.07	0.614	1.114	22.53	1.046

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/17/05 20:30	20.47	0.172	1.171	22.05	0.614	1.114	22.53	1.045
9/17/05 20:45	20.48	0.171	1.171	22.07	0.614	1.114	22.54	1.045
9/17/05 21:00	20.48	0.172	1.171	22.05	0.614	1.114	22.53	1.045
9/17/05 21:15	20.48	0.172	1.171	22.07	0.614	1.114	22.53	1.045
9/17/05 21:30	20.48	0.171	1.171	22.07	0.614	1.114	22.53	1.045
9/17/05 21:45	20.48	0.172	1.171	22.07	0.614	1.114	22.53	1.044
9/17/05 22:00	20.49	0.172	1.171	22.07	0.614	1.114	22.53	1.044
9/17/05 22:15	20.49	0.172	1.172	22.07	0.615	1.115	22.53	1.044
9/17/05 22:30	20.49	0.173	1.172	22.07	0.616	1.116	22.52	1.044
9/17/05 22:45	20.51	0.173	1.173	22.07	0.616	1.116	22.52	1.044
9/17/05 23:00	20.51	0.173	1.173	22.07	0.616	1.116	22.52	1.044
9/17/05 23:15	20.51	0.173	1.173	22.07	0.617	1.116	22.53	1.044
9/17/05 23:30	20.52	0.174	1.174	22.07	0.617	1.117	22.52	1.044
9/17/05 23:45	20.52	0.174	1.174	22.05	0.617	1.117	22.52	1.044
9/18/05 0:00	20.52	0.174	1.174	22.07	0.617	1.117	22.53	1.044
9/18/05 0:15	20.53	0.175	1.175	22.07	0.618	1.118	22.52	1.043
9/18/05 0:30	20.53	0.175	1.175	22.07	0.618	1.118	22.52	1.044
9/18/05 0:45	20.53	0.176	1.176	22.07	0.619	1.119	22.52	1.043
9/18/05 1:00	20.54	0.176	1.176	22.07	0.619	1.119	22.52	1.043
9/18/05 1:15	20.54	0.176	1.176	22.05	0.619	1.119	22.52	1.044
9/18/05 1:30	20.54	0.177	1.177	22.05	0.620	1.120	22.52	1.043
9/18/05 1:45	20.56	0.177	1.177	22.05	0.620	1.120	22.51	1.043
9/18/05 2:00	20.56	0.178	1.177	22.05	0.621	1.120	22.51	1.044
9/18/05 2:15	20.56	0.178	1.177	22.05	0.621	1.121	22.52	1.044
9/18/05 2:30	20.57	0.178	1.178	22.05	0.621	1.121	22.52	1.044
9/18/05 2:45	20.57	0.178	1.178	22.05	0.621	1.121	22.52	1.043
9/18/05 3:00	20.57	0.179	1.178	22.05	0.622	1.122	22.51	1.044
9/18/05 3:15	20.57	0.179	1.179	22.05	0.622	1.122	22.51	1.044
9/18/05 3:30	20.58	0.180	1.179	22.05	0.623	1.123	22.52	1.044
9/18/05 3:45	20.58	0.180	1.179	22.05	0.623	1.123	22.52	1.044
9/18/05 4:00	20.58	0.180	1.180	22.05	0.623	1.123	22.51	1.044
9/18/05 4:15	20.58	0.180	1.180	22.04	0.623	1.123	22.51	1.045
9/18/05 4:30	20.58	0.181	1.181	22.05	0.623	1.123	22.51	1.045
9/18/05 4:45	20.58	0.181	1.181	22.05	0.624	1.124	22.51	1.045
9/18/05 5:00	20.59	0.181	1.181	22.05	0.624	1.124	22.51	1.045
9/18/05 5:15	20.59	0.182	1.181	22.05	0.624	1.124	22.51	1.045
9/18/05 5:30	20.59	0.182	1.181	22.04	0.624	1.124	22.51	1.045
9/18/05 5:45	20.59	0.182	1.181	22.04	0.624	1.124	22.51	1.045
9/18/05 6:00	20.59	0.182	1.181	22.04	0.625	1.125	22.51	1.045
9/18/05 6:15	20.59	0.182	1.182	22.03	0.625	1.125	22.51	1.045
9/18/05 6:30	20.59	0.182	1.182	22.03	0.624	1.124	22.51	1.045
9/18/05 6:45	20.59	0.182	1.182	22.03	0.625	1.125	22.49	1.045
9/18/05 7:00	20.59	0.182	1.182	22.03	0.625	1.125	22.51	1.046
9/18/05 7:15	20.59	0.182	1.182	22.03	0.625	1.125	22.49	1.046
9/18/05 7:30	20.59	0.182	1.181	22.02	0.625	1.125	22.49	1.046
9/18/05 7:45	20.59	0.182	1.181	22.02	0.625	1.124	22.49	1.045
9/18/05 8:00	20.59	0.182	1.181	22.02	0.625	1.124	22.49	1.046
9/18/05 8:15	20.59	0.181	1.181	22.02	0.624	1.124	22.49	1.046
9/18/05 8:30	20.58	0.181	1.181	22.02	0.623	1.123	22.49	1.046
9/18/05 8:45	20.58	0.181	1.181	22	0.623	1.123	22.49	1.046
9/18/05 9:00	20.58	0.180	1.180	21.99	0.623	1.123	22.48	1.046
9/18/05 9:15	20.58	0.179	1.179	22	0.622	1.122	22.48	1.046
9/18/05 9:30	20.58	0.179	1.178	21.99	0.621	1.121	22.49	1.046
9/18/05 9:45	20.57	0.178	1.178	21.99	0.621	1.121	22.49	1.046
9/18/05 10:00	20.57	0.178	1.177	21.99	0.621	1.120	22.48	1.046
9/18/05 10:15	20.57	0.177	1.177	21.99	0.620	1.120	22.48	1.046
9/18/05 10:30	20.57	0.176	1.176	21.98	0.619	1.119	22.48	1.045
9/18/05 10:45	20.56	0.176	1.175	21.98	0.619	1.119	22.48	1.045
9/18/05 11:00	20.56	0.175	1.175	21.97	0.618	1.118	22.48	1.045
9/18/05 11:15	20.56	0.175	1.174	21.98	0.618	1.118	22.48	1.045
9/18/05 11:30	20.56	0.173	1.173	21.98	0.617	1.117	22.47	1.045
9/18/05 11:45	20.54	0.173	1.173	21.97	0.616	1.116	22.48	1.045
9/18/05 12:00	20.54	0.173	1.172	21.97	0.616	1.116	22.48	1.045
9/18/05 12:15	20.53	0.172	1.172	21.97	0.616	1.116	22.47	1.044
9/18/05 12:30	20.53	0.172	1.171	21.95	0.615	1.115	22.47	1.044
9/18/05 12:45	20.52	0.171	1.171	21.95	0.615	1.115	22.45	1.044
9/18/05 13:00	20.52	0.171	1.171	21.97	0.614	1.114	22.47	1.044
9/18/05 13:15	20.53	0.172	1.171	21.97	0.615	1.115	22.45	1.043
9/18/05 13:30	20.52	0.171	1.170	21.97	0.614	1.114	22.45	1.044
9/18/05 13:45	20.52	0.171	1.171	21.97	0.614	1.114	22.45	1.043
9/18/05 14:00	20.52	0.171	1.170	21.95	0.614	1.114	22.47	1.043
9/18/05 14:15	20.51	0.171	1.171	21.95	0.614	1.114	22.45	1.043

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/18/05 14:30	20.51	0.171	1.171	21.95	0.614	1.114	22.45	1.043
9/18/05 14:45	20.51	0.170	1.170	21.95	0.614	1.114	22.45	1.042
9/18/05 15:00	20.49	0.170	1.170	21.95	0.613	1.113	22.44	1.042
9/18/05 15:15	20.49	0.170	1.170	21.95	0.613	1.113	22.44	1.042
9/18/05 15:30	20.49	0.169	1.169	21.95	0.613	1.113	22.44	1.041
9/18/05 15:45	20.49	0.169	1.169	21.94	0.612	1.112	22.44	1.042
9/18/05 16:00	20.49	0.169	1.169	21.94	0.612	1.112	22.43	1.041
9/18/05 16:15	20.48	0.169	1.169	21.94	0.612	1.112	22.44	1.041
9/18/05 16:30	20.48	0.169	1.168	21.94	0.612	1.112	22.43	1.041
9/18/05 16:45	20.48	0.171	1.170	21.95	0.613	1.113	22.43	1.040
9/18/05 17:00	20.48	0.170	1.170	21.94	0.614	1.113	22.44	1.040
9/18/05 17:15	20.48	0.170	1.170	21.94	0.613	1.113	22.43	1.040
9/18/05 17:30	20.48	0.169	1.169	21.94	0.612	1.112	22.43	1.040
9/18/05 17:45	20.48	0.169	1.169	21.93	0.612	1.112	22.43	1.040
9/18/05 18:00	20.48	0.169	1.169	21.93	0.612	1.112	22.42	1.040
9/18/05 18:15	20.48	0.169	1.169	21.93	0.611	1.111	22.42	1.039
9/18/05 18:30	20.48	0.169	1.169	21.93	0.611	1.111	22.43	1.039
9/18/05 18:45	20.48	0.169	1.169	21.93	0.612	1.112	22.42	1.039
9/18/05 19:00	20.48	0.169	1.169	21.93	0.612	1.112	22.42	1.039
9/18/05 19:15	20.48	0.169	1.169	21.93	0.612	1.112	22.42	1.039
9/18/05 19:30	20.48	0.169	1.169	21.93	0.612	1.112	22.42	1.039
9/18/05 19:45	20.49	0.169	1.169	21.93	0.612	1.112	22.43	1.039
9/18/05 20:00	20.49	0.170	1.170	21.93	0.613	1.113	22.42	1.038
9/18/05 20:15	20.49	0.170	1.170	21.93	0.613	1.113	22.43	1.038
9/18/05 20:30	20.49	0.170	1.170	21.94	0.614	1.113	22.42	1.038
9/18/05 20:45	20.51	0.171	1.171	21.93	0.614	1.113	22.42	1.038
9/18/05 21:00	20.51	0.171	1.171	21.93	0.615	1.115	22.42	1.038
9/18/05 21:15	20.51	0.171	1.171	21.93	0.615	1.115	22.42	1.038
9/18/05 21:30	20.52	0.172	1.172	21.94	0.614	1.114	22.42	1.038
9/18/05 21:45	20.52	0.172	1.172	21.94	0.615	1.115	22.42	1.038
9/18/05 22:00	20.52	0.173	1.173	21.93	0.616	1.116	22.42	1.038
9/18/05 22:15	20.53	0.173	1.173	21.93	0.616	1.116	22.42	1.039
9/18/05 22:30	20.54	0.174	1.173	21.93	0.616	1.116	22.42	1.038
9/18/05 22:45	20.54	0.174	1.173	21.93	0.617	1.117	22.42	1.038
9/18/05 23:00	20.54	0.174	1.174	21.93	0.617	1.117	22.42	1.038
9/18/05 23:15	20.56	0.175	1.174	21.94	0.618	1.118	22.42	1.038
9/18/05 23:30	20.56	0.175	1.175	21.93	0.618	1.118	22.42	1.038
9/18/05 23:45	20.57	0.175	1.175	21.93	0.618	1.118	22.42	1.038
9/19/05 0:00	20.57	0.176	1.175	21.94	0.618	1.118	22.4	1.038
9/19/05 0:15	20.57	0.176	1.176	21.93	0.619	1.119	22.42	1.039
9/19/05 0:30	20.58	0.176	1.176	21.94	0.619	1.119	22.42	1.039
9/19/05 0:45	20.58	0.177	1.177	21.94	0.620	1.120	22.42	1.039
9/19/05 1:00	20.59	0.177	1.177	21.93	0.621	1.120	22.42	1.039
9/19/05 1:15	20.59	0.178	1.178	21.94	0.621	1.121	22.42	1.039
9/19/05 1:30	20.61	0.178	1.178	21.94	0.621	1.121	22.42	1.039
9/19/05 1:45	20.61	0.179	1.179	21.94	0.622	1.122	22.42	1.040
9/19/05 2:00	20.62	0.179	1.179	21.94	0.622	1.122	22.42	1.040
9/19/05 2:15	20.62	0.180	1.180	21.93	0.623	1.123	22.42	1.040
9/19/05 2:30	20.63	0.180	1.180	21.94	0.623	1.123	22.42	1.040
9/19/05 2:45	20.63	0.181	1.181	21.94	0.624	1.124	22.42	1.040
9/19/05 3:00	20.64	0.182	1.181	21.93	0.624	1.124	22.42	1.040
9/19/05 3:15	20.64	0.182	1.181	21.93	0.625	1.125	22.42	1.041
9/19/05 3:30	20.64	0.182	1.182	21.94	0.625	1.124	22.42	1.041
9/19/05 3:45	20.66	0.183	1.182	21.93	0.625	1.125	22.42	1.042
9/19/05 4:00	20.66	0.183	1.182	21.94	0.626	1.126	22.42	1.042
9/19/05 4:15	20.66	0.183	1.183	21.93	0.626	1.126	22.42	1.042
9/19/05 4:30	20.67	0.183	1.183	21.93	0.626	1.126	22.42	1.042
9/19/05 4:45	20.67	0.184	1.184	21.94	0.627	1.127	22.42	1.042
9/19/05 5:00	20.67	0.184	1.184	21.94	0.627	1.127	22.42	1.042
9/19/05 5:15	20.68	0.184	1.184	21.93	0.627	1.127	22.42	1.042
9/19/05 5:30	20.68	0.184	1.184	21.93	0.627	1.127	22.42	1.043
9/19/05 5:45	20.68	0.185	1.185	21.93	0.627	1.127	22.42	1.043
9/19/05 6:00	20.68	0.185	1.185	21.92	0.628	1.128	22.42	1.043
9/19/05 6:15	20.68	0.186	1.185	21.92	0.628	1.128	22.42	1.044
9/19/05 6:30	20.69	0.185	1.185	21.92	0.628	1.128	22.42	1.043
9/19/05 6:45	20.69	0.186	1.186	21.93	0.629	1.128	22.4	1.044
9/19/05 7:00	20.69	0.186	1.186	21.92	0.629	1.129	22.4	1.044
9/19/05 7:15	20.69	0.187	1.186	21.92	0.629	1.129	22.42	1.045
9/19/05 7:30	20.69	0.187	1.186	21.92	0.630	1.130	22.4	1.045
9/19/05 7:45	20.69	0.187	1.187	21.92	0.630	1.130	22.42	1.045
9/19/05 8:00	20.69	0.187	1.187	21.9	0.630	1.130	22.42	1.045
9/19/05 8:15	20.69	0.187	1.186	21.9	0.629	1.129	22.4	1.045

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/19/05 8:30	20.69	0.187	1.186	21.9	0.629	1.128	22.42	1.045
9/19/05 8:45	20.69	0.187	1.186	21.89	0.629	1.129	22.4	1.045
9/19/05 9:00	20.69	0.186	1.186	21.89	0.628	1.128	22.42	1.045
9/19/05 9:15	20.69	0.185	1.185	21.89	0.628	1.127	22.42	1.045
9/19/05 9:30	20.69	0.184	1.184	21.89	0.627	1.127	22.42	1.045
9/19/05 9:45	20.69	0.184	1.184	21.88	0.626	1.126	22.4	1.045
9/19/05 10:00	20.68	0.183	1.183	21.88	0.626	1.126	22.4	1.045
9/19/05 10:15	20.69	0.182	1.182	21.88	0.625	1.125	22.4	1.045
9/19/05 10:30	20.68	0.181	1.181	21.88	0.624	1.124	22.4	1.045
9/19/05 10:45	20.68	0.181	1.181	21.87	0.624	1.124	22.4	1.045
9/19/05 11:00	20.67	0.180	1.180	21.87	0.623	1.123	22.4	1.045
9/19/05 11:15	20.68	0.179	1.178	21.88	0.621	1.121	22.4	1.045
9/19/05 11:30	20.68	0.178	1.177	21.87	0.621	1.120	22.4	1.045
9/19/05 11:45	20.67	0.177	1.177	21.87	0.620	1.120	22.4	1.045
9/19/05 12:00	20.67	0.176	1.176	21.87	0.619	1.119	22.4	1.045
9/19/05 12:15	20.67	0.175	1.175	21.87	0.618	1.118	22.39	1.045
9/19/05 12:30	20.67	0.174	1.174	21.87	0.617	1.117	22.4	1.045
9/19/05 12:45	20.66	0.173	1.173	21.87	0.616	1.116	22.39	1.045
9/19/05 13:00	20.66	0.173	1.173	21.85	0.616	1.116	22.39	1.044
9/19/05 13:15	20.66	0.172	1.171	21.85	0.615	1.115	22.39	1.044
9/19/05 13:30	20.66	0.171	1.170	21.87	0.614	1.113	22.39	1.044
9/19/05 13:45	20.66	0.170	1.170	21.87	0.613	1.113	22.39	1.043
9/19/05 14:00	20.66	0.169	1.169	21.85	0.612	1.112	22.39	1.043
9/19/05 14:15	20.66	0.169	1.168	21.87	0.611	1.111	22.39	1.043
9/19/05 14:30	20.66	0.168	1.168	21.87	0.611	1.111	22.38	1.042
9/19/05 14:45	20.64	0.168	1.168	21.87	0.611	1.111	22.38	1.042
9/19/05 15:00	20.64	0.168	1.168	21.87	0.611	1.110	22.38	1.042
9/19/05 15:15	20.64	0.168	1.167	21.87	0.611	1.110	22.38	1.042
9/19/05 15:30	20.64	0.168	1.167	21.87	0.611	1.110	22.38	1.042
9/19/05 15:45	20.64	0.167	1.167	21.88	0.610	1.110	22.38	1.041
9/19/05 16:00	20.64	0.167	1.167	21.88	0.610	1.110	22.38	1.041
9/19/05 16:15	20.63	0.167	1.167	21.88	0.610	1.110	22.38	1.040
9/19/05 16:30	20.63	0.167	1.167	21.88	0.610	1.110	22.37	1.040
9/19/05 16:45	20.63	0.167	1.166	21.89	0.610	1.109	22.38	1.040
9/19/05 17:00	20.63	0.167	1.167	21.89	0.610	1.109	22.37	1.040
9/19/05 17:15	20.63	0.167	1.167	21.89	0.610	1.109	22.38	1.040
9/19/05 17:30	20.63	0.167	1.166	21.89	0.609	1.109	22.38	1.039
9/19/05 17:45	20.63	0.167	1.166	21.89	0.609	1.109	22.37	1.039
9/19/05 18:00	20.63	0.167	1.166	21.89	0.609	1.109	22.38	1.039
9/19/05 18:15	20.63	0.167	1.166	21.89	0.609	1.109	22.38	1.039
9/19/05 18:30	20.63	0.166	1.166	21.89	0.609	1.109	22.37	1.039
9/19/05 18:45	20.63	0.166	1.166	21.89	0.609	1.109	22.37	1.038
9/19/05 19:00	20.63	0.166	1.166	21.89	0.609	1.109	22.37	1.038
9/19/05 19:15	20.63	0.166	1.165	21.89	0.608	1.108	22.37	1.038
9/19/05 19:30	20.63	0.166	1.166	21.89	0.609	1.109	22.37	1.037
9/19/05 19:45	20.63	0.166	1.166	21.89	0.608	1.108	22.37	1.037
9/19/05 20:00	20.64	0.166	1.166	21.89	0.608	1.108	22.37	1.037
9/19/05 20:15	20.64	0.166	1.166	21.9	0.608	1.108	22.37	1.037
9/19/05 20:30	20.64	0.166	1.166	21.9	0.608	1.108	22.37	1.037
9/19/05 20:45	20.64	0.166	1.166	21.9	0.608	1.108	22.37	1.037
9/19/05 21:00	20.66	0.166	1.166	21.9	0.609	1.109	22.37	1.037
9/19/05 21:15	20.66	0.166	1.166	21.9	0.609	1.109	22.37	1.037
9/19/05 21:30	20.66	0.167	1.167	21.9	0.610	1.109	22.37	1.037
9/19/05 21:45	20.67	0.167	1.166	21.92	0.610	1.110	22.37	1.037
9/19/05 22:00	20.67	0.168	1.168	21.92	0.611	1.110	22.37	1.037
9/19/05 22:15	20.67	0.168	1.168	21.92	0.611	1.110	22.37	1.037
9/19/05 22:30	20.68	0.168	1.168	21.92	0.611	1.111	22.37	1.037
9/19/05 22:45	20.68	0.169	1.169	21.92	0.611	1.111	22.37	1.037
9/19/05 23:00	20.68	0.169	1.169	21.92	0.612	1.112	22.37	1.037
9/19/05 23:15	20.69	0.170	1.170	21.92	0.612	1.112	22.37	1.037
9/19/05 23:30	20.69	0.170	1.170	21.92	0.613	1.113	22.37	1.037
9/19/05 23:45	20.71	0.170	1.170	21.92	0.613	1.113	22.37	1.037
9/20/05 0:00	20.71	0.171	1.170	21.93	0.613	1.113	22.37	1.037
9/20/05 0:15	20.72	0.171	1.171	21.92	0.614	1.113	22.37	1.037
9/20/05 0:30	20.72	0.172	1.171	21.93	0.614	1.114	22.37	1.037
9/20/05 0:45	20.73	0.172	1.172	21.93	0.614	1.114	22.37	1.037
9/20/05 1:00	20.73	0.173	1.172	21.92	0.615	1.115	22.38	1.037
9/20/05 1:15	20.74	0.173	1.172	21.93	0.615	1.115	22.38	1.037
9/20/05 1:30	20.74	0.173	1.173	21.93	0.616	1.116	22.37	1.037
9/20/05 1:45	20.76	0.174	1.174	21.93	0.616	1.116	22.38	1.037
9/20/05 2:00	20.76	0.174	1.174	21.93	0.616	1.116	22.38	1.037
9/20/05 2:15	20.77	0.174	1.173	21.93	0.616	1.116	22.38	1.037

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/20/05 2:30	20.77	0.174	1.174	21.93	0.617	1.117	22.37	1.037
9/20/05 2:45	20.78	0.175	1.174	21.93	0.617	1.117	22.38	1.038
9/20/05 3:00	20.78	0.175	1.175	21.93	0.617	1.117	22.38	1.038
9/20/05 3:15	20.79	0.175	1.175	21.93	0.618	1.118	22.38	1.038
9/20/05 3:30	20.79	0.176	1.175	21.93	0.618	1.118	22.38	1.038
9/20/05 3:45	20.79	0.176	1.176	21.93	0.618	1.118	22.38	1.038
9/20/05 4:00	20.81	0.176	1.176	21.93	0.618	1.118	22.38	1.038
9/20/05 4:15	20.81	0.176	1.176	21.93	0.619	1.119	22.38	1.038
9/20/05 4:30	20.81	0.176	1.176	21.93	0.619	1.119	22.38	1.038
9/20/05 4:45	20.82	0.176	1.176	21.93	0.619	1.119	22.38	1.039
9/20/05 5:00	20.82	0.177	1.177	21.93	0.619	1.119	22.38	1.039
9/20/05 5:15	20.83	0.177	1.177	21.93	0.619	1.119	22.38	1.039
9/20/05 5:30	20.83	0.177	1.177	21.93	0.620	1.120	22.38	1.039
9/20/05 5:45	20.83	0.177	1.177	21.93	0.620	1.120	22.38	1.039
9/20/05 6:00	20.84	0.177	1.177	21.93	0.620	1.120	22.38	1.039
9/20/05 6:15	20.84	0.177	1.177	21.93	0.620	1.120	22.38	1.040
9/20/05 6:30	20.86	0.178	1.177	21.94	0.620	1.120	22.38	1.040
9/20/05 6:45	20.86	0.177	1.177	21.93	0.620	1.120	22.38	1.040
9/20/05 7:00	20.86	0.178	1.177	21.93	0.620	1.120	22.38	1.040
9/20/05 7:15	20.86	0.177	1.177	21.93	0.620	1.120	22.38	1.040
9/20/05 7:30	20.87	0.178	1.177	21.93	0.620	1.120	22.38	1.040
9/20/05 7:45	20.87	0.178	1.177	21.93	0.619	1.119	22.38	1.040
9/20/05 8:00	20.87	0.177	1.177	21.93	0.619	1.119	22.38	1.040
9/20/05 8:15	20.87	0.176	1.176	21.93	0.619	1.119	22.38	1.040
9/20/05 8:30	20.87	0.176	1.176	21.93	0.619	1.119	22.38	1.040
9/20/05 8:45	20.87	0.176	1.175	21.93	0.618	1.118	22.38	1.040
9/20/05 9:00	20.88	0.176	1.175	21.92	0.618	1.117	22.38	1.040
9/20/05 9:15	20.88	0.174	1.174	21.92	0.617	1.117	22.38	1.040
9/20/05 9:30	20.88	0.174	1.173	21.92	0.616	1.116	22.38	1.040
9/20/05 9:45	20.88	0.173	1.173	21.92	0.615	1.115	22.38	1.040
9/20/05 10:00	20.88	0.172	1.172	21.92	0.614	1.114	22.38	1.040
9/20/05 10:15	20.88	0.171	1.170	21.92	0.614	1.113	22.38	1.040
9/20/05 10:30	20.88	0.170	1.170	21.92	0.613	1.113	22.38	1.040
9/20/05 10:45	20.88	0.169	1.169	21.92	0.612	1.112	22.38	1.039
9/20/05 11:00	20.88	0.169	1.168	21.92	0.611	1.111	22.38	1.039
9/20/05 11:15	20.88	0.168	1.167	21.93	0.611	1.110	22.38	1.039
9/20/05 11:30	20.88	0.167	1.167	21.92	0.610	1.110	22.38	1.039
9/20/05 11:45	20.88	0.166	1.166	21.93	0.609	1.109	22.37	1.038
9/20/05 12:00	20.87	0.166	1.166	21.93	0.609	1.109	22.38	1.038
9/20/05 12:15	20.87	0.166	1.165	21.93	0.609	1.109	22.37	1.038
9/20/05 12:30	20.87	0.165	1.165	21.93	0.608	1.108	22.38	1.038
9/20/05 12:45	20.87	0.165	1.165	21.93	0.608	1.108	22.38	1.038
9/20/05 13:00	20.87	0.165	1.164	21.93	0.608	1.108	22.38	1.038
9/20/05 13:15	20.87	0.164	1.164	21.93	0.607	1.107	22.38	1.037
9/20/05 13:30	20.87	0.165	1.164	21.93	0.607	1.107	22.38	1.037
9/20/05 13:45	20.87	0.164	1.164	21.93	0.607	1.107	22.37	1.037
9/20/05 14:00	20.87	0.164	1.164	21.93	0.607	1.107	22.38	1.037
9/20/05 14:15	20.87	0.164	1.164	21.93	0.607	1.107	22.37	1.036
9/20/05 14:30	20.87	0.163	1.163	21.93	0.607	1.107	22.38	1.036
9/20/05 14:45	20.87	0.164	1.164	21.93	0.607	1.107	22.38	1.036
9/20/05 15:00	20.87	0.163	1.163	21.93	0.606	1.106	22.37	1.036
9/20/05 15:15	20.86	0.163	1.163	21.93	0.606	1.106	22.37	1.034
9/20/05 15:30	20.87	0.163	1.163	21.93	0.607	1.107	22.37	1.035
9/20/05 15:45	20.86	0.163	1.163	21.93	0.606	1.106	22.37	1.035
9/20/05 16:00	20.87	0.163	1.163	21.93	0.606	1.106	22.37	1.035
9/20/05 16:15	20.86	0.162	1.162	21.93	0.606	1.106	22.37	1.034
9/20/05 16:30	20.86	0.162	1.162	21.93	0.606	1.106	22.37	1.034
9/20/05 16:45	20.86	0.162	1.162	21.93	0.606	1.106	22.37	1.034
9/20/05 17:00	20.87	0.162	1.162	21.93	0.605	1.105	22.37	1.034
9/20/05 17:15	20.87	0.162	1.162	21.93	0.605	1.105	22.37	1.034
9/20/05 17:30	20.87	0.162	1.162	21.93	0.605	1.105	22.37	1.034
9/20/05 17:45	20.87	0.162	1.162	21.93	0.605	1.105	22.35	1.034
9/20/05 18:00	20.88	0.162	1.162	21.93	0.605	1.105	22.37	1.034
9/20/05 18:15	20.87	0.162	1.162	21.93	0.605	1.105	22.35	1.033
9/20/05 18:30	20.88	0.162	1.162	21.93	0.605	1.105	22.37	1.033
9/20/05 18:45	20.88	0.162	1.162	21.93	0.604	1.104	22.35	1.033
9/20/05 19:00	20.88	0.162	1.162	21.93	0.604	1.104	22.37	1.033
9/20/05 19:15	20.88	0.162	1.162	21.93	0.604	1.104	22.35	1.032
9/20/05 19:30	20.88	0.162	1.162	21.93	0.605	1.105	22.37	1.032
9/20/05 19:45	20.9	0.162	1.162	21.93	0.605	1.105	22.37	1.032
9/20/05 20:00	20.9	0.162	1.162	21.94	0.604	1.104	22.37	1.032
9/20/05 20:15	20.91	0.163	1.163	21.94	0.605	1.105	22.37	1.032

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/20/05 20:30	20.91	0.163	1.163	21.94	0.605	1.105	22.37	1.032
9/20/05 20:45	20.91	0.163	1.163	21.94	0.606	1.106	22.37	1.031
9/20/05 21:00	20.92	0.164	1.163	21.94	0.606	1.106	22.37	1.031
9/20/05 21:15	20.92	0.164	1.164	21.94	0.607	1.106	22.37	1.031
9/20/05 21:30	20.93	0.164	1.164	21.94	0.607	1.106	22.37	1.031
9/20/05 21:45	20.93	0.165	1.164	21.94	0.607	1.107	22.37	1.031
9/20/05 22:00	20.95	0.165	1.165	21.94	0.607	1.107	22.37	1.031
9/20/05 22:15	20.95	0.166	1.165	21.94	0.607	1.107	22.37	1.031
9/20/05 22:30	20.96	0.166	1.165	21.94	0.608	1.108	22.38	1.031
9/20/05 22:45	20.96	0.166	1.166	21.94	0.608	1.108	22.37	1.031
9/20/05 23:00	20.97	0.166	1.166	21.95	0.609	1.109	22.38	1.031
9/20/05 23:15	20.97	0.166	1.166	21.95	0.609	1.109	22.38	1.031
9/20/05 23:30	20.98	0.167	1.166	21.95	0.609	1.109	22.38	1.031
9/20/05 23:45	21	0.167	1.167	21.95	0.610	1.109	22.38	1.032
9/21/05 0:00	21	0.168	1.167	21.95	0.610	1.110	22.38	1.031
9/21/05 0:15	21	0.168	1.168	21.95	0.611	1.111	22.38	1.032
9/21/05 0:30	21.01	0.169	1.168	21.95	0.611	1.111	22.38	1.031
9/21/05 0:45	21.02	0.169	1.169	21.97	0.611	1.111	22.38	1.032
9/21/05 1:00	21.02	0.169	1.169	21.97	0.612	1.112	22.38	1.032
9/21/05 1:15	21.03	0.170	1.170	21.97	0.613	1.113	22.38	1.032
9/21/05 1:30	21.03	0.171	1.171	21.97	0.613	1.113	22.39	1.032
9/21/05 1:45	21.05	0.171	1.171	21.97	0.614	1.114	22.39	1.032
9/21/05 2:00	21.05	0.172	1.172	21.98	0.614	1.114	22.39	1.032
9/21/05 2:15	21.06	0.172	1.172	21.97	0.615	1.115	22.39	1.032
9/21/05 2:30	21.07	0.173	1.173	21.98	0.615	1.115	22.39	1.033
9/21/05 2:45	21.07	0.173	1.173	21.98	0.616	1.116	22.38	1.033
9/21/05 3:00	21.07	0.174	1.173	21.98	0.616	1.116	22.39	1.034
9/21/05 3:15	21.08	0.174	1.174	21.98	0.617	1.117	22.39	1.034
9/21/05 3:30	21.08	0.175	1.174	21.98	0.617	1.117	22.39	1.034
9/21/05 3:45	21.1	0.175	1.175	21.98	0.618	1.117	22.39	1.034
9/21/05 4:00	21.1	0.176	1.175	21.98	0.618	1.117	22.39	1.034
9/21/05 4:15	21.1	0.176	1.175	21.98	0.618	1.118	22.39	1.034
9/21/05 4:30	21.11	0.176	1.176	21.98	0.618	1.118	22.39	1.034
9/21/05 4:45	21.11	0.176	1.176	21.98	0.618	1.118	22.39	1.035
9/21/05 5:00	21.11	0.176	1.176	21.98	0.618	1.118	22.39	1.035
9/21/05 5:15	21.12	0.176	1.176	21.98	0.618	1.118	22.39	1.035
9/21/05 5:30	21.12	0.176	1.176	21.98	0.619	1.119	22.39	1.035
9/21/05 5:45	21.12	0.176	1.176	21.98	0.618	1.118	22.39	1.035
9/21/05 6:00	21.12	0.176	1.176	21.98	0.619	1.119	22.39	1.035
9/21/05 6:15	21.12	0.176	1.176	21.98	0.619	1.119	22.4	1.035
9/21/05 6:30	21.13	0.176	1.176	21.98	0.619	1.119	22.4	1.036
9/21/05 6:45	21.13	0.177	1.177	21.98	0.620	1.120	22.4	1.036
9/21/05 7:00	21.13	0.177	1.177	21.98	0.620	1.120	22.4	1.036
9/21/05 7:15	21.13	0.177	1.177	21.98	0.619	1.119	22.4	1.036
9/21/05 7:30	21.13	0.177	1.177	21.98	0.619	1.119	22.4	1.036
9/21/05 7:45	21.13	0.177	1.177	21.98	0.619	1.119	22.4	1.036
9/21/05 8:00	21.13	0.177	1.177	21.98	0.619	1.119	22.4	1.036
9/21/05 8:15	21.13	0.176	1.176	21.97	0.619	1.119	22.4	1.037
9/21/05 8:30	21.13	0.177	1.177	21.97	0.618	1.118	22.4	1.036
9/21/05 8:45	21.13	0.176	1.176	21.97	0.619	1.119	22.4	1.037
9/21/05 9:00	21.13	0.176	1.176	21.97	0.618	1.118	22.4	1.036
9/21/05 9:15	21.13	0.175	1.175	21.97	0.618	1.118	22.4	1.035
9/21/05 9:30	21.13	0.175	1.175	21.97	0.618	1.117	22.4	1.036
9/21/05 9:45	21.13	0.174	1.173	21.97	0.616	1.116	22.4	1.036
9/21/05 10:00	21.12	0.174	1.174	21.97	0.616	1.116	22.4	1.037
9/21/05 10:15	21.12	0.173	1.173	21.97	0.615	1.115	22.39	1.037
9/21/05 10:30	21.12	0.171	1.171	21.97	0.614	1.114	22.4	1.036
9/21/05 10:45	21.12	0.171	1.170	21.97	0.613	1.113	22.39	1.037
9/21/05 11:00	21.11	0.169	1.169	21.97	0.612	1.112	22.4	1.036
9/21/05 11:15	21.11	0.168	1.168	21.95	0.611	1.111	22.39	1.037
9/21/05 11:30	21.11	0.167	1.167	21.97	0.610	1.110	22.4	1.036
9/21/05 11:45	21.1	0.167	1.166	21.95	0.610	1.109	22.39	1.037
9/21/05 12:00	21.1	0.166	1.166	21.95	0.609	1.109	22.39	1.035
9/21/05 12:15	21.1	0.165	1.165	21.95	0.608	1.108	22.39	1.036
9/21/05 12:30	21.08	0.164	1.164	21.95	0.607	1.107	22.39	1.035
9/21/05 12:45	21.07	0.164	1.164	21.95	0.607	1.106	22.39	1.034
9/21/05 13:00	21.07	0.162	1.162	21.95	0.605	1.105	22.39	1.035
9/21/05 13:15	21.07	0.161	1.161	21.95	0.604	1.104	22.39	1.035
9/21/05 13:30	21.07	0.161	1.161	21.95	0.604	1.104	22.38	1.035
9/21/05 13:45	21.06	0.161	1.161	21.95	0.604	1.104	22.39	1.034
9/21/05 14:00	21.06	0.161	1.161	21.95	0.604	1.104	22.38	1.034
9/21/05 14:15	21.05	0.161	1.161	21.95	0.603	1.103	22.38	1.034

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/21/05 14:30	21.05	0.160	1.160	21.95	0.603	1.103	22.38	1.033
9/21/05 14:45	21.05	0.160	1.160	21.95	0.603	1.103	22.38	1.033
9/21/05 15:00	21.05	0.160	1.160	21.95	0.603	1.103	22.38	1.032
9/21/05 15:15	21.03	0.160	1.160	21.95	0.603	1.103	22.38	1.032
9/21/05 15:30	21.03	0.159	1.159	21.95	0.603	1.103	22.38	1.031
9/21/05 15:45	21.02	0.160	1.159	21.95	0.602	1.102	22.37	1.031
9/21/05 16:00	21.02	0.160	1.159	21.95	0.602	1.102	22.37	1.030
9/21/05 16:15	21.02	0.159	1.159	21.95	0.602	1.102	22.37	1.031
9/21/05 16:30	21.02	0.159	1.159	21.94	0.602	1.102	22.37	1.031
9/21/05 16:45	21.01	0.159	1.159	21.95	0.602	1.102	22.37	1.031
9/21/05 17:00	21.01	0.159	1.159	21.95	0.601	1.101	22.37	1.031
9/21/05 17:15	21.01	0.159	1.159	21.94	0.601	1.101	22.37	1.031
9/21/05 17:30	21.01	0.159	1.159	21.94	0.601	1.101	22.37	1.031
9/21/05 17:45	21	0.158	1.158	21.94	0.601	1.101	22.37	1.031
9/21/05 18:00	21	0.159	1.159	21.94	0.601	1.101	22.37	1.030
9/21/05 18:15	21	0.158	1.158	21.94	0.601	1.101	22.37	1.030
9/21/05 18:30	21	0.158	1.158	21.94	0.601	1.101	22.37	1.030
9/21/05 18:45	21	0.158	1.158	21.94	0.600	1.100	22.37	1.030
9/21/05 19:00	21	0.158	1.157	21.94	0.600	1.100	22.37	1.030
9/21/05 19:15	21	0.158	1.157	21.94	0.600	1.100	22.37	1.030
9/21/05 19:30	21	0.158	1.157	21.94	0.600	1.100	22.35	1.029
9/21/05 19:45	21	0.158	1.157	21.94	0.600	1.100	22.35	1.029
9/21/05 20:00	21	0.158	1.157	21.94	0.600	1.100	22.37	1.028
9/21/05 20:15	21.01	0.158	1.157	21.94	0.600	1.100	22.37	1.028
9/21/05 20:30	21.01	0.158	1.158	21.94	0.600	1.100	22.35	1.029
9/21/05 20:45	21.01	0.158	1.157	21.94	0.601	1.101	22.37	1.028
9/21/05 21:00	21.01	0.159	1.159	21.95	0.601	1.101	22.37	1.028
9/21/05 21:15	21.01	0.158	1.158	21.95	0.601	1.101	22.35	1.027
9/21/05 21:30	21.01	0.159	1.159	21.95	0.601	1.101	22.37	1.028
9/21/05 21:45	21.01	0.159	1.159	21.95	0.601	1.101	22.35	1.027
9/21/05 22:00	21.02	0.159	1.159	21.95	0.602	1.102	22.37	1.027
9/21/05 22:15	21.02	0.160	1.159	21.95	0.602	1.102	22.35	1.027
9/21/05 22:30	21.02	0.160	1.159	21.95	0.602	1.102	22.37	1.027
9/21/05 22:45	21.02	0.161	1.160	21.95	0.603	1.103	22.37	1.028
9/21/05 23:00	21.03	0.161	1.161	21.95	0.603	1.103	22.37	1.027
9/21/05 23:15	21.03	0.162	1.161	21.95	0.604	1.104	22.37	1.027
9/21/05 23:30	21.05	0.162	1.162	21.97	0.604	1.104	22.37	1.027
9/21/05 23:45	21.05	0.162	1.162	21.97	0.605	1.105	22.37	1.027
9/22/05 0:00	21.05	0.164	1.163	21.97	0.606	1.106	22.37	1.027
9/22/05 0:15	21.06	0.163	1.163	21.97	0.606	1.106	22.37	1.027
9/22/05 0:30	21.06	0.164	1.164	21.97	0.606	1.106	22.37	1.028
9/22/05 0:45	21.06	0.165	1.164	21.97	0.607	1.107	22.37	1.027
9/22/05 1:00	21.07	0.166	1.165	21.97	0.607	1.107	22.37	1.028
9/22/05 1:15	21.07	0.166	1.165	21.97	0.608	1.108	22.37	1.028
9/22/05 1:30	21.07	0.166	1.166	21.97	0.608	1.108	22.37	1.028
9/22/05 1:45	21.08	0.166	1.166	21.97	0.608	1.108	22.37	1.028
9/22/05 2:00	21.08	0.166	1.166	21.97	0.608	1.108	22.37	1.028
9/22/05 2:15	21.08	0.166	1.166	21.97	0.609	1.109	22.37	1.028
9/22/05 2:30	21.1	0.167	1.166	21.97	0.609	1.109	22.37	1.028
9/22/05 2:45	21.1	0.166	1.166	21.97	0.609	1.109	22.38	1.028
9/22/05 3:00	21.1	0.167	1.166	21.97	0.609	1.109	22.38	1.028
9/22/05 3:15	21.11	0.166	1.166	21.97	0.608	1.108	22.38	1.029
9/22/05 3:30	21.11	0.167	1.166	21.97	0.608	1.108	22.37	1.029
9/22/05 3:45	21.11	0.166	1.166	21.97	0.609	1.109	22.38	1.029
9/22/05 4:00	21.11	0.167	1.166	21.97	0.609	1.109	22.38	1.029
9/22/05 4:15	21.11	0.167	1.166	21.97	0.608	1.108	22.38	1.029
9/22/05 4:30	21.12	0.167	1.166	21.97	0.608	1.108	22.38	1.029
9/22/05 4:45	21.12	0.167	1.166	21.97	0.608	1.108	22.38	1.029
9/22/05 5:00	21.12	0.167	1.166	21.97	0.609	1.109	22.38	1.029
9/22/05 5:15	21.13	0.167	1.167	21.97	0.609	1.109	22.38	1.029
9/22/05 5:30	21.13	0.167	1.167	21.98	0.609	1.109	22.38	1.030
9/22/05 5:45	21.13	0.167	1.167	21.98	0.609	1.109	22.38	1.030
9/22/05 6:00	21.13	0.168	1.167	21.98	0.609	1.109	22.38	1.031
9/22/05 6:15	21.13	0.167	1.167	21.98	0.610	1.109	22.38	1.031
9/22/05 6:30	21.15	0.167	1.167	21.98	0.610	1.109	22.38	1.031
9/22/05 6:45	21.13	0.167	1.167	21.98	0.609	1.109	22.38	1.031
9/22/05 7:00	21.15	0.167	1.167	21.98	0.610	1.109	22.38	1.031
9/22/05 7:15	21.15	0.167	1.167	21.98	0.609	1.109	22.38	1.031
9/22/05 7:30	21.15	0.167	1.167	21.98	0.610	1.109	22.38	1.031
9/22/05 7:45	21.15	0.167	1.167	21.98	0.610	1.109	22.38	1.031
9/22/05 8:00	21.15	0.167	1.167	21.98	0.609	1.109	22.38	1.031
9/22/05 8:15	21.15	0.167	1.167	21.98	0.609	1.109	22.38	1.031

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/22/05 8:30	21.15	0.166	1.166	21.98	0.609	1.109	22.38	1.031
9/22/05 8:45	21.15	0.167	1.167	21.98	0.608	1.108	22.38	1.031
9/22/05 9:00	21.15	0.166	1.166	21.98	0.608	1.108	22.38	1.031
9/22/05 9:15	21.13	0.166	1.165	21.98	0.608	1.108	22.38	1.031
9/22/05 9:30	21.13	0.166	1.165	21.98	0.607	1.107	22.38	1.031
9/22/05 9:45	21.15	0.165	1.165	21.98	0.607	1.107	22.38	1.031
9/22/05 10:00	21.15	0.164	1.163	21.98	0.606	1.106	22.38	1.031
9/22/05 10:15	21.15	0.163	1.163	21.98	0.605	1.105	22.38	1.031
9/22/05 10:30	21.15	0.162	1.161	21.97	0.605	1.105	22.38	1.031
9/22/05 10:45	21.15	0.161	1.160	21.98	0.603	1.103	22.38	1.030
9/22/05 11:00	21.13	0.160	1.160	21.98	0.603	1.102	22.38	1.030
9/22/05 11:15	21.13	0.158	1.158	21.98	0.601	1.101	22.38	1.030
9/22/05 11:30	21.13	0.158	1.158	21.97	0.601	1.101	22.38	1.030
9/22/05 11:45	21.13	0.157	1.157	21.97	0.600	1.100	22.38	1.029
9/22/05 12:00	21.13	0.157	1.156	21.98	0.600	1.100	22.38	1.029
9/22/05 12:15	21.13	0.157	1.156	21.98	0.599	1.099	22.38	1.029
9/22/05 12:30	21.12	0.156	1.156	21.98	0.599	1.099	22.37	1.029
9/22/05 12:45	21.12	0.155	1.155	21.98	0.599	1.099	22.38	1.029
9/22/05 13:00	21.12	0.155	1.155	21.98	0.598	1.098	22.37	1.028
9/22/05 13:15	21.12	0.155	1.155	21.98	0.598	1.098	22.37	1.028
9/22/05 13:30	21.12	0.155	1.155	21.98	0.598	1.098	22.37	1.027
9/22/05 13:45	21.12	0.155	1.155	21.98	0.598	1.098	22.37	1.027
9/22/05 14:00	21.11	0.155	1.154	21.98	0.598	1.098	22.37	1.028
9/22/05 14:15	21.12	0.155	1.154	21.98	0.597	1.097	22.37	1.027
9/22/05 14:30	21.12	0.154	1.154	21.98	0.597	1.097	22.37	1.027
9/22/05 14:45	21.11	0.155	1.154	21.98	0.597	1.097	22.37	1.027
9/22/05 15:00	21.11	0.156	1.156	21.98	0.597	1.097	22.37	1.027
9/22/05 15:15	21.11	0.157	1.156	21.98	0.598	1.098	22.37	1.029
9/22/05 15:30	21.11	0.156	1.156	21.98	0.598	1.098	22.37	1.030
9/22/05 15:45	21.11	0.156	1.156	21.98	0.598	1.098	22.37	1.030
9/22/05 16:00	21.11	0.157	1.157	21.98	0.598	1.098	22.35	1.029
9/22/05 16:15	21.11	0.158	1.158	21.98	0.600	1.100	22.35	1.029
9/22/05 16:30	21.11	0.159	1.159	21.99	0.600	1.100	22.37	1.029
9/22/05 16:45	21.11	0.159	1.159	21.99	0.601	1.101	22.35	1.029
9/22/05 17:00	21.11	0.160	1.160	21.99	0.602	1.102	22.37	1.028
9/22/05 17:15	21.11	0.161	1.161	21.99	0.603	1.103	22.35	1.029
9/22/05 17:30	21.11	0.162	1.161	21.99	0.603	1.103	22.35	1.029
9/22/05 17:45	21.11	0.162	1.162	21.99	0.604	1.104	22.35	1.029
9/22/05 18:00	21.11	0.162	1.162	21.99	0.604	1.104	22.37	1.028
9/22/05 18:15	21.11	0.163	1.163	21.99	0.605	1.105	22.35	1.029
9/22/05 18:30	21.11	0.164	1.163	21.99	0.606	1.106	22.35	1.028
9/22/05 18:45	21.11	0.164	1.164	21.99	0.606	1.106	22.35	1.029
9/22/05 19:00	21.12	0.165	1.164	21.99	0.606	1.106	22.35	1.028
9/22/05 19:15	21.12	0.165	1.165	21.99	0.607	1.106	22.37	1.028
9/22/05 19:30	21.12	0.166	1.165	21.99	0.607	1.107	22.37	1.028
9/22/05 19:45	21.12	0.166	1.165	21.99	0.608	1.108	22.37	1.028
9/22/05 20:00	21.12	0.166	1.166	21.99	0.607	1.107	22.35	1.029
9/22/05 20:15	21.13	0.166	1.166	21.99	0.608	1.108	22.37	1.028
9/22/05 20:30	21.13	0.166	1.166	21.99	0.608	1.108	22.35	1.029
9/22/05 20:45	21.13	0.166	1.166	21.99	0.608	1.108	22.35	1.029
9/22/05 21:00	21.13	0.166	1.166	21.99	0.608	1.108	22.35	1.029
9/22/05 21:15	21.15	0.166	1.166	21.99	0.608	1.108	22.37	1.029
9/22/05 21:30	21.15	0.166	1.166	21.99	0.608	1.108	22.37	1.029
9/22/05 21:45	21.15	0.166	1.166	21.99	0.608	1.108	22.35	1.029
9/22/05 22:00	21.15	0.166	1.166	21.99	0.608	1.108	22.37	1.030
9/22/05 22:15	21.16	0.167	1.166	21.99	0.608	1.108	22.37	1.029
9/22/05 22:30	21.16	0.167	1.166	21.99	0.609	1.109	22.37	1.030
9/22/05 22:45	21.16	0.167	1.166	21.99	0.609	1.109	22.37	1.030
9/22/05 23:00	21.17	0.167	1.167	21.99	0.609	1.109	22.37	1.030
9/22/05 23:15	21.17	0.168	1.167	22	0.609	1.109	22.37	1.030
9/22/05 23:30	21.17	0.168	1.167	22	0.610	1.110	22.37	1.030
9/22/05 23:45	21.18	0.168	1.168	22	0.610	1.110	22.37	1.030
9/23/05 0:00	21.18	0.169	1.168	22	0.610	1.110	22.37	1.030
9/23/05 0:15	21.18	0.169	1.168	22	0.610	1.110	22.37	1.030
9/23/05 0:30	21.18	0.169	1.168	22	0.611	1.111	22.37	1.031
9/23/05 0:45	21.2	0.169	1.169	22	0.611	1.111	22.37	1.030
9/23/05 1:00	21.2	0.169	1.169	22	0.611	1.111	22.37	1.031
9/23/05 1:15	21.21	0.169	1.169	22	0.611	1.111	22.37	1.031
9/23/05 1:30	21.21	0.170	1.170	22	0.611	1.111	22.37	1.031
9/23/05 1:45	21.21	0.169	1.169	22	0.611	1.111	22.38	1.031
9/23/05 2:00	21.21	0.170	1.170	22	0.611	1.111	22.37	1.031
9/23/05 2:15	21.22	0.170	1.170	22	0.612	1.112	22.38	1.031

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/23/05 2:30	21.22	0.170	1.170	22	0.612	1.112	22.38	1.031
9/23/05 2:45	21.22	0.170	1.170	22	0.612	1.112	22.38	1.031
9/23/05 3:00	21.22	0.170	1.170	22	0.612	1.112	22.37	1.031
9/23/05 3:15	21.23	0.170	1.170	22	0.612	1.112	22.38	1.032
9/23/05 3:30	21.23	0.170	1.170	22.02	0.612	1.112	22.38	1.032
9/23/05 3:45	21.23	0.170	1.170	22.02	0.612	1.112	22.37	1.032
9/23/05 4:00	21.23	0.170	1.170	22.02	0.612	1.112	22.38	1.032
9/23/05 4:15	21.23	0.170	1.170	22.02	0.612	1.112	22.37	1.033
9/23/05 4:30	21.25	0.170	1.170	22.02	0.612	1.112	22.38	1.032
9/23/05 4:45	21.25	0.171	1.170	22.02	0.612	1.112	22.37	1.033
9/23/05 5:00	21.25	0.170	1.170	22.02	0.612	1.112	22.38	1.032
9/23/05 5:15	21.25	0.170	1.170	22.02	0.612	1.112	22.38	1.033
9/23/05 5:30	21.25	0.170	1.170	22.02	0.612	1.112	22.38	1.033
9/23/05 5:45	21.25	0.170	1.170	22.02	0.612	1.112	22.38	1.033
9/23/05 6:00	21.25	0.170	1.170	22.02	0.612	1.112	22.38	1.034
9/23/05 6:15	21.25	0.170	1.170	22.02	0.611	1.111	22.38	1.034
9/23/05 6:30	21.26	0.169	1.169	22.02	0.612	1.112	22.37	1.034
9/23/05 6:45	21.26	0.169	1.169	22.02	0.611	1.111	22.38	1.034
9/23/05 7:00	21.26	0.170	1.170	22.02	0.612	1.112	22.37	1.034
9/23/05 7:15	21.25	0.170	1.170	22.02	0.612	1.112	22.38	1.034
9/23/05 7:30	21.26	0.169	1.169	22.02	0.612	1.112	22.38	1.034
9/23/05 7:45	21.26	0.169	1.169	22.02	0.611	1.111	22.38	1.034
9/23/05 8:00	21.25	0.170	1.170	22.02	0.611	1.111	22.37	1.034
9/23/05 8:15	21.25	0.169	1.169	22.02	0.611	1.111	22.37	1.034
9/23/05 8:30	21.25	0.169	1.169	22.02	0.611	1.111	22.37	1.034
9/23/05 8:45	21.25	0.169	1.168	22.02	0.610	1.110	22.38	1.034
9/23/05 9:00	21.25	0.168	1.168	22.02	0.610	1.110	22.37	1.034
9/23/05 9:15	21.23	0.168	1.167	22.02	0.610	1.110	22.37	1.034
9/23/05 9:30	21.23	0.168	1.167	22.02	0.610	1.109	22.37	1.034
9/23/05 9:45	21.23	0.168	1.167	22.02	0.609	1.109	22.38	1.034
9/23/05 10:00	21.23	0.167	1.166	22.02	0.609	1.109	22.37	1.034
9/23/05 10:15	21.23	0.166	1.166	22.02	0.608	1.108	22.37	1.034
9/23/05 10:30	21.23	0.166	1.165	22	0.608	1.108	22.37	1.034
9/23/05 10:45	21.22	0.165	1.165	22	0.607	1.107	22.37	1.034
9/23/05 11:00	21.22	0.164	1.164	22	0.607	1.106	22.37	1.034
9/23/05 11:15	21.22	0.164	1.163	22	0.606	1.106	22.37	1.034
9/23/05 11:30	21.22	0.162	1.162	22	0.605	1.105	22.37	1.034
9/23/05 11:45	21.21	0.162	1.162	22	0.604	1.104	22.37	1.033
9/23/05 12:00	21.21	0.162	1.161	22	0.604	1.104	22.35	1.033
9/23/05 12:15	21.21	0.161	1.160	22	0.603	1.103	22.35	1.033
9/23/05 12:30	21.2	0.160	1.160	22	0.602	1.102	22.35	1.033
9/23/05 12:45	21.2	0.160	1.159	22	0.602	1.102	22.35	1.032
9/23/05 13:00	21.2	0.158	1.158	22	0.601	1.101	22.35	1.032
9/23/05 13:15	21.2	0.158	1.157	22	0.601	1.101	22.35	1.032
9/23/05 13:30	21.2	0.158	1.157	22	0.600	1.100	22.35	1.032
9/23/05 13:45	21.2	0.156	1.156	22	0.599	1.099	22.35	1.032
9/23/05 14:00	21.18	0.156	1.156	22	0.599	1.099	22.35	1.031
9/23/05 14:15	21.18	0.155	1.155	22	0.598	1.098	22.35	1.031
9/23/05 14:30	21.18	0.155	1.154	22	0.597	1.096	22.35	1.031
9/23/05 14:45	21.18	0.153	1.153	22	0.596	1.096	22.35	1.031
9/23/05 15:00	21.18	0.153	1.153	22	0.596	1.096	22.34	1.030
9/23/05 15:15	21.18	0.153	1.153	22	0.596	1.095	22.35	1.030
9/23/05 15:30	21.17	0.154	1.153	22	0.596	1.095	22.34	1.030
9/23/05 15:45	21.17	0.153	1.153	22	0.596	1.096	22.35	1.029
9/23/05 16:00	21.17	0.152	1.152	22	0.596	1.095	22.35	1.028
9/23/05 16:15	21.17	0.152	1.152	22	0.595	1.095	22.34	1.029
9/23/05 16:30	21.17	0.152	1.152	22	0.594	1.094	22.34	1.028
9/23/05 16:45	21.17	0.152	1.152	22	0.594	1.094	22.34	1.028
9/23/05 17:00	21.17	0.151	1.151	22	0.594	1.094	22.34	1.028
9/23/05 17:15	21.17	0.151	1.151	22	0.594	1.094	22.34	1.027
9/23/05 17:30	21.17	0.151	1.151	22	0.593	1.093	22.34	1.027
9/23/05 17:45	21.17	0.151	1.151	22	0.593	1.093	22.34	1.027
9/23/05 18:00	21.17	0.151	1.151	22	0.593	1.093	22.34	1.027
9/23/05 18:15	21.17	0.151	1.151	22	0.593	1.093	22.34	1.027
9/23/05 18:30	21.17	0.151	1.151	22	0.593	1.093	22.34	1.026
9/23/05 18:45	21.17	0.151	1.151	22	0.593	1.093	22.34	1.026
9/23/05 19:00	21.17	0.151	1.151	22	0.593	1.093	22.34	1.026
9/23/05 19:15	21.18	0.151	1.151	22	0.593	1.093	22.34	1.026
9/23/05 19:30	21.18	0.151	1.151	22	0.593	1.093	22.34	1.026
9/23/05 19:45	21.18	0.151	1.151	22.02	0.593	1.093	22.34	1.025
9/23/05 20:00	21.18	0.151	1.151	22	0.593	1.093	22.34	1.025
9/23/05 20:15	21.18	0.151	1.151	22.02	0.593	1.093	22.34	1.025

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/23/05 20:30	21.2	0.151	1.151	22.02	0.593	1.093	22.35	1.024
9/23/05 20:45	21.2	0.151	1.151	22.02	0.593	1.093	22.35	1.024
9/23/05 21:00	21.2	0.151	1.151	22.02	0.593	1.093	22.35	1.024
9/23/05 21:15	21.21	0.152	1.152	22.02	0.594	1.094	22.35	1.024
9/23/05 21:30	21.21	0.152	1.152	22.02	0.593	1.093	22.35	1.024
9/23/05 21:45	21.21	0.152	1.152	22.02	0.594	1.094	22.35	1.024
9/23/05 22:00	21.22	0.152	1.152	22.02	0.594	1.094	22.35	1.024
9/23/05 22:15	21.22	0.152	1.152	22.02	0.594	1.094	22.35	1.024
9/23/05 22:30	21.22	0.153	1.152	22.02	0.594	1.094	22.35	1.024
9/23/05 22:45	21.23	0.153	1.153	22.02	0.595	1.095	22.35	1.024
9/23/05 23:00	21.23	0.153	1.153	22.03	0.595	1.095	22.37	1.024
9/23/05 23:15	21.25	0.153	1.153	22.03	0.595	1.095	22.35	1.023
9/23/05 23:30	21.25	0.153	1.153	22.03	0.595	1.095	22.35	1.024
9/23/05 23:45	21.25	0.154	1.154	22.03	0.596	1.096	22.35	1.024
9/24/05 0:00	21.26	0.155	1.154	22.03	0.597	1.097	22.35	1.024
9/24/05 0:15	21.26	0.155	1.155	22.03	0.597	1.097	22.35	1.024
9/24/05 0:30	21.27	0.155	1.155	22.03	0.597	1.097	22.35	1.024
9/24/05 0:45	21.27	0.156	1.156	22.04	0.598	1.098	22.35	1.023
9/24/05 1:00	21.28	0.156	1.156	22.04	0.598	1.098	22.37	1.023
9/24/05 1:15	21.28	0.157	1.156	22.04	0.599	1.099	22.37	1.024
9/24/05 1:30	21.28	0.157	1.157	22.04	0.599	1.099	22.37	1.024
9/24/05 1:45	21.3	0.158	1.157	22.04	0.600	1.100	22.37	1.024
9/24/05 2:00	21.3	0.158	1.158	22.04	0.600	1.100	22.37	1.024
9/24/05 2:15	21.3	0.159	1.159	22.04	0.601	1.101	22.37	1.024
9/24/05 2:30	21.31	0.159	1.159	22.04	0.601	1.101	22.37	1.024
9/24/05 2:45	21.31	0.160	1.159	22.04	0.601	1.101	22.37	1.024
9/24/05 3:00	21.32	0.161	1.160	22.04	0.603	1.102	22.37	1.024
9/24/05 3:15	21.32	0.161	1.161	22.05	0.602	1.102	22.37	1.024
9/24/05 3:30	21.32	0.162	1.161	22.05	0.604	1.103	22.37	1.024
9/24/05 3:45	21.33	0.162	1.162	22.05	0.604	1.103	22.37	1.024
9/24/05 4:00	21.33	0.162	1.162	22.05	0.604	1.104	22.37	1.024
9/24/05 4:15	21.33	0.163	1.163	22.05	0.604	1.104	22.37	1.024
9/24/05 4:30	21.33	0.163	1.163	22.05	0.606	1.106	22.37	1.025
9/24/05 4:45	21.35	0.164	1.163	22.05	0.606	1.106	22.37	1.025
9/24/05 5:00	21.35	0.164	1.163	22.05	0.606	1.106	22.37	1.025
9/24/05 5:15	21.35	0.164	1.164	22.05	0.606	1.106	22.37	1.025
9/24/05 5:30	21.35	0.165	1.164	22.05	0.607	1.106	22.38	1.025
9/24/05 5:45	21.35	0.165	1.165	22.05	0.607	1.106	22.38	1.025
9/24/05 6:00	21.36	0.165	1.165	22.05	0.607	1.106	22.38	1.025
9/24/05 6:15	21.36	0.165	1.165	22.05	0.607	1.107	22.38	1.026
9/24/05 6:30	21.36	0.165	1.165	22.05	0.607	1.107	22.38	1.026
9/24/05 6:45	21.36	0.166	1.165	22.05	0.607	1.107	22.38	1.026
9/24/05 7:00	21.36	0.166	1.165	22.05	0.608	1.108	22.38	1.026
9/24/05 7:15	21.37	0.166	1.166	22.05	0.608	1.108	22.38	1.026
9/24/05 7:30	21.37	0.166	1.166	22.05	0.608	1.108	22.38	1.026
9/24/05 7:45	21.37	0.166	1.166	22.05	0.608	1.108	22.37	1.027
9/24/05 8:00	21.37	0.166	1.166	22.05	0.608	1.108	22.38	1.026
9/24/05 8:15	21.37	0.166	1.166	22.05	0.608	1.108	22.38	1.026
9/24/05 8:30	21.37	0.166	1.166	22.05	0.608	1.108	22.38	1.027
9/24/05 8:45	21.37	0.166	1.166	22.05	0.608	1.108	22.37	1.027
9/24/05 9:00	21.37	0.166	1.166	22.05	0.608	1.108	22.38	1.027
9/24/05 9:15	21.37	0.166	1.165	22.05	0.608	1.108	22.38	1.027
9/24/05 9:30	21.37	0.166	1.165	22.05	0.608	1.108	22.38	1.027
9/24/05 9:45	21.37	0.165	1.165	22.05	0.607	1.107	22.37	1.027
9/24/05 10:00	21.37	0.164	1.164	22.04	0.607	1.107	22.38	1.027
9/24/05 10:15	21.37	0.164	1.164	22.04	0.606	1.106	22.37	1.027
9/24/05 10:30	21.36	0.163	1.163	22.04	0.605	1.105	22.37	1.027
9/24/05 10:45	21.36	0.162	1.162	22.04	0.605	1.105	22.37	1.027
9/24/05 11:00	21.36	0.161	1.161	22.04	0.604	1.103	22.37	1.027
9/24/05 11:15	21.36	0.160	1.160	22.04	0.603	1.103	22.37	1.027
9/24/05 11:30	21.36	0.160	1.159	22.04	0.602	1.102	22.37	1.027
9/24/05 11:45	21.35	0.159	1.159	22.04	0.601	1.101	22.37	1.027
9/24/05 12:00	21.35	0.158	1.158	22.04	0.600	1.100	22.37	1.027
9/24/05 12:15	21.35	0.157	1.156	22.04	0.600	1.100	22.37	1.027
9/24/05 12:30	21.35	0.156	1.156	22.04	0.599	1.099	22.37	1.027
9/24/05 12:45	21.33	0.155	1.155	22.04	0.598	1.098	22.37	1.027
9/24/05 13:00	21.33	0.154	1.154	22.04	0.597	1.097	22.37	1.027
9/24/05 13:15	21.33	0.154	1.153	22.04	0.597	1.097	22.37	1.026
9/24/05 13:30	21.33	0.153	1.153	22.04	0.596	1.095	22.37	1.026
9/24/05 13:45	21.33	0.152	1.152	22.04	0.595	1.095	22.37	1.025
9/24/05 14:00	21.33	0.151	1.151	22.04	0.595	1.095	22.37	1.025
9/24/05 14:15	21.32	0.151	1.150	22.04	0.593	1.093	22.37	1.025

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/24/05 14:30	21.32	0.150	1.150	22.04	0.593	1.093	22.35	1.024
9/24/05 14:45	21.32	0.150	1.150	22.04	0.593	1.093	22.35	1.024
9/24/05 15:00	21.32	0.150	1.150	22.04	0.593	1.093	22.35	1.024
9/24/05 15:15	21.32	0.150	1.149	22.04	0.593	1.092	22.35	1.024
9/24/05 15:30	21.32	0.150	1.150	22.04	0.593	1.092	22.35	1.024
9/24/05 15:45	21.31	0.150	1.150	22.04	0.593	1.093	22.35	1.024
9/24/05 16:00	21.31	0.150	1.150	22.04	0.593	1.092	22.35	1.023
9/24/05 16:15	21.31	0.150	1.150	22.04	0.593	1.093	22.35	1.024
9/24/05 16:30	21.31	0.150	1.149	22.04	0.593	1.093	22.35	1.023
9/24/05 16:45	21.31	0.150	1.149	22.04	0.593	1.092	22.35	1.023
9/24/05 17:00	21.31	0.150	1.150	22.04	0.593	1.092	22.35	1.023
9/24/05 17:15	21.31	0.150	1.149	22.04	0.593	1.092	22.35	1.023
9/24/05 17:30	21.31	0.150	1.149	22.04	0.593	1.092	22.35	1.022
9/24/05 17:45	21.31	0.150	1.149	22.04	0.592	1.092	22.35	1.022
9/24/05 18:00	21.31	0.150	1.149	22.04	0.592	1.092	22.35	1.021
9/24/05 18:15	21.31	0.149	1.149	22.04	0.592	1.092	22.35	1.022
9/24/05 18:30	21.31	0.149	1.149	22.04	0.591	1.091	22.35	1.021
9/24/05 18:45	21.31	0.149	1.149	22.04	0.591	1.091	22.34	1.021
9/24/05 19:00	21.31	0.149	1.149	22.04	0.591	1.091	22.35	1.021
9/24/05 19:15	21.31	0.149	1.149	22.04	0.591	1.091	22.35	1.021
9/24/05 19:30	21.31	0.149	1.149	22.04	0.591	1.091	22.35	1.020
9/24/05 19:45	21.31	0.149	1.149	22.04	0.591	1.091	22.35	1.020
9/24/05 20:00	21.32	0.149	1.149	22.04	0.591	1.091	22.35	1.020
9/24/05 20:15	21.32	0.149	1.149	22.05	0.591	1.091	22.35	1.020
9/24/05 20:30	21.32	0.149	1.149	22.05	0.591	1.091	22.35	1.020
9/24/05 20:45	21.32	0.149	1.149	22.05	0.591	1.091	22.35	1.020
9/24/05 21:00	21.33	0.148	1.148	22.05	0.591	1.091	22.35	1.020
9/24/05 21:15	21.33	0.149	1.149	22.05	0.591	1.091	22.35	1.020
9/24/05 21:30	21.33	0.149	1.149	22.05	0.591	1.091	22.35	1.020
9/24/05 21:45	21.33	0.149	1.149	22.05	0.592	1.092	22.35	1.020
9/24/05 22:00	21.35	0.149	1.149	22.05	0.592	1.092	22.35	1.020
9/24/05 22:15	21.35	0.149	1.149	22.05	0.592	1.092	22.35	1.019
9/24/05 22:30	21.35	0.150	1.150	22.05	0.592	1.092	22.35	1.019
9/24/05 22:45	21.36	0.150	1.150	22.05	0.593	1.093	22.35	1.019
9/24/05 23:00	21.36	0.150	1.150	22.05	0.593	1.093	22.35	1.019
9/24/05 23:15	21.36	0.151	1.151	22.07	0.593	1.093	22.37	1.019
9/24/05 23:30	21.37	0.151	1.151	22.07	0.593	1.093	22.35	1.020
9/24/05 23:45	21.37	0.151	1.151	22.07	0.594	1.094	22.37	1.019
9/25/05 0:00	21.37	0.152	1.152	22.07	0.594	1.094	22.37	1.019
9/25/05 0:15	21.38	0.152	1.152	22.07	0.594	1.094	22.37	1.019
9/25/05 0:30	21.38	0.152	1.152	22.07	0.594	1.094	22.37	1.019
9/25/05 0:45	21.38	0.152	1.152	22.07	0.595	1.095	22.37	1.019
9/25/05 1:00	21.4	0.153	1.152	22.07	0.594	1.094	22.37	1.019
9/25/05 1:15	21.4	0.153	1.152	22.07	0.595	1.095	22.37	1.019
9/25/05 1:30	21.41	0.153	1.152	22.07	0.596	1.095	22.37	1.019
9/25/05 1:45	21.41	0.153	1.153	22.07	0.596	1.095	22.37	1.019
9/25/05 2:00	21.41	0.153	1.153	22.08	0.595	1.095	22.37	1.019
9/25/05 2:15	21.41	0.154	1.153	22.08	0.596	1.096	22.37	1.019
9/25/05 2:30	21.42	0.154	1.154	22.08	0.596	1.096	22.38	1.019
9/25/05 2:45	21.42	0.154	1.154	22.08	0.597	1.096	22.37	1.019
9/25/05 3:00	21.42	0.155	1.154	22.08	0.597	1.097	22.37	1.019
9/25/05 3:15	21.44	0.155	1.154	22.08	0.597	1.097	22.38	1.019
9/25/05 3:30	21.44	0.155	1.155	22.08	0.597	1.097	22.38	1.020
9/25/05 3:45	21.44	0.155	1.155	22.08	0.597	1.097	22.38	1.019
9/25/05 4:00	21.45	0.155	1.155	22.08	0.597	1.097	22.38	1.019
9/25/05 4:15	21.45	0.155	1.155	22.08	0.597	1.097	22.38	1.019
9/25/05 4:30	21.45	0.155	1.155	22.08	0.597	1.097	22.38	1.020
9/25/05 4:45	21.45	0.156	1.156	22.08	0.598	1.098	22.38	1.020
9/25/05 5:00	21.46	0.156	1.156	22.08	0.599	1.099	22.38	1.020
9/25/05 5:15	21.45	0.156	1.156	22.08	0.598	1.098	22.38	1.020
9/25/05 5:30	21.46	0.156	1.156	22.08	0.599	1.099	22.38	1.020
9/25/05 5:45	21.46	0.156	1.156	22.08	0.599	1.099	22.38	1.020
9/25/05 6:00	21.46	0.157	1.157	22.08	0.599	1.099	22.38	1.020
9/25/05 6:15	21.46	0.156	1.156	22.08	0.599	1.099	22.38	1.020
9/25/05 6:30	21.46	0.157	1.157	22.08	0.599	1.099	22.38	1.020
9/25/05 6:45	21.46	0.157	1.157	22.08	0.599	1.099	22.38	1.020
9/25/05 7:00	21.46	0.157	1.157	22.08	0.599	1.099	22.38	1.021
9/25/05 7:15	21.46	0.156	1.156	22.08	0.599	1.099	22.39	1.020
9/25/05 7:30	21.46	0.157	1.157	22.08	0.599	1.099	22.38	1.020
9/25/05 7:45	21.46	0.157	1.157	22.08	0.599	1.099	22.38	1.020
9/25/05 8:00	21.46	0.157	1.157	22.08	0.599	1.099	22.39	1.020
9/25/05 8:15	21.46	0.156	1.156	22.08	0.599	1.099	22.39	1.021

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/25/05 8:30	21.46	0.156	1.156	22.08	0.598	1.098	22.38	1.021
9/25/05 8:45	21.46	0.155	1.155	22.08	0.597	1.097	22.38	1.021
9/25/05 9:00	21.46	0.155	1.155	22.08	0.597	1.097	22.38	1.021
9/25/05 9:15	21.46	0.154	1.154	22.08	0.597	1.096	22.38	1.020
9/25/05 9:30	21.45	0.153	1.153	22.08	0.596	1.096	22.38	1.020
9/25/05 9:45	21.45	0.153	1.152	22.08	0.595	1.095	22.38	1.020
9/25/05 10:00	21.45	0.152	1.152	22.08	0.594	1.094	22.38	1.020
9/25/05 10:15	21.45	0.151	1.151	22.08	0.594	1.094	22.38	1.020
9/25/05 10:30	21.44	0.151	1.151	22.08	0.593	1.093	22.38	1.020
9/25/05 10:45	21.44	0.150	1.149	22.08	0.593	1.092	22.38	1.020
9/25/05 11:00	21.42	0.149	1.149	22.08	0.592	1.092	22.38	1.020
9/25/05 11:15	21.42	0.149	1.149	22.08	0.591	1.091	22.38	1.019
9/25/05 11:30	21.42	0.148	1.148	22.08	0.591	1.091	22.38	1.019
9/25/05 11:45	21.41	0.148	1.148	22.08	0.591	1.091	22.38	1.019
9/25/05 12:00	21.41	0.147	1.147	22.08	0.590	1.090	22.38	1.019
9/25/05 12:15	21.4	0.148	1.147	22.08	0.591	1.091	22.37	1.019
9/25/05 12:30	21.4	0.148	1.147	22.08	0.590	1.090	22.37	1.018
9/25/05 12:45	21.4	0.147	1.147	22.08	0.589	1.089	22.38	1.018
9/25/05 13:00	21.38	0.147	1.147	22.08	0.590	1.090	22.37	1.018
9/25/05 13:15	21.38	0.147	1.147	22.08	0.590	1.090	22.37	1.018
9/25/05 13:30	21.38	0.147	1.146	22.08	0.589	1.089	22.37	1.018
9/25/05 13:45	21.38	0.147	1.146	22.08	0.589	1.089	22.37	1.017
9/25/05 14:00	21.37	0.146	1.146	22.08	0.589	1.089	22.37	1.017
9/25/05 14:15	21.37	0.147	1.146	22.08	0.589	1.089	22.37	1.017
9/25/05 14:30	21.36	0.146	1.145	22.08	0.589	1.088	22.35	1.015
9/25/05 14:45	21.36	0.146	1.145	22.08	0.589	1.088	22.37	1.015
9/25/05 15:00	21.35	0.145	1.145	22.08	0.589	1.088	22.35	1.017
9/25/05 15:15	21.35	0.145	1.145	22.08	0.588	1.088	22.35	1.017
9/25/05 15:30	21.35	0.145	1.145	22.08	0.588	1.088	22.35	1.015
9/25/05 15:45	21.33	0.145	1.145	22.07	0.588	1.088	22.35	1.016
9/25/05 16:00	21.33	0.145	1.145	22.08	0.588	1.088	22.35	1.015
9/25/05 16:15	21.33	0.144	1.144	22.07	0.587	1.087	22.35	1.015
9/25/05 16:30	21.32	0.144	1.144	22.07	0.587	1.087	22.35	1.015
9/25/05 16:45	21.32	0.144	1.144	22.07	0.587	1.087	22.35	1.015
9/25/05 17:00	21.32	0.144	1.144	22.07	0.586	1.086	22.35	1.015
9/25/05 17:15	21.32	0.144	1.144	22.07	0.586	1.086	22.35	1.015
9/25/05 17:30	21.32	0.144	1.144	22.07	0.586	1.086	22.35	1.015
9/25/05 17:45	21.31	0.144	1.143	22.07	0.586	1.086	22.35	1.015
9/25/05 18:00	21.31	0.144	1.143	22.07	0.586	1.086	22.35	1.014
9/25/05 18:15	21.31	0.143	1.143	22.07	0.586	1.086	22.34	1.014
9/25/05 18:30	21.31	0.143	1.143	22.07	0.586	1.086	22.34	1.014
9/25/05 18:45	21.31	0.143	1.143	22.07	0.586	1.086	22.34	1.014
9/25/05 19:00	21.31	0.143	1.143	22.07	0.586	1.085	22.35	1.014
9/25/05 19:15	21.31	0.142	1.142	22.07	0.586	1.085	22.35	1.014
9/25/05 19:30	21.31	0.143	1.143	22.07	0.586	1.085	22.34	1.013
9/25/05 19:45	21.31	0.143	1.143	22.07	0.586	1.085	22.34	1.013
9/25/05 20:00	21.31	0.142	1.142	22.07	0.586	1.085	22.34	1.013
9/25/05 20:15	21.31	0.143	1.143	22.08	0.585	1.084	22.34	1.013
9/25/05 20:30	21.31	0.142	1.142	22.08	0.585	1.084	22.34	1.013
9/25/05 20:45	21.32	0.142	1.142	22.08	0.585	1.084	22.35	1.013
9/25/05 21:00	21.32	0.142	1.142	22.07	0.586	1.085	22.35	1.013
9/25/05 21:15	21.32	0.142	1.142	22.08	0.585	1.084	22.35	1.013
9/25/05 21:30	21.32	0.142	1.142	22.08	0.585	1.084	22.35	1.012
9/25/05 21:45	21.33	0.142	1.142	22.08	0.585	1.084	22.35	1.013
9/25/05 22:00	21.33	0.142	1.142	22.08	0.585	1.084	22.35	1.012
9/25/05 22:15	21.33	0.143	1.142	22.08	0.585	1.084	22.35	1.012
9/25/05 22:30	21.35	0.143	1.142	22.08	0.585	1.084	22.35	1.012
9/25/05 22:45	21.35	0.143	1.143	22.08	0.585	1.085	22.35	1.012
9/25/05 23:00	21.36	0.143	1.143	22.08	0.585	1.085	22.35	1.012
9/25/05 23:15	21.36	0.143	1.143	22.08	0.586	1.086	22.35	1.012
9/25/05 23:30	21.36	0.144	1.143	22.08	0.586	1.086	22.35	1.012
9/25/05 23:45	21.37	0.144	1.144	22.08	0.587	1.087	22.35	1.012
9/26/05 0:00	21.37	0.144	1.144	22.08	0.587	1.087	22.35	1.012
9/26/05 0:15	21.38	0.144	1.144	22.09	0.587	1.087	22.37	1.012
9/26/05 0:30	21.38	0.144	1.144	22.09	0.587	1.087	22.35	1.012
9/26/05 0:45	21.4	0.145	1.145	22.09	0.587	1.087	22.37	1.012
9/26/05 1:00	21.4	0.145	1.145	22.09	0.587	1.087	22.37	1.012
9/26/05 1:15	21.41	0.145	1.145	22.09	0.587	1.087	22.37	1.012
9/26/05 1:30	21.41	0.145	1.145	22.09	0.587	1.087	22.37	1.012
9/26/05 1:45	21.42	0.145	1.145	22.09	0.587	1.087	22.37	1.012
9/26/05 2:00	21.42	0.145	1.145	22.09	0.588	1.088	22.37	1.012
9/26/05 2:15	21.42	0.146	1.145	22.09	0.588	1.088	22.38	1.012

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/26/05 2:30	21.44	0.146	1.146	22.09	0.588	1.088	22.37	1.012
9/26/05 2:45	21.44	0.146	1.146	22.1	0.589	1.089	22.38	1.012
9/26/05 3:00	21.45	0.147	1.146	22.1	0.589	1.089	22.37	1.012
9/26/05 3:15	21.45	0.147	1.147	22.1	0.589	1.089	22.38	1.012
9/26/05 3:30	21.45	0.147	1.147	22.1	0.590	1.090	22.38	1.012
9/26/05 3:45	21.46	0.148	1.148	22.1	0.590	1.090	22.38	1.012
9/26/05 4:00	21.46	0.148	1.147	22.1	0.590	1.090	22.38	1.012
9/26/05 4:15	21.47	0.148	1.148	22.1	0.590	1.090	22.38	1.012
9/26/05 4:30	21.47	0.148	1.148	22.1	0.591	1.091	22.38	1.013
9/26/05 4:45	21.47	0.149	1.149	22.1	0.591	1.091	22.38	1.013
9/26/05 5:00	21.49	0.149	1.149	22.12	0.591	1.091	22.38	1.013
9/26/05 5:15	21.49	0.149	1.149	22.12	0.591	1.091	22.38	1.013
9/26/05 5:30	21.49	0.150	1.149	22.12	0.591	1.091	22.38	1.013
9/26/05 5:45	21.49	0.149	1.149	22.12	0.592	1.092	22.38	1.013
9/26/05 6:00	21.49	0.150	1.150	22.12	0.592	1.092	22.38	1.013
9/26/05 6:15	21.5	0.150	1.149	22.12	0.592	1.092	22.38	1.013
9/26/05 6:30	21.5	0.150	1.150	22.12	0.592	1.092	22.38	1.014
9/26/05 6:45	21.5	0.150	1.150	22.12	0.592	1.092	22.39	1.013
9/26/05 7:00	21.5	0.151	1.151	22.12	0.592	1.092	22.38	1.013
9/26/05 7:15	21.5	0.150	1.150	22.12	0.592	1.092	22.38	1.014
9/26/05 7:30	21.5	0.151	1.151	22.12	0.593	1.093	22.39	1.013
9/26/05 7:45	21.51	0.150	1.150	22.12	0.593	1.093	22.39	1.013
9/26/05 8:00	21.5	0.150	1.150	22.12	0.592	1.092	22.39	1.013
9/26/05 8:15	21.5	0.150	1.149	22.12	0.592	1.092	22.39	1.013
9/26/05 8:30	21.5	0.150	1.149	22.12	0.592	1.092	22.39	1.013
9/26/05 8:45	21.5	0.149	1.149	22.12	0.592	1.092	22.39	1.013
9/26/05 9:00	21.5	0.149	1.149	22.12	0.591	1.091	22.39	1.014
9/26/05 9:15	21.5	0.149	1.149	22.1	0.591	1.091	22.39	1.013
9/26/05 9:30	21.5	0.148	1.147	22.1	0.590	1.090	22.39	1.014
9/26/05 9:45	21.5	0.147	1.147	22.1	0.589	1.089	22.39	1.013
9/26/05 10:00	21.49	0.147	1.146	22.1	0.589	1.089	22.39	1.013
9/26/05 10:15	21.49	0.146	1.145	22.1	0.588	1.088	22.39	1.013
9/26/05 10:30	21.49	0.144	1.144	22.1	0.587	1.087	22.39	1.013
9/26/05 10:45	21.49	0.144	1.143	22.1	0.586	1.086	22.39	1.013
9/26/05 11:00	21.47	0.143	1.142	22.1	0.585	1.085	22.39	1.013
9/26/05 11:15	21.47	0.142	1.142	22.1	0.585	1.084	22.39	1.013
9/26/05 11:30	21.47	0.141	1.141	22.1	0.584	1.084	22.39	1.013
9/26/05 11:45	21.47	0.141	1.141	22.1	0.584	1.084	22.39	1.013
9/26/05 12:00	21.46	0.141	1.141	22.1	0.583	1.083	22.38	1.012
9/26/05 12:15	21.46	0.141	1.140	22.1	0.584	1.084	22.39	1.012
9/26/05 12:30	21.46	0.141	1.140	22.1	0.583	1.083	22.39	1.012
9/26/05 12:45	21.45	0.141	1.141	22.1	0.583	1.083	22.38	1.012
9/26/05 13:00	21.45	0.140	1.140	22.1	0.583	1.083	22.39	1.011
9/26/05 13:15	21.45	0.140	1.140	22.1	0.583	1.083	22.38	1.011
9/26/05 13:30	21.44	0.140	1.140	22.1	0.583	1.083	22.38	1.011
9/26/05 13:45	21.44	0.140	1.140	22.1	0.583	1.083	22.38	1.011
9/26/05 14:00	21.44	0.139	1.139	22.1	0.582	1.082	22.38	1.011
9/26/05 14:15	21.42	0.139	1.139	22.1	0.582	1.082	22.38	1.011
9/26/05 14:30	21.42	0.139	1.139	22.1	0.582	1.082	22.37	1.010
9/26/05 14:45	21.41	0.140	1.139	22.1	0.582	1.082	22.37	1.010
9/26/05 15:00	21.41	0.139	1.139	22.1	0.582	1.082	22.37	1.010
9/26/05 15:15	21.4	0.139	1.139	22.1	0.581	1.081	22.38	1.009
9/26/05 15:30	21.4	0.138	1.138	22.1	0.581	1.081	22.37	1.009
9/26/05 15:45	21.4	0.138	1.138	22.09	0.582	1.081	22.37	1.009
9/26/05 16:00	21.38	0.138	1.138	22.09	0.582	1.081	22.37	1.009
9/26/05 16:15	21.38	0.139	1.138	22.09	0.581	1.081	22.37	1.009
9/26/05 16:30	21.38	0.138	1.138	22.1	0.581	1.081	22.37	1.009
9/26/05 16:45	21.37	0.138	1.138	22.09	0.581	1.081	22.37	1.009
9/26/05 17:00	21.37	0.139	1.138	22.09	0.580	1.080	22.37	1.009
9/26/05 17:15	21.37	0.138	1.138	22.09	0.580	1.080	22.37	1.009
9/26/05 17:30	21.37	0.138	1.138	22.09	0.580	1.080	22.37	1.009
9/26/05 17:45	21.36	0.138	1.138	22.09	0.580	1.080	22.37	1.008
9/26/05 18:00	21.36	0.138	1.138	22.09	0.580	1.080	22.37	1.008
9/26/05 18:15	21.36	0.138	1.138	22.09	0.579	1.079	22.35	1.007
9/26/05 18:30	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.008
9/26/05 18:45	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.008
9/26/05 19:00	21.35	0.137	1.137	22.09	0.580	1.080	22.35	1.007
9/26/05 19:15	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.007
9/26/05 19:30	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.007
9/26/05 19:45	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.007
9/26/05 20:00	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.007
9/26/05 20:15	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.007

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/26/05 20:30	21.35	0.136	1.136	22.09	0.579	1.079	22.35	1.007
9/26/05 20:45	21.35	0.137	1.137	22.09	0.579	1.079	22.35	1.006
9/26/05 21:00	21.35	0.136	1.136	22.09	0.579	1.079	22.35	1.007
9/26/05 21:15	21.35	0.137	1.137	22.09	0.578	1.078	22.35	1.007
9/26/05 21:30	21.35	0.136	1.136	22.09	0.578	1.078	22.35	1.006
9/26/05 21:45	21.35	0.137	1.137	22.09	0.578	1.078	22.35	1.006
9/26/05 22:00	21.36	0.136	1.136	22.09	0.578	1.078	22.35	1.006
9/26/05 22:15	21.36	0.136	1.136	22.09	0.578	1.078	22.35	1.006
9/26/05 22:30	21.36	0.136	1.136	22.09	0.578	1.078	22.35	1.006
9/26/05 22:45	21.36	0.137	1.137	22.09	0.578	1.078	22.37	1.006
9/26/05 23:00	21.37	0.137	1.136	22.1	0.579	1.079	22.35	1.006
9/26/05 23:15	21.37	0.137	1.136	22.1	0.579	1.079	22.35	1.006
9/26/05 23:30	21.37	0.137	1.136	22.09	0.579	1.079	22.37	1.006
9/26/05 23:45	21.38	0.137	1.137	22.1	0.579	1.079	22.37	1.006
9/27/05 0:00	21.38	0.137	1.137	22.09	0.579	1.079	22.37	1.006
9/27/05 0:15	21.4	0.137	1.137	22.1	0.579	1.079	22.37	1.006
9/27/05 0:30	21.4	0.137	1.137	22.1	0.580	1.080	22.37	1.006
9/27/05 0:45	21.4	0.138	1.138	22.1	0.580	1.080	22.37	1.006
9/27/05 1:00	21.41	0.138	1.138	22.1	0.580	1.080	22.37	1.006
9/27/05 1:15	21.41	0.138	1.138	22.1	0.580	1.080	22.37	1.006
9/27/05 1:30	21.41	0.138	1.138	22.1	0.580	1.080	22.37	1.006
9/27/05 1:45	21.42	0.138	1.138	22.1	0.581	1.081	22.37	1.006
9/27/05 2:00	21.42	0.139	1.138	22.1	0.581	1.081	22.37	1.006
9/27/05 2:15	21.42	0.139	1.139	22.1	0.581	1.081	22.37	1.006
9/27/05 2:30	21.44	0.140	1.140	22.12	0.581	1.081	22.37	1.006
9/27/05 2:45	21.44	0.140	1.140	22.12	0.582	1.082	22.38	1.006
9/27/05 3:00	21.44	0.141	1.141	22.12	0.582	1.082	22.37	1.006
9/27/05 3:15	21.45	0.141	1.141	22.12	0.583	1.083	22.38	1.006
9/27/05 3:30	21.45	0.141	1.141	22.12	0.583	1.083	22.38	1.006
9/27/05 3:45	21.45	0.141	1.141	22.12	0.583	1.083	22.38	1.006
9/27/05 4:00	21.46	0.142	1.141	22.12	0.583	1.083	22.38	1.006
9/27/05 4:15	21.46	0.142	1.142	22.12	0.584	1.084	22.38	1.006
9/27/05 4:30	21.46	0.142	1.142	22.12	0.584	1.084	22.38	1.006
9/27/05 4:45	21.46	0.142	1.142	22.12	0.584	1.084	22.38	1.006
9/27/05 5:00	21.47	0.142	1.142	22.13	0.584	1.084	22.38	1.006
9/27/05 5:15	21.47	0.143	1.142	22.13	0.584	1.084	22.38	1.006
9/27/05 5:30	21.47	0.143	1.142	22.12	0.584	1.084	22.38	1.006
9/27/05 5:45	21.47	0.143	1.143	22.13	0.584	1.084	22.38	1.006
9/27/05 6:00	21.49	0.143	1.143	22.13	0.584	1.084	22.38	1.007
9/27/05 6:15	21.49	0.143	1.143	22.12	0.584	1.084	22.38	1.007
9/27/05 6:30	21.49	0.143	1.143	22.13	0.585	1.085	22.38	1.007
9/27/05 6:45	21.49	0.143	1.143	22.12	0.585	1.085	22.38	1.007
9/27/05 7:00	21.49	0.143	1.143	22.13	0.584	1.084	22.38	1.007
9/27/05 7:15	21.49	0.143	1.143	22.13	0.585	1.085	22.38	1.007
9/27/05 7:30	21.49	0.142	1.142	22.12	0.584	1.084	22.38	1.008
9/27/05 7:45	21.49	0.142	1.142	22.12	0.584	1.084	22.39	1.007
9/27/05 8:00	21.49	0.142	1.142	22.12	0.584	1.084	22.38	1.008
9/27/05 8:15	21.49	0.142	1.142	22.12	0.584	1.084	22.38	1.008
9/27/05 8:30	21.49	0.142	1.142	22.12	0.583	1.083	22.39	1.007
9/27/05 8:45	21.49	0.141	1.141	22.12	0.583	1.083	22.39	1.007
9/27/05 9:00	21.49	0.141	1.141	22.12	0.583	1.083	22.39	1.007
9/27/05 9:15	21.49	0.140	1.140	22.12	0.582	1.082	22.39	1.007
9/27/05 9:30	21.49	0.139	1.139	22.12	0.582	1.082	22.38	1.007
9/27/05 9:45	21.49	0.138	1.138	22.12	0.581	1.081	22.38	1.007
9/27/05 10:00	21.49	0.138	1.138	22.12	0.581	1.081	22.39	1.007
9/27/05 10:15	21.49	0.137	1.137	22.12	0.580	1.080	22.38	1.007
9/27/05 10:30	21.47	0.137	1.137	22.12	0.579	1.079	22.39	1.007
9/27/05 10:45	21.47	0.136	1.136	22.12	0.579	1.079	22.38	1.006
9/27/05 11:00	21.47	0.136	1.136	22.12	0.578	1.078	22.38	1.006
9/27/05 11:15	21.47	0.137	1.137	22.12	0.580	1.080	22.38	1.006
9/27/05 11:30	21.47	0.137	1.137	22.12	0.578	1.078	22.38	1.006
9/27/05 11:45	21.46	0.136	1.136	22.12	0.579	1.078	22.38	1.006
9/27/05 12:00	21.46	0.135	1.134	22.12	0.578	1.077	22.38	1.006
9/27/05 12:15	21.46	0.135	1.134	22.12	0.577	1.077	22.38	1.006
9/27/05 12:30	21.45	0.135	1.135	22.12	0.578	1.078	22.38	1.002
9/27/05 12:45	21.45	0.135	1.135	22.12	0.576	1.076	22.38	1.005
9/27/05 13:00	21.45	0.134	1.134	22.12	0.576	1.076	22.38	1.003
9/27/05 13:15	21.44	0.134	1.134	22.12	0.576	1.076	22.38	1.003
9/27/05 13:30	21.44	0.134	1.134	22.12	0.576	1.076	22.38	1.003
9/27/05 13:45	21.44	0.133	1.133	22.12	0.576	1.076	22.38	1.005
9/27/05 14:00	21.44	0.133	1.133	22.12	0.575	1.075	22.37	1.005
9/27/05 14:15	21.42	0.131	1.131	22.12	0.575	1.075	22.37	1.004

time stamp (MST)[a]	PZ-1 water temp. (°C)	PZ-1 pressure head[b] (m)	PZ-1 total head[c,d] (m)	PZ-2 water temp. (°C)	PZ-2 pressure head[b] (m)	PZ-2 total head[c,d] (m)	PZ-3 water temp. (°C)	PZ-3 total head[c,d] (m)
9/27/05 14:30	21.42	0.133	1.132	22.12	0.575	1.075	22.38	1.004
9/27/05 14:45	21.42	0.132	1.132	22.1	0.575	1.074	22.37	1.004
9/27/05 15:00	21.41	0.132	1.132	22.12	0.575	1.075	22.38	1.003
9/27/05 15:15	21.41	0.132	1.132	22.1	0.575	1.074	22.37	1.003
9/27/05 15:30	21.41	0.131	1.131	22.12	0.574	1.074	22.37	1.003
9/27/05 15:45	21.41	0.131	1.131	22.12	0.574	1.074	22.37	1.002
9/27/05 16:00	21.4	0.131	1.131	22.1	0.574	1.074	22.37	1.003
9/27/05 16:15	21.4	0.131	1.131	22.1	0.573	1.073	22.37	1.002
9/27/05 16:30	21.38	0.131	1.131	22.1	0.573	1.073	22.37	1.002
9/27/05 16:45	21.38	0.130	1.130	22.1	0.573	1.073	22.37	1.002
9/27/05 17:00	21.38	0.130	1.130	22.1	0.572	1.072	22.37	1.002
9/27/05 17:15	21.38	0.130	1.130	22.1	0.572	1.072	22.37	1.002
9/27/05 17:30	21.38	0.129	1.128	22.1	0.571	1.071	22.37	1.002
9/27/05 17:45	21.38	0.129	1.128	22.1	0.571	1.071	22.37	1.002
9/27/05 18:00	21.38	0.128	1.128	22.1	0.571	1.071	22.37	1.002
9/27/05 18:15	21.38	0.128	1.128	22.1	0.571	1.071	22.37	1.002
9/27/05 18:30	21.37	0.128	1.127	22.1	0.570	1.070	22.37	1.002
9/27/05 18:45	21.37	0.128	1.127	22.1	0.570	1.070	22.37	1.001
9/27/05 19:00	21.37	0.128	1.127	22.1	0.570	1.070	22.37	1.001
9/27/05 19:15	21.37	0.127	1.127	22.1	0.570	1.070	22.35	1.001
9/27/05 19:30	21.37	0.128	1.127	22.1	0.570	1.070	22.37	1.001
9/27/05 19:45	21.37	0.127	1.127	22.12	0.570	1.070	22.37	1.000
9/27/05 20:00	21.38	0.127	1.127	22.1	0.570	1.070	22.37	1.000
9/27/05 20:15	21.38	0.126	1.126	22.1	0.570	1.070	22.37	1.000
9/27/05 20:30	21.38	0.127	1.127	22.1	0.570	1.070	22.35	1.000
9/27/05 20:45	21.38	0.126	1.126	22.1	0.570	1.070	22.37	0.999
9/27/05 21:00	21.38	0.126	1.126	22.1	0.570	1.070	22.37	0.999
9/27/05 21:15	21.38	0.126	1.126	22.1	0.569	1.069	22.37	0.999
9/27/05 21:30	21.4	0.127	1.127	22.12	0.570	1.070	22.37	0.999
9/27/05 21:45	21.4	0.127	1.127	22.12	0.570	1.070	22.37	0.999
9/27/05 22:00	21.4	0.127	1.127	22.12	0.570	1.070	22.37	0.999
9/27/05 22:15	21.4	0.127	1.127	22.12	0.570	1.070	22.37	0.999
9/27/05 22:30	21.41	0.128	1.128	22.12	0.570	1.070	22.37	0.999
9/27/05 22:45	21.41	0.128	1.128	22.12	0.571	1.070	22.37	0.999
9/27/05 23:00	21.41	0.129	1.129	22.12	0.571	1.071	22.37	0.999
9/27/05 23:15	21.42	0.130	1.129	22.12	0.572	1.072	22.37	0.999
9/27/05 23:30	21.42	0.130	1.130	22.12	0.572	1.072	22.37	0.999
9/27/05 23:45	21.42	0.130	1.130	22.12	0.573	1.073	22.37	0.999
9/28/05 0:00	21.44	0.131	1.131	22.13	0.573	1.073	22.37	0.999
9/28/05 0:15	21.44	0.131	1.131	22.13	0.574	1.074	22.37	0.999
9/28/05 0:30	21.44	0.131	1.131	22.13	0.574	1.074	22.38	0.999
9/28/05 0:45	21.45	0.132	1.131	22.13	0.574	1.074	22.38	0.999
9/28/05 1:00	21.45	0.132	1.131	22.13	0.575	1.075	22.38	0.999
9/28/05 1:15	21.46	0.133	1.132	22.13	0.575	1.075	22.38	0.999
9/28/05 1:30	21.46	0.133	1.132	22.13	0.575	1.075	22.38	0.999
9/28/05 1:45	21.47	0.133	1.133	22.13	0.576	1.076	22.38	0.999
9/28/05 2:00	21.47	0.134	1.134	22.13	0.576	1.076	22.38	0.999
9/28/05 2:15	21.47	0.134	1.134	22.13	0.577	1.077	22.38	0.999
9/28/05 2:30	21.49	0.135	1.134	22.13	0.577	1.077	22.38	0.999
9/28/05 2:45	21.49	0.135	1.134	22.14	0.577	1.077	22.38	0.999
9/28/05 3:00	21.49	0.135	1.135	22.14	0.578	1.078	22.38	0.999
9/28/05 3:15	21.5	0.136	1.135	22.14	0.579	1.078	22.38	0.999
9/28/05 3:30	21.5	0.136	1.136	22.14	0.579	1.078	22.38	0.999
9/28/05 3:45	21.51	0.137	1.136	22.14	0.579	1.079	22.39	0.999
9/28/05 4:00	21.51	0.137	1.137	22.14	0.579	1.079	22.39	0.999
9/28/05 4:15	21.52	0.137	1.137	22.14	0.579	1.079	22.38	0.999
9/28/05 4:30	21.52	0.137	1.137	22.14	0.580	1.080	22.39	1.000
9/28/05 4:45	21.52	0.137	1.137	22.14	0.580	1.080	22.39	1.000
9/28/05 5:00	21.52	0.137	1.137	22.14	0.580	1.080	22.39	1.000
9/28/05 5:15	21.54	0.138	1.138	22.14	0.580	1.080	22.39	1.000
9/28/05 5:30	21.54	0.138	1.138	22.14	0.580	1.080	22.39	1.000
9/28/05 5:45	21.55	0.139	1.138	22.15	0.581	1.081	22.39	1.000
9/28/05 6:00	21.55	0.139	1.138	22.15	0.582	1.081	22.39	1.001
9/28/05 6:15	21.55	0.139	1.139	22.15	0.582	1.081	22.39	1.001
9/28/05 6:30	21.55	0.139	1.139	22.15	0.582	1.082	22.39	1.001
9/28/05 6:45	21.55	0.140	1.140	22.15	0.582	1.082	22.39	1.001
9/28/05 7:00	21.56	0.140	1.140	22.15	0.582	1.082	22.39	1.001
9/28/05 7:15	21.56	0.140	1.140	22.15	0.582	1.082	22.4	1.002
9/28/05 7:30	21.56	0.141	1.141	22.15	0.583	1.083	22.39	1.002
9/28/05 7:45	21.56	0.141	1.141	22.15	0.583	1.083	22.39	1.002
9/28/05 8:00	21.56	0.141	1.141	22.15	0.583	1.083	22.4	1.002
9/28/05 8:15	21.57	0.141	1.141	22.15	0.584	1.084	22.39	1.002

	PZ-1	PZ-1	PZ-1	PZ-2	PZ-2	PZ-2	PZ-3	PZ-3
time stamp (MST)[a]	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	total head[c,d] (m)
9/28/05 8:30	21.57	0.141	1.141	22.15	0.584	1.084	22.4	1.002
9/28/05 8:45	21.57	0.141	1.141	22.15	0.584	1.084	22.4	1.002
9/28/05 9:00	21.57	0.141	1.141	22.15	0.584	1.084	22.39	1.002
9/28/05 9:15	21.57	0.142	1.141	22.15	0.584	1.084	22.39	1.003
9/28/05 9:30	21.57	0.142	1.141	22.15	0.584	1.084	22.4	1.003
9/28/05 9:45	21.57	0.142	1.141	22.15	0.584	1.084	22.4	1.003
9/28/05 10:00	21.57	0.142	1.141	22.15	0.584	1.084	22.4	1.003
9/28/05 10:15	21.57	0.141	1.141	22.15	0.584	1.084	22.4	1.003
9/28/05 10:30	21.57	0.141	1.140	22.15	0.583	1.083	22.4	1.003
9/28/05 10:45	21.57	0.140	1.140	22.15	0.582	1.082	22.4	1.003
9/28/05 11:00	21.59	0.140	1.140	22.15	0.582	1.082	22.4	1.003
9/28/05 11:15	21.59	0.140	1.139	22.15	0.582	1.082	22.4	1.003
9/28/05 11:30	21.57	0.140	1.139	22.15	0.582	1.082	22.4	1.004
9/28/05 11:45	21.57	0.139	1.139	22.15	0.582	1.081	22.4	1.004
9/28/05 12:00	21.57	0.139	1.138	22.15	0.582	1.081	22.4	1.003
9/28/05 12:15	21.57	0.138	1.138	22.15	0.581	1.081	22.4	1.003
9/28/05 12:30	21.57	0.138	1.138	22.15	0.580	1.080	22.4	1.004
9/28/05 12:45	21.57	0.137	1.137	22.15	0.580	1.080	22.4	1.003
9/28/05 13:00	21.57	0.137	1.137	22.15	0.580	1.080	22.4	1.004
9/28/05 13:15	21.57	0.137	1.137	22.15	0.579	1.079	22.4	1.004
9/28/05 13:30	21.57	0.137	1.136	22.15	0.579	1.079	22.4	1.004
9/28/05 13:45	21.57	0.136	1.136	22.15	0.579	1.079	22.4	1.004
9/28/05 14:00	21.57	0.135	1.135	22.15	0.578	1.078	22.4	1.003
9/28/05 14:15	21.56	0.134	1.134	22.15	0.578	1.077	22.4	1.003
9/28/05 14:30	21.56	0.134	1.134	22.14	0.577	1.077	22.4	1.003
9/28/05 14:45	21.56	0.134	1.134	22.14	0.577	1.077	22.4	1.002
9/28/05 15:00	21.56	0.134	1.133	22.14	0.576	1.076	22.4	1.002
9/28/05 15:15	21.56	0.134	1.134	22.14	0.575	1.075	22.39	1.002
9/28/05 15:30	21.56	0.132	1.132	22.15	0.575	1.074	22.4	1.002
9/28/05 15:45	21.56	0.131	1.131	22.14	0.574	1.074	22.4	1.002
9/28/05 16:00	21.56	0.129	1.129	22.15	0.572	1.072	22.39	1.002
9/28/05 16:15	21.56	0.128	1.127	22.15	0.572	1.071	22.39	1.002
9/28/05 16:30	21.56	0.128	1.127	22.14	0.570	1.070	22.39	1.002
9/28/05 16:45	21.56	0.127	1.127	22.15	0.570	1.070	22.39	1.002
9/28/05 17:00	21.56	0.126	1.126	22.15	0.569	1.069	22.39	1.002
9/28/05 17:15	21.56	0.126	1.126	22.15	0.569	1.069	22.39	1.001
9/28/05 17:30	21.56	0.126	1.126	22.15	0.569	1.069	22.4	1.001
9/28/05 17:45	21.56	0.126	1.126	22.15	0.569	1.069	22.4	1.001
9/28/05 18:00	21.55	0.126	1.126	22.15	0.569	1.069	22.4	1.001
9/28/05 18:15	21.55	0.128	1.127	22.15	0.570	1.070	22.4	1.001
9/28/05 18:30	21.55	0.128	1.127	22.15	0.570	1.070	22.39	1.001
9/28/05 18:45	21.55	0.128	1.128	22.15	0.571	1.071	22.4	1.001
9/28/05 19:00	21.55	0.129	1.129	22.15	0.572	1.071	22.39	1.001
9/28/05 19:15	21.55	0.129	1.129	22.15	0.572	1.072	22.39	1.000
9/28/05 19:30	21.55	0.130	1.130	22.17	0.572	1.072	22.39	1.000
9/28/05 19:45	21.56	0.130	1.130	22.15	0.572	1.072	22.4	1.000
9/28/05 20:00	21.56	0.130	1.130	22.17	0.573	1.073	22.39	1.000
9/28/05 20:15	21.56	0.131	1.131	22.17	0.573	1.073	22.4	1.000
9/28/05 20:30	21.56	0.131	1.131	22.17	0.574	1.074	22.39	1.000
9/28/05 20:45	21.56	0.132	1.132	22.17	0.575	1.074	22.4	1.000
9/28/05 21:00	21.56	0.132	1.132	22.17	0.575	1.074	22.4	1.000
9/28/05 21:15	21.56	0.132	1.132	22.17	0.575	1.075	22.4	1.000
9/28/05 21:30	21.56	0.133	1.133	22.17	0.575	1.075	22.4	1.000
9/28/05 21:45	21.56	0.133	1.133	22.17	0.575	1.075	22.4	1.000
9/28/05 22:00	21.57	0.133	1.133	22.17	0.576	1.076	22.39	1.000
9/28/05 22:15	21.57	0.134	1.134	22.17	0.576	1.076	22.4	1.000
9/28/05 22:30	21.57	0.134	1.134	22.17	0.577	1.077	22.39	1.000
9/28/05 22:45	21.57	0.134	1.134	22.17	0.577	1.077	22.4	1.000
9/28/05 23:00	21.59	0.135	1.135	22.18	0.578	1.077	22.4	1.000
9/28/05 23:15	21.59	0.136	1.136	22.18	0.579	1.078	22.4	1.001
9/28/05 23:30	21.59	0.136	1.136	22.18	0.579	1.078	22.4	1.001
9/28/05 23:45	21.59	0.136	1.136	22.18	0.579	1.079	22.4	1.001
9/29/05 0:00	21.59	0.138	1.138	22.18	0.580	1.080	22.4	1.001
9/29/05 0:15	21.59	0.140	1.139	22.18	0.582	1.082	22.4	1.001
9/29/05 0:30	21.6	0.141	1.140	22.18	0.583	1.083	22.4	1.002
9/29/05 0:45	21.6	0.141	1.141	22.18	0.584	1.084	22.4	1.002
9/29/05 1:00	21.6	0.143	1.143	22.19	0.585	1.085	22.4	1.002
9/29/05 1:15	21.6	0.144	1.143	22.19	0.586	1.086	22.4	1.003
9/29/05 1:30	21.6	0.144	1.144	22.19	0.586	1.086	22.4	1.003
9/29/05 1:45	21.61	0.145	1.145	22.19	0.587	1.087	22.4	1.003
9/29/05 2:00	21.61	0.146	1.146	22.19	0.589	1.088	22.4	1.004
9/29/05 2:15	21.61	0.147	1.146	22.19	0.589	1.089	22.4	1.004

	PZ-1	PZ-1	PZ-1	PZ-2	PZ-2	PZ-2	PZ-3	PZ-3
time stamp (MST)[a]	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	pressure head[b] (m)	total head[c,d] (m)	water temp. (°C)	total head[c,d] (m)
9/29/05 2:30	21.61	0.149	1.149	22.19	0.591	1.091	22.4	1.005
9/29/05 2:45	21.61	0.151	1.151	22.19	0.594	1.094	22.4	1.007
9/29/05 3:00	21.61	0.153	1.153	22.19	0.595	1.095	22.4	1.008
9/29/05 3:15	21.62	0.156	1.156	22.2	0.598	1.098	22.4	1.009
9/29/05 3:30	21.62	0.155	1.155	22.2	0.598	1.098	22.4	1.010
9/29/05 3:45	21.62	0.156	1.156	22.2	0.598	1.098	22.42	1.010
9/29/05 4:00	21.62	0.157	1.157	22.2	0.600	1.099	22.4	1.011
9/29/05 4:15	21.62	0.161	1.160	22.2	0.603	1.103	22.4	1.011
9/29/05 4:30	21.62	0.162	1.162	22.2	0.604	1.104	22.4	1.013
9/29/05 4:45	21.62	0.161	1.161	22.2	0.603	1.103	22.4	1.013
9/29/05 5:00	21.62	0.163	1.163	22.2	0.605	1.105	22.4	1.014
9/29/05 5:15	21.62	0.164	1.163	22.2	0.606	1.106	22.4	1.014
9/29/05 5:30	21.62	0.164	1.163	22.2	0.606	1.106	22.4	1.015
9/29/05 5:45	21.62	0.164	1.164	22.2	0.607	1.107	22.42	1.015
9/29/05 6:00	21.62	0.164	1.163	22.2	0.607	1.106	22.4	1.016
9/29/05 6:15	21.62	0.166	1.165	22.2	0.608	1.108	22.4	1.017
9/29/05 6:30	21.62	0.167	1.167	22.2	0.610	1.109	22.4	1.017
9/29/05 6:45	21.62	0.167	1.167	22.2	0.609	1.109	22.4	1.017
9/29/05 7:00	21.62	0.166	1.166	22.22	0.608	1.108	22.4	1.017
9/29/05 7:15	21.62	0.166	1.166	22.22	0.609	1.109	22.4	1.019
9/29/05 7:30	21.62	0.166	1.166	22.22	0.609	1.109	22.4	1.019
9/29/05 7:45	21.62	0.168	1.168	22.22	0.610	1.110	22.4	1.019
9/29/05 8:00	21.62	0.172	1.172	22.22	0.615	1.115	22.4	1.020
9/29/05 8:15	21.62	0.216	1.216	22.23	0.657	1.156	22.4	1.021
9/29/05 8:30	21.62	0.256	1.256	22.23	0.698	1.198	22.4	1.023
9/29/05 8:45	21.62	0.278	1.278	22.23	0.720	1.220	22.4	1.025
9/29/05 9:00	21.61	0.295	1.295	22.24	0.737	1.237	22.4	1.028
9/29/05 9:15	21.6	0.316	1.316	22.24	0.758	1.258	22.4	1.031
9/29/05 9:30	21.57	0.321	1.321	22.24	0.764	1.263	22.4	1.035
9/29/05 9:45	-	-	-	-	-	-	22.39	1.027

APPENDIX F
River temperature measurements July 2005

The following measurements of Río Grande water temperature were recorded beneath the bridge immediately north of the Escondida transect 29 June to 8 July 2005. Temperature measurements were recorded in 15-min intervals.

[a] MST equal to mountain standard time.

time stamp (MST)[a]	water temp. (°C)	time stamp (MST)[a]	water temp. (°C)	time stamp (MST)[a]	water temp. (°C)	time stamp (MST)[a]	water temp. (°C)
6/29/05 0:00	-	6/29/05 19:00	26.085	-	-	-	-
6/29/05 0:30	-	6/29/05 19:15	26.085	-	-	-	-
6/29/05 1:00	-	6/29/05 19:30	26.085	-	-	-	-
6/29/05 1:30	-	6/29/05 19:45	26.036	-	-	-	-
6/29/05 2:00	-	6/29/05 20:00	25.939	-	-	-	-
6/29/05 2:30	-	6/29/05 20:15	25.866	-	-	-	-
6/29/05 3:00	-	6/29/05 20:30	25.817	-	-	-	-
6/29/05 3:30	-	6/29/05 20:45	25.768	-	-	-	-
6/29/05 4:00	-	6/29/05 21:00	25.72	-	-	-	-
6/29/05 4:30	-	6/29/05 21:15	25.671	-	-	-	-
6/29/05 5:00	-	6/29/05 21:30	25.623	-	-	-	-
6/29/05 5:30	-	6/29/05 21:45	25.574	-	-	-	-
6/29/05 6:00	-	6/29/05 22:00	25.501	-	-	-	-
6/29/05 6:30	-	6/29/05 22:15	25.477	-	-	-	-
6/29/05 7:00	-	6/29/05 22:30	25.453	-	-	-	-
6/29/05 7:30	-	6/29/05 22:45	25.453	-	-	-	-
6/29/05 8:00	-	6/29/05 23:00	25.428	-	-	-	-
6/29/05 8:30	-	6/29/05 23:15	25.404	-	-	-	-
6/29/05 9:00	-	6/29/05 23:30	25.355	-	-	-	-
6/29/05 9:30	-	6/29/05 23:45	25.331	-	-	-	-
6/29/05 10:00	-	-	-	-	-	-	-
6/29/05 10:30	-	-	-	-	-	-	-
6/29/05 11:00	-	-	-	-	-	-	-
6/29/05 11:30	-	-	-	-	-	-	-
6/29/05 12:00	-	-	-	-	-	-	-
6/29/05 12:30	-	-	-	-	-	-	-
6/29/05 13:00	-	-	-	-	-	-	-
6/29/05 13:30	-	-	-	-	-	-	-
6/29/05 14:00	-	-	-	-	-	-	-
6/29/05 14:30	-	-	-	-	-	-	-
6/29/05 15:00	-	-	-	-	-	-	-
6/29/05 15:30	-	-	-	-	-	-	-
6/29/05 16:00	-	-	-	-	-	-	-
6/29/05 16:30	-	-	-	-	-	-	-
6/29/05 17:00	-	-	-	-	-	-	-
6/29/05 17:30	-	-	-	-	-	-	-
6/29/05 18:00	25.963	-	-	-	-	-	-
6/29/05 18:15	25.963	-	-	-	-	-	-
6/29/05 18:30	26.012	-	-	-	-	-	-
6/29/05 18:45	26.036	-	-	-	-	-	-

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
6/30/05 0:00	25.307	6/30/05 12:15	25.016	7/1/05 0:00	24.339	7/1/05 12:15	24.388
6/30/05 0:15	25.258	6/30/05 12:30	25.162	7/1/05 0:15	24.339	7/1/05 12:30	24.508
6/30/05 0:30	25.234	6/30/05 12:45	25.258	7/1/05 0:30	24.339	7/1/05 12:45	24.653
6/30/05 0:45	25.186	6/30/05 13:00	25.355	7/1/05 0:45	24.315	7/1/05 13:00	24.774
6/30/05 1:00	25.137	6/30/05 13:15	25.453	7/1/05 1:00	24.315	7/1/05 13:15	24.895
6/30/05 1:15	25.089	6/30/05 13:30	25.525	7/1/05 1:15	24.315	7/1/05 13:30	25.016
6/30/05 1:30	25.04	6/30/05 13:45	25.598	7/1/05 1:30	24.315	7/1/05 13:45	25.113
6/30/05 1:45	25.016	6/30/05 14:00	25.671	7/1/05 1:45	24.339	7/1/05 14:00	25.21
6/30/05 2:00	24.968	6/30/05 14:15	25.768	7/1/05 2:00	24.339	7/1/05 14:15	25.331
6/30/05 2:15	24.944	6/30/05 14:30	25.793	7/1/05 2:15	24.363	7/1/05 14:30	25.428
6/30/05 2:30	24.895	6/30/05 14:45	25.817	7/1/05 2:30	24.363	7/1/05 14:45	25.525
6/30/05 2:45	24.871	6/30/05 15:00	25.841	7/1/05 2:45	24.363	7/1/05 15:00	25.598
6/30/05 3:00	24.823	6/30/05 15:15	25.841	7/1/05 3:00	24.339	7/1/05 15:15	25.647
6/30/05 3:15	24.798	6/30/05 15:30	25.793	7/1/05 3:15	24.315	7/1/05 15:30	25.695
6/30/05 3:30	24.774	6/30/05 15:45	25.744	7/1/05 3:30	24.219	7/1/05 15:45	25.72
6/30/05 3:45	24.726	6/30/05 16:00	25.695	7/1/05 3:45	24.122	7/1/05 16:00	25.768
6/30/05 4:00	24.702	6/30/05 16:15	25.623	7/1/05 4:00	24.002	7/1/05 16:15	25.793
6/30/05 4:15	24.653	6/30/05 16:30	25.55	7/1/05 4:15	23.905	7/1/05 16:30	25.817
6/30/05 4:30	24.557	6/30/05 16:45	25.38	7/1/05 4:30	23.833	7/1/05 16:45	25.841
6/30/05 4:45	24.46	6/30/05 17:00	25.21	7/1/05 4:45	23.785	7/1/05 17:00	25.841
6/30/05 5:00	24.388	6/30/05 17:15	25.065	7/1/05 5:00	23.761	7/1/05 17:15	25.817
6/30/05 5:15	24.291	6/30/05 17:30	24.992	7/1/05 5:15	23.737	7/1/05 17:30	25.744
6/30/05 5:30	24.219	6/30/05 17:45	24.919	7/1/05 5:30	23.713	7/1/05 17:45	25.647
6/30/05 5:45	24.146	6/30/05 18:00	24.823	7/1/05 5:45	23.641	7/1/05 18:00	25.55
6/30/05 6:00	24.074	6/30/05 18:15	24.702	7/1/05 6:00	23.569	7/1/05 18:15	25.477
6/30/05 6:15	24.026	6/30/05 18:30	24.629	7/1/05 6:15	23.472	7/1/05 18:30	25.38
6/30/05 6:30	23.978	6/30/05 18:45	24.581	7/1/05 6:30	23.352	7/1/05 18:45	25.283
6/30/05 6:45	23.93	6/30/05 19:00	24.557	7/1/05 6:45	23.232	7/1/05 19:00	25.234
6/30/05 7:00	23.881	6/30/05 19:15	24.557	7/1/05 7:00	23.16	7/1/05 19:15	25.162
6/30/05 7:15	23.833	6/30/05 19:30	24.581	7/1/05 7:15	23.088	7/1/05 19:30	25.089
6/30/05 7:30	23.833	6/30/05 19:45	24.605	7/1/05 7:30	23.064	7/1/05 19:45	25.04
6/30/05 7:45	23.809	6/30/05 20:00	24.629	7/1/05 7:45	23.04	7/1/05 20:00	24.992
6/30/05 8:00	23.809	6/30/05 20:15	24.653	7/1/05 8:00	23.064	7/1/05 20:15	24.919
6/30/05 8:15	23.833	6/30/05 20:30	24.653	7/1/05 8:15	23.088	7/1/05 20:30	24.847
6/30/05 8:30	23.833	6/30/05 20:45	24.629	7/1/05 8:30	23.112	7/1/05 20:45	24.774
6/30/05 8:45	23.857	6/30/05 21:00	24.605	7/1/05 8:45	23.136	7/1/05 21:00	24.726
6/30/05 9:00	23.905	6/30/05 21:15	24.605	7/1/05 9:00	23.184	7/1/05 21:15	24.677
6/30/05 9:15	23.93	6/30/05 21:30	24.605	7/1/05 9:15	23.256	7/1/05 21:30	24.653
6/30/05 9:30	24.002	6/30/05 21:45	24.581	7/1/05 9:30	23.328	7/1/05 21:45	24.605
6/30/05 9:45	24.026	6/30/05 22:00	24.581	7/1/05 9:45	23.4	7/1/05 22:00	24.581
6/30/05 10:00	24.098	6/30/05 22:15	24.581	7/1/05 10:00	23.497	7/1/05 22:15	24.557
6/30/05 10:15	24.195	6/30/05 22:30	24.557	7/1/05 10:15	23.593	7/1/05 22:30	24.508
6/30/05 10:30	24.291	6/30/05 22:45	24.532	7/1/05 10:30	23.689	7/1/05 22:45	24.46
6/30/05 10:45	24.388	6/30/05 23:00	24.484	7/1/05 10:45	23.785	7/1/05 23:00	24.412
6/30/05 11:00	24.484	6/30/05 23:15	24.436	7/1/05 11:00	23.881	7/1/05 23:15	24.363
6/30/05 11:15	24.605	6/30/05 23:30	24.388	7/1/05 11:15	24.002	7/1/05 23:30	24.291
6/30/05 11:30	24.677	6/30/05 23:45	24.363	7/1/05 11:30	24.074	7/1/05 23:45	24.243
6/30/05 11:45	24.798			7/1/05 11:45	24.146		
6/30/05 12:00	24.895			7/1/05 12:00	24.267		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
7/2/05 0:00	24.171	7/2/05 12:15	24.05	7/3/05 0:00	24.388	7/3/05 12:15	25.21
7/2/05 0:15	24.122	7/2/05 12:30	24.219	7/3/05 0:15	24.363	7/3/05 12:30	25.307
7/2/05 0:30	24.098	7/2/05 12:45	24.339	7/3/05 0:30	24.339	7/3/05 12:45	25.355
7/2/05 0:45	24.05	7/2/05 13:00	24.484	7/3/05 0:45	24.315	7/3/05 13:00	25.501
7/2/05 1:00	24.026	7/2/05 13:15	24.605	7/3/05 1:00	24.291	7/3/05 13:15	25.501
7/2/05 1:15	23.954	7/2/05 13:30	24.75	7/3/05 1:15	24.267	7/3/05 13:30	25.525
7/2/05 1:30	23.905	7/2/05 13:45	24.895	7/3/05 1:30	24.243	7/3/05 13:45	25.477
7/2/05 1:45	23.833	7/2/05 14:00	24.992	7/3/05 1:45	24.243	7/3/05 14:00	25.501
7/2/05 2:00	23.785	7/2/05 14:15	25.089	7/3/05 2:00	24.219	7/3/05 14:15	25.574
7/2/05 2:15	23.761	7/2/05 14:30	25.186	7/3/05 2:15	24.195	7/3/05 14:30	25.671
7/2/05 2:30	23.761	7/2/05 14:45	25.258	7/3/05 2:30	24.171	7/3/05 14:45	25.695
7/2/05 2:45	23.761	7/2/05 15:00	25.331	7/3/05 2:45	24.074	7/3/05 15:00	25.671
7/2/05 3:00	23.737	7/2/05 15:15	25.428	7/3/05 3:00	24.026	7/3/05 15:15	25.671
7/2/05 3:15	23.713	7/2/05 15:30	25.501	7/3/05 3:15	24.002	7/3/05 15:30	25.623
7/2/05 3:30	23.665	7/2/05 15:45	25.55	7/3/05 3:30	24.002	7/3/05 15:45	25.671
7/2/05 3:45	23.641	7/2/05 16:00	25.55	7/3/05 3:45	24.026	7/3/05 16:00	25.744
7/2/05 4:00	23.593	7/2/05 16:15	25.598	7/3/05 4:00	24.026	7/3/05 16:15	25.89
7/2/05 4:15	23.545	7/2/05 16:30	25.647	7/3/05 4:15	24.026	7/3/05 16:30	25.963
7/2/05 4:30	23.497	7/2/05 16:45	25.671	7/3/05 4:30	24.002	7/3/05 16:45	25.939
7/2/05 4:45	23.472	7/2/05 17:00	25.72	7/3/05 4:45	23.93	7/3/05 17:00	25.914
7/2/05 5:00	23.472	7/2/05 17:15	25.72	7/3/05 5:00	23.881	7/3/05 17:15	25.793
7/2/05 5:15	23.448	7/2/05 17:30	25.744	7/3/05 5:15	23.833	7/3/05 17:30	25.671
7/2/05 5:30	23.4	7/2/05 17:45	25.768	7/3/05 5:30	23.785	7/3/05 17:45	25.598
7/2/05 5:45	23.352	7/2/05 18:00	25.72	7/3/05 5:45	23.737	7/3/05 18:00	25.574
7/2/05 6:00	23.304	7/2/05 18:15	25.72	7/3/05 6:00	23.713	7/3/05 18:15	25.525
7/2/05 6:15	23.208	7/2/05 18:30	25.695	7/3/05 6:15	23.689	7/3/05 18:30	25.453
7/2/05 6:30	23.136	7/2/05 18:45	25.623	7/3/05 6:30	23.665	7/3/05 18:45	25.355
7/2/05 6:45	23.016	7/2/05 19:00	25.574	7/3/05 6:45	23.641	7/3/05 19:00	25.283
7/2/05 7:00	22.92	7/2/05 19:15	25.501	7/3/05 7:00	23.641	7/3/05 19:15	25.21
7/2/05 7:15	22.872	7/2/05 19:30	25.477	7/3/05 7:15	23.617	7/3/05 19:30	25.113
7/2/05 7:30	22.824	7/2/05 19:45	25.404	7/3/05 7:30	23.569	7/3/05 19:45	24.992
7/2/05 7:45	22.776	7/2/05 20:00	25.355	7/3/05 7:45	23.545	7/3/05 20:00	24.895
7/2/05 8:00	22.729	7/2/05 20:15	25.283	7/3/05 8:00	23.545	7/3/05 20:15	24.823
7/2/05 8:15	22.729	7/2/05 20:30	25.21	7/3/05 8:15	23.569	7/3/05 20:30	24.798
7/2/05 8:30	22.753	7/2/05 20:45	25.137	7/3/05 8:30	23.617	7/3/05 20:45	24.75
7/2/05 8:45	22.776	7/2/05 21:00	25.065	7/3/05 8:45	23.689	7/3/05 21:00	24.702
7/2/05 9:00	22.776	7/2/05 21:15	24.992	7/3/05 9:00	23.737	7/3/05 21:15	24.605
7/2/05 9:15	22.776	7/2/05 21:30	24.895	7/3/05 9:15	23.833	7/3/05 21:30	24.581
7/2/05 9:30	22.824	7/2/05 21:45	24.823	7/3/05 9:30	23.93	7/3/05 21:45	24.532
7/2/05 9:45	22.896	7/2/05 22:00	24.75	7/3/05 9:45	24.026	7/3/05 22:00	24.508
7/2/05 10:00	22.992	7/2/05 22:15	24.677	7/3/05 10:00	24.146	7/3/05 22:15	24.46
7/2/05 10:15	23.112	7/2/05 22:30	24.629	7/3/05 10:15	24.267	7/3/05 22:30	24.436
7/2/05 10:30	23.232	7/2/05 22:45	24.581	7/3/05 10:30	24.388	7/3/05 22:45	24.388
7/2/05 10:45	23.352	7/2/05 23:00	24.532	7/3/05 10:45	24.532	7/3/05 23:00	24.363
7/2/05 11:00	23.472	7/2/05 23:15	24.484	7/3/05 11:00	24.653	7/3/05 23:15	24.315
7/2/05 11:15	23.593	7/2/05 23:30	24.436	7/3/05 11:15	24.75	7/3/05 23:30	24.291
7/2/05 11:30	23.689	7/2/05 23:45	24.412	7/3/05 11:30	24.871	7/3/05 23:45	24.243
7/2/05 11:45	23.809			7/3/05 11:45	25.016		
7/2/05 12:00	23.905			7/3/05 12:00	25.137		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
7/4/05 0:00	24.219	7/4/05 12:15	25.089	7/5/05 0:00	24.726	7/5/05 12:15	25.89
7/4/05 0:15	24.171	7/4/05 12:30	25.234	7/5/05 0:15	24.677	7/5/05 12:30	26.061
7/4/05 0:30	24.146	7/4/05 12:45	25.38	7/5/05 0:30	24.629	7/5/05 12:45	26.231
7/4/05 0:45	24.122	7/4/05 13:00	25.55	7/5/05 0:45	24.557	7/5/05 13:00	26.378
7/4/05 1:00	24.074	7/4/05 13:15	25.671	7/5/05 1:00	24.508	7/5/05 13:15	26.5
7/4/05 1:15	24.05	7/4/05 13:30	25.793	7/5/05 1:15	24.436	7/5/05 13:30	26.598
7/4/05 1:30	24.026	7/4/05 13:45	25.914	7/5/05 1:30	24.412	7/5/05 13:45	26.695
7/4/05 1:45	24.002	7/4/05 14:00	26.036	7/5/05 1:45	24.363	7/5/05 14:00	26.793
7/4/05 2:00	23.978	7/4/05 14:15	26.158	7/5/05 2:00	24.291	7/5/05 14:15	26.891
7/4/05 2:15	23.905	7/4/05 14:30	26.256	7/5/05 2:15	24.243	7/5/05 14:30	26.94
7/4/05 2:30	23.833	7/4/05 14:45	26.353	7/5/05 2:30	24.219	7/5/05 14:45	26.989
7/4/05 2:45	23.785	7/4/05 15:00	26.426	7/5/05 2:45	24.146	7/5/05 15:00	27.014
7/4/05 3:00	23.713	7/4/05 15:15	26.5	7/5/05 3:00	24.098	7/5/05 15:15	27.014
7/4/05 3:15	23.665	7/4/05 15:30	26.549	7/5/05 3:15	24.05	7/5/05 15:30	27.014
7/4/05 3:30	23.593	7/4/05 15:45	26.598	7/5/05 3:30	24.002	7/5/05 15:45	26.989
7/4/05 3:45	23.569	7/4/05 16:00	26.622	7/5/05 3:45	23.954	7/5/05 16:00	26.965
7/4/05 4:00	23.545	7/4/05 16:15	26.622	7/5/05 4:00	23.93	7/5/05 16:15	26.916
7/4/05 4:15	23.521	7/4/05 16:30	26.622	7/5/05 4:15	23.905	7/5/05 16:30	26.842
7/4/05 4:30	23.472	7/4/05 16:45	26.598	7/5/05 4:30	23.905	7/5/05 16:45	26.671
7/4/05 4:45	23.4	7/4/05 17:00	26.622	7/5/05 4:45	23.881	7/5/05 17:00	26.5
7/4/05 5:00	23.352	7/4/05 17:15	26.598	7/5/05 5:00	23.881	7/5/05 17:15	26.329
7/4/05 5:15	23.304	7/4/05 17:30	26.598	7/5/05 5:15	23.881	7/5/05 17:30	26.134
7/4/05 5:30	23.232	7/4/05 17:45	26.598	7/5/05 5:30	23.857	7/5/05 17:45	25.939
7/4/05 5:45	23.184	7/4/05 18:00	26.573	7/5/05 5:45	23.857	7/5/05 18:00	25.72
7/4/05 6:00	23.112	7/4/05 18:15	26.573	7/5/05 6:00	23.833	7/5/05 18:15	25.55
7/4/05 6:15	23.088	7/4/05 18:30	26.475	7/5/05 6:15	23.785	7/5/05 18:30	25.55
7/4/05 6:30	23.04	7/4/05 18:45	26.378	7/5/05 6:30	23.737	7/5/05 18:45	25.477
7/4/05 6:45	23.016	7/4/05 19:00	26.329	7/5/05 6:45	23.689	7/5/05 19:00	25.453
7/4/05 7:00	22.992	7/4/05 19:15	26.256	7/5/05 7:00	23.665	7/5/05 19:15	25.477
7/4/05 7:15	22.992	7/4/05 19:30	26.158	7/5/05 7:15	23.665	7/5/05 19:30	25.428
7/4/05 7:30	22.992	7/4/05 19:45	26.061	7/5/05 7:30	23.665	7/5/05 19:45	25.38
7/4/05 7:45	23.016	7/4/05 20:00	25.963	7/5/05 7:45	23.689	7/5/05 20:00	25.331
7/4/05 8:00	23.04	7/4/05 20:15	25.866	7/5/05 8:00	23.737	7/5/05 20:15	25.283
7/4/05 8:15	23.088	7/4/05 20:30	25.768	7/5/05 8:15	23.761	7/5/05 20:30	25.21
7/4/05 8:30	23.136	7/4/05 20:45	25.671	7/5/05 8:30	23.809	7/5/05 20:45	25.162
7/4/05 8:45	23.208	7/4/05 21:00	25.55	7/5/05 8:45	23.881	7/5/05 21:00	25.065
7/4/05 9:00	23.28	7/4/05 21:15	25.453	7/5/05 9:00	23.93	7/5/05 21:15	24.992
7/4/05 9:15	23.376	7/4/05 21:30	25.355	7/5/05 9:15	24.026	7/5/05 21:30	24.919
7/4/05 9:30	23.472	7/4/05 21:45	25.258	7/5/05 9:30	24.146	7/5/05 21:45	24.895
7/4/05 9:45	23.569	7/4/05 22:00	25.186	7/5/05 9:45	24.267	7/5/05 22:00	24.847
7/4/05 10:00	23.689	7/4/05 22:15	25.113	7/5/05 10:00	24.388	7/5/05 22:15	24.823
7/4/05 10:15	23.809	7/4/05 22:30	25.04	7/5/05 10:15	24.532	7/5/05 22:30	24.823
7/4/05 10:30	23.954	7/4/05 22:45	24.968	7/5/05 10:30	24.677	7/5/05 22:45	24.798
7/4/05 10:45	24.098	7/4/05 23:00	24.919	7/5/05 10:45	24.823	7/5/05 23:00	24.798
7/4/05 11:00	24.267	7/4/05 23:15	24.871	7/5/05 11:00	24.992	7/5/05 23:15	24.798
7/4/05 11:15	24.436	7/4/05 23:30	24.823	7/5/05 11:15	25.186	7/5/05 23:30	24.798
7/4/05 11:30	24.605	7/4/05 23:45	24.774	7/5/05 11:30	25.355	7/5/05 23:45	24.798
7/4/05 11:45	24.774			7/5/05 11:45	25.525		
7/4/05 12:00	24.919			7/5/05 12:00	25.695		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
7/6/05 0:00	24.798	7/6/05 12:15	26.28	7/7/05 0:00	24.968	7/7/05 12:15	26.549
7/6/05 0:15	24.75	7/6/05 12:30	26.426	7/7/05 0:15	24.968	7/7/05 12:30	26.695
7/6/05 0:30	24.726	7/6/05 12:45	26.549	7/7/05 0:30	24.944	7/7/05 12:45	26.842
7/6/05 0:45	24.726	7/6/05 13:00	26.72	7/7/05 0:45	24.919	7/7/05 13:00	26.989
7/6/05 1:00	24.702	7/6/05 13:15	26.867	7/7/05 1:00	24.895	7/7/05 13:15	27.112
7/6/05 1:15	24.653	7/6/05 13:30	26.989	7/7/05 1:15	24.895	7/7/05 13:30	27.235
7/6/05 1:30	24.653	7/6/05 13:45	27.112	7/7/05 1:30	24.895	7/7/05 13:45	27.358
7/6/05 1:45	24.605	7/6/05 14:00	27.259	7/7/05 1:45	24.895	7/7/05 14:00	27.53
7/6/05 2:00	24.581	7/6/05 14:15	27.358	7/7/05 2:00	24.871	7/7/05 14:15	27.677
7/6/05 2:15	24.557	7/6/05 14:30	27.53	7/7/05 2:15	24.798	7/7/05 14:30	27.801
7/6/05 2:30	24.532	7/6/05 14:45	27.628	7/7/05 2:30	24.75	7/7/05 14:45	27.899
7/6/05 2:45	24.508	7/6/05 15:00	27.751	7/7/05 2:45	24.653	7/7/05 15:00	27.949
7/6/05 3:00	24.46	7/6/05 15:15	27.85	7/7/05 3:00	24.605	7/7/05 15:15	27.974
7/6/05 3:15	24.436	7/6/05 15:30	27.899	7/7/05 3:15	24.532	7/7/05 15:30	27.974
7/6/05 3:30	24.412	7/6/05 15:45	27.924	7/7/05 3:30	24.508	7/7/05 15:45	28.048
7/6/05 3:45	24.436	7/6/05 16:00	27.875	7/7/05 3:45	24.46	7/7/05 16:00	28.147
7/6/05 4:00	24.412	7/6/05 16:15	27.875	7/7/05 4:00	24.46	7/7/05 16:15	28.122
7/6/05 4:15	24.412	7/6/05 16:30	27.825	7/7/05 4:15	24.436	7/7/05 16:30	28.023
7/6/05 4:30	24.363	7/6/05 16:45	27.85	7/7/05 4:30	24.412	7/7/05 16:45	27.899
7/6/05 4:45	24.315	7/6/05 17:00	27.801	7/7/05 4:45	24.388	7/7/05 17:00	27.825
7/6/05 5:00	24.291	7/6/05 17:15	27.801	7/7/05 5:00	24.388	7/7/05 17:15	27.899
7/6/05 5:15	24.267	7/6/05 17:30	27.653	7/7/05 5:15	24.363	7/7/05 17:30	27.899
7/6/05 5:30	24.219	7/6/05 17:45	27.481	7/7/05 5:30	24.339	7/7/05 17:45	27.825
7/6/05 5:45	24.219	7/6/05 18:00	27.308	7/7/05 5:45	24.315	7/7/05 18:00	27.677
7/6/05 6:00	24.195	7/6/05 18:15	27.161	7/7/05 6:00	24.315	7/7/05 18:15	27.554
7/6/05 6:15	24.146	7/6/05 18:30	27.087	7/7/05 6:15	24.315	7/7/05 18:30	27.431
7/6/05 6:30	24.122	7/6/05 18:45	27.014	7/7/05 6:30	24.315	7/7/05 18:45	27.235
7/6/05 6:45	24.098	7/6/05 19:00	26.916	7/7/05 6:45	24.315	7/7/05 19:00	27.063
7/6/05 7:00	24.05	7/6/05 19:15	26.818	7/7/05 7:00	24.339	7/7/05 19:15	26.842
7/6/05 7:15	24.05	7/6/05 19:30	26.744	7/7/05 7:15	24.339	7/7/05 19:30	26.646
7/6/05 7:30	24.05	7/6/05 19:45	26.72	7/7/05 7:30	24.363	7/7/05 19:45	26.5
7/6/05 7:45	24.05	7/6/05 20:00	26.671	7/7/05 7:45	24.363	7/7/05 20:00	26.353
7/6/05 8:00	24.074	7/6/05 20:15	26.646	7/7/05 8:00	24.363	7/7/05 20:15	26.158
7/6/05 8:15	24.122	7/6/05 20:30	26.524	7/7/05 8:15	24.412	7/7/05 20:30	25.963
7/6/05 8:30	24.195	7/6/05 20:45	26.378	7/7/05 8:30	24.484	7/7/05 20:45	25.817
7/6/05 8:45	24.267	7/6/05 21:00	26.231	7/7/05 8:45	24.581	7/7/05 21:00	25.695
7/6/05 9:00	24.363	7/6/05 21:15	26.061	7/7/05 9:00	24.726	7/7/05 21:15	25.574
7/6/05 9:15	24.436	7/6/05 21:30	25.866	7/7/05 9:15	24.871	7/7/05 21:30	25.525
7/6/05 9:30	24.508	7/6/05 21:45	25.72	7/7/05 9:30	25.016	7/7/05 21:45	25.501
7/6/05 9:45	24.653	7/6/05 22:00	25.501	7/7/05 9:45	25.162	7/7/05 22:00	25.477
7/6/05 10:00	24.726	7/6/05 22:15	25.428	7/7/05 10:00	25.331	7/7/05 22:15	25.428
7/6/05 10:15	24.823	7/6/05 22:30	25.38	7/7/05 10:15	25.453	7/7/05 22:30	25.38
7/6/05 10:30	24.992	7/6/05 22:45	25.331	7/7/05 10:30	25.598	7/7/05 22:45	25.355
7/6/05 10:45	25.162	7/6/05 23:00	25.234	7/7/05 10:45	25.744	7/7/05 23:00	25.307
7/6/05 11:00	25.355	7/6/05 23:15	25.137	7/7/05 11:00	25.89	7/7/05 23:15	25.258
7/6/05 11:15	25.574	7/6/05 23:30	25.065	7/7/05 11:15	26.036	7/7/05 23:30	25.186
7/6/05 11:30	25.768	7/6/05 23:45	25.016	7/7/05 11:30	26.134	7/7/05 23:45	25.137
7/6/05 11:45	25.939			7/7/05 11:45	26.256		
7/6/05 12:00	26.109			7/7/05 12:00	26.402		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
7/8/05 0:00	25.089	7/8/05 12:15	26.744				
7/8/05 0:15	25.04	7/8/05 12:30	26.94				
7/8/05 0:30	24.968	7/8/05 12:45	27.112				
7/8/05 0:45	24.944	7/8/05 13:00	27.186				
7/8/05 1:00	24.895	7/8/05 13:15	27.21				
7/8/05 1:15	24.871	7/8/05 13:30	27.21				
7/8/05 1:30	24.871	7/8/05 13:45	27.186				
7/8/05 1:45	24.847	7/8/05 14:00	27.136				
7/8/05 2:00	24.847	7/8/05 14:15	27.063				
7/8/05 2:15	24.823	7/8/05 14:30	26.94				
7/8/05 2:30	24.823	7/8/05 14:45	26.842				
7/8/05 2:45	24.798	7/8/05 15:00	26.769				
7/8/05 3:00	24.798	7/8/05 15:15	26.671				
7/8/05 3:15	24.774	7/8/05 15:30	26.549				
7/8/05 3:30	24.75	7/8/05 15:45	26.426				
7/8/05 3:45	24.702	7/8/05 16:00	26.329				
7/8/05 4:00	24.677	7/8/05 16:15	26.231				
7/8/05 4:15	24.629	7/8/05 16:30	26.207				
7/8/05 4:30	24.581	7/8/05 16:45	26.085				
7/8/05 4:45	24.532	7/8/05 17:00	25.89				
7/8/05 5:00	24.508	7/8/05 17:15	25.768				
7/8/05 5:15	24.46	7/8/05 17:30	25.647				
7/8/05 5:30	24.412	7/8/05 17:45	25.525				
7/8/05 5:45	24.363	7/8/05 18:00	25.428				
7/8/05 6:00	24.339						
7/8/05 6:15	24.315						
7/8/05 6:30	24.291						
7/8/05 6:45	24.291						
7/8/05 7:00	24.267						
7/8/05 7:15	24.267						
7/8/05 7:30	24.243						
7/8/05 7:45	24.291						
7/8/05 8:00	24.363						
7/8/05 8:15	24.412						
7/8/05 8:30	24.484						
7/8/05 8:45	24.581						
7/8/05 9:00	24.653						
7/8/05 9:15	24.774						
7/8/05 9:30	24.895						
7/8/05 9:45	25.065						
7/8/05 10:00	25.186						
7/8/05 10:15	25.307						
7/8/05 10:30	25.477						
7/8/05 10:45	25.623						
7/8/05 11:00	25.793						
7/8/05 11:15	25.963						
7/8/05 11:30	26.158						
7/8/05 11:45	26.329						
7/8/05 12:00	26.549						

APPENDIX G
River temperature measurements September to December 2005

The following measurements of Río Grande water temperature were recorded beneath the bridge immediately north of the Escondida transect 3 September to 14 December 2005. Temperature measurements were recorded in 15-min intervals.

[a] MST equal to mountain standard time.

time stamp (MST)[a]	water temp. (°C)	time stamp (MST)[a]	water temp. (°C)	time stamp (MST)[a]	water temp. (°C)	time stamp (MST)[a]	water temp. (°C)
9/3/05 0:00	-	9/3/05 10:00		9/3/05 20:00	20.507	-	-
9/3/05 0:15	-	9/3/05 10:15		9/3/05 20:15	20.293	-	-
9/3/05 0:30	-	9/3/05 10:30		9/3/05 20:30	20.341	-	-
9/3/05 0:45	-	9/3/05 10:45		9/3/05 20:45	20.269	-	-
9/3/05 1:00	-	9/3/05 11:00		9/3/05 21:00	20.174	-	-
9/3/05 1:15	-	9/3/05 11:15		9/3/05 21:15	19.984	-	-
9/3/05 1:30	-	9/3/05 11:30		9/3/05 21:30	19.912	-	-
9/3/05 1:45	-	9/3/05 11:45		9/3/05 21:45	20.103	-	-
9/3/05 2:00	-	9/3/05 12:00		9/3/05 22:00	20.174	-	-
9/3/05 2:15	-	9/3/05 12:15		9/3/05 22:15	20.174	-	-
9/3/05 2:30	-	9/3/05 12:30		9/3/05 22:30	20.15	-	-
9/3/05 2:45	-	9/3/05 12:45		9/3/05 22:45	19.936	-	-
9/3/05 3:00	-	9/3/05 13:00		9/3/05 23:00	18.961	-	-
9/3/05 3:15	-	9/3/05 13:15		9/3/05 23:15	18.604	-	-
9/3/05 3:30	-	9/3/05 13:30		9/3/05 23:30	18.485	-	-
9/3/05 3:45	-	9/3/05 13:45		9/3/05 23:45	18.366	-	-
9/3/05 4:00	-	9/3/05 14:00		-	-	-	-
9/3/05 4:15	-	9/3/05 14:15		-	-	-	-
9/3/05 4:30	-	9/3/05 14:30		-	-	-	-
9/3/05 4:45	-	9/3/05 14:45		-	-	-	-
9/3/05 5:00	-	9/3/05 15:00	-	-	-	-	-
9/3/05 5:15	-	9/3/05 15:15	-	-	-	-	-
9/3/05 5:30	-	9/3/05 15:30	-	-	-	-	-
9/3/05 5:45	-	9/3/05 15:45	-	-	-	-	-
9/3/05 6:00	-	9/3/05 16:00	-	-	-	-	-
9/3/05 6:15	-	9/3/05 16:15	-	-	-	-	-
9/3/05 6:30	-	9/3/05 16:30	23.881	-	-	-	-
9/3/05 6:45	-	9/3/05 16:45	23.617	-	-	-	-
9/3/05 7:00	-	9/3/05 17:00	23.112	-	-	-	-
9/3/05 7:15	-	9/3/05 17:15	22.92	-	-	-	-
9/3/05 7:30	-	9/3/05 17:30	22.968	-	-	-	-
9/3/05 7:45	-	9/3/05 17:45	22.872	-	-	-	-
9/3/05 8:00	-	9/3/05 18:00	22.441	-	-	-	-
9/3/05 8:15	-	9/3/05 18:15	22.298	-	-	-	-
9/3/05 8:30	-	9/3/05 18:30	21.867	-	-	-	-
9/3/05 8:45	-	9/3/05 18:45	21.7	-	-	-	-
9/3/05 9:00		9/3/05 19:00	21.485	-	-	-	-
9/3/05 9:15		9/3/05 19:15	21.151	-	-	-	-
9/3/05 9:30		9/3/05 19:30	20.817	-	-	-	-
9/3/05 9:45		9/3/05 19:45	20.722	-	-	-	-

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/4/05 0:00	18.271	9/4/05 12:15	-	9/5/05 0:00	18.319	9/5/05 12:15	23.545
9/4/05 0:15	18.2	9/4/05 12:30	-	9/5/05 0:15	18.224	9/5/05 12:30	23.689
9/4/05 0:30	18.224	9/4/05 12:45	-	9/5/05 0:30	18.176	9/5/05 12:45	23.93
9/4/05 0:45	17.796	9/4/05 13:00	-	9/5/05 0:45	18.081	9/5/05 13:00	24.026
9/4/05 1:00	17.558	9/4/05 13:15	-	9/5/05 1:00	18.129	9/5/05 13:15	24.098
9/4/05 1:15	17.368	9/4/05 13:30	-	9/5/05 1:15	18.152	9/5/05 13:30	24.171
9/4/05 1:30	17.534	9/4/05 13:45	-	9/5/05 1:30	18.176	9/5/05 13:45	24.146
9/4/05 1:45	17.558	9/4/05 14:00	-	9/5/05 1:45	18.176	9/5/05 14:00	24.291
9/4/05 2:00	17.463	9/4/05 14:15	-	9/5/05 2:00	18.247	9/5/05 14:15	24.484
9/4/05 2:15	17.463	9/4/05 14:30	-	9/5/05 2:15	18.247	9/5/05 14:30	24.653
9/4/05 2:30	17.415	9/4/05 14:45	-	9/5/05 2:30	18.2	9/5/05 14:45	24.798
9/4/05 2:45	17.391	9/4/05 15:00	-	9/5/05 2:45	18.247	9/5/05 15:00	25.016
9/4/05 3:00	17.272	9/4/05 15:15	-	9/5/05 3:00	18.176	9/5/05 15:15	25.186
9/4/05 3:15	17.201	9/4/05 15:30	-	9/5/05 3:15	18.2	9/5/05 15:30	25.331
9/4/05 3:30	17.177	9/4/05 15:45	-	9/5/05 3:30	18.2	9/5/05 15:45	25.404
9/4/05 3:45	17.058	9/4/05 16:00	-	9/5/05 3:45	18.129	9/5/05 16:00	25.453
9/4/05 4:00	16.987	9/4/05 16:15	-	9/5/05 4:00	18.176	9/5/05 16:15	25.477
9/4/05 4:15	17.034	9/4/05 16:30	23.881	9/5/05 4:15	18.247	9/5/05 16:30	25.355
9/4/05 4:30	17.034	9/4/05 16:45	23.617	9/5/05 4:30	18.247	9/5/05 16:45	25.21
9/4/05 4:45	16.892	9/4/05 17:00	23.112	9/5/05 4:45	18.319	9/5/05 17:00	25.065
9/4/05 5:00	16.701	9/4/05 17:15	22.92	9/5/05 5:00	18.319	9/5/05 17:15	24.871
9/4/05 5:15	16.534	9/4/05 17:30	22.968	9/5/05 5:15	18.343	9/5/05 17:30	24.702
9/4/05 5:30	16.296	9/4/05 17:45	22.872	9/5/05 5:30	18.343	9/5/05 17:45	24.581
9/4/05 5:45	16.272	9/4/05 18:00	22.441	9/5/05 5:45	18.2	9/5/05 18:00	24.484
9/4/05 6:00	16.225	9/4/05 18:15	22.298	9/5/05 6:00	18.081	9/5/05 18:15	24.291
9/4/05 6:15	16.201	9/4/05 18:30	21.867	9/5/05 6:15	18.247	9/5/05 18:30	24.05
9/4/05 6:30	16.415	9/4/05 18:45	21.7	9/5/05 6:30	18.461	9/5/05 18:45	23.809
9/4/05 6:45	17.153	9/4/05 19:00	21.485	9/5/05 6:45	18.39	9/5/05 19:00	23.665
9/4/05 7:00	17.415	9/4/05 19:15	21.151	9/5/05 7:00	18.438	9/5/05 19:15	23.521
9/4/05 7:15	17.629	9/4/05 19:30	20.817	9/5/05 7:15	18.652	9/5/05 19:30	23.352
9/4/05 7:30	-	9/4/05 19:45	20.722	9/5/05 7:30	18.889	9/5/05 19:45	23.208
9/4/05 7:45	-	9/4/05 20:00	20.507	9/5/05 7:45	19.103	9/5/05 20:00	22.824
9/4/05 8:00	-	9/4/05 20:15	20.293	9/5/05 8:00	19.984	9/5/05 20:15	21.676
9/4/05 8:15	-	9/4/05 20:30	20.341	9/5/05 8:15	20.484	9/5/05 20:30	21.175
9/4/05 8:30	-	9/4/05 20:45	20.269	9/5/05 8:30	20.817	9/5/05 20:45	20.984
9/4/05 8:45	-	9/4/05 21:00	20.174	9/5/05 8:45	20.841	9/5/05 21:00	20.198
9/4/05 9:00	-	9/4/05 21:15	19.984	9/5/05 9:00	21.079	9/5/05 21:15	20.293
9/4/05 9:15	-	9/4/05 21:30	19.912	9/5/05 9:15	21.318	9/5/05 21:30	20.079
9/4/05 9:30	-	9/4/05 21:45	20.103	9/5/05 9:30	21.461	9/5/05 21:45	19.865
9/4/05 9:45	-	9/4/05 22:00	20.174	9/5/05 9:45	21.652	9/5/05 22:00	19.888
9/4/05 10:00	-	9/4/05 22:15	20.174	9/5/05 10:00	21.915	9/5/05 22:15	19.96
9/4/05 10:15	-	9/4/05 22:30	20.15	9/5/05 10:15	22.178	9/5/05 22:30	20.031
9/4/05 10:30	-	9/4/05 22:45	19.936	9/5/05 10:30	22.441	9/5/05 22:45	20.15
9/4/05 10:45	-	9/4/05 23:00	18.961	9/5/05 10:45	22.705	9/5/05 23:00	20.126
9/4/05 11:00	-	9/4/05 23:15	18.604	9/5/05 11:00	22.944	9/5/05 23:15	19.984
9/4/05 11:15	-	9/4/05 23:30	18.485	9/5/05 11:15	23.04	9/5/05 23:30	19.865
9/4/05 11:30	-	9/4/05 23:45	18.366	9/5/05 11:30	23.136	9/5/05 23:45	19.674
9/4/05 11:45	-			9/5/05 11:45	23.256		
9/4/05 12:00	-			9/5/05 12:00	23.424		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/6/05 0:00	19.603	9/6/05 12:15	26.598	9/7/05 0:00	21.724	9/7/05 12:15	22.633
9/6/05 0:15	19.555	9/6/05 12:30	26.891	9/7/05 0:15	21.628	9/7/05 12:30	22.872
9/6/05 0:30	19.651	9/6/05 12:45	27.112	9/7/05 0:30	21.581	9/7/05 12:45	23.112
9/6/05 0:45	19.413	9/6/05 13:00	27.21	9/7/05 0:45	21.557	9/7/05 13:00	23.376
9/6/05 1:00	19.151	9/6/05 13:15	27.186	9/7/05 1:00	21.509	9/7/05 13:15	23.569
9/6/05 1:15	19.222	9/6/05 13:30	27.136	9/7/05 1:15	21.485	9/7/05 13:30	23.809
9/6/05 1:30	19.08	9/6/05 13:45	27.038	9/7/05 1:30	21.437	9/7/05 13:45	24.05
9/6/05 1:45	18.937	9/6/05 14:00	26.94	9/7/05 1:45	21.413	9/7/05 14:00	24.146
9/6/05 2:00	18.771	9/6/05 14:15	26.867	9/7/05 2:00	21.366	9/7/05 14:15	24.339
9/6/05 2:15	18.675	9/6/05 14:30	26.793	9/7/05 2:15	21.342	9/7/05 14:30	24.46
9/6/05 2:30	18.485	9/6/05 14:45	26.793	9/7/05 2:30	21.294	9/7/05 14:45	24.484
9/6/05 2:45	18.39	9/6/05 15:00	26.818	9/7/05 2:45	21.27	9/7/05 15:00	24.629
9/6/05 3:00	18.39	9/6/05 15:15	26.842	9/7/05 3:00	21.246	9/7/05 15:15	24.702
9/6/05 3:15	18.343	9/6/05 15:30	26.793	9/7/05 3:15	21.199	9/7/05 15:30	24.677
9/6/05 3:30	18.319	9/6/05 15:45	26.72	9/7/05 3:30	21.175	9/7/05 15:45	24.629
9/6/05 3:45	18.295	9/6/05 16:00	26.744	9/7/05 3:45	21.127	9/7/05 16:00	24.677
9/6/05 4:00	18.2	9/6/05 16:15	26.598	9/7/05 4:00	21.079	9/7/05 16:15	24.75
9/6/05 4:15	18.2	9/6/05 16:30	26.329	9/7/05 4:15	21.056	9/7/05 16:30	24.702
9/6/05 4:30	18.105	9/6/05 16:45	26.061	9/7/05 4:30	21.008	9/7/05 16:45	24.653
9/6/05 4:45	18.033	9/6/05 17:00	25.817	9/7/05 4:45	20.984	9/7/05 17:00	24.605
9/6/05 5:00	17.986	9/6/05 17:15	25.55	9/7/05 5:00	20.96	9/7/05 17:15	24.557
9/6/05 5:15	17.986	9/6/05 17:30	25.331	9/7/05 5:15	20.936	9/7/05 17:30	24.46
9/6/05 5:30	17.962	9/6/05 17:45	25.089	9/7/05 5:30	20.936	9/7/05 17:45	24.315
9/6/05 5:45	17.962	9/6/05 18:00	24.871	9/7/05 5:45	20.889	9/7/05 18:00	24.195
9/6/05 6:00	18.105	9/6/05 18:15	24.677	9/7/05 6:00	20.889	9/7/05 18:15	24.074
9/6/05 6:15	18.176	9/6/05 18:30	24.508	9/7/05 6:15	20.913	9/7/05 18:30	23.978
9/6/05 6:30	18.295	9/6/05 18:45	24.315	9/7/05 6:30	20.936	9/7/05 18:45	23.905
9/6/05 6:45	18.509	9/6/05 19:00	24.146	9/7/05 6:45	20.96	9/7/05 19:00	23.785
9/6/05 7:00	18.985	9/6/05 19:15	23.954	9/7/05 7:00	21.032	9/7/05 19:15	23.665
9/6/05 7:15	19.436	9/6/05 19:30	23.785	9/7/05 7:15	21.127	9/7/05 19:30	23.569
9/6/05 7:30	19.96	9/6/05 19:45	23.641	9/7/05 7:30	21.27	9/7/05 19:45	23.497
9/6/05 7:45	20.15	9/6/05 20:00	23.497	9/7/05 7:45	21.39	9/7/05 20:00	23.424
9/6/05 8:00	20.341	9/6/05 20:15	23.352	9/7/05 8:00	21.509	9/7/05 20:15	23.376
9/6/05 8:15	20.46	9/6/05 20:30	23.232	9/7/05 8:15	21.557	9/7/05 20:30	23.304
9/6/05 8:30	20.579	9/6/05 20:45	23.088	9/7/05 8:30	21.604	9/7/05 20:45	23.256
9/6/05 8:45	20.698	9/6/05 21:00	22.992	9/7/05 8:45	21.581	9/7/05 21:00	23.16
9/6/05 9:00	20.889	9/6/05 21:15	22.896	9/7/05 9:00	21.557	9/7/05 21:15	23.088
9/6/05 9:15	21.008	9/6/05 21:30	22.824	9/7/05 9:15	21.533	9/7/05 21:30	22.992
9/6/05 9:30	21.294	9/6/05 21:45	22.753	9/7/05 9:30	21.557	9/7/05 21:45	22.872
9/6/05 9:45	21.103	9/6/05 22:00	22.657	9/7/05 9:45	21.628	9/7/05 22:00	22.776
9/6/05 10:00	21.533	9/6/05 22:15	22.561	9/7/05 10:00	21.724	9/7/05 22:15	22.705
9/6/05 10:15	-	9/6/05 22:30	22.441	9/7/05 10:15	21.795	9/7/05 22:30	22.657
9/6/05 10:30	-	9/6/05 22:45	22.321	9/7/05 10:30	21.867	9/7/05 22:45	22.609
9/6/05 10:45	-	9/6/05 23:00	22.178	9/7/05 10:45	21.915	9/7/05 23:00	22.585
9/6/05 11:00	-	9/6/05 23:15	22.058	9/7/05 11:00	21.987	9/7/05 23:15	22.537
9/6/05 11:15	24.895	9/6/05 23:30	21.915	9/7/05 11:15	22.011	9/7/05 23:30	22.513
9/6/05 11:30	25.404	9/6/05 23:45	21.819	9/7/05 11:30	22.106	9/7/05 23:45	22.465
9/6/05 11:45	25.89			9/7/05 11:45	22.274		
9/6/05 12:00	26.256			9/7/05 12:00	22.417		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/8/05 0:00	22.369	9/8/05 12:15	23.569	9/9/05 0:00	20.746	9/9/05 12:15	22.465
9/8/05 0:15	22.25	9/8/05 12:30	23.809	9/9/05 0:15	20.603	9/9/05 12:30	22.681
9/8/05 0:30	22.13	9/8/05 12:45	24.05	9/9/05 0:30	20.46	9/9/05 12:45	22.872
9/8/05 0:45	21.963	9/8/05 13:00	24.315	9/9/05 0:45	20.341	9/9/05 13:00	23.088
9/8/05 1:00	21.795	9/8/05 13:15	24.581	9/9/05 1:00	20.198	9/9/05 13:15	23.28
9/8/05 1:15	21.604	9/8/05 13:30	24.823	9/9/05 1:15	20.055	9/9/05 13:30	23.521
9/8/05 1:30	21.437	9/8/05 13:45	25.016	9/9/05 1:30	19.936	9/9/05 13:45	23.713
9/8/05 1:45	21.294	9/8/05 14:00	25.21	9/9/05 1:45	19.841	9/9/05 14:00	23.809
9/8/05 2:00	21.151	9/8/05 14:15	25.38	9/9/05 2:00	19.77	9/9/05 14:15	23.978
9/8/05 2:15	21.008	9/8/05 14:30	25.501	9/9/05 2:15	19.698	9/9/05 14:30	24.171
9/8/05 2:30	20.865	9/8/05 14:45	25.623	9/9/05 2:30	19.651	9/9/05 14:45	24.315
9/8/05 2:45	20.746	9/8/05 15:00	25.744	9/9/05 2:45	19.603	9/9/05 15:00	24.436
9/8/05 3:00	20.627	9/8/05 15:15	25.793	9/9/05 3:00	19.532	9/9/05 15:15	24.508
9/8/05 3:15	20.531	9/8/05 15:30	25.793	9/9/05 3:15	19.46	9/9/05 15:30	24.557
9/8/05 3:30	20.412	9/8/05 15:45	25.768	9/9/05 3:30	19.365	9/9/05 15:45	24.46
9/8/05 3:45	20.341	9/8/05 16:00	25.695	9/9/05 3:45	19.27	9/9/05 16:00	24.363
9/8/05 4:00	20.246	9/8/05 16:15	25.574	9/9/05 4:00	19.175	9/9/05 16:15	24.219
9/8/05 4:15	20.174	9/8/05 16:30	25.428	9/9/05 4:15	19.08	9/9/05 16:30	24.098
9/8/05 4:30	20.103	9/8/05 16:45	25.21	9/9/05 4:30	19.008	9/9/05 16:45	23.978
9/8/05 4:45	20.055	9/8/05 17:00	24.992	9/9/05 4:45	18.937	9/9/05 17:00	23.833
9/8/05 5:00	20.007	9/8/05 17:15	24.798	9/9/05 5:00	18.866	9/9/05 17:15	23.665
9/8/05 5:15	19.96	9/8/05 17:30	24.581	9/9/05 5:15	18.794	9/9/05 17:30	23.497
9/8/05 5:30	19.888	9/8/05 17:45	24.363	9/9/05 5:30	18.699	9/9/05 17:45	23.304
9/8/05 5:45	19.841	9/8/05 18:00	24.171	9/9/05 5:45	18.604	9/9/05 18:00	23.064
9/8/05 6:00	19.77	9/8/05 18:15	23.954	9/9/05 6:00	18.533	9/9/05 18:15	22.848
9/8/05 6:15	19.698	9/8/05 18:30	23.761	9/9/05 6:15	18.461	9/9/05 18:30	22.633
9/8/05 6:30	19.651	9/8/05 18:45	23.545	9/9/05 6:30	18.414	9/9/05 18:45	22.441
9/8/05 6:45	19.603	9/8/05 19:00	23.352	9/9/05 6:45	18.39	9/9/05 19:00	22.274
9/8/05 7:00	19.579	9/8/05 19:15	23.16	9/9/05 7:00	18.39	9/9/05 19:15	22.106
9/8/05 7:15	19.579	9/8/05 19:30	22.992	9/9/05 7:15	18.414	9/9/05 19:30	21.963
9/8/05 7:30	19.603	9/8/05 19:45	22.824	9/9/05 7:30	18.438	9/9/05 19:45	21.843
9/8/05 7:45	19.627	9/8/05 20:00	22.657	9/9/05 7:45	18.438	9/9/05 20:00	21.724
9/8/05 8:00	19.674	9/8/05 20:15	22.513	9/9/05 8:00	18.533	9/9/05 20:15	21.604
9/8/05 8:15	19.793	9/8/05 20:30	22.369	9/9/05 8:15	18.628	9/9/05 20:30	21.485
9/8/05 8:30	19.936	9/8/05 20:45	22.25	9/9/05 8:30	18.747	9/9/05 20:45	21.366
9/8/05 8:45	20.103	9/8/05 21:00	22.13	9/9/05 8:45	18.866	9/9/05 21:00	21.294
9/8/05 9:00	20.317	9/8/05 21:15	22.034	9/9/05 9:00	19.032	9/9/05 21:15	21.199
9/8/05 9:15	20.531	9/8/05 21:30	21.891	9/9/05 9:15	19.27	9/9/05 21:30	21.151
9/8/05 9:30	20.77	9/8/05 21:45	21.795	9/9/05 9:30	19.532	9/9/05 21:45	21.079
9/8/05 9:45	21.032	9/8/05 22:00	21.676	9/9/05 9:45	19.793	9/9/05 22:00	21.008
9/8/05 10:00	21.294	9/8/05 22:15	21.581	9/9/05 10:00	20.103	9/9/05 22:15	20.936
9/8/05 10:15	21.533	9/8/05 22:30	21.485	9/9/05 10:15	20.388	9/9/05 22:30	20.865
9/8/05 10:30	21.819	9/8/05 22:45	21.342	9/9/05 10:30	20.674	9/9/05 22:45	20.817
9/8/05 10:45	22.13	9/8/05 23:00	21.223	9/9/05 10:45	20.96	9/9/05 23:00	20.77
9/8/05 11:00	22.441	9/8/05 23:15	21.103	9/9/05 11:00	21.223	9/9/05 23:15	20.698
9/8/05 11:15	22.681	9/8/05 23:30	21.008	9/9/05 11:15	21.461	9/9/05 23:30	20.65
9/8/05 11:30	22.944	9/8/05 23:45	20.865	9/9/05 11:30	21.7	9/9/05 23:45	20.627
9/8/05 11:45	23.136			9/9/05 11:45	21.963		
9/8/05 12:00	23.352			9/9/05 12:00	22.202		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/10/05 0:00	20.65	9/10/05 12:15	23.521	9/11/05 0:00	21.342	9/11/05 12:15	23.208
9/10/05 0:15	20.65	9/10/05 12:30	23.881	9/11/05 0:15	21.27	9/11/05 12:30	23.304
9/10/05 0:30	20.674	9/10/05 12:45	24.243	9/11/05 0:30	21.223	9/11/05 12:45	23.521
9/10/05 0:45	20.674	9/10/05 13:00	24.532	9/11/05 0:45	21.151	9/11/05 13:00	23.689
9/10/05 1:00	20.674	9/10/05 13:15	24.677	9/11/05 1:00	21.079	9/11/05 13:15	23.785
9/10/05 1:15	20.698	9/10/05 13:30	24.75	9/11/05 1:15	21.008	9/11/05 13:30	23.881
9/10/05 1:30	20.698	9/10/05 13:45	24.895	9/11/05 1:30	20.936	9/11/05 13:45	23.954
9/10/05 1:45	20.698	9/10/05 14:00	25.04	9/11/05 1:45	20.889	9/11/05 14:00	23.978
9/10/05 2:00	20.698	9/10/05 14:15	25.283	9/11/05 2:00	20.865	9/11/05 14:15	24.026
9/10/05 2:15	20.698	9/10/05 14:30	25.525	9/11/05 2:15	20.793	9/11/05 14:30	24.122
9/10/05 2:30	20.674	9/10/05 14:45	25.72	9/11/05 2:30	20.746	9/11/05 14:45	24.243
9/10/05 2:45	20.674	9/10/05 15:00	25.841	9/11/05 2:45	20.674	9/11/05 15:00	24.339
9/10/05 3:00	20.65	9/10/05 15:15	25.866	9/11/05 3:00	20.579	9/11/05 15:15	24.363
9/10/05 3:15	20.674	9/10/05 15:30	25.914	9/11/05 3:15	20.507	9/11/05 15:30	24.267
9/10/05 3:30	20.65	9/10/05 15:45	25.817	9/11/05 3:30	20.436	9/11/05 15:45	24.122
9/10/05 3:45	20.603	9/10/05 16:00	25.72	9/11/05 3:45	20.341	9/11/05 16:00	24.074
9/10/05 4:00	20.531	9/10/05 16:15	25.695	9/11/05 4:00	20.269	9/11/05 16:15	23.954
9/10/05 4:15	20.484	9/10/05 16:30	25.598	9/11/05 4:15	20.198	9/11/05 16:30	23.785
9/10/05 4:30	20.412	9/10/05 16:45	25.477	9/11/05 4:30	20.126	9/11/05 16:45	23.689
9/10/05 4:45	20.341	9/10/05 17:00	25.283	9/11/05 4:45	20.055	9/11/05 17:00	23.689
9/10/05 5:00	20.293	9/10/05 17:15	25.04	9/11/05 5:00	19.96	9/11/05 17:15	23.617
9/10/05 5:15	20.222	9/10/05 17:30	24.823	9/11/05 5:15	19.865	9/11/05 17:30	23.497
9/10/05 5:30	20.15	9/10/05 17:45	24.581	9/11/05 5:30	19.77	9/11/05 17:45	23.424
9/10/05 5:45	20.103	9/10/05 18:00	24.339	9/11/05 5:45	19.698	9/11/05 18:00	23.304
9/10/05 6:00	20.031	9/10/05 18:15	24.171	9/11/05 6:00	19.603	9/11/05 18:15	23.16
9/10/05 6:15	19.96	9/10/05 18:30	24.026	9/11/05 6:15	19.532	9/11/05 18:30	23.04
9/10/05 6:30	19.888	9/10/05 18:45	23.905	9/11/05 6:30	19.484	9/11/05 18:45	22.968
9/10/05 6:45	19.817	9/10/05 19:00	23.785	9/11/05 6:45	19.436	9/11/05 19:00	22.896
9/10/05 7:00	19.746	9/10/05 19:15	23.665	9/11/05 7:00	19.413	9/11/05 19:15	22.848
9/10/05 7:15	19.698	9/10/05 19:30	23.521	9/11/05 7:15	19.365	9/11/05 19:30	22.753
9/10/05 7:30	19.651	9/10/05 19:45	23.328	9/11/05 7:30	19.365	9/11/05 19:45	22.657
9/10/05 7:45	19.603	9/10/05 20:00	23.136	9/11/05 7:45	19.341	9/11/05 20:00	22.537
9/10/05 8:00	19.579	9/10/05 20:15	22.944	9/11/05 8:00	19.365	9/11/05 20:15	22.417
9/10/05 8:15	19.603	9/10/05 20:30	22.753	9/11/05 8:15	19.413	9/11/05 20:30	22.298
9/10/05 8:30	19.674	9/10/05 20:45	22.585	9/11/05 8:30	19.508	9/11/05 20:45	22.178
9/10/05 8:45	19.746	9/10/05 21:00	22.417	9/11/05 8:45	19.603	9/11/05 21:00	22.034
9/10/05 9:00	19.841	9/10/05 21:15	22.25	9/11/05 9:00	19.746	9/11/05 21:15	21.843
9/10/05 9:15	19.984	9/10/05 21:30	22.13	9/11/05 9:15	19.936	9/11/05 21:30	21.652
9/10/05 9:30	20.15	9/10/05 21:45	22.011	9/11/05 9:30	20.15	9/11/05 21:45	21.485
9/10/05 9:45	20.365	9/10/05 22:00	21.891	9/11/05 9:45	20.365	9/11/05 22:00	21.342
9/10/05 10:00	20.603	9/10/05 22:15	21.795	9/11/05 10:00	20.603	9/11/05 22:15	21.199
9/10/05 10:15	20.841	9/10/05 22:30	21.724	9/11/05 10:15	20.889	9/11/05 22:30	21.056
9/10/05 10:30	21.151	9/10/05 22:45	21.628	9/11/05 10:30	21.151	9/11/05 22:45	20.96
9/10/05 10:45	21.437	9/10/05 23:00	21.557	9/11/05 10:45	21.461	9/11/05 23:00	20.889
9/10/05 11:00	21.748	9/10/05 23:15	21.485	9/11/05 11:00	21.772	9/11/05 23:15	20.865
9/10/05 11:15	22.058	9/10/05 23:30	21.437	9/11/05 11:15	22.082	9/11/05 23:30	20.817
9/10/05 11:30	22.417	9/10/05 23:45	21.39	9/11/05 11:30	22.417	9/11/05 23:45	20.77
9/10/05 11:45	22.776			9/11/05 11:45	22.753		
9/10/05 12:00	23.16			9/11/05 12:00	23.064		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/12/05 0:00	20.722	9/12/05 12:15	22.944	9/13/05 0:00	19.508	9/13/05 12:15	23.304
9/12/05 0:15	20.65	9/12/05 12:30	23.28	9/13/05 0:15	19.365	9/13/05 12:30	23.833
9/12/05 0:30	20.579	9/12/05 12:45	23.617	9/13/05 0:30	19.246	9/13/05 12:45	24.291
9/12/05 0:45	20.484	9/12/05 13:00	23.978	9/13/05 0:45	19.103	9/13/05 13:00	24.702
9/12/05 1:00	20.412	9/12/05 13:15	24.315	9/13/05 1:00	18.985	9/13/05 13:15	25.04
9/12/05 1:15	20.341	9/12/05 13:30	24.581	9/13/05 1:15	18.866	9/13/05 13:30	25.355
9/12/05 1:30	20.269	9/12/05 13:45	24.581	9/13/05 1:30	18.747	9/13/05 13:45	25.647
9/12/05 1:45	20.174	9/12/05 14:00	24.653	9/13/05 1:45	18.604	9/13/05 14:00	25.89
9/12/05 2:00	20.055	9/12/05 14:15	24.653	9/13/05 2:00	18.485	9/13/05 14:15	26.085
9/12/05 2:15	19.96	9/12/05 14:30	24.581	9/13/05 2:15	18.343	9/13/05 14:30	26.207
9/12/05 2:30	19.865	9/12/05 14:45	24.315	9/13/05 2:30	18.2	9/13/05 14:45	26.28
9/12/05 2:45	19.77	9/12/05 15:00	24.122	9/13/05 2:45	18.057	9/13/05 15:00	26.353
9/12/05 3:00	19.674	9/12/05 15:15	24.098	9/13/05 3:00	17.915	9/13/05 15:15	26.256
9/12/05 3:15	19.555	9/12/05 15:30	24.098	9/13/05 3:15	17.772	9/13/05 15:30	26.158
9/12/05 3:30	19.46	9/12/05 15:45	24.05	9/13/05 3:30	17.629	9/13/05 15:45	25.987
9/12/05 3:45	19.365	9/12/05 16:00	23.954	9/13/05 3:45	17.486	9/13/05 16:00	25.841
9/12/05 4:00	19.246	9/12/05 16:15	23.833	9/13/05 4:00	17.344	9/13/05 16:15	25.574
9/12/05 4:15	19.127	9/12/05 16:30	23.569	9/13/05 4:15	17.201	9/13/05 16:30	26.451
9/12/05 4:30	19.008	9/12/05 16:45	23.352	9/13/05 4:30	17.082	9/13/05 16:45	26.451
9/12/05 4:45	18.889	9/12/05 17:00	23.136	9/13/05 4:45	16.963	9/13/05 17:00	26.061
9/12/05 5:00	18.771	9/12/05 17:15	22.872	9/13/05 5:00	16.82	9/13/05 17:15	25.72
9/12/05 5:15	18.675	9/12/05 17:30	22.657	9/13/05 5:15	16.725	9/13/05 17:30	24.219
9/12/05 5:30	18.557	9/12/05 17:45	22.465	9/13/05 5:30	16.606	9/13/05 17:45	23.689
9/12/05 5:45	18.485	9/12/05 18:00	22.345	9/13/05 5:45	16.511	9/13/05 18:00	23.448
9/12/05 6:00	18.39	9/12/05 18:15	22.226	9/13/05 6:00	16.392	9/13/05 18:15	22.992
9/12/05 6:15	18.319	9/12/05 18:30	22.082	9/13/05 6:15	16.296	9/13/05 18:30	22.681
9/12/05 6:30	18.224	9/12/05 18:45	21.963	9/13/05 6:30	16.201	9/13/05 18:45	22.561
9/12/05 6:45	18.152	9/12/05 19:00	21.843	9/13/05 6:45	16.106	9/13/05 19:00	22.393
9/12/05 7:00	18.105	9/12/05 19:15	21.748	9/13/05 7:00	16.058	9/13/05 19:15	22.154
9/12/05 7:15	18.081	9/12/05 19:30	21.676	9/13/05 7:15	16.01	9/13/05 19:30	21.939
9/12/05 7:30	18.057	9/12/05 19:45	21.581	9/13/05 7:30	15.986	9/13/05 19:45	21.748
9/12/05 7:45	18.081	9/12/05 20:00	21.485	9/13/05 7:45	15.986	9/13/05 20:00	21.581
9/12/05 8:00	18.105	9/12/05 20:15	21.366	9/13/05 8:00	16.01	9/13/05 20:15	21.437
9/12/05 8:15	18.176	9/12/05 20:30	21.27	9/13/05 8:15	16.129	9/13/05 20:30	21.223
9/12/05 8:30	18.271	9/12/05 20:45	21.175	9/13/05 8:30	16.32	9/13/05 20:45	21.008
9/12/05 8:45	18.39	9/12/05 21:00	21.056	9/13/05 8:45	16.558	9/13/05 21:00	20.77
9/12/05 9:00	18.533	9/12/05 21:15	20.913	9/13/05 9:00	16.868	9/13/05 21:15	20.579
9/12/05 9:15	18.699	9/12/05 21:30	20.77	9/13/05 9:15	17.225	9/13/05 21:30	20.388
9/12/05 9:30	18.913	9/12/05 21:45	20.627	9/13/05 9:30	17.605	9/13/05 21:45	20.246
9/12/05 9:45	19.151	9/12/05 22:00	20.484	9/13/05 9:45	18.033	9/13/05 22:00	20.007
9/12/05 10:00	19.389	9/12/05 22:15	20.365	9/13/05 10:00	18.533	9/13/05 22:15	19.865
9/12/05 10:15	19.674	9/12/05 22:30	20.269	9/13/05 10:15	19.032	9/13/05 22:30	19.698
9/12/05 10:30	20.031	9/12/05 22:45	20.15	9/13/05 10:30	19.532	9/13/05 22:45	19.532
9/12/05 10:45	20.388	9/12/05 23:00	20.055	9/13/05 10:45	20.079	9/13/05 23:00	19.341
9/12/05 11:00	20.793	9/12/05 23:15	19.912	9/13/05 11:00	20.627	9/13/05 23:15	19.175
9/12/05 11:15	21.223	9/12/05 23:30	19.793	9/13/05 11:15	21.175	9/13/05 23:30	19.008
9/12/05 11:30	21.652	9/12/05 23:45	19.651	9/13/05 11:30	21.724	9/13/05 23:45	18.866
9/12/05 11:45	22.13			9/13/05 11:45	22.25		
9/12/05 12:00	22.561			9/13/05 12:00	22.8		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/14/05 0:00	18.675	9/14/05 12:15	21.939	9/15/05 0:00	17.962	9/15/05 12:15	-
9/14/05 0:15	18.485	9/14/05 12:30	22.058	9/15/05 0:15	17.772	9/15/05 12:30	-
9/14/05 0:30	18.319	9/14/05 12:45	23.088	9/15/05 0:30	17.605	9/15/05 12:45	-
9/14/05 0:45	18.152	9/14/05 13:00	23.569	9/15/05 0:45	17.415	9/15/05 13:00	-
9/14/05 1:00	17.986	9/14/05 13:15	24.026	9/15/05 1:00	17.225	9/15/05 13:15	-
9/14/05 1:15	17.843	9/14/05 13:30	24.267	9/15/05 1:15	17.034	9/15/05 13:30	-
9/14/05 1:30	17.605	9/14/05 13:45	24.653	9/15/05 1:30	16.844	9/15/05 13:45	-
9/14/05 1:45	17.439	9/14/05 14:00	25.016	9/15/05 1:45	16.677	9/15/05 14:00	-
9/14/05 2:00	17.368	9/14/05 14:15	25.283	9/15/05 2:00	16.487	9/15/05 14:15	-
9/14/05 2:15	17.153	9/14/05 14:30	25.55	9/15/05 2:15	16.272	9/15/05 14:30	-
9/14/05 2:30	17.011	9/14/05 14:45	25.671	9/15/05 2:30	16.082	9/15/05 14:45	-
9/14/05 2:45	16.796	9/14/05 15:00	25.744	9/15/05 2:45	15.867	9/15/05 15:00	-
9/14/05 3:00	16.654	9/14/05 15:15	25.768	9/15/05 3:00	15.652	9/15/05 15:15	-
9/14/05 3:15	16.463	9/14/05 15:30	26.158	9/15/05 3:15	15.438	9/15/05 15:30	-
9/14/05 3:30	16.272	9/14/05 15:45	26.061	9/15/05 3:30	15.223	9/15/05 15:45	-
9/14/05 3:45	16.106	9/14/05 16:00	25.89	9/15/05 3:45	-	9/15/05 16:00	-
9/14/05 4:00	15.939	9/14/05 16:15	25.598	9/15/05 4:00	-	9/16/05 16:15	-
9/14/05 4:15	15.772	9/14/05 16:30	25.55	9/15/05 4:15	-	9/16/05 16:30	-
9/14/05 4:30	15.581	9/14/05 16:45	25.598	9/15/05 4:30	-	9/16/05 16:45	-
9/14/05 4:45	15.414	9/14/05 17:00	25.137	9/15/05 4:45	-	9/16/05 17:00	-
9/14/05 5:00	15.247	9/14/05 17:15	24.629	9/15/05 5:00	-	9/16/05 17:15	-
9/14/05 5:15	15.079	9/14/05 17:30	23.857	9/15/05 5:15	-	9/16/05 17:30	-
9/14/05 5:30	14.864	9/14/05 17:45	23.521	9/15/05 5:30	-	9/16/05 17:45	-
9/14/05 5:45	14.673	9/14/05 18:00	23.256	9/15/05 5:45	-	9/15/05 18:00	24.026
9/14/05 6:00	14.505	9/14/05 18:15	22.944	9/15/05 6:00	-	9/15/05 18:15	23.737
9/14/05 6:15	14.385	9/14/05 18:30	22.633	9/15/05 6:15	-	9/15/05 18:30	23.448
9/14/05 6:30	14.194	9/14/05 18:45	22.321	9/15/05 6:30	-	9/15/05 18:45	23.136
9/14/05 6:45	13.954	9/14/05 19:00	22.058	9/15/05 6:45	-	9/15/05 19:00	22.848
9/14/05 7:00	13.834	9/14/05 19:15	21.795	9/15/05 7:00	-	9/15/05 19:15	22.537
9/14/05 7:15	13.834	9/14/05 19:30	21.557	9/15/05 7:15	-	9/15/05 19:30	22.274
9/14/05 7:30	13.93	9/14/05 19:45	21.294	9/15/05 7:30	-	9/15/05 19:45	22.082
9/14/05 7:45	13.81	9/14/05 20:00	21.056	9/15/05 7:45	-	9/15/05 20:00	21.963
9/14/05 8:00	13.786	9/14/05 20:15	20.865	9/15/05 8:00	-	9/15/05 20:15	21.724
9/14/05 8:15	14.098	9/14/05 20:30	20.674	9/15/05 8:15	-	9/15/05 20:30	21.533
9/14/05 8:30	14.314	9/14/05 20:45	20.484	9/15/05 8:30	-	9/15/05 20:45	21.342
9/14/05 8:45	14.529	9/14/05 21:00	20.293	9/15/05 8:45	-	9/15/05 21:00	21.103
9/14/05 9:00	14.912	9/14/05 21:15	20.103	9/15/05 9:00	-	9/15/05 21:15	20.936
9/14/05 9:15	15.342	9/14/05 21:30	19.865	9/15/05 9:15	-	9/15/05 21:30	20.698
9/14/05 9:30	15.819	9/14/05 21:45	19.651	9/15/05 9:30	-	9/15/05 21:45	20.531
9/14/05 9:45	16.296	9/14/05 22:00	19.46	9/15/05 9:45	-	9/15/05 22:00	20.174
9/14/05 10:00	16.892	9/14/05 22:15	19.222	9/15/05 10:00	-	9/15/05 22:15	19.817
9/14/05 10:15	17.439	9/14/05 22:30	19.056	9/15/05 10:15	-	9/15/05 22:30	19.793
9/14/05 10:30	18.01	9/14/05 22:45	18.866	9/15/05 10:30	-	9/15/05 22:45	19.746
9/14/05 10:45	18.58	9/14/05 23:00	18.675	9/15/05 10:45	-	9/15/05 23:00	19.651
9/14/05 11:00	19.151	9/14/05 23:15	18.485	9/15/05 11:00	-	9/15/05 23:15	19.484
9/14/05 11:15	19.722	9/14/05 23:30	18.319	9/15/05 11:15	-	9/15/05 23:30	19.341
9/14/05 11:30	20.365	9/14/05 23:45	18.152	9/15/05 11:30	-	9/15/05 23:45	19.056
9/14/05 11:45	20.96			9/15/05 11:45	-		
9/14/05 12:00	21.509			9/15/05 12:00	-		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/16/05 0:00	18.818	9/16/05 12:15	20.865	9/17/05 0:00	17.891	9/17/05 12:15	16.868
9/16/05 0:15	18.675	9/16/05 12:30	21.223	9/17/05 0:15	17.701	9/17/05 12:30	17.13
9/16/05 0:30	18.247	9/16/05 12:45	21.724	9/17/05 0:30	17.582	9/17/05 12:45	17.344
9/16/05 0:45	18.485	9/16/05 13:00	22.154	9/17/05 0:45	17.439	9/17/05 13:00	17.486
9/16/05 1:00	18.414	9/16/05 13:15	22.441	9/17/05 1:00	17.32	9/17/05 13:15	17.653
9/16/05 1:15	18.271	9/16/05 13:30	22.848	9/17/05 1:15	17.201	9/17/05 13:30	17.938
9/16/05 1:30	18.105	9/16/05 13:45	23.04	9/17/05 1:30	17.058	9/17/05 13:45	18.152
9/16/05 1:45	17.938	9/16/05 14:00	23.304	9/17/05 1:45	16.915	9/17/05 14:00	18.271
9/16/05 2:00	17.772	9/16/05 14:15	23.569	9/17/05 2:00	16.82	9/17/05 14:15	18.438
9/16/05 2:15	17.605	9/16/05 14:30	23.641	9/17/05 2:15	16.725	9/17/05 14:30	18.675
9/16/05 2:30	17.415	9/16/05 14:45	23.785	9/17/05 2:30	16.63	9/17/05 14:45	18.794
9/16/05 2:45	17.201	9/16/05 15:00	23.833	9/17/05 2:45	16.534	9/17/05 15:00	18.889
9/16/05 3:00	17.058	9/16/05 15:15	23.833	9/17/05 3:00	16.439	9/17/05 15:15	18.961
9/16/05 3:15	16.82	9/16/05 15:30	23.833	9/17/05 3:15	16.344	9/17/05 15:30	19.008
9/16/05 3:30	16.487	9/16/05 15:45	23.785	9/17/05 3:30	16.344	9/17/05 15:45	19.246
9/16/05 3:45	16.392	9/16/05 16:00	23.689	9/17/05 3:45	16.249	9/17/05 16:00	24.026
9/16/05 4:00	15.986	9/16/05 16:15	23.472	9/17/05 4:00	16.129	9/17/05 16:15	23.713
9/16/05 4:15	15.891	9/16/05 16:30	23.256	9/17/05 4:15	16.058	9/17/05 16:30	23.448
9/16/05 4:30	15.796	9/16/05 16:45	22.992	9/17/05 4:30	16.01	9/17/05 16:45	23.208
9/16/05 4:45	15.485	9/16/05 17:00	22.729	9/17/05 4:45	15.915	9/17/05 17:00	22.992
9/16/05 5:00	15.533	9/16/05 17:15	22.441	9/17/05 5:00	15.819	9/17/05 17:15	22.776
9/16/05 5:15	15.342	9/16/05 17:30	22.154	9/17/05 5:15	15.676	9/17/05 17:30	22.657
9/16/05 5:30	15.199	9/16/05 17:45	21.891	9/17/05 5:30	15.533	9/17/05 17:45	22.537
9/16/05 5:45	15.103	9/16/05 18:00	21.628	9/17/05 5:45	15.438	9/17/05 18:00	22.345
9/16/05 6:00	14.936	9/16/05 18:15	21.39	9/17/05 6:00	15.366	9/17/05 18:15	22.202
9/16/05 6:15	14.768	9/16/05 18:30	21.175	9/17/05 6:15	15.199	9/17/05 18:30	22.034
9/16/05 6:30	14.601	9/16/05 18:45	20.913	9/17/05 6:30	15.079	9/17/05 18:45	21.819
9/16/05 6:45	14.457	9/16/05 19:00	20.627	9/17/05 6:45	15.031	9/17/05 19:00	21.604
9/16/05 7:00	14.361	9/16/05 19:15	20.436	9/17/05 7:00	14.984	9/17/05 19:15	21.437
9/16/05 7:15	14.29	9/16/05 19:30	20.174	9/17/05 7:15	14.96	9/17/05 19:30	21.223
9/16/05 7:30	14.17	9/16/05 19:45	20.007	9/17/05 7:30	14.936	9/17/05 19:45	21.103
9/16/05 7:45	14.122	9/16/05 20:00	19.793	9/17/05 7:45	14.912	9/17/05 20:00	20.889
9/16/05 8:00	14.074	9/16/05 20:15	19.674	9/17/05 8:00	14.936	9/17/05 20:15	20.841
9/16/05 8:15	14.074	9/16/05 20:30	19.508	9/17/05 8:15	14.984	9/17/05 20:30	20.746
9/16/05 8:30	14.17	9/16/05 20:45	19.389	9/17/05 8:30	15.103	9/17/05 20:45	20.65
9/16/05 8:45	14.314	9/16/05 21:00	19.246	9/17/05 8:45	15.223	9/17/05 21:00	20.46
9/16/05 9:00	14.553	9/16/05 21:15	19.127	9/17/05 9:00	15.438	9/17/05 21:15	20.293
9/16/05 9:15	14.84	9/16/05 21:30	18.985	9/17/05 9:15	15.629	9/17/05 21:30	20.15
9/16/05 9:30	15.223	9/16/05 21:45	18.866	9/17/05 9:30	15.819	9/17/05 21:45	19.96
9/16/05 9:45	15.629	9/16/05 22:00	18.747	9/17/05 9:45	16.082	9/17/05 22:00	19.793
9/16/05 10:00	16.129	9/16/05 22:15	18.628	9/17/05 10:00	16.511	9/17/05 22:15	19.651
9/16/05 10:15	16.63	9/16/05 22:30	18.509	9/17/05 10:15	16.868	9/17/05 22:30	19.532
9/16/05 10:30	17.201	9/16/05 22:45	18.366	9/17/05 10:30	17.13	9/17/05 22:45	19.365
9/16/05 10:45	17.748	9/16/05 23:00	18.295	9/17/05 10:45	17.486	9/17/05 23:00	19.222
9/16/05 11:00	18.271	9/16/05 23:15	18.2	9/17/05 11:00	17.915	9/17/05 23:15	19.08
9/16/05 11:15	18.794	9/16/05 23:30	18.105	9/17/05 11:15	18.937	9/17/05 23:30	18.937
9/16/05 11:30	19.365	9/16/05 23:45	17.986	9/17/05 11:30	16.201	9/17/05 23:45	18.771
9/16/05 11:45	19.793			9/17/05 11:45	16.272		
9/16/05 12:00	20.341			9/17/05 12:00	16.63		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/18/05 0:00	18.604	9/18/05 12:15	24.363	9/19/05 0:00	19.841	9/19/05 12:15	22.848
9/18/05 0:15	18.461	9/18/05 12:30	24.702	9/19/05 0:15	19.722	9/19/05 12:30	23.088
9/18/05 0:30	18.295	9/18/05 12:45	25.089	9/19/05 0:30	19.555	9/19/05 12:45	23.376
9/18/05 0:45	18.152	9/18/05 13:00	25.38	9/19/05 0:45	19.413	9/19/05 13:00	23.905
9/18/05 1:00	18.033	9/18/05 13:15	25.768	9/19/05 1:00	19.27	9/19/05 13:15	23.978
9/18/05 1:15	17.867	9/18/05 13:30	25.793	9/19/05 1:15	19.151	9/19/05 13:30	24.436
9/18/05 1:30	17.724	9/18/05 13:45	25.428	9/19/05 1:30	19.008	9/19/05 13:45	24.605
9/18/05 1:45	17.582	9/18/05 14:00	25.453	9/19/05 1:45	18.866	9/19/05 14:00	24.677
9/18/05 2:00	17.415	9/18/05 14:15	25.404	9/19/05 2:00	18.723	9/19/05 14:15	24.944
9/18/05 2:15	17.272	9/18/05 14:30	25.574	9/19/05 2:15	18.604	9/19/05 14:30	25.04
9/18/05 2:30	17.13	9/18/05 14:45	25.647	9/19/05 2:30	18.461	9/19/05 14:45	25.137
9/18/05 2:45	17.011	9/18/05 15:00	25.55	9/19/05 2:45	18.271	9/19/05 15:00	25.283
9/18/05 3:00	16.868	9/18/05 15:15	25.258	9/19/05 3:00	18.152	9/19/05 15:15	25.113
9/18/05 3:15	16.725	9/18/05 15:30	25.21	9/19/05 3:15	18.01	9/19/05 15:30	25.162
9/18/05 3:30	16.582	9/18/05 15:45	25.065	9/19/05 3:30	17.867	9/19/05 15:45	25.162
9/18/05 3:45	16.415	9/18/05 16:00	24.798	9/19/05 3:45	17.724	9/19/05 16:00	25.089
9/18/05 4:00	16.272	9/18/05 16:15	24.629	9/19/05 4:00	17.582	9/19/05 16:15	25.016
9/18/05 4:15	16.129	9/18/05 16:30	24.508	9/19/05 4:15	17.439	9/19/05 16:30	24.919
9/18/05 4:30	15.986	9/18/05 16:45	24.388	9/19/05 4:30	17.272	9/19/05 16:45	24.774
9/18/05 4:45	15.867	9/18/05 17:00	24.291	9/19/05 4:45	17.153	9/19/05 17:00	24.605
9/18/05 5:00	15.724	9/18/05 17:15	24.171	9/19/05 5:00	17.011	9/19/05 17:15	24.484
9/18/05 5:15	15.605	9/18/05 17:30	24.002	9/19/05 5:15	16.892	9/19/05 17:30	24.436
9/18/05 5:30	15.461	9/18/05 17:45	23.809	9/19/05 5:30	16.773	9/19/05 17:45	24.363
9/18/05 5:45	15.342	9/18/05 18:00	23.641	9/19/05 5:45	16.63	9/19/05 18:00	24.243
9/18/05 6:00	15.223	9/18/05 18:15	23.424	9/19/05 6:00	16.511	9/19/05 18:15	24.098
9/18/05 6:15	15.103	9/18/05 18:30	23.256	9/19/05 6:15	16.392	9/19/05 18:30	23.905
9/18/05 6:30	15.008	9/18/05 18:45	23.064	9/19/05 6:30	16.32	9/19/05 18:45	23.737
9/18/05 6:45	14.912	9/18/05 19:00	22.824	9/19/05 6:45	16.249	9/19/05 19:00	23.617
9/18/05 7:00	14.864	9/18/05 19:15	22.633	9/19/05 7:00	16.201	9/19/05 19:15	23.4
9/18/05 7:15	14.912	9/18/05 19:30	22.465	9/19/05 7:15	16.201	9/19/05 19:30	23.04
9/18/05 7:30	15.008	9/18/05 19:45	22.298	9/19/05 7:30	16.296	9/19/05 19:45	22.968
9/18/05 7:45	15.199	9/18/05 20:00	22.13	9/19/05 7:45	16.463	9/19/05 20:00	22.896
9/18/05 8:00	15.438	9/18/05 20:15	21.987	9/19/05 8:00	16.701	9/19/05 20:15	22.824
9/18/05 8:15	15.772	9/18/05 20:30	21.819	9/19/05 8:15	16.915	9/19/05 20:30	22.753
9/18/05 8:30	16.201	9/18/05 20:45	21.676	9/19/05 8:30	17.272	9/19/05 20:45	22.681
9/18/05 8:45	16.63	9/18/05 21:00	21.533	9/19/05 8:45	17.391	9/19/05 21:00	22.537
9/18/05 9:00	17.106	9/18/05 21:15	21.39	9/19/05 9:00	17.605	9/19/05 21:15	22.369
9/18/05 9:15	17.629	9/18/05 21:30	21.223	9/19/05 9:15	17.891	9/19/05 21:30	22.202
9/18/05 9:30	18.081	9/18/05 21:45	21.056	9/19/05 9:30	18.438	9/19/05 21:45	22.058
9/18/05 9:45	18.675	9/18/05 22:00	20.889	9/19/05 9:45	18.771	9/19/05 22:00	21.915
9/18/05 10:00	19.294	9/18/05 22:15	20.746	9/19/05 10:00	19.032	9/19/05 22:15	21.724
9/18/05 10:15	19.936	9/18/05 22:30	20.603	9/19/05 10:15	19.436	9/19/05 22:30	21.581
9/18/05 10:30	20.555	9/18/05 22:45	20.46	9/19/05 10:30	19.77	9/19/05 22:45	21.413
9/18/05 10:45	21.199	9/18/05 23:00	20.341	9/19/05 10:45	20.15	9/19/05 23:00	21.246
9/18/05 11:00	21.843	9/18/05 23:15	20.222	9/19/05 11:00	20.531	9/19/05 23:15	21.079
9/18/05 11:15	22.393	9/18/05 23:30	20.103	9/19/05 11:15	20.936	9/19/05 23:30	20.913
9/18/05 11:30	22.968	9/18/05 23:45	19.984	9/19/05 11:30	21.509	9/19/05 23:45	20.77
9/18/05 11:45	23.521			9/19/05 11:45	22.202		
9/18/05 12:00	23.954			9/19/05 12:00	22.681		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/20/05 0:00	20.627	9/20/05 12:15	25.914	9/21/05 0:00	19.627	9/21/05 12:15	24.847
9/20/05 0:15	20.46	9/20/05 12:30	26.329	9/21/05 0:15	19.484	9/21/05 12:30	25.186
9/20/05 0:30	20.341	9/20/05 12:45	26.671	9/21/05 0:30	19.341	9/21/05 12:45	25.477
9/20/05 0:45	20.198	9/20/05 13:00	26.989	9/21/05 0:45	19.222	9/21/05 13:00	25.793
9/20/05 1:00	20.079	9/20/05 13:15	27.161	9/21/05 1:00	19.103	9/21/05 13:15	26.012
9/20/05 1:15	19.96	9/20/05 13:30	27.382	9/21/05 1:15	18.961	9/21/05 13:30	26.231
9/20/05 1:30	19.865	9/20/05 13:45	27.505	9/21/05 1:30	18.818	9/21/05 13:45	26.378
9/20/05 1:45	19.746	9/20/05 14:00	27.628	9/21/05 1:45	18.652	9/21/05 14:00	26.475
9/20/05 2:00	19.627	9/20/05 14:15	27.604	9/21/05 2:00	18.485	9/21/05 14:15	26.451
9/20/05 2:15	19.508	9/20/05 14:30	27.579	9/21/05 2:15	18.366	9/21/05 14:30	26.475
9/20/05 2:30	19.389	9/20/05 14:45	27.505	9/21/05 2:30	18.224	9/21/05 14:45	26.426
9/20/05 2:45	19.27	9/20/05 15:00	27.407	9/21/05 2:45	18.081	9/21/05 15:00	26.353
9/20/05 3:00	19.175	9/20/05 15:15	27.358	9/21/05 3:00	17.938	9/21/05 15:15	26.158
9/20/05 3:15	19.056	9/20/05 15:30	27.21	9/21/05 3:15	17.796	9/21/05 15:30	25.914
9/20/05 3:30	18.961	9/20/05 15:45	26.965	9/21/05 3:30	17.677	9/21/05 15:45	25.817
9/20/05 3:45	18.842	9/20/05 16:00	26.72	9/21/05 3:45	17.558	9/21/05 16:00	25.574
9/20/05 4:00	18.723	9/20/05 16:15	26.402	9/21/05 4:00	17.439	9/21/05 16:15	25.234
9/20/05 4:15	18.604	9/20/05 16:30	26.134	9/21/05 4:15	17.296	9/21/05 16:30	25.065
9/20/05 4:30	18.485	9/20/05 16:45	25.841	9/21/05 4:30	17.153	9/21/05 16:45	24.919
9/20/05 4:45	18.366	9/20/05 17:00	25.501	9/21/05 4:45	17.011	9/21/05 17:00	24.702
9/20/05 5:00	18.247	9/20/05 17:15	25.21	9/21/05 5:00	16.868	9/21/05 17:15	24.46
9/20/05 5:15	18.105	9/20/05 17:30	24.919	9/21/05 5:15	16.773	9/21/05 17:30	24.219
9/20/05 5:30	17.962	9/20/05 17:45	24.653	9/21/05 5:30	16.677	9/21/05 17:45	23.93
9/20/05 5:45	17.819	9/20/05 18:00	24.436	9/21/05 5:45	16.558	9/21/05 18:00	23.665
9/20/05 6:00	17.724	9/20/05 18:15	24.243	9/21/05 6:00	16.439	9/21/05 18:15	23.376
9/20/05 6:15	17.629	9/20/05 18:30	24.002	9/21/05 6:15	16.344	9/21/05 18:30	23.04
9/20/05 6:30	17.534	9/20/05 18:45	23.761	9/21/05 6:30	16.272	9/21/05 18:45	22.776
9/20/05 6:45	17.463	9/20/05 19:00	23.472	9/21/05 6:45	16.201	9/21/05 19:00	22.609
9/20/05 7:00	17.391	9/20/05 19:15	23.232	9/21/05 7:00	16.177	9/21/05 19:15	22.393
9/20/05 7:15	17.391	9/20/05 19:30	22.944	9/21/05 7:15	16.201	9/21/05 19:30	22.202
9/20/05 7:30	17.439	9/20/05 19:45	22.705	9/21/05 7:30	16.32	9/21/05 19:45	21.987
9/20/05 7:45	17.558	9/20/05 20:00	22.489	9/21/05 7:45	16.511	9/21/05 20:00	21.819
9/20/05 8:00	17.772	9/20/05 20:15	22.25	9/21/05 8:00	16.796	9/21/05 20:15	21.652
9/20/05 8:15	18.081	9/20/05 20:30	22.011	9/21/05 8:15	17.058	9/21/05 20:30	21.461
9/20/05 8:30	18.461	9/20/05 20:45	21.748	9/21/05 8:30	17.439	9/21/05 20:45	21.294
9/20/05 8:45	18.818	9/20/05 21:00	21.533	9/21/05 8:45	17.843	9/21/05 21:00	21.127
9/20/05 9:00	19.199	9/20/05 21:15	21.294	9/21/05 9:00	18.295	9/21/05 21:15	20.96
9/20/05 9:15	19.627	9/20/05 21:30	21.127	9/21/05 9:15	18.771	9/21/05 21:30	20.746
9/20/05 9:30	20.055	9/20/05 21:45	20.936	9/21/05 9:30	19.199	9/21/05 21:45	20.698
9/20/05 9:45	20.436	9/20/05 22:00	20.793	9/21/05 9:45	19.746	9/21/05 22:00	20.627
9/20/05 10:00	20.984	9/20/05 22:15	20.603	9/21/05 10:00	20.246	9/21/05 22:15	20.507
9/20/05 10:15	21.461	9/20/05 22:30	20.46	9/21/05 10:15	20.841	9/21/05 22:30	20.388
9/20/05 10:30	22.011	9/20/05 22:45	20.317	9/21/05 10:30	21.366	9/21/05 22:45	20.293
9/20/05 10:45	22.561	9/20/05 23:00	20.174	9/21/05 10:45	21.724	9/21/05 23:00	20.222
9/20/05 11:00	23.16	9/20/05 23:15	20.007	9/21/05 11:00	22.369	9/21/05 23:15	20.126
9/20/05 11:15	23.761	9/20/05 23:30	19.888	9/21/05 11:15	22.968	9/21/05 23:30	20.055
9/20/05 11:30	24.339	9/20/05 23:45	19.746	9/21/05 11:30	23.545	9/21/05 23:45	20.007
9/20/05 11:45	24.968			9/21/05 11:45	23.833		
9/20/05 12:00	25.477			9/21/05 12:00	24.363		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/22/05 0:00	19.936	9/22/05 12:15	26.402	9/23/05 0:00	19.175	9/23/05 12:15	26.5
9/22/05 0:15	19.841	9/22/05 12:30	26.867	9/23/05 0:15	19.127	9/23/05 12:30	26.94
9/22/05 0:30	19.793	9/22/05 12:45	27.112	9/23/05 0:30	19.08	9/23/05 12:45	27.333
9/22/05 0:45	19.698	9/22/05 13:00	27.038	9/23/05 0:45	19.032	9/23/05 13:00	27.554
9/22/05 1:00	19.627	9/22/05 13:15	26.671	9/23/05 1:00	18.985	9/23/05 13:15	27.702
9/22/05 1:15	19.555	9/22/05 13:30	26.549	9/23/05 1:15	18.913	9/23/05 13:30	27.801
9/22/05 1:30	19.46	9/22/05 13:45	26.646	9/23/05 1:30	18.842	9/23/05 13:45	27.53
9/22/05 1:45	19.341	9/22/05 14:00	26.671	9/23/05 1:45	18.771	9/23/05 14:00	27.677
9/22/05 2:00	19.246	9/22/05 14:15	26.426	9/23/05 2:00	18.675	9/23/05 14:15	27.628
9/22/05 2:15	19.127	9/22/05 14:30	26.036	9/23/05 2:15	18.604	9/23/05 14:30	27.21
9/22/05 2:30	19.032	9/22/05 14:45	25.186	9/23/05 2:30	18.533	9/23/05 14:45	26.695
9/22/05 2:45	18.961	9/22/05 15:00	24.46	9/23/05 2:45	18.414	9/23/05 15:00	26.451
9/22/05 3:00	18.866	9/22/05 15:15	23.954	9/23/05 3:00	18.319	9/23/05 15:15	26.036
9/22/05 3:15	18.771	9/22/05 15:30	23.593	9/23/05 3:15	18.247	9/23/05 15:30	25.744
9/22/05 3:30	18.652	9/22/05 15:45	23.328	9/23/05 3:30	18.176	9/23/05 15:45	25.55
9/22/05 3:45	18.58	9/22/05 16:00	23.232	9/23/05 3:45	18.105	9/23/05 16:00	25.331
9/22/05 4:00	18.509	9/22/05 16:15	23.112	9/23/05 4:00	18.033	9/23/05 16:15	25.38
9/22/05 4:15	18.414	9/22/05 16:30	22.92	9/23/05 4:15	17.962	9/23/05 16:30	24.944
9/22/05 4:30	18.319	9/22/05 16:45	22.753	9/23/05 4:30	17.915	9/23/05 16:45	24.702
9/22/05 4:45	18.271	9/22/05 17:00	22.561	9/23/05 4:45	17.819	9/23/05 17:00	24.532
9/22/05 5:00	18.2	9/22/05 17:15	22.417	9/23/05 5:00	17.748	9/23/05 17:15	24.267
9/22/05 5:15	18.152	9/22/05 17:30	22.321	9/23/05 5:15	17.701	9/23/05 17:30	24.002
9/22/05 5:30	18.105	9/22/05 17:45	22.226	9/23/05 5:30	17.629	9/23/05 17:45	23.809
9/22/05 5:45	18.057	9/22/05 18:00	22.082	9/23/05 5:45	17.51	9/23/05 18:00	23.569
9/22/05 6:00	17.986	9/22/05 18:15	21.915	9/23/05 6:00	17.439	9/23/05 18:15	23.4
9/22/05 6:15	17.915	9/22/05 18:30	21.676	9/23/05 6:15	17.344	9/23/05 18:30	23.208
9/22/05 6:30	17.915	9/22/05 18:45	21.485	9/23/05 6:30	17.296	9/23/05 18:45	23.064
9/22/05 6:45	17.915	9/22/05 19:00	21.318	9/23/05 6:45	17.225	9/23/05 19:00	22.92
9/22/05 7:00	17.891	9/22/05 19:15	21.199	9/23/05 7:00	17.177	9/23/05 19:15	22.753
9/22/05 7:15	17.891	9/22/05 19:30	21.079	9/23/05 7:15	17.201	9/23/05 19:30	22.609
9/22/05 7:30	17.867	9/22/05 19:45	20.984	9/23/05 7:30	17.32	9/23/05 19:45	22.465
9/22/05 7:45	17.938	9/22/05 20:00	20.865	9/23/05 7:45	17.51	9/23/05 20:00	22.298
9/22/05 8:00	18.105	9/22/05 20:15	20.722	9/23/05 8:00	17.796	9/23/05 20:15	22.13
9/22/05 8:15	18.224	9/22/05 20:30	20.603	9/23/05 8:15	18.129	9/23/05 20:30	21.915
9/22/05 8:30	18.58	9/22/05 20:45	20.46	9/23/05 8:30	18.509	9/23/05 20:45	21.7
9/22/05 8:45	18.794	9/22/05 21:00	20.317	9/23/05 8:45	18.985	9/23/05 21:00	21.485
9/22/05 9:00	19.246	9/22/05 21:15	20.198	9/23/05 9:00	19.46	9/23/05 21:15	21.342
9/22/05 9:15	19.936	9/22/05 21:30	20.055	9/23/05 9:15	19.96	9/23/05 21:30	21.223
9/22/05 9:30	20.484	9/22/05 21:45	19.936	9/23/05 9:30	20.579	9/23/05 21:45	21.127
9/22/05 9:45	20.674	9/22/05 22:00	19.817	9/23/05 9:45	21.008	9/23/05 22:00	21.008
9/22/05 10:00	21.032	9/22/05 22:15	19.674	9/23/05 10:00	21.485	9/23/05 22:15	20.913
9/22/05 10:15	21.509	9/22/05 22:30	19.555	9/23/05 10:15	22.106	9/23/05 22:30	20.817
9/22/05 10:30	22.154	9/22/05 22:45	19.484	9/23/05 10:30	22.729	9/23/05 22:45	20.722
9/22/05 10:45	22.848	9/22/05 23:00	19.436	9/23/05 10:45	23.328	9/23/05 23:00	20.627
9/22/05 11:00	23.497	9/22/05 23:15	19.389	9/23/05 11:00	23.93	9/23/05 23:15	20.555
9/22/05 11:15	24.05	9/22/05 23:30	19.318	9/23/05 11:15	24.484	9/23/05 23:30	20.46
9/22/05 11:30	24.629	9/22/05 23:45	19.222	9/23/05 11:30	25.089	9/23/05 23:45	20.341
9/22/05 11:45	25.016			9/23/05 11:45	25.647		
9/22/05 12:00	25.744			9/23/05 12:00	26.061		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/24/05 0:00	20.246	9/24/05 12:15	25.647	9/25/05 0:00	20.031	9/25/05 12:15	25.841
9/24/05 0:15	20.15	9/24/05 12:30	25.768	9/25/05 0:15	19.888	9/25/05 12:30	26.231
9/24/05 0:30	20.055	9/24/05 12:45	25.939	9/25/05 0:30	19.746	9/25/05 12:45	26.549
9/24/05 0:45	19.96	9/24/05 13:00	25.793	9/25/05 0:45	19.603	9/25/05 13:00	26.94
9/24/05 1:00	19.841	9/24/05 13:15	25.914	9/25/05 1:00	19.436	9/25/05 13:15	27.308
9/24/05 1:15	19.746	9/24/05 13:30	25.866	9/25/05 1:15	19.27	9/25/05 13:30	27.382
9/24/05 1:30	19.651	9/24/05 13:45	25.841	9/25/05 1:30	19.103	9/25/05 13:45	27.481
9/24/05 1:45	19.603	9/24/05 14:00	25.744	9/25/05 1:45	18.961	9/25/05 14:00	27.604
9/24/05 2:00	19.579	9/24/05 14:15	25.744	9/25/05 2:00	18.842	9/25/05 14:15	27.604
9/24/05 2:15	19.532	9/24/05 14:30	26.036	9/25/05 2:15	18.699	9/25/05 14:30	27.431
9/24/05 2:30	19.484	9/24/05 14:45	26.085	9/25/05 2:30	18.557	9/25/05 14:45	27.382
9/24/05 2:45	19.436	9/24/05 15:00	26.402	9/25/05 2:45	18.414	9/25/05 15:00	27.21
9/24/05 3:00	19.365	9/24/05 15:15	26.158	9/25/05 3:00	18.271	9/25/05 15:15	27.186
9/24/05 3:15	19.27	9/24/05 15:30	26.182	9/25/05 3:15	18.105	9/25/05 15:30	26.989
9/24/05 3:30	19.151	9/24/05 15:45	26.207	9/25/05 3:30	17.962	9/25/05 15:45	26.671
9/24/05 3:45	19.032	9/24/05 16:00	26.28	9/25/05 3:45	17.796	9/25/05 16:00	26.5
9/24/05 4:00	18.913	9/24/05 16:15	26.28	9/25/05 4:00	17.653	9/25/05 16:15	26.353
9/24/05 4:15	18.794	9/24/05 16:30	26.28	9/25/05 4:15	17.486	9/25/05 16:30	26.134
9/24/05 4:30	18.675	9/24/05 16:45	26.085	9/25/05 4:30	17.344	9/25/05 16:45	25.841
9/24/05 4:45	18.557	9/24/05 17:00	25.841	9/25/05 4:45	17.225	9/25/05 17:00	25.647
9/24/05 5:00	18.438	9/24/05 17:15	25.477	9/25/05 5:00	17.082	9/25/05 17:15	25.453
9/24/05 5:15	18.319	9/24/05 17:30	25.21	9/25/05 5:15	16.939	9/25/05 17:30	25.258
9/24/05 5:30	18.2	9/24/05 17:45	24.968	9/25/05 5:30	16.773	9/25/05 17:45	25.065
9/24/05 5:45	18.057	9/24/05 18:00	24.871	9/25/05 5:45	16.63	9/25/05 18:00	24.871
9/24/05 6:00	17.962	9/24/05 18:15	24.75	9/25/05 6:00	16.511	9/25/05 18:15	24.653
9/24/05 6:15	17.867	9/24/05 18:30	24.508	9/25/05 6:15	16.415	9/25/05 18:30	24.412
9/24/05 6:30	17.819	9/24/05 18:45	24.243	9/25/05 6:30	16.32	9/25/05 18:45	24.171
9/24/05 6:45	17.819	9/24/05 19:00	23.93	9/25/05 6:45	16.249	9/25/05 19:00	23.905
9/24/05 7:00	17.891	9/24/05 19:15	23.593	9/25/05 7:00	16.177	9/25/05 19:15	23.617
9/24/05 7:15	17.915	9/24/05 19:30	23.352	9/25/05 7:15	16.153	9/25/05 19:30	23.352
9/24/05 7:30	18.01	9/24/05 19:45	23.112	9/25/05 7:30	16.272	9/25/05 19:45	23.112
9/24/05 7:45	18.2	9/24/05 20:00	22.872	9/25/05 7:45	16.487	9/25/05 20:00	22.92
9/24/05 8:00	18.414	9/24/05 20:15	22.705	9/25/05 8:00	16.773	9/25/05 20:15	22.681
9/24/05 8:15	18.675	9/24/05 20:30	22.561	9/25/05 8:15	17.082	9/25/05 20:30	22.513
9/24/05 8:30	19.056	9/24/05 20:45	22.393	9/25/05 8:30	17.439	9/25/05 20:45	22.321
9/24/05 8:45	19.555	9/24/05 21:00	22.226	9/25/05 8:45	17.867	9/25/05 21:00	22.154
9/24/05 9:00	20.103	9/24/05 21:15	22.058	9/25/05 9:00	18.366	9/25/05 21:15	21.987
9/24/05 9:15	20.436	9/24/05 21:30	21.819	9/25/05 9:15	18.913	9/25/05 21:30	21.795
9/24/05 9:30	20.96	9/24/05 21:45	21.628	9/25/05 9:30	19.484	9/25/05 21:45	21.604
9/24/05 9:45	21.437	9/24/05 22:00	21.485	9/25/05 9:45	20.079	9/25/05 22:00	21.413
9/24/05 10:00	21.891	9/24/05 22:15	21.294	9/25/05 10:00	20.674	9/25/05 22:15	21.223
9/24/05 10:15	22.345	9/24/05 22:30	21.103	9/25/05 10:15	21.318	9/25/05 22:30	21.008
9/24/05 10:30	22.872	9/24/05 22:45	20.913	9/25/05 10:30	21.939	9/25/05 22:45	20.817
9/24/05 10:45	23.4	9/24/05 23:00	20.746	9/25/05 10:45	22.561	9/25/05 23:00	20.65
9/24/05 11:00	23.905	9/24/05 23:15	20.531	9/25/05 11:00	23.112	9/25/05 23:15	20.484
9/24/05 11:15	24.363	9/24/05 23:30	20.365	9/25/05 11:15	23.641	9/25/05 23:30	20.317
9/24/05 11:30	24.968	9/24/05 23:45	20.198	9/25/05 11:30	24.291	9/25/05 23:45	20.15
9/24/05 11:45	25.501			9/25/05 11:45	24.823		
9/24/05 12:00	25.598			9/25/05 12:00	25.38		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/26/05 0:00	19.96	9/26/05 12:15	24.702	9/27/05 0:00	19.127	9/27/05 12:15	24.847
9/26/05 0:15	19.793	9/26/05 12:30	25.186	9/27/05 0:15	19.008	9/27/05 12:30	24.919
9/26/05 0:30	19.627	9/26/05 12:45	25.623	9/27/05 0:30	18.889	9/27/05 12:45	25.307
9/26/05 0:45	19.46	9/26/05 13:00	26.061	9/27/05 0:45	18.794	9/27/05 13:00	25.453
9/26/05 1:00	19.318	9/26/05 13:15	26.402	9/27/05 1:00	18.675	9/27/05 13:15	25.647
9/26/05 1:15	19.151	9/26/05 13:30	26.769	9/27/05 1:15	18.557	9/27/05 13:30	25.453
9/26/05 1:30	19.008	9/26/05 13:45	26.989	9/27/05 1:30	18.438	9/27/05 13:45	25.55
9/26/05 1:45	18.842	9/26/05 14:00	27.087	9/27/05 1:45	18.343	9/27/05 14:00	25.744
9/26/05 2:00	18.699	9/26/05 14:15	27.112	9/27/05 2:00	18.224	9/27/05 14:15	25.525
9/26/05 2:15	18.557	9/26/05 14:30	27.136	9/27/05 2:15	18.105	9/27/05 14:30	25.623
9/26/05 2:30	18.39	9/26/05 14:45	27.112	9/27/05 2:30	18.01	9/27/05 14:45	25.283
9/26/05 2:45	18.247	9/26/05 15:00	27.063	9/27/05 2:45	17.891	9/27/05 15:00	25.283
9/26/05 3:00	18.081	9/26/05 15:15	26.965	9/27/05 3:00	17.772	9/27/05 15:15	24.895
9/26/05 3:15	17.938	9/26/05 15:30	26.916	9/27/05 3:15	17.629	9/27/05 15:30	24.412
9/26/05 3:30	17.796	9/26/05 15:45	26.622	9/27/05 3:30	17.51	9/27/05 15:45	24.291
9/26/05 3:45	17.653	9/26/05 16:00	26.402	9/27/05 3:45	17.391	9/27/05 16:00	23.978
9/26/05 4:00	17.51	9/26/05 16:15	26.109	9/27/05 4:00	17.272	9/27/05 16:15	23.4
9/26/05 4:15	17.368	9/26/05 16:30	25.866	9/27/05 4:15	17.177	9/27/05 16:30	23.088
9/26/05 4:30	17.225	9/26/05 16:45	25.574	9/27/05 4:30	17.082	9/27/05 16:45	22.824
9/26/05 4:45	17.082	9/26/05 17:00	25.258	9/27/05 4:45	16.987	9/27/05 17:00	22.537
9/26/05 5:00	16.939	9/26/05 17:15	25.016	9/27/05 5:00	16.892	9/27/05 17:15	22.178
9/26/05 5:15	16.796	9/26/05 17:30	24.774	9/27/05 5:15	16.773	9/27/05 17:30	21.939
9/26/05 5:30	16.63	9/26/05 17:45	24.532	9/27/05 5:30	16.677	9/27/05 17:45	21.676
9/26/05 5:45	16.463	9/26/05 18:00	24.315	9/27/05 5:45	16.606	9/27/05 18:00	21.509
9/26/05 6:00	16.296	9/26/05 18:15	23.93	9/27/05 6:00	16.487	9/27/05 18:15	21.437
9/26/05 6:15	16.177	9/26/05 18:30	23.521	9/27/05 6:15	16.392	9/27/05 18:30	21.437
9/26/05 6:30	16.058	9/26/05 18:45	23.16	9/27/05 6:30	16.344	9/27/05 18:45	21.366
9/26/05 6:45	15.986	9/26/05 19:00	22.776	9/27/05 6:45	16.296	9/27/05 19:00	21.246
9/26/05 7:00	15.939	9/26/05 19:15	22.393	9/27/05 7:00	16.296	9/27/05 19:15	21.127
9/26/05 7:15	15.939	9/26/05 19:30	22.058	9/27/05 7:15	16.368	9/27/05 19:30	21.032
9/26/05 7:30	16.034	9/26/05 19:45	21.772	9/27/05 7:30	16.558	9/27/05 19:45	20.96
9/26/05 7:45	16.177	9/26/05 20:00	21.581	9/27/05 7:45	16.749	9/27/05 20:00	20.913
9/26/05 8:00	16.415	9/26/05 20:15	21.533	9/27/05 8:00	16.987	9/27/05 20:15	20.817
9/26/05 8:15	16.725	9/26/05 20:30	21.39	9/27/05 8:15	17.32	9/27/05 20:30	20.746
9/26/05 8:30	17.13	9/26/05 20:45	21.246	9/27/05 8:30	17.701	9/27/05 20:45	20.674
9/26/05 8:45	17.605	9/26/05 21:00	21.103	9/27/05 8:45	18.176	9/27/05 21:00	20.579
9/26/05 9:00	18.01	9/26/05 21:15	20.913	9/27/05 9:00	18.699	9/27/05 21:15	20.46
9/26/05 9:15	18.39	9/26/05 21:30	20.77	9/27/05 9:15	19.27	9/27/05 21:30	20.365
9/26/05 9:30	18.818	9/26/05 21:45	20.579	9/27/05 9:30	19.841	9/27/05 21:45	20.293
9/26/05 9:45	19.246	9/26/05 22:00	20.388	9/27/05 9:45	20.484	9/27/05 22:00	20.198
9/26/05 10:00	19.746	9/26/05 22:15	20.198	9/27/05 10:00	21.079	9/27/05 22:15	20.15
9/26/05 10:15	20.341	9/26/05 22:30	20.031	9/27/05 10:15	21.628	9/27/05 22:30	20.079
9/26/05 10:30	20.889	9/26/05 22:45	19.841	9/27/05 10:30	22.106	9/27/05 22:45	20.007
9/26/05 10:45	21.461	9/26/05 23:00	19.698	9/27/05 10:45	22.681	9/27/05 23:00	19.888
9/26/05 11:00	21.987	9/26/05 23:15	19.555	9/27/05 11:00	22.824	9/27/05 23:15	19.77
9/26/05 11:15	22.585	9/26/05 23:30	19.413	9/27/05 11:15	23.064	9/27/05 23:30	19.651
9/26/05 11:30	23.064	9/26/05 23:45	19.27	9/27/05 11:30	23.665	9/27/05 23:45	19.579
9/26/05 11:45	23.617			9/27/05 11:45	24.291		
9/26/05 12:00	24.146			9/27/05 12:00	24.532		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
9/28/05 0:00	19.532	9/28/05 12:15	22.537	9/29/05 0:00	18.271		
9/28/05 0:15	19.484	9/28/05 12:30	22.8	9/29/05 0:15	18.105		
9/28/05 0:30	19.413	9/28/05 12:45	22.489	9/29/05 0:30	17.962		
9/28/05 0:45	19.341	9/28/05 13:00	23.088	9/29/05 0:45	17.891		
9/28/05 1:00	19.27	9/28/05 13:15	23.304	9/29/05 1:00	17.796		
9/28/05 1:15	19.199	9/28/05 13:30	23.545	9/29/05 1:15	17.748		
9/28/05 1:30	19.175	9/28/05 13:45	23.304	9/29/05 1:30	17.701		
9/28/05 1:45	19.127	9/28/05 14:00	23.521	9/29/05 1:45	17.629		
9/28/05 2:00	19.103	9/28/05 14:15	24.122	9/29/05 2:00	17.582		
9/28/05 2:15	19.103	9/28/05 14:30	24.412	9/29/05 2:15	17.534		
9/28/05 2:30	19.008	9/28/05 14:45	24.171	9/29/05 2:30	17.344		
9/28/05 2:45	18.913	9/28/05 15:00	23.833	9/29/05 2:45	17.177		
9/28/05 3:00	18.818	9/28/05 15:15	23.809	9/29/05 3:00	17.106		
9/28/05 3:15	18.723	9/28/05 15:30	23.497	9/29/05 3:15	17.011		
9/28/05 3:30	18.652	9/28/05 15:45	23.328	9/29/05 3:30	16.939		
9/28/05 3:45	18.557	9/28/05 16:00	23.136	9/29/05 3:45	16.939		
9/28/05 4:00	18.509	9/28/05 16:15	22.8	9/29/05 4:00	16.939		
9/28/05 4:15	18.461	9/28/05 16:30	22.489	9/29/05 4:15	16.892		
9/28/05 4:30	18.39	9/28/05 16:45	22.154	9/29/05 4:30	16.773		
9/28/05 4:45	18.319	9/28/05 17:00	21.891	9/29/05 4:45	16.725		
9/28/05 5:00	18.319	9/28/05 17:15	21.461	9/29/05 5:00	16.654		
9/28/05 5:15	18.295	9/28/05 17:30	21.246	9/29/05 5:15	16.582		
9/28/05 5:30	18.295	9/28/05 17:45	21.056	9/29/05 5:30	16.534		
9/28/05 5:45	18.295	9/28/05 18:00	20.817	9/29/05 5:45	16.487		
9/28/05 6:00	18.247	9/28/05 18:15	20.579	9/29/05 6:00	16.439		
9/28/05 6:15	18.2	9/28/05 18:30	20.365	9/29/05 6:15	16.415		
9/28/05 6:30	18.2	9/28/05 18:45	20.174	9/29/05 6:30	16.32		
9/28/05 6:45	18.2	9/28/05 19:00	20.031	9/29/05 6:45	16.249		
9/28/05 7:00	18.2	9/28/05 19:15	19.912	9/29/05 7:00	16.225		
9/28/05 7:15	18.2	9/28/05 19:30	19.817	9/29/05 7:15	16.201		
9/28/05 7:30	18.224	9/28/05 19:45	19.674	9/29/05 7:30	16.272		
9/28/05 7:45	18.224	9/28/05 20:00	19.555	9/29/05 7:45	16.153		
9/28/05 8:00	18.295	9/28/05 20:15	19.436	9/29/05 8:00	16.129		
9/28/05 8:15	18.39	9/28/05 20:30	19.246	9/29/05 8:15	16.082		
9/28/05 8:30	18.485	9/28/05 20:45	19.127	9/29/05 8:30	16.082		
9/28/05 8:45	18.509	9/28/05 21:00	19.032	9/29/05 8:45	16.153		
9/28/05 9:00	18.771	9/28/05 21:15	18.889	9/29/05 9:00	16.392		
9/28/05 9:15	18.961	9/28/05 21:30	18.866	9/29/05 9:15	16.796		
9/28/05 9:30	18.937	9/28/05 21:45	18.818	9/29/05 9:30	14.96		
9/28/05 9:45	19.222	9/28/05 22:00	18.794	9/29/05 9:45	15.581		
9/28/05 10:00	19.912	9/28/05 22:15	18.723	9/29/05 10:00	16.01		
9/28/05 10:15	20.388	9/28/05 22:30	18.723	9/29/05 10:15	16.201		
9/28/05 10:30	20.65	9/28/05 22:45	18.652				
9/28/05 10:45	20.746	9/28/05 23:00	18.58				
9/28/05 11:00	20.96	9/28/05 23:15	18.461				
9/28/05 11:15	21.246	9/28/05 23:30	18.343				
9/28/05 11:30	21.246	9/28/05 23:45	18.295				
9/28/05 11:45	21.27						
9/28/05 12:00	21.891						

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/6/05 0:00	-	10/6/05 12:15	15.557	10/7/05 0:00	14.29	10/7/05 12:15	15.175
10/6/05 0:15	-	10/6/05 12:30	15.485	10/7/05 0:15	14.242	10/7/05 12:30	15.318
10/6/05 0:30	-	10/6/05 12:45	15.438	10/7/05 0:30	14.194	10/7/05 12:45	15.438
10/6/05 0:45	-	10/6/05 13:00	15.414	10/7/05 0:45	14.17	10/7/05 13:00	15.557
10/6/05 1:00	-	10/6/05 13:15	15.39	10/7/05 1:00	14.146	10/7/05 13:15	15.676
10/6/05 1:15	-	10/6/05 13:30	15.366	10/7/05 1:15	14.122	10/7/05 13:30	15.819
10/6/05 1:30	-	10/6/05 13:45	15.27	10/7/05 1:30	14.098	10/7/05 13:45	15.963
10/6/05 1:45	-	10/6/05 14:00	15.247	10/7/05 1:45	14.05	10/7/05 14:00	16.106
10/6/05 2:00	-	10/6/05 14:15	15.294	10/7/05 2:00	14.026	10/7/05 14:15	16.249
10/6/05 2:15	-	10/6/05 14:30	15.342	10/7/05 2:15	14.002	10/7/05 14:30	16.392
10/6/05 2:30	-	10/6/05 14:45	15.438	10/7/05 2:30	14.002	10/7/05 14:45	16.558
10/6/05 2:45	-	10/6/05 15:00	15.557	10/7/05 2:45	13.978	10/7/05 15:00	16.725
10/6/05 3:00	-	10/6/05 15:15	15.605	10/7/05 3:00	13.954	10/7/05 15:15	16.844
10/6/05 3:15	-	10/6/05 15:30	15.629	10/7/05 3:15	13.954	10/7/05 15:30	16.915
10/6/05 3:30	-	10/6/05 15:45	15.629	10/7/05 3:30	13.954	10/7/05 15:45	16.987
10/6/05 3:45	-	10/6/05 16:00	15.652	10/7/05 3:45	13.954	10/7/05 16:00	17.034
10/6/05 4:00	-	10/6/05 16:15	15.652	10/7/05 4:00	13.954	10/7/05 16:15	17.058
10/6/05 4:15	-	10/6/05 16:30	15.7	10/7/05 4:15	13.954	10/7/05 16:30	17.058
10/6/05 4:30	-	10/6/05 16:45	15.748	10/7/05 4:30	13.954	10/7/05 16:45	17.058
10/6/05 4:45	-	10/6/05 17:00	15.748	10/7/05 4:45	13.954	10/7/05 17:00	17.034
10/6/05 5:00	-	10/6/05 17:15	15.772	10/7/05 5:00	13.954	10/7/05 17:15	17.011
10/6/05 5:15	-	10/6/05 17:30	15.772	10/7/05 5:15	13.954	10/7/05 17:30	16.963
10/6/05 5:30	-	10/6/05 17:45	15.772	10/7/05 5:30	13.93	10/7/05 17:45	16.939
10/6/05 5:45	-	10/6/05 18:00	15.772	10/7/05 5:45	13.93	10/7/05 18:00	16.892
10/6/05 6:00	-	10/6/05 18:15	15.772	10/7/05 6:00	13.93	10/7/05 18:15	16.844
10/6/05 6:15	-	10/6/05 18:30	15.724	10/7/05 6:15	13.93	10/7/05 18:30	16.773
10/6/05 6:30	-	10/6/05 18:45	15.652	10/7/05 6:30	13.93	10/7/05 18:45	16.677
10/6/05 6:45	-	10/6/05 19:00	15.557	10/7/05 6:45	13.93	10/7/05 19:00	16.582
10/6/05 7:00	-	10/6/05 19:15	15.461	10/7/05 7:00	13.93	10/7/05 19:15	16.487
10/6/05 7:15	-	10/6/05 19:30	15.318	10/7/05 7:15	13.93	10/7/05 19:30	16.392
10/6/05 7:30	-	10/6/05 19:45	15.223	10/7/05 7:30	13.93	10/7/05 19:45	16.296
10/6/05 7:45	-	10/6/05 20:00	15.103	10/7/05 7:45	13.93	10/7/05 20:00	16.249
10/6/05 8:00	-	10/6/05 20:15	15.008	10/7/05 8:00	13.954	10/7/05 20:15	16.177
10/6/05 8:15	-	10/6/05 20:30	14.912	10/7/05 8:15	13.954	10/7/05 20:30	16.106
10/6/05 8:30	-	10/6/05 20:45	14.816	10/7/05 8:30	13.978	10/7/05 20:45	16.034
10/6/05 8:45	-	10/6/05 21:00	14.721	10/7/05 8:45	14.002	10/7/05 21:00	15.986
10/6/05 9:00	-	10/6/05 21:15	14.673	10/7/05 9:00	14.026	10/7/05 21:15	15.915
10/6/05 9:15	-	10/6/05 21:30	14.625	10/7/05 9:15	14.05	10/7/05 21:30	15.867
10/6/05 9:30	14.625	10/6/05 21:45	14.601	10/7/05 9:30	14.074	10/7/05 21:45	15.819
10/6/05 9:45	16.153	10/6/05 22:00	14.553	10/7/05 9:45	14.122	10/7/05 22:00	15.748
10/6/05 10:00	16.129	10/6/05 22:15	14.529	10/7/05 10:00	14.194	10/7/05 22:15	15.7
10/6/05 10:15	16.058	10/6/05 22:30	14.505	10/7/05 10:15	14.266	10/7/05 22:30	15.652
10/6/05 10:30	15.986	10/6/05 22:45	14.457	10/7/05 10:30	14.337	10/7/05 22:45	15.581
10/6/05 10:45	15.867	10/6/05 23:00	14.409	10/7/05 10:45	14.433	10/7/05 23:00	15.533
10/6/05 11:00	15.796	10/6/05 23:15	14.385	10/7/05 11:00	14.553	10/7/05 23:15	15.461
10/6/05 11:15	15.748	10/6/05 23:30	14.337	10/7/05 11:15	14.673	10/7/05 23:30	15.39
10/6/05 11:30	15.724	10/6/05 23:45	14.314	10/7/05 11:30	14.792	10/7/05 23:45	15.342
10/6/05 11:45	15.676			10/7/05 11:45	14.912		
10/6/05 12:00	15.629			10/7/05 12:00	15.055		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/8/05 0:00	15.27	10/8/05 12:15	16.534	10/9/05 0:00	16.463	10/9/05 12:15	16.296
10/8/05 0:15	15.223	10/8/05 12:30	16.796	10/9/05 0:15	16.415	10/9/05 12:30	16.415
10/8/05 0:30	15.151	10/8/05 12:45	17.034	10/9/05 0:30	16.368	10/9/05 12:45	16.606
10/8/05 0:45	15.127	10/8/05 13:00	17.296	10/9/05 0:45	16.344	10/9/05 13:00	16.677
10/8/05 1:00	15.079	10/8/05 13:15	17.51	10/9/05 1:00	16.32	10/9/05 13:15	16.773
10/8/05 1:15	15.031	10/8/05 13:30	17.748	10/9/05 1:15	16.296	10/9/05 13:30	16.915
10/8/05 1:30	15.008	10/8/05 13:45	17.962	10/9/05 1:30	16.249	10/9/05 13:45	17.034
10/8/05 1:45	14.96	10/8/05 14:00	18.152	10/9/05 1:45	16.225	10/9/05 14:00	17.13
10/8/05 2:00	14.912	10/8/05 14:15	18.343	10/9/05 2:00	16.177	10/9/05 14:15	17.177
10/8/05 2:15	14.888	10/8/05 14:30	18.509	10/9/05 2:15	16.153	10/9/05 14:30	17.249
10/8/05 2:30	14.84	10/8/05 14:45	18.675	10/9/05 2:30	16.129	10/9/05 14:45	17.249
10/8/05 2:45	14.816	10/8/05 15:00	18.794	10/9/05 2:45	16.129	10/9/05 15:00	17.249
10/8/05 3:00	14.768	10/8/05 15:15	18.937	10/9/05 3:00	16.106	10/9/05 15:15	17.272
10/8/05 3:15	14.721	10/8/05 15:30	19.008	10/9/05 3:15	16.082	10/9/05 15:30	17.344
10/8/05 3:30	14.673	10/8/05 15:45	19.056	10/9/05 3:30	16.058	10/9/05 15:45	17.391
10/8/05 3:45	14.625	10/8/05 16:00	19.032	10/9/05 3:45	16.034	10/9/05 16:00	17.439
10/8/05 4:00	14.577	10/8/05 16:15	18.961	10/9/05 4:00	16.034	10/9/05 16:15	17.439
10/8/05 4:15	14.529	10/8/05 16:30	18.866	10/9/05 4:15	16.01	10/9/05 16:30	17.391
10/8/05 4:30	14.481	10/8/05 16:45	18.818	10/9/05 4:30	16.01	10/9/05 16:45	17.391
10/8/05 4:45	14.409	10/8/05 17:00	18.794	10/9/05 4:45	15.986	10/9/05 17:00	17.391
10/8/05 5:00	14.361	10/8/05 17:15	18.723	10/9/05 5:00	15.963	10/9/05 17:15	17.344
10/8/05 5:15	14.314	10/8/05 17:30	18.652	10/9/05 5:15	15.939	10/9/05 17:30	17.249
10/8/05 5:30	14.266	10/8/05 17:45	18.604	10/9/05 5:30	15.915	10/9/05 17:45	17.177
10/8/05 5:45	14.194	10/8/05 18:00	18.557	10/9/05 5:45	15.867	10/9/05 18:00	17.177
10/8/05 6:00	14.146	10/8/05 18:15	18.485	10/9/05 6:00	15.819	10/9/05 18:15	17.082
10/8/05 6:15	14.098	10/8/05 18:30	18.39	10/9/05 6:15	15.748	10/9/05 18:30	16.987
10/8/05 6:30	14.05	10/8/05 18:45	18.319	10/9/05 6:30	15.724	10/9/05 18:45	16.915
10/8/05 6:45	14.002	10/8/05 19:00	18.247	10/9/05 6:45	15.7	10/9/05 19:00	16.868
10/8/05 7:00	13.954	10/8/05 19:15	18.152	10/9/05 7:00	15.676	10/9/05 19:15	16.725
10/8/05 7:15	13.93	10/8/05 19:30	18.081	10/9/05 7:15	15.676	10/9/05 19:30	16.534
10/8/05 7:30	13.882	10/8/05 19:45	17.986	10/9/05 7:30	15.676	10/9/05 19:45	16.368
10/8/05 7:45	13.834	10/8/05 20:00	17.915	10/9/05 7:45	15.652	10/9/05 20:00	16.249
10/8/05 8:00	13.786	10/8/05 20:15	17.843	10/9/05 8:00	15.629	10/9/05 20:15	16.153
10/8/05 8:15	13.738	10/8/05 20:30	17.748	10/9/05 8:15	15.629	10/9/05 20:30	16.082
10/8/05 8:30	13.714	10/8/05 20:45	17.653	10/9/05 8:30	15.605	10/9/05 20:45	16.034
10/8/05 8:45	13.714	10/8/05 21:00	17.582	10/9/05 8:45	15.605	10/9/05 21:00	15.986
10/8/05 9:00	13.762	10/8/05 21:15	17.486	10/9/05 9:00	15.605	10/9/05 21:15	15.939
10/8/05 9:15	13.858	10/8/05 21:30	17.391	10/9/05 9:15	15.629	10/9/05 21:30	15.915
10/8/05 9:30	13.978	10/8/05 21:45	17.296	10/9/05 9:30	15.676	10/9/05 21:45	15.867
10/8/05 9:45	14.122	10/8/05 22:00	17.177	10/9/05 9:45	15.819	10/9/05 22:00	15.819
10/8/05 10:00	14.314	10/8/05 22:15	17.082	10/9/05 10:00	15.891	10/9/05 22:15	15.772
10/8/05 10:15	14.529	10/8/05 22:30	16.963	10/9/05 10:15	15.986	10/9/05 22:30	15.7
10/8/05 10:30	14.745	10/8/05 22:45	16.844	10/9/05 10:30	16.153	10/9/05 22:45	15.629
10/8/05 10:45	14.984	10/8/05 23:00	16.749	10/9/05 10:45	16.225	10/9/05 23:00	15.557
10/8/05 11:00	15.223	10/8/05 23:15	16.654	10/9/05 11:00	16.296	10/9/05 23:15	15.461
10/8/05 11:15	15.461	10/8/05 23:30	16.582	10/9/05 11:15	16.344	10/9/05 23:30	15.366
10/8/05 11:30	15.724	10/8/05 23:45	16.511	10/9/05 11:30	16.368	10/9/05 23:45	15.27
10/8/05 11:45	15.986			10/9/05 11:45	16.344		
10/8/05 12:00	16.249			10/9/05 12:00	16.296		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/10/05 0:00	15.199	10/10/05 12:15	16.201	10/11/05 0:00	14.433	10/11/05 12:15	16.32
10/10/05 0:15	15.079	10/10/05 12:30	16.344	10/11/05 0:15	14.385	10/11/05 12:30	16.63
10/10/05 0:30	14.984	10/10/05 12:45	16.32	10/11/05 0:30	14.361	10/11/05 12:45	16.915
10/10/05 0:45	14.864	10/10/05 13:00	16.344	10/11/05 0:45	14.314	10/11/05 13:00	17.011
10/10/05 1:00	14.768	10/10/05 13:15	16.296	10/11/05 1:00	14.29	10/11/05 13:15	17.011
10/10/05 1:15	14.721	10/10/05 13:30	16.368	10/11/05 1:15	14.242	10/11/05 13:30	17.011
10/10/05 1:30	14.697	10/10/05 13:45	16.368	10/11/05 1:30	14.194	10/11/05 13:45	17.106
10/10/05 1:45	14.649	10/10/05 14:00	16.392	10/11/05 1:45	14.17	10/11/05 14:00	17.058
10/10/05 2:00	14.625	10/10/05 14:15	16.439	10/11/05 2:00	14.17	10/11/05 14:15	17.058
10/10/05 2:15	14.601	10/10/05 14:30	16.487	10/11/05 2:15	14.17	10/11/05 14:30	17.153
10/10/05 2:30	14.577	10/10/05 14:45	16.558	10/11/05 2:30	14.146	10/11/05 14:45	17.32
10/10/05 2:45	14.577	10/10/05 15:00	16.63	10/11/05 2:45	14.146	10/11/05 15:00	17.391
10/10/05 3:00	14.577	10/10/05 15:15	16.677	10/11/05 3:00	14.146	10/11/05 15:15	17.415
10/10/05 3:15	14.553	10/10/05 15:30	16.82	10/11/05 3:15	14.17	10/11/05 15:30	17.391
10/10/05 3:30	14.529	10/10/05 15:45	17.011	10/11/05 3:30	14.17	10/11/05 15:45	17.391
10/10/05 3:45	14.505	10/10/05 16:00	17.058	10/11/05 3:45	14.17	10/11/05 16:00	17.391
10/10/05 4:00	14.481	10/10/05 16:15	17.106	10/11/05 4:00	14.17	10/11/05 16:15	17.415
10/10/05 4:15	14.433	10/10/05 16:30	16.963	10/11/05 4:15	14.146	10/11/05 16:30	17.391
10/10/05 4:30	14.361	10/10/05 16:45	16.749	10/11/05 4:30	14.122	10/11/05 16:45	17.296
10/10/05 4:45	14.337	10/10/05 17:00	16.558	10/11/05 4:45	14.098	10/11/05 17:00	17.225
10/10/05 5:00	14.314	10/10/05 17:15	16.415	10/11/05 5:00	14.074	10/11/05 17:15	17.106
10/10/05 5:15	14.29	10/10/05 17:30	16.272	10/11/05 5:15	14.05	10/11/05 17:30	17.034
10/10/05 5:30	14.242	10/10/05 17:45	16.153	10/11/05 5:30	14.026	10/11/05 17:45	17.011
10/10/05 5:45	14.218	10/10/05 18:00	16.106	10/11/05 5:45	14.002	10/11/05 18:00	17.011
10/10/05 6:00	14.194	10/10/05 18:15	16.058	10/11/05 6:00	14.002	10/11/05 18:15	17.034
10/10/05 6:15	14.17	10/10/05 18:30	15.986	10/11/05 6:15	13.954	10/11/05 18:30	17.034
10/10/05 6:30	14.146	10/10/05 18:45	15.843	10/11/05 6:30	13.93	10/11/05 18:45	16.939
10/10/05 6:45	14.122	10/10/05 19:00	15.748	10/11/05 6:45	13.882	10/11/05 19:00	16.796
10/10/05 7:00	14.074	10/10/05 19:15	15.652	10/11/05 7:00	13.834	10/11/05 19:15	16.725
10/10/05 7:15	14.026	10/10/05 19:30	15.557	10/11/05 7:15	13.81	10/11/05 19:30	16.654
10/10/05 7:30	14.002	10/10/05 19:45	15.485	10/11/05 7:30	13.762	10/11/05 19:45	16.582
10/10/05 7:45	14.002	10/10/05 20:00	15.342	10/11/05 7:45	13.738	10/11/05 20:00	16.534
10/10/05 8:00	13.978	10/10/05 20:15	15.199	10/11/05 8:00	13.714	10/11/05 20:15	16.439
10/10/05 8:15	13.954	10/10/05 20:30	15.079	10/11/05 8:15	13.714	10/11/05 20:30	16.344
10/10/05 8:30	13.954	10/10/05 20:45	14.96	10/11/05 8:30	13.714	10/11/05 20:45	16.201
10/10/05 8:45	13.978	10/10/05 21:00	14.84	10/11/05 8:45	13.738	10/11/05 21:00	16.034
10/10/05 9:00	14.026	10/10/05 21:15	14.745	10/11/05 9:00	13.786	10/11/05 21:15	15.867
10/10/05 9:15	14.098	10/10/05 21:30	14.649	10/11/05 9:15	13.834	10/11/05 21:30	15.7
10/10/05 9:30	14.194	10/10/05 21:45	14.577	10/11/05 9:30	13.906	10/11/05 21:45	15.533
10/10/05 9:45	14.266	10/10/05 22:00	14.529	10/11/05 9:45	14.002	10/11/05 22:00	15.39
10/10/05 10:00	14.337	10/10/05 22:15	14.505	10/11/05 10:00	14.146	10/11/05 22:15	15.27
10/10/05 10:15	14.433	10/10/05 22:30	14.481	10/11/05 10:15	14.29	10/11/05 22:30	15.151
10/10/05 10:30	14.505	10/10/05 22:45	14.481	10/11/05 10:30	14.457	10/11/05 22:45	15.055
10/10/05 10:45	14.697	10/10/05 23:00	14.505	10/11/05 10:45	14.625	10/11/05 23:00	14.984
10/10/05 11:00	14.936	10/10/05 23:15	14.481	10/11/05 11:00	14.84	10/11/05 23:15	14.912
10/10/05 11:15	15.151	10/10/05 23:30	14.481	10/11/05 11:15	15.103	10/11/05 23:30	14.84
10/10/05 11:30	15.39	10/10/05 23:45	14.457	10/11/05 11:30	15.39	10/11/05 23:45	14.768
10/10/05 11:45	15.652			10/11/05 11:45	15.7		
10/10/05 12:00	15.891			10/11/05 12:00	16.034		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/12/05 0:00	14.721	10/12/05 12:15	15.342	10/13/05 0:00	15.008	10/13/05 12:15	15.39
10/12/05 0:15	14.649	10/12/05 12:30	15.605	10/13/05 0:15	14.936	10/13/05 12:30	15.509
10/12/05 0:30	14.601	10/12/05 12:45	15.819	10/13/05 0:30	14.888	10/13/05 12:45	15.652
10/12/05 0:45	14.529	10/12/05 13:00	16.058	10/13/05 0:45	14.816	10/13/05 13:00	15.796
10/12/05 1:00	14.457	10/12/05 13:15	16.296	10/13/05 1:00	14.768	10/13/05 13:15	15.939
10/12/05 1:15	14.385	10/12/05 13:30	16.534	10/13/05 1:15	14.721	10/13/05 13:30	16.106
10/12/05 1:30	14.314	10/12/05 13:45	16.749	10/13/05 1:30	14.673	10/13/05 13:45	16.201
10/12/05 1:45	14.266	10/12/05 14:00	16.939	10/13/05 1:45	14.625	10/13/05 14:00	16.344
10/12/05 2:00	14.218	10/12/05 14:15	17.13	10/13/05 2:00	14.577	10/13/05 14:15	16.534
10/12/05 2:15	14.17	10/12/05 14:30	17.296	10/13/05 2:15	14.529	10/13/05 14:30	16.654
10/12/05 2:30	14.122	10/12/05 14:45	17.439	10/13/05 2:30	14.481	10/13/05 14:45	16.868
10/12/05 2:45	14.074	10/12/05 15:00	17.582	10/13/05 2:45	14.433	10/13/05 15:00	16.963
10/12/05 3:00	14.002	10/12/05 15:15	17.701	10/13/05 3:00	14.385	10/13/05 15:15	17.011
10/12/05 3:15	13.954	10/12/05 15:30	17.796	10/13/05 3:15	14.337	10/13/05 15:30	16.987
10/12/05 3:30	13.882	10/12/05 15:45	17.891	10/13/05 3:30	14.29	10/13/05 15:45	16.963
10/12/05 3:45	13.834	10/12/05 16:00	17.938	10/13/05 3:45	14.218	10/13/05 16:00	16.963
10/12/05 4:00	13.762	10/12/05 16:15	17.986	10/13/05 4:00	14.17	10/13/05 16:15	16.892
10/12/05 4:15	13.69	10/12/05 16:30	18.01	10/13/05 4:15	14.122	10/13/05 16:30	16.868
10/12/05 4:30	13.642	10/12/05 16:45	18.01	10/13/05 4:30	14.074	10/13/05 16:45	16.892
10/12/05 4:45	13.57	10/12/05 17:00	17.986	10/13/05 4:45	14.026	10/13/05 17:00	16.915
10/12/05 5:00	13.522	10/12/05 17:15	17.938	10/13/05 5:00	14.002	10/13/05 17:15	16.892
10/12/05 5:15	13.449	10/12/05 17:30	17.915	10/13/05 5:15	13.954	10/13/05 17:30	16.844
10/12/05 5:30	13.377	10/12/05 17:45	17.843	10/13/05 5:30	13.93	10/13/05 17:45	16.773
10/12/05 5:45	13.329	10/12/05 18:00	17.748	10/13/05 5:45	13.882	10/13/05 18:00	16.654
10/12/05 6:00	13.257	10/12/05 18:15	17.653	10/13/05 6:00	13.834	10/13/05 18:15	16.558
10/12/05 6:15	13.209	10/12/05 18:30	17.534	10/13/05 6:15	13.786	10/13/05 18:30	16.463
10/12/05 6:30	13.161	10/12/05 18:45	17.391	10/13/05 6:30	13.738	10/13/05 18:45	16.368
10/12/05 6:45	13.112	10/12/05 19:00	17.272	10/13/05 6:45	13.69	10/13/05 19:00	16.272
10/12/05 7:00	13.064	10/12/05 19:15	17.13	10/13/05 7:00	13.666	10/13/05 19:15	16.177
10/12/05 7:15	13.016	10/12/05 19:30	16.987	10/13/05 7:15	13.618	10/13/05 19:30	16.106
10/12/05 7:30	12.968	10/12/05 19:45	16.844	10/13/05 7:30	13.57	10/13/05 19:45	15.986
10/12/05 7:45	12.944	10/12/05 20:00	16.701	10/13/05 7:45	13.522	10/13/05 20:00	15.891
10/12/05 8:00	12.896	10/12/05 20:15	16.558	10/13/05 8:00	13.497	10/13/05 20:15	15.772
10/12/05 8:15	12.871	10/12/05 20:30	16.415	10/13/05 8:15	13.473	10/13/05 20:30	15.676
10/12/05 8:30	12.871	10/12/05 20:45	16.296	10/13/05 8:30	13.449	10/13/05 20:45	15.557
10/12/05 8:45	12.871	10/12/05 21:00	16.177	10/13/05 8:45	13.449	10/13/05 21:00	15.461
10/12/05 9:00	12.92	10/12/05 21:15	16.058	10/13/05 9:00	13.497	10/13/05 21:15	15.366
10/12/05 9:15	12.992	10/12/05 21:30	15.939	10/13/05 9:15	13.594	10/13/05 21:30	15.27
10/12/05 9:30	13.112	10/12/05 21:45	15.819	10/13/05 9:30	13.714	10/13/05 21:45	15.175
10/12/05 9:45	13.233	10/12/05 22:00	15.7	10/13/05 9:45	13.858	10/13/05 22:00	15.079
10/12/05 10:00	13.401	10/12/05 22:15	15.581	10/13/05 10:00	14.026	10/13/05 22:15	15.008
10/12/05 10:15	13.57	10/12/05 22:30	15.485	10/13/05 10:15	14.146	10/13/05 22:30	14.912
10/12/05 10:30	13.762	10/12/05 22:45	15.39	10/13/05 10:30	14.314	10/13/05 22:45	14.792
10/12/05 10:45	13.954	10/12/05 23:00	15.294	10/13/05 10:45	14.457	10/13/05 23:00	14.697
10/12/05 11:00	14.17	10/12/05 23:15	15.223	10/13/05 11:00	14.577	10/13/05 23:15	14.625
10/12/05 11:15	14.385	10/12/05 23:30	15.151	10/13/05 11:15	14.721	10/13/05 23:30	14.553
10/12/05 11:30	14.625	10/12/05 23:45	15.079	10/13/05 11:30	14.912	10/13/05 23:45	14.481
10/12/05 11:45	14.864			10/13/05 11:45	15.079		
10/12/05 12:00	15.103			10/13/05 12:00	15.223		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/14/05 0:00	14.409	10/14/05 12:15	15.724	10/15/05 0:00	15.7	10/15/05 12:15	15.199
10/14/05 0:15	14.361	10/14/05 12:30	16.01	10/15/05 0:15	15.652	10/15/05 12:30	15.247
10/14/05 0:30	14.29	10/14/05 12:45	16.272	10/15/05 0:30	15.605	10/15/05 12:45	15.294
10/14/05 0:45	14.242	10/14/05 13:00	16.534	10/15/05 0:45	15.581	10/15/05 13:00	15.342
10/14/05 1:00	14.17	10/14/05 13:15	16.773	10/15/05 1:00	15.533	10/15/05 13:15	15.438
10/14/05 1:15	14.098	10/14/05 13:30	17.011	10/15/05 1:15	15.485	10/15/05 13:30	15.509
10/14/05 1:30	14.026	10/14/05 13:45	17.225	10/15/05 1:30	15.461	10/15/05 13:45	15.605
10/14/05 1:45	13.978	10/14/05 14:00	17.415	10/15/05 1:45	15.438	10/15/05 14:00	15.676
10/14/05 2:00	13.906	10/14/05 14:15	17.629	10/15/05 2:00	15.39	10/15/05 14:15	15.748
10/14/05 2:15	13.834	10/14/05 14:30	17.796	10/15/05 2:15	15.366	10/15/05 14:30	15.796
10/14/05 2:30	13.762	10/14/05 14:45	17.962	10/15/05 2:30	15.342	10/15/05 14:45	15.867
10/14/05 2:45	13.69	10/14/05 15:00	18.081	10/15/05 2:45	15.318	10/15/05 15:00	15.891
10/14/05 3:00	13.618	10/14/05 15:15	18.2	10/15/05 3:00	15.294	10/15/05 15:15	15.939
10/14/05 3:15	13.57	10/14/05 15:30	18.295	10/15/05 3:15	15.247	10/15/05 15:30	16.034
10/14/05 3:30	13.522	10/14/05 15:45	18.366	10/15/05 3:30	15.223	10/15/05 15:45	16.106
10/14/05 3:45	13.473	10/14/05 16:00	18.39	10/15/05 3:45	15.175	10/15/05 16:00	16.106
10/14/05 4:00	13.425	10/14/05 16:15	18.414	10/15/05 4:00	15.151	10/15/05 16:15	16.129
10/14/05 4:15	13.353	10/14/05 16:30	18.438	10/15/05 4:15	15.079	10/15/05 16:30	16.153
10/14/05 4:30	13.305	10/14/05 16:45	18.414	10/15/05 4:30	15.055	10/15/05 16:45	16.177
10/14/05 4:45	13.257	10/14/05 17:00	18.39	10/15/05 4:45	15.008	10/15/05 17:00	16.153
10/14/05 5:00	13.209	10/14/05 17:15	18.343	10/15/05 5:00	14.984	10/15/05 17:15	16.106
10/14/05 5:15	13.161	10/14/05 17:30	18.247	10/15/05 5:15	14.96	10/15/05 17:30	16.082
10/14/05 5:30	13.112	10/14/05 17:45	18.176	10/15/05 5:30	14.912	10/15/05 17:45	16.082
10/14/05 5:45	13.064	10/14/05 18:00	18.057	10/15/05 5:45	14.864	10/15/05 18:00	16.034
10/14/05 6:00	13.04	10/14/05 18:15	17.962	10/15/05 6:00	14.84	10/15/05 18:15	15.963
10/14/05 6:15	12.992	10/14/05 18:30	17.819	10/15/05 6:15	14.816	10/15/05 18:30	15.891
10/14/05 6:30	12.944	10/14/05 18:45	17.701	10/15/05 6:30	14.792	10/15/05 18:45	15.843
10/14/05 6:45	12.896	10/14/05 19:00	17.582	10/15/05 6:45	14.768	10/15/05 19:00	15.796
10/14/05 7:00	12.871	10/14/05 19:15	17.439	10/15/05 7:00	14.745	10/15/05 19:15	15.748
10/14/05 7:15	12.847	10/14/05 19:30	17.32	10/15/05 7:15	14.721	10/15/05 19:30	15.676
10/14/05 7:30	12.823	10/14/05 19:45	17.177	10/15/05 7:30	14.721	10/15/05 19:45	15.581
10/14/05 7:45	12.799	10/14/05 20:00	17.058	10/15/05 7:45	14.697	10/15/05 20:00	15.485
10/14/05 8:00	12.775	10/14/05 20:15	16.939	10/15/05 8:00	14.697	10/15/05 20:15	15.39
10/14/05 8:15	12.799	10/14/05 20:30	16.82	10/15/05 8:15	14.697	10/15/05 20:30	15.294
10/14/05 8:30	12.799	10/14/05 20:45	16.701	10/15/05 8:30	14.697	10/15/05 20:45	15.223
10/14/05 8:45	12.847	10/14/05 21:00	16.582	10/15/05 8:45	14.673	10/15/05 21:00	15.127
10/14/05 9:00	12.92	10/14/05 21:15	16.487	10/15/05 9:00	14.673	10/15/05 21:15	15.055
10/14/05 9:15	13.04	10/14/05 21:30	16.392	10/15/05 9:15	14.673	10/15/05 21:30	14.96
10/14/05 9:30	13.161	10/14/05 21:45	16.296	10/15/05 9:30	14.697	10/15/05 21:45	14.888
10/14/05 9:45	13.329	10/14/05 22:00	16.201	10/15/05 9:45	14.721	10/15/05 22:00	14.792
10/14/05 10:00	13.497	10/14/05 22:15	16.129	10/15/05 10:00	14.768	10/15/05 22:15	14.697
10/14/05 10:15	13.69	10/14/05 22:30	16.034	10/15/05 10:15	14.816	10/15/05 22:30	14.625
10/14/05 10:30	13.906	10/14/05 22:45	15.963	10/15/05 10:30	14.864	10/15/05 22:45	14.529
10/14/05 10:45	14.122	10/14/05 23:00	15.891	10/15/05 10:45	14.936	10/15/05 23:00	14.457
10/14/05 11:00	14.361	10/14/05 23:15	15.819	10/15/05 11:00	14.984	10/15/05 23:15	14.361
10/14/05 11:15	14.625	10/14/05 23:30	15.772	10/15/05 11:15	15.008	10/15/05 23:30	14.29
10/14/05 11:30	14.888	10/14/05 23:45	15.724	10/15/05 11:30	15.079	10/15/05 23:45	14.218
10/14/05 11:45	15.151			10/15/05 11:45	15.103		
10/14/05 12:00	15.438			10/15/05 12:00	15.151		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/16/05 0:00	14.146	10/16/05 12:15	14.625	10/17/05 0:00	15.39	10/17/05 12:15	16.582
10/16/05 0:15	14.098	10/16/05 12:30	14.888	10/17/05 0:15	15.318	10/17/05 12:30	16.82
10/16/05 0:30	14.026	10/16/05 12:45	15.175	10/17/05 0:30	15.27	10/17/05 12:45	17.082
10/16/05 0:45	13.954	10/16/05 13:00	15.438	10/17/05 0:45	15.199	10/17/05 13:00	17.344
10/16/05 1:00	13.906	10/16/05 13:15	15.724	10/17/05 1:00	15.151	10/17/05 13:15	17.558
10/16/05 1:15	13.834	10/16/05 13:30	15.986	10/17/05 1:15	15.103	10/17/05 13:30	17.772
10/16/05 1:30	13.762	10/16/05 13:45	16.249	10/17/05 1:30	15.055	10/17/05 13:45	17.986
10/16/05 1:45	13.714	10/16/05 14:00	16.511	10/17/05 1:45	15.008	10/17/05 14:00	18.176
10/16/05 2:00	13.642	10/16/05 14:15	16.749	10/17/05 2:00	14.96	10/17/05 14:15	18.366
10/16/05 2:15	13.594	10/16/05 14:30	16.963	10/17/05 2:15	14.912	10/17/05 14:30	18.533
10/16/05 2:30	13.546	10/16/05 14:45	17.153	10/17/05 2:30	14.864	10/17/05 14:45	18.699
10/16/05 2:45	13.522	10/16/05 15:00	17.344	10/17/05 2:45	14.84	10/17/05 15:00	18.842
10/16/05 3:00	13.473	10/16/05 15:15	17.51	10/17/05 3:00	14.792	10/17/05 15:15	18.937
10/16/05 3:15	13.425	10/16/05 15:30	17.653	10/17/05 3:15	14.745	10/17/05 15:30	19.032
10/16/05 3:30	13.401	10/16/05 15:45	17.772	10/17/05 3:30	14.697	10/17/05 15:45	19.127
10/16/05 3:45	13.377	10/16/05 16:00	17.843	10/17/05 3:45	14.649	10/17/05 16:00	19.199
10/16/05 4:00	13.329	10/16/05 16:15	17.915	10/17/05 4:00	14.601	10/17/05 16:15	19.222
10/16/05 4:15	13.305	10/16/05 16:30	17.962	10/17/05 4:15	14.553	10/17/05 16:30	19.246
10/16/05 4:30	13.281	10/16/05 16:45	17.962	10/17/05 4:30	14.505	10/17/05 16:45	19.27
10/16/05 4:45	13.257	10/16/05 17:00	17.986	10/17/05 4:45	14.457	10/17/05 17:00	19.246
10/16/05 5:00	13.233	10/16/05 17:15	17.986	10/17/05 5:00	14.409	10/17/05 17:15	19.199
10/16/05 5:15	13.209	10/16/05 17:30	17.962	10/17/05 5:15	14.361	10/17/05 17:30	19.151
10/16/05 5:30	13.185	10/16/05 17:45	17.915	10/17/05 5:30	14.314	10/17/05 17:45	19.103
10/16/05 5:45	13.161	10/16/05 18:00	17.843	10/17/05 5:45	14.266	10/17/05 18:00	19.008
10/16/05 6:00	13.137	10/16/05 18:15	17.748	10/17/05 6:00	14.218	10/17/05 18:15	18.889
10/16/05 6:15	13.088	10/16/05 18:30	17.653	10/17/05 6:15	14.17	10/17/05 18:30	18.771
10/16/05 6:30	13.064	10/16/05 18:45	17.558	10/17/05 6:30	14.146	10/17/05 18:45	18.652
10/16/05 6:45	13.04	10/16/05 19:00	17.439	10/17/05 6:45	14.098	10/17/05 19:00	18.533
10/16/05 7:00	12.992	10/16/05 19:15	17.344	10/17/05 7:00	14.05	10/17/05 19:15	18.414
10/16/05 7:15	12.968	10/16/05 19:30	17.225	10/17/05 7:15	14.002	10/17/05 19:30	18.271
10/16/05 7:30	12.944	10/16/05 19:45	17.106	10/17/05 7:30	13.954	10/17/05 19:45	18.152
10/16/05 7:45	12.92	10/16/05 20:00	16.963	10/17/05 7:45	13.906	10/17/05 20:00	18.01
10/16/05 8:00	12.896	10/16/05 20:15	16.844	10/17/05 8:00	13.882	10/17/05 20:15	17.867
10/16/05 8:15	12.92	10/16/05 20:30	16.701	10/17/05 8:15	13.858	10/17/05 20:30	17.724
10/16/05 8:30	12.944	10/16/05 20:45	16.582	10/17/05 8:30	13.834	10/17/05 20:45	17.582
10/16/05 8:45	12.968	10/16/05 21:00	16.463	10/17/05 8:45	13.858	10/17/05 21:00	17.463
10/16/05 9:00	12.992	10/16/05 21:15	16.344	10/17/05 9:00	13.906	10/17/05 21:15	17.344
10/16/05 9:15	13.016	10/16/05 21:30	16.225	10/17/05 9:15	13.978	10/17/05 21:30	17.249
10/16/05 9:30	13.04	10/16/05 21:45	16.129	10/17/05 9:30	14.098	10/17/05 21:45	17.13
10/16/05 9:45	13.04	10/16/05 22:00	16.034	10/17/05 9:45	14.266	10/17/05 22:00	17.034
10/16/05 10:00	13.064	10/16/05 22:15	15.939	10/17/05 10:00	14.433	10/17/05 22:15	16.939
10/16/05 10:15	13.112	10/16/05 22:30	15.843	10/17/05 10:15	14.649	10/17/05 22:30	16.844
10/16/05 10:30	13.161	10/16/05 22:45	15.772	10/17/05 10:30	14.864	10/17/05 22:45	16.773
10/16/05 10:45	13.233	10/16/05 23:00	15.676	10/17/05 10:45	15.103	10/17/05 23:00	16.701
10/16/05 11:00	13.377	10/16/05 23:15	15.605	10/17/05 11:00	15.318	10/17/05 23:15	16.654
10/16/05 11:15	13.546	10/16/05 23:30	15.533	10/17/05 11:15	15.557	10/17/05 23:30	16.582
10/16/05 11:30	13.786	10/16/05 23:45	15.461	10/17/05 11:30	15.819	10/17/05 23:45	16.534
10/16/05 11:45	14.098			10/17/05 11:45	16.058		
10/16/05 12:00	14.361			10/17/05 12:00	16.296		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/18/05 0:00	16.463	10/18/05 12:15	17.153	10/19/05 0:00	16.582	10/19/05 12:15	16.415
10/18/05 0:15	16.415	10/18/05 12:30	17.368	10/19/05 0:15	16.511	10/19/05 12:30	16.582
10/18/05 0:30	16.368	10/18/05 12:45	17.582	10/19/05 0:30	16.439	10/19/05 12:45	16.749
10/18/05 0:45	16.296	10/18/05 13:00	17.796	10/19/05 0:45	16.368	10/19/05 13:00	16.915
10/18/05 1:00	16.249	10/18/05 13:15	18.01	10/19/05 1:00	16.296	10/19/05 13:15	17.106
10/18/05 1:15	16.177	10/18/05 13:30	18.176	10/19/05 1:15	16.225	10/19/05 13:30	17.272
10/18/05 1:30	16.129	10/18/05 13:45	18.343	10/19/05 1:30	16.153	10/19/05 13:45	17.463
10/18/05 1:45	16.058	10/18/05 14:00	18.485	10/19/05 1:45	16.082	10/19/05 14:00	17.629
10/18/05 2:00	15.986	10/18/05 14:15	18.58	10/19/05 2:00	16.01	10/19/05 14:15	17.796
10/18/05 2:15	15.939	10/18/05 14:30	18.675	10/19/05 2:15	15.939	10/19/05 14:30	17.938
10/18/05 2:30	15.867	10/18/05 14:45	18.771	10/19/05 2:30	15.867	10/19/05 14:45	18.081
10/18/05 2:45	15.796	10/18/05 15:00	18.842	10/19/05 2:45	15.796	10/19/05 15:00	18.176
10/18/05 3:00	15.724	10/18/05 15:15	18.913	10/19/05 3:00	15.748	10/19/05 15:15	18.271
10/18/05 3:15	15.676	10/18/05 15:30	19.008	10/19/05 3:15	15.676	10/19/05 15:30	18.343
10/18/05 3:30	15.605	10/18/05 15:45	19.08	10/19/05 3:30	15.629	10/19/05 15:45	18.39
10/18/05 3:45	15.557	10/18/05 16:00	19.127	10/19/05 3:45	15.581	10/19/05 16:00	18.414
10/18/05 4:00	15.485	10/18/05 16:15	19.175	10/19/05 4:00	15.533	10/19/05 16:15	18.414
10/18/05 4:15	15.438	10/18/05 16:30	19.151	10/19/05 4:15	15.485	10/19/05 16:30	18.414
10/18/05 4:30	15.39	10/18/05 16:45	19.103	10/19/05 4:30	15.438	10/19/05 16:45	18.414
10/18/05 4:45	15.342	10/18/05 17:00	19.056	10/19/05 4:45	15.366	10/19/05 17:00	18.366
10/18/05 5:00	15.318	10/18/05 17:15	19.008	10/19/05 5:00	15.318	10/19/05 17:15	18.319
10/18/05 5:15	15.27	10/18/05 17:30	18.913	10/19/05 5:15	15.247	10/19/05 17:30	18.247
10/18/05 5:30	15.223	10/18/05 17:45	18.794	10/19/05 5:30	15.223	10/19/05 17:45	18.176
10/18/05 5:45	15.199	10/18/05 18:00	18.723	10/19/05 5:45	15.175	10/19/05 18:00	18.105
10/18/05 6:00	15.151	10/18/05 18:15	18.628	10/19/05 6:00	15.127	10/19/05 18:15	17.962
10/18/05 6:15	15.127	10/18/05 18:30	18.509	10/19/05 6:15	15.079	10/19/05 18:30	17.843
10/18/05 6:30	15.079	10/18/05 18:45	18.366	10/19/05 6:30	15.031	10/19/05 18:45	17.724
10/18/05 6:45	15.055	10/18/05 19:00	18.271	10/19/05 6:45	14.96	10/19/05 19:00	17.605
10/18/05 7:00	15.008	10/18/05 19:15	18.152	10/19/05 7:00	14.912	10/19/05 19:15	17.51
10/18/05 7:15	14.984	10/18/05 19:30	18.057	10/19/05 7:15	14.864	10/19/05 19:30	17.391
10/18/05 7:30	14.936	10/18/05 19:45	17.962	10/19/05 7:30	14.816	10/19/05 19:45	17.272
10/18/05 7:45	14.912	10/18/05 20:00	17.867	10/19/05 7:45	14.768	10/19/05 20:00	17.153
10/18/05 8:00	14.888	10/18/05 20:15	17.772	10/19/05 8:00	14.721	10/19/05 20:15	17.034
10/18/05 8:15	14.864	10/18/05 20:30	17.701	10/19/05 8:15	14.673	10/19/05 20:30	16.915
10/18/05 8:30	14.864	10/18/05 20:45	17.629	10/19/05 8:30	14.673	10/19/05 20:45	16.796
10/18/05 8:45	14.888	10/18/05 21:00	17.534	10/19/05 8:45	14.649	10/19/05 21:00	16.701
10/18/05 9:00	14.912	10/18/05 21:15	17.439	10/19/05 9:00	14.649	10/19/05 21:15	16.582
10/18/05 9:15	15.008	10/18/05 21:30	17.344	10/19/05 9:15	14.697	10/19/05 21:30	16.487
10/18/05 9:30	15.103	10/18/05 21:45	17.249	10/19/05 9:30	14.792	10/19/05 21:45	16.392
10/18/05 9:45	15.223	10/18/05 22:00	17.153	10/19/05 9:45	14.888	10/19/05 22:00	16.272
10/18/05 10:00	15.366	10/18/05 22:15	17.082	10/19/05 10:00	15.008	10/19/05 22:15	16.177
10/18/05 10:15	15.509	10/18/05 22:30	17.011	10/19/05 10:15	15.151	10/19/05 22:30	16.082
10/18/05 10:30	15.676	10/18/05 22:45	16.963	10/19/05 10:30	15.318	10/19/05 22:45	15.986
10/18/05 10:45	15.867	10/18/05 23:00	16.868	10/19/05 10:45	15.509	10/19/05 23:00	15.891
10/18/05 11:00	16.058	10/18/05 23:15	16.796	10/19/05 11:00	15.676	10/19/05 23:15	15.819
10/18/05 11:15	16.272	10/18/05 23:30	16.725	10/19/05 11:15	15.819	10/19/05 23:30	15.724
10/18/05 11:30	16.487	10/18/05 23:45	16.654	10/19/05 11:30	15.963	10/19/05 23:45	15.629
10/18/05 11:45	16.701			10/19/05 11:45	16.106		
10/18/05 12:00	16.939			10/19/05 12:00	16.249		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/20/05 0:00	15.557	10/20/05 12:15	15.581	10/21/05 0:00	15.008	10/21/05 12:15	15.318
10/20/05 0:15	15.485	10/20/05 12:30	15.819	10/21/05 0:15	14.936	10/21/05 12:30	15.485
10/20/05 0:30	15.414	10/20/05 12:45	16.034	10/21/05 0:30	14.864	10/21/05 12:45	15.652
10/20/05 0:45	15.342	10/20/05 13:00	16.249	10/21/05 0:45	14.816	10/21/05 13:00	15.843
10/20/05 1:00	15.27	10/20/05 13:15	16.463	10/21/05 1:00	14.745	10/21/05 13:15	16.01
10/20/05 1:15	15.223	10/20/05 13:30	16.654	10/21/05 1:15	14.697	10/21/05 13:30	16.177
10/20/05 1:30	15.151	10/20/05 13:45	16.844	10/21/05 1:30	14.649	10/21/05 13:45	16.32
10/20/05 1:45	15.079	10/20/05 14:00	17.011	10/21/05 1:45	14.601	10/21/05 14:00	16.463
10/20/05 2:00	15.031	10/20/05 14:15	17.177	10/21/05 2:00	14.529	10/21/05 14:15	16.582
10/20/05 2:15	14.96	10/20/05 14:30	17.32	10/21/05 2:15	14.481	10/21/05 14:30	16.725
10/20/05 2:30	14.888	10/20/05 14:45	17.463	10/21/05 2:30	14.409	10/21/05 14:45	16.796
10/20/05 2:45	14.84	10/20/05 15:00	17.558	10/21/05 2:45	14.361	10/21/05 15:00	16.868
10/20/05 3:00	14.768	10/20/05 15:15	17.653	10/21/05 3:00	14.29	10/21/05 15:15	16.963
10/20/05 3:15	14.697	10/20/05 15:30	17.724	10/21/05 3:15	14.242	10/21/05 15:30	17.011
10/20/05 3:30	14.625	10/20/05 15:45	17.772	10/21/05 3:30	14.194	10/21/05 15:45	17.082
10/20/05 3:45	14.529	10/20/05 16:00	17.819	10/21/05 3:45	14.122	10/21/05 16:00	17.106
10/20/05 4:00	14.457	10/20/05 16:15	17.819	10/21/05 4:00	14.074	10/21/05 16:15	17.106
10/20/05 4:15	14.385	10/20/05 16:30	17.796	10/21/05 4:15	14.002	10/21/05 16:30	17.13
10/20/05 4:30	14.314	10/20/05 16:45	17.796	10/21/05 4:30	13.954	10/21/05 16:45	17.13
10/20/05 4:45	14.218	10/20/05 17:00	17.772	10/21/05 4:45	13.906	10/21/05 17:00	17.106
10/20/05 5:00	14.146	10/20/05 17:15	17.724	10/21/05 5:00	13.882	10/21/05 17:15	17.058
10/20/05 5:15	14.074	10/20/05 17:30	17.677	10/21/05 5:15	13.834	10/21/05 17:30	17.011
10/20/05 5:30	13.978	10/20/05 17:45	17.605	10/21/05 5:30	13.786	10/21/05 17:45	16.963
10/20/05 5:45	13.906	10/20/05 18:00	17.51	10/21/05 5:45	13.738	10/21/05 18:00	16.892
10/20/05 6:00	13.858	10/20/05 18:15	17.391	10/21/05 6:00	13.69	10/21/05 18:15	16.82
10/20/05 6:15	13.786	10/20/05 18:30	17.272	10/21/05 6:15	13.666	10/21/05 18:30	16.725
10/20/05 6:30	13.714	10/20/05 18:45	17.153	10/21/05 6:30	13.618	10/21/05 18:45	16.63
10/20/05 6:45	13.666	10/20/05 19:00	17.034	10/21/05 6:45	13.594	10/21/05 19:00	16.534
10/20/05 7:00	13.594	10/20/05 19:15	16.915	10/21/05 7:00	13.57	10/21/05 19:15	16.439
10/20/05 7:15	13.546	10/20/05 19:30	16.773	10/21/05 7:15	13.546	10/21/05 19:30	16.32
10/20/05 7:30	13.473	10/20/05 19:45	16.63	10/21/05 7:30	13.522	10/21/05 19:45	16.225
10/20/05 7:45	13.425	10/20/05 20:00	16.487	10/21/05 7:45	13.497	10/21/05 20:00	16.106
10/20/05 8:00	13.377	10/20/05 20:15	16.368	10/21/05 8:00	13.473	10/21/05 20:15	15.986
10/20/05 8:15	13.329	10/20/05 20:30	16.249	10/21/05 8:15	13.473	10/21/05 20:30	15.867
10/20/05 8:30	13.281	10/20/05 20:45	16.129	10/21/05 8:30	13.449	10/21/05 20:45	15.748
10/20/05 8:45	13.257	10/20/05 21:00	16.01	10/21/05 8:45	13.473	10/21/05 21:00	15.652
10/20/05 9:00	13.281	10/20/05 21:15	15.915	10/21/05 9:00	13.497	10/21/05 21:15	15.557
10/20/05 9:15	13.329	10/20/05 21:30	15.796	10/21/05 9:15	13.546	10/21/05 21:30	15.461
10/20/05 9:30	13.401	10/20/05 21:45	15.7	10/21/05 9:30	13.642	10/21/05 21:45	15.39
10/20/05 9:45	13.522	10/20/05 22:00	15.605	10/21/05 9:45	13.762	10/21/05 22:00	15.342
10/20/05 10:00	13.666	10/20/05 22:15	15.533	10/21/05 10:00	13.858	10/21/05 22:15	15.27
10/20/05 10:15	13.858	10/20/05 22:30	15.438	10/21/05 10:15	13.978	10/21/05 22:30	15.199
10/20/05 10:30	14.05	10/20/05 22:45	15.342	10/21/05 10:30	14.122	10/21/05 22:45	15.127
10/20/05 10:45	14.242	10/20/05 23:00	15.27	10/21/05 10:45	14.29	10/21/05 23:00	15.079
10/20/05 11:00	14.457	10/20/05 23:15	15.199	10/21/05 11:00	14.385	10/21/05 23:15	15.031
10/20/05 11:15	14.673	10/20/05 23:30	15.127	10/21/05 11:15	14.529	10/21/05 23:30	14.96
10/20/05 11:30	14.888	10/20/05 23:45	15.055	10/21/05 11:30	14.721	10/21/05 23:45	14.912
10/20/05 11:45	15.127			10/21/05 11:45	14.912		
10/20/05 12:00	15.342			10/21/05 12:00	15.103		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/22/05 0:00	14.84	10/22/05 12:15	15.652	10/23/05 0:00	15.199	10/23/05 12:15	14.888
10/22/05 0:15	14.768	10/22/05 12:30	15.891	10/23/05 0:15	15.127	10/23/05 12:30	15.127
10/22/05 0:30	14.721	10/22/05 12:45	16.129	10/23/05 0:30	15.055	10/23/05 12:45	15.342
10/22/05 0:45	14.649	10/22/05 13:00	16.344	10/23/05 0:45	14.984	10/23/05 13:00	15.557
10/22/05 1:00	14.577	10/22/05 13:15	16.558	10/23/05 1:00	14.936	10/23/05 13:15	15.796
10/22/05 1:15	14.505	10/22/05 13:30	16.749	10/23/05 1:15	14.864	10/23/05 13:30	15.986
10/22/05 1:30	14.457	10/22/05 13:45	16.939	10/23/05 1:30	14.816	10/23/05 13:45	16.177
10/22/05 1:45	14.385	10/22/05 14:00	17.13	10/23/05 1:45	14.768	10/23/05 14:00	16.344
10/22/05 2:00	14.337	10/22/05 14:15	17.296	10/23/05 2:00	14.697	10/23/05 14:15	16.534
10/22/05 2:15	14.29	10/22/05 14:30	17.439	10/23/05 2:15	14.625	10/23/05 14:30	16.677
10/22/05 2:30	14.242	10/22/05 14:45	17.582	10/23/05 2:30	14.577	10/23/05 14:45	16.844
10/22/05 2:45	14.218	10/22/05 15:00	17.701	10/23/05 2:45	14.505	10/23/05 15:00	16.987
10/22/05 3:00	14.17	10/22/05 15:15	17.796	10/23/05 3:00	14.433	10/23/05 15:15	17.106
10/22/05 3:15	14.122	10/22/05 15:30	17.891	10/23/05 3:15	14.385	10/23/05 15:30	17.201
10/22/05 3:30	14.074	10/22/05 15:45	17.938	10/23/05 3:30	14.314	10/23/05 15:45	17.249
10/22/05 3:45	14.002	10/22/05 16:00	17.986	10/23/05 3:45	14.266	10/23/05 16:00	17.296
10/22/05 4:00	13.954	10/22/05 16:15	18.01	10/23/05 4:00	14.194	10/23/05 16:15	17.32
10/22/05 4:15	13.906	10/22/05 16:30	18.033	10/23/05 4:15	14.122	10/23/05 16:30	17.344
10/22/05 4:30	13.858	10/22/05 16:45	18.01	10/23/05 4:30	14.074	10/23/05 16:45	17.344
10/22/05 4:45	13.81	10/22/05 17:00	17.986	10/23/05 4:45	14.026	10/23/05 17:00	17.296
10/22/05 5:00	13.738	10/22/05 17:15	17.938	10/23/05 5:00	13.978	10/23/05 17:15	17.249
10/22/05 5:15	13.69	10/22/05 17:30	17.891	10/23/05 5:15	13.93	10/23/05 17:30	17.153
10/22/05 5:30	13.642	10/22/05 17:45	17.819	10/23/05 5:30	13.882	10/23/05 17:45	17.034
10/22/05 5:45	13.594	10/22/05 18:00	17.748	10/23/05 5:45	13.834	10/23/05 18:00	16.915
10/22/05 6:00	13.546	10/22/05 18:15	17.629	10/23/05 6:00	13.786	10/23/05 18:15	16.796
10/22/05 6:15	13.522	10/22/05 18:30	17.51	10/23/05 6:15	13.738	10/23/05 18:30	16.677
10/22/05 6:30	13.473	10/22/05 18:45	17.391	10/23/05 6:30	13.69	10/23/05 18:45	16.534
10/22/05 6:45	13.425	10/22/05 19:00	17.296	10/23/05 6:45	13.618	10/23/05 19:00	16.392
10/22/05 7:00	13.377	10/22/05 19:15	17.177	10/23/05 7:00	13.57	10/23/05 19:15	16.272
10/22/05 7:15	13.353	10/22/05 19:30	17.058	10/23/05 7:15	13.522	10/23/05 19:30	16.129
10/22/05 7:30	13.305	10/22/05 19:45	16.939	10/23/05 7:30	13.473	10/23/05 19:45	15.963
10/22/05 7:45	13.281	10/22/05 20:00	16.796	10/23/05 7:45	13.377	10/23/05 20:00	15.819
10/22/05 8:00	13.257	10/22/05 20:15	16.677	10/23/05 8:00	13.281	10/23/05 20:15	15.652
10/22/05 8:15	13.233	10/22/05 20:30	16.534	10/23/05 8:15	13.185	10/23/05 20:30	15.485
10/22/05 8:30	13.209	10/22/05 20:45	16.415	10/23/05 8:30	13.137	10/23/05 20:45	15.342
10/22/05 8:45	13.233	10/22/05 21:00	16.32	10/23/05 8:45	13.088	10/23/05 21:00	15.175
10/22/05 9:00	13.257	10/22/05 21:15	16.201	10/23/05 9:00	13.088	10/23/05 21:15	14.984
10/22/05 9:15	13.329	10/22/05 21:30	16.106	10/23/05 9:15	13.088	10/23/05 21:30	14.792
10/22/05 9:30	13.449	10/22/05 21:45	15.986	10/23/05 9:30	13.137	10/23/05 21:45	14.649
10/22/05 9:45	13.57	10/22/05 22:00	15.891	10/23/05 9:45	13.233	10/23/05 22:00	14.481
10/22/05 10:00	13.738	10/22/05 22:15	15.772	10/23/05 10:00	13.353	10/23/05 22:15	14.361
10/22/05 10:15	13.906	10/22/05 22:30	15.676	10/23/05 10:15	13.473	10/23/05 22:30	14.218
10/22/05 10:30	14.098	10/22/05 22:45	15.581	10/23/05 10:30	13.594	10/23/05 22:45	14.098
10/22/05 10:45	14.29	10/22/05 23:00	15.509	10/23/05 10:45	13.738	10/23/05 23:00	13.954
10/22/05 11:00	14.481	10/22/05 23:15	15.414	10/23/05 11:00	13.906	10/23/05 23:15	13.834
10/22/05 11:15	14.697	10/22/05 23:30	15.342	10/23/05 11:15	14.074	10/23/05 23:30	13.714
10/22/05 11:30	14.936	10/22/05 23:45	15.27	10/23/05 11:30	14.266	10/23/05 23:45	13.594
10/22/05 11:45	15.151			10/23/05 11:45	14.457		
10/22/05 12:00	15.414			10/23/05 12:00	14.673		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
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10/24/05 0:15	13.401	10/24/05 12:30	12.847	10/25/05 0:15	12.654	10/25/05 12:30	14.098
10/24/05 0:30	13.329	10/24/05 12:45	13.137	10/25/05 0:30	12.582	10/25/05 12:45	14.409
10/24/05 0:45	13.233	10/24/05 13:00	13.401	10/25/05 0:45	12.485	10/25/05 13:00	14.697
10/24/05 1:00	13.112	10/24/05 13:15	13.618	10/25/05 1:00	12.413	10/25/05 13:15	14.96
10/24/05 1:15	13.016	10/24/05 13:30	13.834	10/25/05 1:15	12.364	10/25/05 13:30	15.223
10/24/05 1:30	12.92	10/24/05 13:45	14.074	10/25/05 1:30	12.268	10/25/05 13:45	15.461
10/24/05 1:45	12.823	10/24/05 14:00	14.29	10/25/05 1:45	12.219	10/25/05 14:00	15.7
10/24/05 2:00	12.703	10/24/05 14:15	14.529	10/25/05 2:00	12.171	10/25/05 14:15	15.915
10/24/05 2:15	12.606	10/24/05 14:30	14.745	10/25/05 2:15	12.098	10/25/05 14:30	16.106
10/24/05 2:30	12.534	10/24/05 14:45	14.936	10/25/05 2:30	12.05	10/25/05 14:45	16.272
10/24/05 2:45	12.437	10/24/05 15:00	15.127	10/25/05 2:45	12.001	10/25/05 15:00	16.439
10/24/05 3:00	12.364	10/24/05 15:15	15.318	10/25/05 3:00	11.953	10/25/05 15:15	16.582
10/24/05 3:15	12.292	10/24/05 15:30	15.438	10/25/05 3:15	11.88	10/25/05 15:30	16.677
10/24/05 3:30	12.219	10/24/05 15:45	15.557	10/25/05 3:30	11.832	10/25/05 15:45	16.749
10/24/05 3:45	12.147	10/24/05 16:00	15.652	10/25/05 3:45	11.783	10/25/05 16:00	16.796
10/24/05 4:00	12.05	10/24/05 16:15	15.724	10/25/05 4:00	11.71	10/25/05 16:15	16.796
10/24/05 4:15	11.953	10/24/05 16:30	15.796	10/25/05 4:15	11.662	10/25/05 16:30	16.796
10/24/05 4:30	11.832	10/24/05 16:45	15.819	10/25/05 4:30	11.613	10/25/05 16:45	16.773
10/24/05 4:45	11.734	10/24/05 17:00	15.819	10/25/05 4:45	11.54	10/25/05 17:00	16.725
10/24/05 5:00	11.637	10/24/05 17:15	15.772	10/25/05 5:00	11.492	10/25/05 17:15	16.654
10/24/05 5:15	11.565	10/24/05 17:30	15.724	10/25/05 5:15	11.419	10/25/05 17:30	16.582
10/24/05 5:30	11.492	10/24/05 17:45	15.652	10/25/05 5:30	11.37	10/25/05 17:45	16.463
10/24/05 5:45	11.419	10/24/05 18:00	15.581	10/25/05 5:45	11.321	10/25/05 18:00	16.344
10/24/05 6:00	11.394	10/24/05 18:15	15.485	10/25/05 6:00	11.273	10/25/05 18:15	16.225
10/24/05 6:15	11.346	10/24/05 18:30	15.366	10/25/05 6:15	11.2	10/25/05 18:30	16.106
10/24/05 6:30	11.297	10/24/05 18:45	15.247	10/25/05 6:30	11.151	10/25/05 18:45	15.963
10/24/05 6:45	11.248	10/24/05 19:00	15.127	10/25/05 6:45	11.102	10/25/05 19:00	15.843
10/24/05 7:00	11.224	10/24/05 19:15	15.008	10/25/05 7:00	11.053	10/25/05 19:15	15.724
10/24/05 7:15	11.2	10/24/05 19:30	14.888	10/25/05 7:15	11.005	10/25/05 19:30	15.605
10/24/05 7:30	11.151	10/24/05 19:45	14.745	10/25/05 7:30	10.956	10/25/05 19:45	15.461
10/24/05 7:45	11.127	10/24/05 20:00	14.601	10/25/05 7:45	10.907	10/25/05 20:00	15.318
10/24/05 8:00	11.102	10/24/05 20:15	14.481	10/25/05 8:00	10.883	10/25/05 20:15	15.199
10/24/05 8:15	11.078	10/24/05 20:30	14.337	10/25/05 8:15	10.858	10/25/05 20:30	15.055
10/24/05 8:30	11.078	10/24/05 20:45	14.218	10/25/05 8:30	10.834	10/25/05 20:45	14.936
10/24/05 8:45	11.078	10/24/05 21:00	14.098	10/25/05 8:45	10.834	10/25/05 21:00	14.792
10/24/05 9:00	11.102	10/24/05 21:15	14.002	10/25/05 9:00	10.858	10/25/05 21:15	14.673
10/24/05 9:15	11.127	10/24/05 21:30	13.882	10/25/05 9:15	10.932	10/25/05 21:30	14.553
10/24/05 9:30	11.151	10/24/05 21:45	13.762	10/25/05 9:30	11.029	10/25/05 21:45	14.433
10/24/05 9:45	11.175	10/24/05 22:00	13.642	10/25/05 9:45	11.2	10/25/05 22:00	14.361
10/24/05 10:00	11.224	10/24/05 22:15	13.522	10/25/05 10:00	11.37	10/25/05 22:15	14.242
10/24/05 10:15	11.297	10/24/05 22:30	13.425	10/25/05 10:15	11.589	10/25/05 22:30	14.17
10/24/05 10:30	11.37	10/24/05 22:45	13.305	10/25/05 10:30	11.832	10/25/05 22:45	14.074
10/24/05 10:45	11.467	10/24/05 23:00	13.185	10/25/05 10:45	12.074	10/25/05 23:00	13.978
10/24/05 11:00	11.589	10/24/05 23:15	13.088	10/25/05 11:00	12.364	10/25/05 23:15	13.906
10/24/05 11:15	11.734	10/24/05 23:30	12.968	10/25/05 11:15	12.63	10/25/05 23:30	13.81
10/24/05 11:30	11.904	10/24/05 23:45	12.871	10/25/05 11:30	12.92	10/25/05 23:45	13.714
10/24/05 11:45	12.122			10/25/05 11:45	13.209		
10/24/05 12:00	12.316			10/25/05 12:00	13.522		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
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10/26/05 0:15	13.546	10/26/05 12:30	15.509	10/27/05 0:15	13.81	10/27/05 12:30	14.792
10/26/05 0:30	13.473	10/26/05 12:45	15.819	10/27/05 0:30	13.714	10/27/05 12:45	15.103
10/26/05 0:45	13.401	10/26/05 13:00	16.129	10/27/05 0:45	13.618	10/27/05 13:00	15.39
10/26/05 1:00	13.353	10/26/05 13:15	16.439	10/27/05 1:00	13.522	10/27/05 13:15	15.676
10/26/05 1:15	13.329	10/26/05 13:30	16.677	10/27/05 1:15	13.425	10/27/05 13:30	15.963
10/26/05 1:30	13.329	10/26/05 13:45	16.892	10/27/05 1:30	13.329	10/27/05 13:45	16.201
10/26/05 1:45	13.305	10/26/05 14:00	17.106	10/27/05 1:45	13.257	10/27/05 14:00	16.439
10/26/05 2:00	13.329	10/26/05 14:15	17.272	10/27/05 2:00	13.185	10/27/05 14:15	16.654
10/26/05 2:15	13.329	10/26/05 14:30	17.439	10/27/05 2:15	13.137	10/27/05 14:30	16.868
10/26/05 2:30	13.329	10/26/05 14:45	17.534	10/27/05 2:30	13.088	10/27/05 14:45	17.058
10/26/05 2:45	13.329	10/26/05 15:00	17.605	10/27/05 2:45	13.064	10/27/05 15:00	17.225
10/26/05 3:00	13.329	10/26/05 15:15	17.653	10/27/05 3:00	13.04	10/27/05 15:15	17.368
10/26/05 3:15	13.329	10/26/05 15:30	17.677	10/27/05 3:15	12.992	10/27/05 15:30	17.486
10/26/05 3:30	13.329	10/26/05 15:45	17.701	10/27/05 3:30	12.968	10/27/05 15:45	17.605
10/26/05 3:45	13.305	10/26/05 16:00	17.701	10/27/05 3:45	12.92	10/27/05 16:00	17.653
10/26/05 4:00	13.305	10/26/05 16:15	17.701	10/27/05 4:00	12.871	10/27/05 16:15	17.701
10/26/05 4:15	13.281	10/26/05 16:30	17.724	10/27/05 4:15	12.823	10/27/05 16:30	17.724
10/26/05 4:30	13.281	10/26/05 16:45	17.724	10/27/05 4:30	12.775	10/27/05 16:45	17.724
10/26/05 4:45	13.257	10/26/05 17:00	17.701	10/27/05 4:45	12.703	10/27/05 17:00	17.701
10/26/05 5:00	13.233	10/26/05 17:15	17.677	10/27/05 5:00	12.654	10/27/05 17:15	17.653
10/26/05 5:15	13.185	10/26/05 17:30	17.653	10/27/05 5:15	12.582	10/27/05 17:30	17.582
10/26/05 5:30	13.137	10/26/05 17:45	17.582	10/27/05 5:30	12.509	10/27/05 17:45	17.534
10/26/05 5:45	13.064	10/26/05 18:00	17.51	10/27/05 5:45	12.485	10/27/05 18:00	17.439
10/26/05 6:00	13.016	10/26/05 18:15	17.415	10/27/05 6:00	12.437	10/27/05 18:15	17.344
10/26/05 6:15	12.968	10/26/05 18:30	17.32	10/27/05 6:15	12.364	10/27/05 18:30	17.201
10/26/05 6:30	12.896	10/26/05 18:45	17.201	10/27/05 6:30	12.292	10/27/05 18:45	17.082
10/26/05 6:45	12.847	10/26/05 19:00	17.058	10/27/05 6:45	12.219	10/27/05 19:00	16.963
10/26/05 7:00	12.799	10/26/05 19:15	16.939	10/27/05 7:00	12.122	10/27/05 19:15	16.796
10/26/05 7:15	12.727	10/26/05 19:30	16.796	10/27/05 7:15	12.025	10/27/05 19:30	16.654
10/26/05 7:30	12.678	10/26/05 19:45	16.654	10/27/05 7:30	11.904	10/27/05 19:45	16.487
10/26/05 7:45	12.606	10/26/05 20:00	16.487	10/27/05 7:45	11.807	10/27/05 20:00	16.32
10/26/05 8:00	12.534	10/26/05 20:15	16.32	10/27/05 8:00	11.734	10/27/05 20:15	16.153
10/26/05 8:15	12.485	10/26/05 20:30	16.153	10/27/05 8:15	11.686	10/27/05 20:30	16.01
10/26/05 8:30	12.437	10/26/05 20:45	15.963	10/27/05 8:30	11.637	10/27/05 20:45	15.843
10/26/05 8:45	12.437	10/26/05 21:00	15.796	10/27/05 8:45	11.613	10/27/05 21:00	15.7
10/26/05 9:00	12.413	10/26/05 21:15	15.629	10/27/05 9:00	11.613	10/27/05 21:15	15.557
10/26/05 9:15	12.437	10/26/05 21:30	15.461	10/27/05 9:15	11.637	10/27/05 21:30	15.39
10/26/05 9:30	12.509	10/26/05 21:45	15.294	10/27/05 9:30	11.71	10/27/05 21:45	15.247
10/26/05 9:45	12.63	10/26/05 22:00	15.127	10/27/05 9:45	11.88	10/27/05 22:00	15.127
10/26/05 10:00	12.775	10/26/05 22:15	14.96	10/27/05 10:00	12.05	10/27/05 22:15	15.008
10/26/05 10:15	12.968	10/26/05 22:30	14.792	10/27/05 10:15	12.268	10/27/05 22:30	14.936
10/26/05 10:30	13.185	10/26/05 22:45	14.649	10/27/05 10:30	12.485	10/27/05 22:45	14.84
10/26/05 10:45	13.425	10/26/05 23:00	14.481	10/27/05 10:45	12.751	10/27/05 23:00	14.721
10/26/05 11:00	13.69	10/26/05 23:15	14.337	10/27/05 11:00	13.016	10/27/05 23:15	14.601
10/26/05 11:15	13.978	10/26/05 23:30	14.194	10/27/05 11:15	13.305	10/27/05 23:30	14.481
10/26/05 11:30	14.29	10/26/05 23:45	14.074	10/27/05 11:30	13.57	10/27/05 23:45	14.361
10/26/05 11:45	14.577			10/27/05 11:45	13.858		
10/26/05 12:00	14.888			10/27/05 12:00	14.17		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/28/05 0:00	14.242	10/28/05 12:15	14.649	10/29/05 0:00	14.194	10/29/05 12:15	14.505
10/28/05 0:15	14.122	10/28/05 12:30	14.912	10/29/05 0:15	14.098	10/29/05 12:30	14.816
10/28/05 0:30	14.002	10/28/05 12:45	15.175	10/29/05 0:30	14.002	10/29/05 12:45	15.127
10/28/05 0:45	13.906	10/28/05 13:00	15.39	10/29/05 0:45	13.882	10/29/05 13:00	15.294
10/28/05 1:00	13.81	10/28/05 13:15	15.605	10/29/05 1:00	13.762	10/29/05 13:15	15.485
10/28/05 1:15	13.714	10/28/05 13:30	15.772	10/29/05 1:15	13.666	10/29/05 13:30	15.724
10/28/05 1:30	13.618	10/28/05 13:45	15.986	10/29/05 1:30	13.546	10/29/05 13:45	16.01
10/28/05 1:45	13.546	10/28/05 14:00	16.106	10/29/05 1:45	13.473	10/29/05 14:00	16.225
10/28/05 2:00	13.449	10/28/05 14:15	16.272	10/29/05 2:00	13.377	10/29/05 14:15	16.415
10/28/05 2:15	13.377	10/28/05 14:30	16.392	10/29/05 2:15	13.305	10/29/05 14:30	16.534
10/28/05 2:30	13.281	10/28/05 14:45	16.511	10/29/05 2:30	13.257	10/29/05 14:45	16.725
10/28/05 2:45	13.209	10/28/05 15:00	16.582	10/29/05 2:45	13.185	10/29/05 15:00	16.963
10/28/05 3:00	13.137	10/28/05 15:15	16.654	10/29/05 3:00	13.137	10/29/05 15:15	17.153
10/28/05 3:15	13.064	10/28/05 15:30	16.701	10/29/05 3:15	13.088	10/29/05 15:30	17.32
10/28/05 3:30	12.992	10/28/05 15:45	16.725	10/29/05 3:30	13.04	10/29/05 15:45	17.439
10/28/05 3:45	12.944	10/28/05 16:00	16.749	10/29/05 3:45	12.992	10/29/05 16:00	17.534
10/28/05 4:00	12.871	10/28/05 16:15	16.725	10/29/05 4:00	12.944	10/29/05 16:15	17.605
10/28/05 4:15	12.823	10/28/05 16:30	16.701	10/29/05 4:15	12.871	10/29/05 16:30	17.629
10/28/05 4:30	12.751	10/28/05 16:45	16.654	10/29/05 4:30	12.823	10/29/05 16:45	17.629
10/28/05 4:45	12.703	10/28/05 17:00	16.606	10/29/05 4:45	12.775	10/29/05 17:00	17.582
10/28/05 5:00	12.654	10/28/05 17:15	16.534	10/29/05 5:00	12.727	10/29/05 17:15	17.558
10/28/05 5:15	12.606	10/28/05 17:30	16.415	10/29/05 5:15	12.654	10/29/05 17:30	17.486
10/28/05 5:30	12.558	10/28/05 17:45	16.32	10/29/05 5:30	12.582	10/29/05 17:45	17.439
10/28/05 5:45	12.485	10/28/05 18:00	16.225	10/29/05 5:45	12.534	10/29/05 18:00	17.344
10/28/05 6:00	12.413	10/28/05 18:15	16.153	10/29/05 6:00	12.461	10/29/05 18:15	17.225
10/28/05 6:15	12.34	10/28/05 18:30	16.058	10/29/05 6:15	12.413	10/29/05 18:30	17.082
10/28/05 6:30	12.268	10/28/05 18:45	15.963	10/29/05 6:30	12.34	10/29/05 18:45	16.963
10/28/05 6:45	12.171	10/28/05 19:00	15.843	10/29/05 6:45	12.292	10/29/05 19:00	16.796
10/28/05 7:00	12.098	10/28/05 19:15	15.748	10/29/05 7:00	12.219	10/29/05 19:15	16.654
10/28/05 7:15	12.001	10/28/05 19:30	15.652	10/29/05 7:15	12.171	10/29/05 19:30	16.511
10/28/05 7:30	11.953	10/28/05 19:45	15.557	10/29/05 7:30	12.122	10/29/05 19:45	16.344
10/28/05 7:45	11.88	10/28/05 20:00	15.461	10/29/05 7:45	12.074	10/29/05 20:00	16.201
10/28/05 8:00	11.856	10/28/05 20:15	15.366	10/29/05 8:00	12.025	10/29/05 20:15	16.034
10/28/05 8:15	11.832	10/28/05 20:30	15.294	10/29/05 8:15	12.001	10/29/05 20:30	15.891
10/28/05 8:30	11.856	10/28/05 20:45	15.223	10/29/05 8:30	11.977	10/29/05 20:45	15.748
10/28/05 8:45	11.88	10/28/05 21:00	15.127	10/29/05 8:45	12.001	10/29/05 21:00	15.629
10/28/05 9:00	11.929	10/28/05 21:15	15.055	10/29/05 9:00	12.001	10/29/05 21:15	15.509
10/28/05 9:15	11.977	10/28/05 21:30	14.96	10/29/05 9:15	12.05	10/29/05 21:30	15.39
10/28/05 9:30	12.074	10/28/05 21:45	14.912	10/29/05 9:30	12.171	10/29/05 21:45	15.27
10/28/05 9:45	12.195	10/28/05 22:00	14.84	10/29/05 9:45	12.292	10/29/05 22:00	15.127
10/28/05 10:00	12.389	10/28/05 22:15	14.768	10/29/05 10:00	12.485	10/29/05 22:15	14.984
10/28/05 10:15	12.582	10/28/05 22:30	14.721	10/29/05 10:15	12.678	10/29/05 22:30	14.864
10/28/05 10:30	12.799	10/28/05 22:45	14.649	10/29/05 10:30	12.823	10/29/05 22:45	14.721
10/28/05 10:45	13.016	10/28/05 23:00	14.577	10/29/05 10:45	12.968	10/29/05 23:00	14.577
10/28/05 11:00	13.257	10/28/05 23:15	14.505	10/29/05 11:00	13.305	10/29/05 23:15	14.433
10/28/05 11:15	13.522	10/28/05 23:30	14.409	10/29/05 11:15	13.57	10/29/05 23:30	14.266
10/28/05 11:30	13.81	10/28/05 23:45	14.314	10/29/05 11:30	13.81	10/29/05 23:45	14.122
10/28/05 11:45	14.098			10/29/05 11:45	14.026		
10/28/05 12:00	14.385			10/29/05 12:00	14.218		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
10/30/05 0:00	13.978	10/30/05 12:15	14.337	10/31/05 0:00	13.281	10/31/05 12:15	13.04
10/30/05 0:15	13.834	10/30/05 12:30	14.697	10/31/05 0:15	13.088	10/31/05 12:30	13.353
10/30/05 0:30	13.666	10/30/05 12:45	15.055	10/31/05 0:30	12.92	10/31/05 12:45	13.642
10/30/05 0:45	13.522	10/30/05 13:00	15.39	10/31/05 0:45	12.751	10/31/05 13:00	13.93
10/30/05 1:00	13.353	10/30/05 13:15	15.724	10/31/05 1:00	12.558	10/31/05 13:15	14.242
10/30/05 1:15	13.233	10/30/05 13:30	16.034	10/31/05 1:15	12.389	10/31/05 13:30	14.505
10/30/05 1:30	13.088	10/30/05 13:45	16.344	10/31/05 1:30	12.243	10/31/05 13:45	14.768
10/30/05 1:45	12.944	10/30/05 14:00	16.654	10/31/05 1:45	12.122	10/31/05 14:00	15.008
10/30/05 2:00	12.823	10/30/05 14:15	16.868	10/31/05 2:00	12.001	10/31/05 14:15	15.199
10/30/05 2:15	12.678	10/30/05 14:30	17.082	10/31/05 2:15	11.88	10/31/05 14:30	15.414
10/30/05 2:30	12.558	10/30/05 14:45	17.296	10/31/05 2:30	11.783	10/31/05 14:45	15.557
10/30/05 2:45	12.437	10/30/05 15:00	17.486	10/31/05 2:45	11.662	10/31/05 15:00	15.724
10/30/05 3:00	12.316	10/30/05 15:15	17.653	10/31/05 3:00	11.565	10/31/05 15:15	15.843
10/30/05 3:15	12.219	10/30/05 15:30	17.772	10/31/05 3:15	11.443	10/31/05 15:30	15.963
10/30/05 3:30	12.147	10/30/05 15:45	17.867	10/31/05 3:30	11.37	10/31/05 15:45	16.034
10/30/05 3:45	12.074	10/30/05 16:00	17.891	10/31/05 3:45	11.273	10/31/05 16:00	16.082
10/30/05 4:00	12.001	10/30/05 16:15	17.962	10/31/05 4:00	11.2	10/31/05 16:15	16.129
10/30/05 4:15	11.929	10/30/05 16:30	17.962	10/31/05 4:15	11.127	10/31/05 16:30	16.106
10/30/05 4:30	11.88	10/30/05 16:45	17.962	10/31/05 4:30	11.053	10/31/05 16:45	16.082
10/30/05 4:45	11.832	10/30/05 17:00	17.891	10/31/05 4:45	11.005	10/31/05 17:00	16.058
10/30/05 5:00	11.807	10/30/05 17:15	17.772	10/31/05 5:00	10.932	10/31/05 17:15	16.01
10/30/05 5:15	11.759	10/30/05 17:30	17.629	10/31/05 5:15	10.907	10/31/05 17:30	15.963
10/30/05 5:30	11.686	10/30/05 17:45	17.439	10/31/05 5:30	10.858	10/31/05 17:45	15.867
10/30/05 5:45	11.662	10/30/05 18:00	17.296	10/31/05 5:45	10.81	10/31/05 18:00	15.772
10/30/05 6:00	11.589	10/30/05 18:15	17.177	10/31/05 6:00	10.785	10/31/05 18:15	15.652
10/30/05 6:15	11.54	10/30/05 18:30	17.034	10/31/05 6:15	10.736	10/31/05 18:30	15.533
10/30/05 6:30	11.492	10/30/05 18:45	16.868	10/31/05 6:30	10.663	10/31/05 18:45	15.39
10/30/05 6:45	11.419	10/30/05 19:00	16.677	10/31/05 6:45	10.614	10/31/05 19:00	15.27
10/30/05 7:00	11.37	10/30/05 19:15	16.487	10/31/05 7:00	10.565	10/31/05 19:15	15.127
10/30/05 7:15	11.297	10/30/05 19:30	16.32	10/31/05 7:15	10.516	10/31/05 19:30	14.984
10/30/05 7:30	11.224	10/30/05 19:45	16.177	10/31/05 7:30	10.443	10/31/05 19:45	14.84
10/30/05 7:45	11.151	10/30/05 20:00	16.034	10/31/05 7:45	10.394	10/31/05 20:00	14.673
10/30/05 8:00	11.102	10/30/05 20:15	15.867	10/31/05 8:00	10.345	10/31/05 20:15	14.505
10/30/05 8:15	11.053	10/30/05 20:30	15.7	10/31/05 8:15	10.271	10/31/05 20:30	14.337
10/30/05 8:30	11.029	10/30/05 20:45	15.581	10/31/05 8:30	10.271	10/31/05 20:45	14.17
10/30/05 8:45	11.005	10/30/05 21:00	15.414	10/31/05 8:45	10.271	10/31/05 21:00	13.978
10/30/05 9:00	11.005	10/30/05 21:15	15.294	10/31/05 9:00	10.296	10/31/05 21:15	13.81
10/30/05 9:15	11.053	10/30/05 21:30	15.127	10/31/05 9:15	10.32	10/31/05 21:30	13.594
10/30/05 9:30	11.127	10/30/05 21:45	14.96	10/31/05 9:30	10.394	10/31/05 21:45	13.401
10/30/05 9:45	11.273	10/30/05 22:00	14.792	10/31/05 9:45	10.541	10/31/05 22:00	13.209
10/30/05 10:00	11.467	10/30/05 22:15	14.601	10/31/05 10:00	10.712	10/31/05 22:15	13.016
10/30/05 10:15	11.686	10/30/05 22:30	14.409	10/31/05 10:15	10.883	10/31/05 22:30	12.823
10/30/05 10:30	11.953	10/30/05 22:45	14.194	10/31/05 10:30	11.127	10/31/05 22:45	12.63
10/30/05 10:45	12.243	10/30/05 23:00	14.026	10/31/05 10:45	11.394	10/31/05 23:00	12.461
10/30/05 11:00	12.558	10/30/05 23:15	13.834	10/31/05 11:00	11.662	10/31/05 23:15	12.268
10/30/05 11:15	12.896	10/30/05 23:30	13.666	10/31/05 11:15	11.929	10/31/05 23:30	12.098
10/30/05 11:30	13.257	10/30/05 23:45	13.473	10/31/05 11:30	12.195	10/31/05 23:45	11.904
10/30/05 11:45	13.618			10/31/05 11:45	12.485		
10/30/05 12:00	13.978			10/31/05 12:00	12.775		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/1/05 0:00	11.759	11/1/05 12:15	-	11/2/05 0:00	11.492	11/2/05 12:15	12.001
11/1/05 0:15	11.589	11/1/05 12:30	-	11/2/05 0:15	11.394	11/2/05 12:30	12.147
11/1/05 0:30	11.467	11/1/05 12:45	-	11/2/05 0:30	11.297	11/2/05 12:45	12.268
11/1/05 0:45	11.297	11/1/05 13:00	-	11/2/05 0:45	11.224	11/2/05 13:00	12.364
11/1/05 1:00	11.175	11/1/05 13:15	-	11/2/05 1:00	11.151	11/2/05 13:15	12.485
11/1/05 1:15	11.053	11/1/05 13:30	13.425	11/2/05 1:15	11.078	11/2/05 13:30	12.582
11/1/05 1:30	10.932	11/1/05 13:45	13.449	11/2/05 1:30	11.005	11/2/05 13:45	12.703
11/1/05 1:45	10.81	11/1/05 14:00	13.522	11/2/05 1:45	10.907	11/2/05 14:00	12.751
11/1/05 2:00	10.712	11/1/05 14:15	13.57	11/2/05 2:00	10.834	11/2/05 14:15	12.775
11/1/05 2:15	10.59	11/1/05 14:30	13.594	11/2/05 2:15	10.761	11/2/05 14:30	12.847
11/1/05 2:30	10.516	11/1/05 14:45	13.618	11/2/05 2:30	10.712	11/2/05 14:45	12.896
11/1/05 2:45	10.418	11/1/05 15:00	13.642	11/2/05 2:45	10.638	11/2/05 15:00	12.92
11/1/05 3:00	10.345	11/1/05 15:15	13.618	11/2/05 3:00	10.59	11/2/05 15:15	12.944
11/1/05 3:15	10.247	11/1/05 15:30	13.57	11/2/05 3:15	10.516	11/2/05 15:30	12.968
11/1/05 3:30	10.198	11/1/05 15:45	13.497	11/2/05 3:30	10.467	11/2/05 15:45	12.944
11/1/05 3:45	10.124	11/1/05 16:00	13.425	11/2/05 3:45	10.418	11/2/05 16:00	12.92
11/1/05 4:00	10.051	11/1/05 16:15	13.377	11/2/05 4:00	10.345	11/2/05 16:15	12.896
11/1/05 4:15	10.001	11/1/05 16:30	13.329	11/2/05 4:15	10.296	11/2/05 16:30	12.847
11/1/05 4:30	9.952	11/1/05 16:45	13.329	11/2/05 4:30	10.247	11/2/05 16:45	12.823
11/1/05 4:45	9.903	11/1/05 17:00	13.329	11/2/05 4:45	10.198	11/2/05 17:00	12.799
11/1/05 5:00	9.854	11/1/05 17:15	13.305	11/2/05 5:00	10.149	11/2/05 17:15	12.727
11/1/05 5:15	9.805	11/1/05 17:30	13.257	11/2/05 5:15	10.1	11/2/05 17:30	12.654
11/1/05 5:30	9.756	11/1/05 17:45	13.209	11/2/05 5:30	10.051	11/2/05 17:45	12.606
11/1/05 5:45	9.706	11/1/05 18:00	13.161	11/2/05 5:45	10.026	11/2/05 18:00	12.558
11/1/05 6:00	9.682	11/1/05 18:15	13.088	11/2/05 6:00	9.977	11/2/05 18:15	12.485
11/1/05 6:15	9.632	11/1/05 18:30	12.992	11/2/05 6:15	9.928	11/2/05 18:30	12.413
11/1/05 6:30	9.583	11/1/05 18:45	12.944	11/2/05 6:30	9.903	11/2/05 18:45	12.364
11/1/05 6:45	9.509	11/1/05 19:00	12.896	11/2/05 6:45	9.854	11/2/05 19:00	12.316
11/1/05 7:00	9.46	11/1/05 19:15	12.823	11/2/05 7:00	9.829	11/2/05 19:15	12.292
11/1/05 7:15	9.435	11/1/05 19:30	12.751	11/2/05 7:15	9.805	11/2/05 19:30	12.243
11/1/05 7:30	9.386	11/1/05 19:45	12.678	11/2/05 7:30	9.78	11/2/05 19:45	12.219
11/1/05 7:45	9.361	11/1/05 20:00	12.606	11/2/05 7:45	9.78	11/2/05 20:00	12.171
11/1/05 8:00	9.336	11/1/05 20:15	12.558	11/2/05 8:00	9.805	11/2/05 20:15	12.147
11/1/05 8:15	9.336	11/1/05 20:30	12.509	11/2/05 8:15	9.829	11/2/05 20:30	12.098
11/1/05 8:30	9.361	11/1/05 20:45	12.437	11/2/05 8:30	9.879	11/2/05 20:45	12.05
11/1/05 8:45	9.361	11/1/05 21:00	12.364	11/2/05 8:45	9.952	11/2/05 21:00	12.001
11/1/05 9:00	9.41	11/1/05 21:15	12.292	11/2/05 9:00	10.051	11/2/05 21:15	11.953
11/1/05 9:15	-	11/1/05 21:30	12.219	11/2/05 9:15	10.173	11/2/05 21:30	11.929
11/1/05 9:30	-	11/1/05 21:45	12.171	11/2/05 9:30	10.271	11/2/05 21:45	11.88
11/1/05 9:45	-	11/1/05 22:00	12.098	11/2/05 9:45	10.443	11/2/05 22:00	11.832
11/1/05 10:00	-	11/1/05 22:15	12.025	11/2/05 10:00	10.59	11/2/05 22:15	11.783
11/1/05 10:15	-	11/1/05 22:30	11.953	11/2/05 10:15	10.712	11/2/05 22:30	11.734
11/1/05 10:30	-	11/1/05 22:45	11.88	11/2/05 10:30	10.858	11/2/05 22:45	11.686
11/1/05 10:45	-	11/1/05 23:00	11.783	11/2/05 10:45	11.029	11/2/05 23:00	11.637
11/1/05 11:00	-	11/1/05 23:15	11.71	11/2/05 11:00	11.2	11/2/05 23:15	11.589
11/1/05 11:15	-	11/1/05 23:30	11.637	11/2/05 11:15	11.37	11/2/05 23:30	11.516
11/1/05 11:30	-	11/1/05 23:45	11.565	11/2/05 11:30	11.54	11/2/05 23:45	11.467
11/1/05 11:45	-			11/2/05 11:45	11.686		
11/1/05 12:00	-			11/2/05 12:00	11.856		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/3/05 0:00	11.394	11/3/05 12:15	11.2	11/4/05 0:00	10.883	11/4/05 12:15	12.437
11/3/05 0:15	11.346	11/3/05 12:30	11.248	11/4/05 0:15	10.858	11/4/05 12:30	12.582
11/3/05 0:30	11.273	11/3/05 12:45	11.321	11/4/05 0:30	10.834	11/4/05 12:45	12.727
11/3/05 0:45	11.224	11/3/05 13:00	11.37	11/4/05 0:45	10.81	11/4/05 13:00	12.871
11/3/05 1:00	11.151	11/3/05 13:15	11.419	11/4/05 1:00	10.761	11/4/05 13:15	12.992
11/3/05 1:15	11.102	11/3/05 13:30	11.467	11/4/05 1:15	10.736	11/4/05 13:30	13.112
11/3/05 1:30	11.029	11/3/05 13:45	11.516	11/4/05 1:30	10.712	11/4/05 13:45	13.209
11/3/05 1:45	10.98	11/3/05 14:00	11.54	11/4/05 1:45	10.663	11/4/05 14:00	13.305
11/3/05 2:00	10.932	11/3/05 14:15	11.589	11/4/05 2:00	10.638	11/4/05 14:15	13.377
11/3/05 2:15	10.883	11/3/05 14:30	11.637	11/4/05 2:15	10.59	11/4/05 14:30	13.449
11/3/05 2:30	10.834	11/3/05 14:45	11.662	11/4/05 2:30	10.565	11/4/05 14:45	13.522
11/3/05 2:45	10.785	11/3/05 15:00	11.686	11/4/05 2:45	10.541	11/4/05 15:00	13.546
11/3/05 3:00	10.736	11/3/05 15:15	11.686	11/4/05 3:00	10.516	11/4/05 15:15	13.594
11/3/05 3:15	10.687	11/3/05 15:30	11.686	11/4/05 3:15	10.467	11/4/05 15:30	13.618
11/3/05 3:30	10.663	11/3/05 15:45	11.686	11/4/05 3:30	10.443	11/4/05 15:45	13.618
11/3/05 3:45	10.614	11/3/05 16:00	11.71	11/4/05 3:45	10.418	11/4/05 16:00	13.594
11/3/05 4:00	10.59	11/3/05 16:15	11.71	11/4/05 4:00	10.369	11/4/05 16:15	13.57
11/3/05 4:15	10.565	11/3/05 16:30	11.71	11/4/05 4:15	10.345	11/4/05 16:30	13.57
11/3/05 4:30	10.541	11/3/05 16:45	11.71	11/4/05 4:30	10.32	11/4/05 16:45	13.522
11/3/05 4:45	10.516	11/3/05 17:00	11.71	11/4/05 4:45	10.271	11/4/05 17:00	13.449
11/3/05 5:00	10.516	11/3/05 17:15	11.686	11/4/05 5:00	10.247	11/4/05 17:15	13.401
11/3/05 5:15	10.492	11/3/05 17:30	11.686	11/4/05 5:15	10.222	11/4/05 17:30	13.329
11/3/05 5:30	10.467	11/3/05 17:45	11.662	11/4/05 5:30	10.173	11/4/05 17:45	13.281
11/3/05 5:45	10.443	11/3/05 18:00	11.637	11/4/05 5:45	10.149	11/4/05 18:00	13.209
11/3/05 6:00	10.443	11/3/05 18:15	11.613	11/4/05 6:00	10.124	11/4/05 18:15	13.137
11/3/05 6:15	10.418	11/3/05 18:30	11.589	11/4/05 6:15	10.075	11/4/05 18:30	13.04
11/3/05 6:30	10.394	11/3/05 18:45	11.54	11/4/05 6:30	10.051	11/4/05 18:45	12.968
11/3/05 6:45	10.369	11/3/05 19:00	11.54	11/4/05 6:45	10.001	11/4/05 19:00	12.92
11/3/05 7:00	10.345	11/3/05 19:15	11.516	11/4/05 7:00	9.977	11/4/05 19:15	12.847
11/3/05 7:15	10.32	11/3/05 19:30	11.492	11/4/05 7:15	9.952	11/4/05 19:30	12.799
11/3/05 7:30	10.32	11/3/05 19:45	11.467	11/4/05 7:30	9.928	11/4/05 19:45	12.751
11/3/05 7:45	10.32	11/3/05 20:00	11.467	11/4/05 7:45	9.903	11/4/05 20:00	12.678
11/3/05 8:00	10.32	11/3/05 20:15	11.443	11/4/05 8:00	9.928	11/4/05 20:15	12.606
11/3/05 8:15	10.345	11/3/05 20:30	11.419	11/4/05 8:15	9.952	11/4/05 20:30	12.558
11/3/05 8:30	10.369	11/3/05 20:45	11.394	11/4/05 8:30	10.001	11/4/05 20:45	12.509
11/3/05 8:45	10.394	11/3/05 21:00	11.346	11/4/05 8:45	10.1	11/4/05 21:00	12.461
11/3/05 9:00	10.418	11/3/05 21:15	11.321	11/4/05 9:00	10.222	11/4/05 21:15	12.413
11/3/05 9:15	10.467	11/3/05 21:30	11.297	11/4/05 9:15	10.345	11/4/05 21:30	12.364
11/3/05 9:30	10.516	11/3/05 21:45	11.248	11/4/05 9:30	10.492	11/4/05 21:45	12.316
11/3/05 9:45	10.59	11/3/05 22:00	11.224	11/4/05 9:45	10.663	11/4/05 22:00	12.292
11/3/05 10:00	10.638	11/3/05 22:15	11.175	11/4/05 10:00	10.834	11/4/05 22:15	12.243
11/3/05 10:15	10.687	11/3/05 22:30	11.127	11/4/05 10:15	11.005	11/4/05 22:30	12.195
11/3/05 10:30	10.761	11/3/05 22:45	11.078	11/4/05 10:30	11.2	11/4/05 22:45	12.122
11/3/05 10:45	10.81	11/3/05 23:00	11.029	11/4/05 10:45	11.394	11/4/05 23:00	12.074
11/3/05 11:00	10.858	11/3/05 23:15	11.005	11/4/05 11:00	11.565	11/4/05 23:15	12.025
11/3/05 11:15	10.932	11/3/05 23:30	10.98	11/4/05 11:15	11.759	11/4/05 23:30	11.977
11/3/05 11:30	11.005	11/3/05 23:45	10.932	11/4/05 11:30	11.953	11/4/05 23:45	11.929
11/3/05 11:45	11.078			11/4/05 11:45	12.122		
11/3/05 12:00	11.151			11/4/05 12:00	12.292		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/5/05 0:00	11.856	11/5/05 12:15	12.558	11/6/05 0:00	11.175	11/6/05 12:15	11.88
11/5/05 0:15	11.807	11/5/05 12:30	12.678	11/6/05 0:15	11.127	11/6/05 12:30	12.001
11/5/05 0:30	11.759	11/5/05 12:45	12.799	11/6/05 0:30	11.078	11/6/05 12:45	12.147
11/5/05 0:45	11.686	11/5/05 13:00	12.896	11/6/05 0:45	11.005	11/6/05 13:00	12.268
11/5/05 1:00	11.637	11/5/05 13:15	13.016	11/6/05 1:00	10.956	11/6/05 13:15	12.389
11/5/05 1:15	11.589	11/5/05 13:30	13.112	11/6/05 1:15	10.907	11/6/05 13:30	12.485
11/5/05 1:30	11.565	11/5/05 13:45	13.185	11/6/05 1:30	10.858	11/6/05 13:45	12.582
11/5/05 1:45	11.516	11/5/05 14:00	13.281	11/6/05 1:45	10.785	11/6/05 14:00	12.654
11/5/05 2:00	11.467	11/5/05 14:15	13.353	11/6/05 2:00	10.761	11/6/05 14:15	12.727
11/5/05 2:15	11.443	11/5/05 14:30	13.401	11/6/05 2:15	10.712	11/6/05 14:30	12.775
11/5/05 2:30	11.394	11/5/05 14:45	13.449	11/6/05 2:30	10.687	11/6/05 14:45	12.823
11/5/05 2:45	11.37	11/5/05 15:00	13.473	11/6/05 2:45	10.638	11/6/05 15:00	12.847
11/5/05 3:00	11.297	11/5/05 15:15	13.473	11/6/05 3:00	10.614	11/6/05 15:15	12.847
11/5/05 3:15	11.273	11/5/05 15:30	13.473	11/6/05 3:15	10.59	11/6/05 15:30	12.847
11/5/05 3:30	11.224	11/5/05 15:45	13.425	11/6/05 3:30	10.541	11/6/05 15:45	12.847
11/5/05 3:45	11.175	11/5/05 16:00	13.377	11/6/05 3:45	10.492	11/6/05 16:00	12.847
11/5/05 4:00	11.151	11/5/05 16:15	13.329	11/6/05 4:00	10.443	11/6/05 16:15	12.823
11/5/05 4:15	11.102	11/5/05 16:30	13.281	11/6/05 4:15	10.394	11/6/05 16:30	12.751
11/5/05 4:30	11.053	11/5/05 16:45	13.209	11/6/05 4:30	10.345	11/6/05 16:45	12.703
11/5/05 4:45	11.029	11/5/05 17:00	13.112	11/6/05 4:45	10.271	11/6/05 17:00	12.654
11/5/05 5:00	10.98	11/5/05 17:15	13.016	11/6/05 5:00	10.222	11/6/05 17:15	12.582
11/5/05 5:15	10.932	11/5/05 17:30	12.944	11/6/05 5:15	10.173	11/6/05 17:30	12.534
11/5/05 5:30	10.883	11/5/05 17:45	12.847	11/6/05 5:30	10.124	11/6/05 17:45	12.485
11/5/05 5:45	10.858	11/5/05 18:00	12.751	11/6/05 5:45	10.075	11/6/05 18:00	12.413
11/5/05 6:00	10.81	11/5/05 18:15	12.678	11/6/05 6:00	10.051	11/6/05 18:15	12.364
11/5/05 6:15	10.761	11/5/05 18:30	12.606	11/6/05 6:15	10.001	11/6/05 18:30	12.292
11/5/05 6:30	10.712	11/5/05 18:45	12.534	11/6/05 6:30	9.952	11/6/05 18:45	12.219
11/5/05 6:45	10.663	11/5/05 19:00	12.437	11/6/05 6:45	9.928	11/6/05 19:00	12.147
11/5/05 7:00	10.614	11/5/05 19:15	12.364	11/6/05 7:00	9.879	11/6/05 19:15	12.098
11/5/05 7:15	10.565	11/5/05 19:30	12.268	11/6/05 7:15	9.854	11/6/05 19:30	12.025
11/5/05 7:30	10.516	11/5/05 19:45	12.195	11/6/05 7:30	9.829	11/6/05 19:45	11.953
11/5/05 7:45	10.492	11/5/05 20:00	12.122	11/6/05 7:45	9.78	11/6/05 20:00	11.904
11/5/05 8:00	10.492	11/5/05 20:15	12.05	11/6/05 8:00	9.78	11/6/05 20:15	11.832
11/5/05 8:15	10.492	11/5/05 20:30	11.977	11/6/05 8:15	9.805	11/6/05 20:30	11.783
11/5/05 8:30	10.565	11/5/05 20:45	11.929	11/6/05 8:30	9.854	11/6/05 20:45	11.759
11/5/05 8:45	10.638	11/5/05 21:00	11.88	11/6/05 8:45	9.903	11/6/05 21:00	11.71
11/5/05 9:00	10.736	11/5/05 21:15	11.783	11/6/05 9:00	9.977	11/6/05 21:15	11.662
11/5/05 9:15	10.834	11/5/05 21:30	11.734	11/6/05 9:15	10.075	11/6/05 21:30	11.613
11/5/05 9:30	10.956	11/5/05 21:45	11.686	11/6/05 9:30	10.198	11/6/05 21:45	11.565
11/5/05 9:45	11.102	11/5/05 22:00	11.637	11/6/05 9:45	10.32	11/6/05 22:00	11.54
11/5/05 10:00	11.248	11/5/05 22:15	11.589	11/6/05 10:00	10.443	11/6/05 22:15	11.516
11/5/05 10:15	11.394	11/5/05 22:30	11.516	11/6/05 10:15	10.565	11/6/05 22:30	11.492
11/5/05 10:30	11.565	11/5/05 22:45	11.467	11/6/05 10:30	10.712	11/6/05 22:45	11.492
11/5/05 10:45	11.71	11/5/05 23:00	11.394	11/6/05 10:45	10.883	11/6/05 23:00	11.492
11/5/05 11:00	11.856	11/5/05 23:15	11.346	11/6/05 11:00	11.053	11/6/05 23:15	11.467
11/5/05 11:15	12.001	11/5/05 23:30	11.297	11/6/05 11:15	11.224	11/6/05 23:30	11.443
11/5/05 11:30	12.147	11/5/05 23:45	11.248	11/6/05 11:30	11.394	11/6/05 23:45	11.394
11/5/05 11:45	12.268			11/6/05 11:45	11.565		
11/5/05 12:00	12.413			11/6/05 12:00	11.71		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/7/05 0:00	11.37	11/7/05 12:15	12.413	11/8/05 0:00	11.783	11/8/05 12:15	12.678
11/7/05 0:15	11.321	11/7/05 12:30	12.558	11/8/05 0:15	11.759	11/8/05 12:30	12.823
11/7/05 0:30	11.273	11/7/05 12:45	12.703	11/8/05 0:30	11.71	11/8/05 12:45	12.944
11/7/05 0:45	11.248	11/7/05 13:00	12.823	11/8/05 0:45	11.662	11/8/05 13:00	13.064
11/7/05 1:00	11.2	11/7/05 13:15	12.944	11/8/05 1:00	11.589	11/8/05 13:15	13.185
11/7/05 1:15	11.175	11/7/05 13:30	13.04	11/8/05 1:15	11.54	11/8/05 13:30	13.281
11/7/05 1:30	11.127	11/7/05 13:45	13.088	11/8/05 1:30	11.467	11/8/05 13:45	13.377
11/7/05 1:45	11.078	11/7/05 14:00	13.161	11/8/05 1:45	11.419	11/8/05 14:00	13.473
11/7/05 2:00	11.029	11/7/05 14:15	13.233	11/8/05 2:00	11.37	11/8/05 14:15	13.57
11/7/05 2:15	10.98	11/7/05 14:30	13.281	11/8/05 2:15	11.321	11/8/05 14:30	13.642
11/7/05 2:30	10.932	11/7/05 14:45	13.329	11/8/05 2:30	11.273	11/8/05 14:45	13.714
11/7/05 2:45	10.883	11/7/05 15:00	13.353	11/8/05 2:45	11.224	11/8/05 15:00	13.786
11/7/05 3:00	10.858	11/7/05 15:15	13.377	11/8/05 3:00	11.175	11/8/05 15:15	13.81
11/7/05 3:15	10.81	11/7/05 15:30	13.425	11/8/05 3:15	11.127	11/8/05 15:30	13.834
11/7/05 3:30	10.785	11/7/05 15:45	13.401	11/8/05 3:30	11.078	11/8/05 15:45	13.858
11/7/05 3:45	10.761	11/7/05 16:00	13.401	11/8/05 3:45	11.053	11/8/05 16:00	13.858
11/7/05 4:00	10.712	11/7/05 16:15	13.377	11/8/05 4:00	11.005	11/8/05 16:15	13.834
11/7/05 4:15	10.687	11/7/05 16:30	13.353	11/8/05 4:15	10.956	11/8/05 16:30	13.786
11/7/05 4:30	10.638	11/7/05 16:45	13.305	11/8/05 4:30	10.932	11/8/05 16:45	13.714
11/7/05 4:45	10.614	11/7/05 17:00	13.281	11/8/05 4:45	10.883	11/8/05 17:00	13.642
11/7/05 5:00	10.59	11/7/05 17:15	13.233	11/8/05 5:00	10.858	11/8/05 17:15	13.594
11/7/05 5:15	10.565	11/7/05 17:30	13.185	11/8/05 5:15	10.81	11/8/05 17:30	13.497
11/7/05 5:30	10.516	11/7/05 17:45	13.112	11/8/05 5:30	10.785	11/8/05 17:45	13.425
11/7/05 5:45	10.516	11/7/05 18:00	13.04	11/8/05 5:45	10.761	11/8/05 18:00	13.329
11/7/05 6:00	10.516	11/7/05 18:15	12.992	11/8/05 6:00	10.712	11/8/05 18:15	13.257
11/7/05 6:15	10.492	11/7/05 18:30	12.944	11/8/05 6:15	10.687	11/8/05 18:30	13.185
11/7/05 6:30	10.467	11/7/05 18:45	12.896	11/8/05 6:30	10.638	11/8/05 18:45	13.112
11/7/05 6:45	10.467	11/7/05 19:00	12.847	11/8/05 6:45	10.614	11/8/05 19:00	13.04
11/7/05 7:00	10.443	11/7/05 19:15	12.775	11/8/05 7:00	10.59	11/8/05 19:15	12.944
11/7/05 7:15	10.443	11/7/05 19:30	12.727	11/8/05 7:15	10.565	11/8/05 19:30	12.871
11/7/05 7:30	10.418	11/7/05 19:45	12.678	11/8/05 7:30	10.541	11/8/05 19:45	12.799
11/7/05 7:45	10.418	11/7/05 20:00	12.63	11/8/05 7:45	10.541	11/8/05 20:00	12.727
11/7/05 8:00	10.394	11/7/05 20:15	12.582	11/8/05 8:00	10.541	11/8/05 20:15	12.654
11/7/05 8:15	10.394	11/7/05 20:30	12.534	11/8/05 8:15	10.565	11/8/05 20:30	12.606
11/7/05 8:30	10.418	11/7/05 20:45	12.485	11/8/05 8:30	10.614	11/8/05 20:45	12.558
11/7/05 8:45	10.467	11/7/05 21:00	12.437	11/8/05 8:45	10.712	11/8/05 21:00	12.485
11/7/05 9:00	10.516	11/7/05 21:15	12.389	11/8/05 9:00	10.81	11/8/05 21:15	12.437
11/7/05 9:15	10.59	11/7/05 21:30	12.34	11/8/05 9:15	10.907	11/8/05 21:30	12.364
11/7/05 9:30	10.687	11/7/05 21:45	12.268	11/8/05 9:30	11.053	11/8/05 21:45	12.316
11/7/05 9:45	10.834	11/7/05 22:00	12.243	11/8/05 9:45	11.2	11/8/05 22:00	12.268
11/7/05 10:00	10.956	11/7/05 22:15	12.195	11/8/05 10:00	11.37	11/8/05 22:15	12.195
11/7/05 10:15	11.102	11/7/05 22:30	12.147	11/8/05 10:15	11.516	11/8/05 22:30	12.122
11/7/05 10:30	11.273	11/7/05 22:45	12.074	11/8/05 10:30	11.662	11/8/05 22:45	12.074
11/7/05 10:45	11.443	11/7/05 23:00	12.025	11/8/05 10:45	11.832	11/8/05 23:00	12.025
11/7/05 11:00	11.613	11/7/05 23:15	11.953	11/8/05 11:00	12.001	11/8/05 23:15	11.977
11/7/05 11:15	11.759	11/7/05 23:30	11.904	11/8/05 11:15	12.147	11/8/05 23:30	11.904
11/7/05 11:30	11.929	11/7/05 23:45	11.832	11/8/05 11:30	12.292	11/8/05 23:45	11.832
11/7/05 11:45	12.098			11/8/05 11:45	12.461		
11/7/05 12:00	12.268			11/8/05 12:00	12.582		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/9/05 0:00	11.783	11/9/05 12:15	11.807	11/10/05 0:00	11.443	11/10/05 12:15	12.63
11/9/05 0:15	11.734	11/9/05 12:30	11.929	11/10/05 0:15	11.394	11/10/05 12:30	12.775
11/9/05 0:30	11.686	11/9/05 12:45	12.05	11/10/05 0:30	11.37	11/10/05 12:45	12.896
11/9/05 0:45	11.637	11/9/05 13:00	12.195	11/10/05 0:45	11.321	11/10/05 13:00	13.04
11/9/05 1:00	11.613	11/9/05 13:15	12.316	11/10/05 1:00	11.297	11/10/05 13:15	13.161
11/9/05 1:15	11.565	11/9/05 13:30	12.437	11/10/05 1:15	11.273	11/10/05 13:30	13.257
11/9/05 1:30	11.516	11/9/05 13:45	12.534	11/10/05 1:30	11.248	11/10/05 13:45	13.353
11/9/05 1:45	11.467	11/9/05 14:00	12.606	11/10/05 1:45	11.2	11/10/05 14:00	13.449
11/9/05 2:00	11.419	11/9/05 14:15	12.678	11/10/05 2:00	11.175	11/10/05 14:15	13.522
11/9/05 2:15	11.394	11/9/05 14:30	12.727	11/10/05 2:15	11.127	11/10/05 14:30	13.57
11/9/05 2:30	11.346	11/9/05 14:45	12.775	11/10/05 2:30	11.102	11/10/05 14:45	13.618
11/9/05 2:45	11.297	11/9/05 15:00	12.847	11/10/05 2:45	11.078	11/10/05 15:00	13.666
11/9/05 3:00	11.248	11/9/05 15:15	12.896	11/10/05 3:00	11.053	11/10/05 15:15	13.69
11/9/05 3:15	11.224	11/9/05 15:30	12.896	11/10/05 3:15	11.005	11/10/05 15:30	13.714
11/9/05 3:30	11.175	11/9/05 15:45	12.944	11/10/05 3:30	10.98	11/10/05 15:45	13.714
11/9/05 3:45	11.127	11/9/05 16:00	12.944	11/10/05 3:45	10.956	11/10/05 16:00	13.714
11/9/05 4:00	11.102	11/9/05 16:15	12.92	11/10/05 4:00	10.932	11/10/05 16:15	13.69
11/9/05 4:15	11.029	11/9/05 16:30	12.896	11/10/05 4:15	10.883	11/10/05 16:30	13.642
11/9/05 4:30	11.005	11/9/05 16:45	12.871	11/10/05 4:30	10.858	11/10/05 16:45	13.594
11/9/05 4:45	10.956	11/9/05 17:00	12.823	11/10/05 4:45	10.834	11/10/05 17:00	13.546
11/9/05 5:00	10.932	11/9/05 17:15	12.775	11/10/05 5:00	10.81	11/10/05 17:15	13.497
11/9/05 5:15	10.883	11/9/05 17:30	12.727	11/10/05 5:15	10.761	11/10/05 17:30	13.425
11/9/05 5:30	10.834	11/9/05 17:45	12.654	11/10/05 5:30	10.736	11/10/05 17:45	13.377
11/9/05 5:45	10.81	11/9/05 18:00	12.582	11/10/05 5:45	10.712	11/10/05 18:00	13.305
11/9/05 6:00	10.761	11/9/05 18:15	12.534	11/10/05 6:00	10.687	11/10/05 18:15	13.257
11/9/05 6:15	10.736	11/9/05 18:30	12.461	11/10/05 6:15	10.663	11/10/05 18:30	13.185
11/9/05 6:30	10.687	11/9/05 18:45	12.413	11/10/05 6:30	10.638	11/10/05 18:45	13.137
11/9/05 6:45	10.663	11/9/05 19:00	12.364	11/10/05 6:45	10.59	11/10/05 19:00	13.088
11/9/05 7:00	10.614	11/9/05 19:15	12.316	11/10/05 7:00	10.565	11/10/05 19:15	13.04
11/9/05 7:15	10.59	11/9/05 19:30	12.268	11/10/05 7:15	10.565	11/10/05 19:30	12.992
11/9/05 7:30	10.565	11/9/05 19:45	12.219	11/10/05 7:30	10.541	11/10/05 19:45	12.944
11/9/05 7:45	10.541	11/9/05 20:00	12.171	11/10/05 7:45	10.516	11/10/05 20:00	12.896
11/9/05 8:00	10.541	11/9/05 20:15	12.122	11/10/05 8:00	10.516	11/10/05 20:15	12.847
11/9/05 8:15	10.541	11/9/05 20:30	12.074	11/10/05 8:15	10.541	11/10/05 20:30	12.799
11/9/05 8:30	10.565	11/9/05 20:45	12.025	11/10/05 8:30	10.59	11/10/05 20:45	12.751
11/9/05 8:45	10.59	11/9/05 21:00	11.977	11/10/05 8:45	10.638	11/10/05 21:00	12.703
11/9/05 9:00	10.638	11/9/05 21:15	11.929	11/10/05 9:00	10.736	11/10/05 21:15	12.654
11/9/05 9:15	10.663	11/9/05 21:30	11.88	11/10/05 9:15	10.834	11/10/05 21:30	12.63
11/9/05 9:30	10.736	11/9/05 21:45	11.832	11/10/05 9:30	10.956	11/10/05 21:45	12.606
11/9/05 9:45	10.81	11/9/05 22:00	11.807	11/10/05 9:45	11.102	11/10/05 22:00	12.558
11/9/05 10:00	10.858	11/9/05 22:15	11.734	11/10/05 10:00	11.224	11/10/05 22:15	12.534
11/9/05 10:15	10.956	11/9/05 22:30	11.71	11/10/05 10:15	11.394	11/10/05 22:30	12.485
11/9/05 10:30	11.053	11/9/05 22:45	11.662	11/10/05 10:30	11.54	11/10/05 22:45	12.461
11/9/05 10:45	11.151	11/9/05 23:00	11.613	11/10/05 10:45	11.686	11/10/05 23:00	12.413
11/9/05 11:00	11.273	11/9/05 23:15	11.589	11/10/05 11:00	11.832	11/10/05 23:15	12.389
11/9/05 11:15	11.394	11/9/05 23:30	11.54	11/10/05 11:15	12.001	11/10/05 23:30	12.34
11/9/05 11:30	11.516	11/9/05 23:45	11.492	11/10/05 11:30	12.171	11/10/05 23:45	12.316
11/9/05 11:45	11.637			11/10/05 11:45	12.316		
11/9/05 12:00	11.71			11/10/05 12:00	12.461		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/11/05 0:00	12.268	11/11/05 12:15	13.281	11/12/05 0:00	11.637	11/12/05 12:15	12.364
11/11/05 0:15	12.243	11/11/05 12:30	13.425	11/12/05 0:15	11.565	11/12/05 12:30	12.485
11/11/05 0:30	12.195	11/11/05 12:45	13.57	11/12/05 0:30	11.516	11/12/05 12:45	12.582
11/11/05 0:45	12.171	11/11/05 13:00	13.69	11/12/05 0:45	11.467	11/12/05 13:00	12.703
11/11/05 1:00	12.122	11/11/05 13:15	13.762	11/12/05 1:00	11.443	11/12/05 13:15	12.799
11/11/05 1:15	12.074	11/11/05 13:30	13.834	11/12/05 1:15	11.394	11/12/05 13:30	12.871
11/11/05 1:30	12.025	11/11/05 13:45	13.858	11/12/05 1:30	11.346	11/12/05 13:45	12.968
11/11/05 1:45	12.001	11/11/05 14:00	13.858	11/12/05 1:45	11.297	11/12/05 14:00	13.016
11/11/05 2:00	11.977	11/11/05 14:15	13.858	11/12/05 2:00	11.273	11/12/05 14:15	13.088
11/11/05 2:15	11.929	11/11/05 14:30	13.858	11/12/05 2:15	11.248	11/12/05 14:30	13.112
11/11/05 2:30	11.904	11/11/05 14:45	13.858	11/12/05 2:30	11.224	11/12/05 14:45	13.161
11/11/05 2:45	11.88	11/11/05 15:00	13.81	11/12/05 2:45	11.2	11/12/05 15:00	13.185
11/11/05 3:00	11.832	11/11/05 15:15	13.762	11/12/05 3:00	11.151	11/12/05 15:15	13.185
11/11/05 3:15	11.807	11/11/05 15:30	13.762	11/12/05 3:15	11.102	11/12/05 15:30	13.161
11/11/05 3:30	11.783	11/11/05 15:45	13.762	11/12/05 3:30	11.053	11/12/05 15:45	13.137
11/11/05 3:45	11.783	11/11/05 16:00	13.714	11/12/05 3:45	11.029	11/12/05 16:00	13.112
11/11/05 4:00	11.759	11/11/05 16:15	13.642	11/12/05 4:00	10.98	11/12/05 16:15	13.088
11/11/05 4:15	11.734	11/11/05 16:30	13.57	11/12/05 4:15	10.932	11/12/05 16:30	13.04
11/11/05 4:30	11.734	11/11/05 16:45	13.473	11/12/05 4:30	10.883	11/12/05 16:45	12.992
11/11/05 4:45	11.734	11/11/05 17:00	13.377	11/12/05 4:45	10.858	11/12/05 17:00	12.92
11/11/05 5:00	11.71	11/11/05 17:15	13.305	11/12/05 5:00	10.81	11/12/05 17:15	12.847
11/11/05 5:15	11.71	11/11/05 17:30	13.233	11/12/05 5:15	10.761	11/12/05 17:30	12.775
11/11/05 5:30	11.71	11/11/05 17:45	13.161	11/12/05 5:30	10.736	11/12/05 17:45	12.727
11/11/05 5:45	11.686	11/11/05 18:00	13.088	11/12/05 5:45	10.663	11/12/05 18:00	12.654
11/11/05 6:00	11.71	11/11/05 18:15	13.016	11/12/05 6:00	10.638	11/12/05 18:15	12.582
11/11/05 6:15	11.71	11/11/05 18:30	12.944	11/12/05 6:15	10.614	11/12/05 18:30	12.509
11/11/05 6:30	11.71	11/11/05 18:45	12.871	11/12/05 6:30	10.565	11/12/05 18:45	12.437
11/11/05 6:45	11.71	11/11/05 19:00	12.823	11/12/05 6:45	10.516	11/12/05 19:00	12.364
11/11/05 7:00	11.71	11/11/05 19:15	12.751	11/12/05 7:00	10.492	11/12/05 19:15	12.316
11/11/05 7:15	11.71	11/11/05 19:30	12.703	11/12/05 7:15	10.443	11/12/05 19:30	12.243
11/11/05 7:30	11.734	11/11/05 19:45	12.654	11/12/05 7:30	10.418	11/12/05 19:45	12.195
11/11/05 7:45	11.759	11/11/05 20:00	12.582	11/12/05 7:45	10.394	11/12/05 20:00	12.171
11/11/05 8:00	11.783	11/11/05 20:15	12.509	11/12/05 8:00	10.345	11/12/05 20:15	12.098
11/11/05 8:15	11.807	11/11/05 20:30	12.485	11/12/05 8:15	10.345	11/12/05 20:30	12.05
11/11/05 8:30	11.832	11/11/05 20:45	12.461	11/12/05 8:30	10.369	11/12/05 20:45	12.001
11/11/05 8:45	11.88	11/11/05 21:00	12.389	11/12/05 8:45	10.443	11/12/05 21:00	11.929
11/11/05 9:00	11.929	11/11/05 21:15	12.34	11/12/05 9:00	10.541	11/12/05 21:15	11.88
11/11/05 9:15	12.001	11/11/05 21:30	12.268	11/12/05 9:15	10.638	11/12/05 21:30	11.807
11/11/05 9:30	12.074	11/11/05 21:45	12.219	11/12/05 9:30	10.761	11/12/05 21:45	11.759
11/11/05 9:45	12.147	11/11/05 22:00	12.147	11/12/05 9:45	10.907	11/12/05 22:00	11.71
11/11/05 10:00	12.243	11/11/05 22:15	12.074	11/12/05 10:00	11.053	11/12/05 22:15	11.662
11/11/05 10:15	12.316	11/11/05 22:30	12.001	11/12/05 10:15	11.175	11/12/05 22:30	11.613
11/11/05 10:30	12.389	11/11/05 22:45	11.929	11/12/05 10:30	11.346	11/12/05 22:45	11.589
11/11/05 10:45	12.461	11/11/05 23:00	11.856	11/12/05 10:45	11.492	11/12/05 23:00	11.54
11/11/05 11:00	12.582	11/11/05 23:15	11.783	11/12/05 11:00	11.637	11/12/05 23:15	11.492
11/11/05 11:15	12.703	11/11/05 23:30	11.734	11/12/05 11:15	11.783	11/12/05 23:30	11.443
11/11/05 11:30	12.847	11/11/05 23:45	11.686	11/12/05 11:30	11.929	11/12/05 23:45	11.394
11/11/05 11:45	13.016			11/12/05 11:45	12.074		
11/11/05 12:00	13.161			11/12/05 12:00	12.219		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/13/05 0:00	11.346	11/13/05 12:15	12.05	11/14/05 0:00	10.858	11/14/05 12:15	11.321
11/13/05 0:15	11.321	11/13/05 12:30	12.195	11/14/05 0:15	10.81	11/14/05 12:30	11.443
11/13/05 0:30	11.273	11/13/05 12:45	12.316	11/14/05 0:30	10.736	11/14/05 12:45	11.613
11/13/05 0:45	11.224	11/13/05 13:00	12.413	11/14/05 0:45	10.712	11/14/05 13:00	11.734
11/13/05 1:00	11.151	11/13/05 13:15	12.534	11/14/05 1:00	10.687	11/14/05 13:15	11.856
11/13/05 1:15	11.127	11/13/05 13:30	12.63	11/14/05 1:15	10.663	11/14/05 13:30	11.953
11/13/05 1:30	11.078	11/13/05 13:45	12.727	11/14/05 1:30	10.614	11/14/05 13:45	12.074
11/13/05 1:45	11.029	11/13/05 14:00	12.799	11/14/05 1:45	10.565	11/14/05 14:00	12.147
11/13/05 2:00	11.005	11/13/05 14:15	12.847	11/14/05 2:00	10.516	11/14/05 14:15	12.219
11/13/05 2:15	10.98	11/13/05 14:30	12.896	11/14/05 2:15	10.467	11/14/05 14:30	12.268
11/13/05 2:30	10.932	11/13/05 14:45	12.944	11/14/05 2:30	10.418	11/14/05 14:45	12.292
11/13/05 2:45	10.907	11/13/05 15:00	12.968	11/14/05 2:45	10.369	11/14/05 15:00	12.316
11/13/05 3:00	10.883	11/13/05 15:15	12.968	11/14/05 3:00	10.32	11/14/05 15:15	12.34
11/13/05 3:15	10.834	11/13/05 15:30	12.968	11/14/05 3:15	10.247	11/14/05 15:30	12.34
11/13/05 3:30	10.81	11/13/05 15:45	12.968	11/14/05 3:30	10.198	11/14/05 15:45	12.34
11/13/05 3:45	10.736	11/13/05 16:00	12.944	11/14/05 3:45	10.149	11/14/05 16:00	12.316
11/13/05 4:00	10.687	11/13/05 16:15	12.92	11/14/05 4:00	10.1	11/14/05 16:15	12.292
11/13/05 4:15	10.638	11/13/05 16:30	12.847	11/14/05 4:15	10.051	11/14/05 16:30	12.268
11/13/05 4:30	10.565	11/13/05 16:45	12.775	11/14/05 4:30	9.977	11/14/05 16:45	12.243
11/13/05 4:45	10.492	11/13/05 17:00	12.703	11/14/05 4:45	9.928	11/14/05 17:00	12.195
11/13/05 5:00	10.443	11/13/05 17:15	12.606	11/14/05 5:00	9.903	11/14/05 17:15	12.122
11/13/05 5:15	10.418	11/13/05 17:30	12.534	11/14/05 5:15	9.854	11/14/05 17:30	12.074
11/13/05 5:30	10.394	11/13/05 17:45	12.461	11/14/05 5:30	9.829	11/14/05 17:45	12.025
11/13/05 5:45	10.369	11/13/05 18:00	12.389	11/14/05 5:45	9.756	11/14/05 18:00	11.953
11/13/05 6:00	10.345	11/13/05 18:15	12.292	11/14/05 6:00	9.731	11/14/05 18:15	11.904
11/13/05 6:15	10.32	11/13/05 18:30	12.219	11/14/05 6:15	9.706	11/14/05 18:30	11.856
11/13/05 6:30	10.271	11/13/05 18:45	12.122	11/14/05 6:30	9.657	11/14/05 18:45	11.783
11/13/05 6:45	10.222	11/13/05 19:00	12.05	11/14/05 6:45	9.583	11/14/05 19:00	11.734
11/13/05 7:00	10.198	11/13/05 19:15	11.977	11/14/05 7:00	9.558	11/14/05 19:15	11.662
11/13/05 7:15	10.173	11/13/05 19:30	11.929	11/14/05 7:15	9.509	11/14/05 19:30	11.637
11/13/05 7:30	10.124	11/13/05 19:45	11.856	11/14/05 7:30	9.485	11/14/05 19:45	11.589
11/13/05 7:45	10.1	11/13/05 20:00	11.807	11/14/05 7:45	9.46	11/14/05 20:00	11.54
11/13/05 8:00	10.1	11/13/05 20:15	11.759	11/14/05 8:00	9.46	11/14/05 20:15	11.516
11/13/05 8:15	10.1	11/13/05 20:30	11.71	11/14/05 8:15	9.435	11/14/05 20:30	11.492
11/13/05 8:30	10.124	11/13/05 20:45	11.662	11/14/05 8:30	9.46	11/14/05 20:45	11.467
11/13/05 8:45	10.173	11/13/05 21:00	11.589	11/14/05 8:45	9.534	11/14/05 21:00	11.443
11/13/05 9:00	10.271	11/13/05 21:15	11.516	11/14/05 9:00	9.608	11/14/05 21:15	11.394
11/13/05 9:15	10.369	11/13/05 21:30	11.443	11/14/05 9:15	9.706	11/14/05 21:30	11.346
11/13/05 9:30	10.492	11/13/05 21:45	11.394	11/14/05 9:30	9.829	11/14/05 21:45	11.321
11/13/05 9:45	10.614	11/13/05 22:00	11.346	11/14/05 9:45	9.952	11/14/05 22:00	11.297
11/13/05 10:00	10.736	11/13/05 22:15	11.273	11/14/05 10:00	10.075	11/14/05 22:15	11.248
11/13/05 10:15	10.883	11/13/05 22:30	11.224	11/14/05 10:15	10.222	11/14/05 22:30	11.224
11/13/05 10:30	11.029	11/13/05 22:45	11.151	11/14/05 10:30	10.345	11/14/05 22:45	11.2
11/13/05 10:45	11.175	11/13/05 23:00	11.078	11/14/05 10:45	10.492	11/14/05 23:00	11.151
11/13/05 11:00	11.297	11/13/05 23:15	11.029	11/14/05 11:00	10.638	11/14/05 23:15	11.102
11/13/05 11:15	11.467	11/13/05 23:30	10.98	11/14/05 11:15	10.785	11/14/05 23:30	11.053
11/13/05 11:30	11.613	11/13/05 23:45	10.907	11/14/05 11:30	10.907	11/14/05 23:45	11.005
11/13/05 11:45	11.759			11/14/05 11:45	11.029		
11/13/05 12:00	11.904			11/14/05 12:00	11.175		

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11/15/05 0:15	10.907	11/15/05 12:30	11.297	11/16/05 0:15	8.941	11/16/05 12:30	8.99
11/15/05 0:30	10.858	11/15/05 12:45	11.394	11/16/05 0:30	8.866	11/16/05 12:45	9.139
11/15/05 0:45	10.81	11/15/05 13:00	11.467	11/16/05 0:45	8.792	11/16/05 13:00	9.238
11/15/05 1:00	10.761	11/15/05 13:15	11.54	11/16/05 1:00	8.742	11/16/05 13:15	9.336
11/15/05 1:15	10.712	11/15/05 13:30	11.613	11/16/05 1:15	8.668	11/16/05 13:30	9.41
11/15/05 1:30	10.638	11/15/05 13:45	11.662	11/16/05 1:30	8.593	11/16/05 13:45	9.509
11/15/05 1:45	10.59	11/15/05 14:00	11.686	11/16/05 1:45	8.519	11/16/05 14:00	9.583
11/15/05 2:00	10.565	11/15/05 14:15	11.71	11/16/05 2:00	8.444	11/16/05 14:15	9.632
11/15/05 2:15	10.516	11/15/05 14:30	11.734	11/16/05 2:15	8.369	11/16/05 14:30	9.682
11/15/05 2:30	10.492	11/15/05 14:45	11.734	11/16/05 2:30	8.319	11/16/05 14:45	9.706
11/15/05 2:45	10.467	11/15/05 15:00	11.734	11/16/05 2:45	8.245	11/16/05 15:00	9.706
11/15/05 3:00	10.443	11/15/05 15:15	11.71	11/16/05 3:00	8.195	11/16/05 15:15	9.682
11/15/05 3:15	10.443	11/15/05 15:30	11.662	11/16/05 3:15	8.12	11/16/05 15:30	9.657
11/15/05 3:30	10.418	11/15/05 15:45	11.613	11/16/05 3:30	8.045	11/16/05 15:45	9.632
11/15/05 3:45	10.369	11/15/05 16:00	11.565	11/16/05 3:45	7.995	11/16/05 16:00	9.583
11/15/05 4:00	10.345	11/15/05 16:15	11.467	11/16/05 4:00	7.92	11/16/05 16:15	9.509
11/15/05 4:15	10.32	11/15/05 16:30	11.394	11/16/05 4:15	7.87	11/16/05 16:30	9.435
11/15/05 4:30	10.271	11/15/05 16:45	11.297	11/16/05 4:30	7.82	11/16/05 16:45	9.361
11/15/05 4:45	10.222	11/15/05 17:00	11.2	11/16/05 4:45	7.745	11/16/05 17:00	9.287
11/15/05 5:00	10.173	11/15/05 17:15	11.127	11/16/05 5:00	7.695	11/16/05 17:15	9.213
11/15/05 5:15	10.124	11/15/05 17:30	11.005	11/16/05 5:15	7.645	11/16/05 17:30	9.114
11/15/05 5:30	10.1	11/15/05 17:45	10.907	11/16/05 5:30	7.569	11/16/05 17:45	9.015
11/15/05 5:45	10.075	11/15/05 18:00	10.834	11/16/05 5:45	7.519	11/16/05 18:00	8.941
11/15/05 6:00	10.026	11/15/05 18:15	10.736	11/16/05 6:00	7.469	11/16/05 18:15	8.841
11/15/05 6:15	10.001	11/15/05 18:30	10.638	11/16/05 6:15	7.393	11/16/05 18:30	8.767
11/15/05 6:30	9.952	11/15/05 18:45	10.565	11/16/05 6:30	7.343	11/16/05 18:45	8.693
11/15/05 6:45	9.928	11/15/05 19:00	10.492	11/16/05 6:45	7.293	11/16/05 19:00	8.593
11/15/05 7:00	9.879	11/15/05 19:15	10.418	11/16/05 7:00	7.242	11/16/05 19:15	8.543
11/15/05 7:15	9.829	11/15/05 19:30	10.345	11/16/05 7:15	7.192	11/16/05 19:30	8.469
11/15/05 7:30	9.805	11/15/05 19:45	10.271	11/16/05 7:30	7.142	11/16/05 19:45	8.394
11/15/05 7:45	9.78	11/15/05 20:00	10.198	11/16/05 7:45	7.091	11/16/05 20:00	8.295
11/15/05 8:00	9.756	11/15/05 20:15	10.124	11/16/05 8:00	7.066	11/16/05 20:15	8.245
11/15/05 8:15	9.731	11/15/05 20:30	10.051	11/16/05 8:15	7.041	11/16/05 20:30	8.17
11/15/05 8:30	9.706	11/15/05 20:45	9.977	11/16/05 8:30	7.041	11/16/05 20:45	8.095
11/15/05 8:45	9.731	11/15/05 21:00	9.903	11/16/05 8:45	7.091	11/16/05 21:00	8.02
11/15/05 9:00	9.78	11/15/05 21:15	9.829	11/16/05 9:00	7.142	11/16/05 21:15	7.945
11/15/05 9:15	9.829	11/15/05 21:30	9.756	11/16/05 9:15	7.242	11/16/05 21:30	7.87
11/15/05 9:30	9.903	11/15/05 21:45	9.682	11/16/05 9:30	7.318	11/16/05 21:45	7.82
11/15/05 9:45	10.001	11/15/05 22:00	9.632	11/16/05 9:45	7.444	11/16/05 22:00	7.745
11/15/05 10:00	10.1	11/15/05 22:15	9.558	11/16/05 10:00	7.594	11/16/05 22:15	7.695
11/15/05 10:15	10.222	11/15/05 22:30	9.485	11/16/05 10:15	7.72	11/16/05 22:30	7.645
11/15/05 10:30	10.32	11/15/05 22:45	9.386	11/16/05 10:30	7.87	11/16/05 22:45	7.569
11/15/05 10:45	10.467	11/15/05 23:00	9.312	11/16/05 10:45	8.02	11/16/05 23:00	7.519
11/15/05 11:00	10.59	11/15/05 23:15	9.238	11/16/05 11:00	8.17	11/16/05 23:15	7.469
11/15/05 11:15	10.736	11/15/05 23:30	9.163	11/16/05 11:15	8.319	11/16/05 23:30	7.419
11/15/05 11:30	10.858	11/15/05 23:45	9.114	11/16/05 11:30	8.469	11/16/05 23:45	7.343
11/15/05 11:45	11.005			11/16/05 11:45	8.618		
11/15/05 12:00	11.102			11/16/05 12:00	8.767		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
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11/17/05 0:15	7.242	11/17/05 12:30	-	11/18/2005 0:15	7.142	11/18/2005 12:30	8.419
11/17/05 0:30	7.192	11/17/05 12:45	-	11/18/2005 0:30	7.116	11/18/2005 12:45	8.519
11/17/05 0:45	7.142	11/17/05 13:00	-	11/18/2005 0:45	7.116	11/18/2005 13:00	8.618
11/17/05 1:00	7.091	11/17/05 13:15	-	11/18/2005 1:00	7.116	11/18/2005 13:15	8.717
11/17/05 1:15	7.041	11/17/05 13:30	-	11/18/2005 1:15	7.091	11/18/2005 13:30	8.792
11/17/05 1:30	6.99	11/17/05 13:45	-	11/18/2005 1:30	7.091	11/18/2005 13:45	8.841
11/17/05 1:45	6.94	11/17/05 14:00	-	11/18/2005 1:45	7.091	11/18/2005 14:00	8.916
11/17/05 2:00	6.914	11/17/05 14:15	-	11/18/2005 2:00	7.066	11/18/2005 14:15	8.941
11/17/05 2:15	6.864	11/17/05 14:30	-	11/18/2005 2:15	7.066	11/18/2005 14:30	8.99
11/17/05 2:30	6.839	11/17/05 14:45	-	11/18/2005 2:30	7.041	11/18/2005 14:45	9.015
11/17/05 2:45	6.788	11/17/05 15:00	8.618	11/18/2005 2:45	7.066	11/18/2005 15:00	9.04
11/17/05 3:00	6.737	11/17/05 15:15	8.643	11/18/2005 3:00	7.066	11/18/2005 15:15	9.04
11/17/05 3:15	6.687	11/17/05 15:30	8.643	11/18/2005 3:15	7.091	11/18/2005 15:30	9.04
11/17/05 3:30	6.661	11/17/05 15:45	8.618	11/18/2005 3:30	7.091	11/18/2005 15:45	9.015
11/17/05 3:45	6.611	11/17/05 16:00	8.593	11/18/2005 3:45	7.116	11/18/2005 16:00	8.99
11/17/05 4:00	6.585	11/17/05 16:15	8.568	11/18/2005 4:00	7.116	11/18/2005 16:15	8.941
11/17/05 4:15	6.535	11/17/05 16:30	8.543	11/18/2005 4:15	7.091	11/18/2005 16:30	8.916
11/17/05 4:30	6.509	11/17/05 16:45	8.494	11/18/2005 4:30	7.116	11/18/2005 16:45	8.841
11/17/05 4:45	6.458	11/17/05 17:00	8.419	11/18/2005 4:45	7.116	11/18/2005 17:00	8.792
11/17/05 5:00	6.433	11/17/05 17:15	8.369	11/18/2005 5:00	7.116	11/18/2005 17:15	8.693
11/17/05 5:15	6.382	11/17/05 17:30	8.319	11/18/2005 5:15	7.091	11/18/2005 17:30	8.643
11/17/05 5:30	6.357	11/17/05 17:45	8.245	11/18/2005 5:30	7.091	11/18/2005 17:45	8.568
11/17/05 5:45	6.306	11/17/05 18:00	8.195	11/18/2005 5:45	7.066	11/18/2005 18:00	8.519
11/17/05 6:00	6.255	11/17/05 18:15	8.12	11/18/2005 6:00	7.041	11/18/2005 18:15	8.444
11/17/05 6:15	6.23	11/17/05 18:30	8.07	11/18/2005 6:15	7.015	11/18/2005 18:30	8.394
11/17/05 6:30	6.179	11/17/05 18:45	8.02	11/18/2005 6:30	6.99	11/18/2005 18:45	8.344
11/17/05 6:45	6.153	11/17/05 19:00	7.97	11/18/2005 6:45	6.965	11/18/2005 19:00	8.295
11/17/05 7:00	6.128	11/17/05 19:15	7.92	11/18/2005 7:00	6.94	11/18/2005 19:15	8.245
11/17/05 7:15	6.077	11/17/05 19:30	7.845	11/18/2005 7:15	6.889	11/18/2005 19:30	8.17
11/17/05 7:30	6.051	11/17/05 19:45	7.795	11/18/2005 7:30	6.839	11/18/2005 19:45	8.12
11/17/05 7:45	6.026	11/17/05 20:00	7.745	11/18/2005 7:45	6.813	11/18/2005 20:00	8.07
11/17/05 8:00	6	11/17/05 20:15	7.695	11/18/2005 8:00	6.788	11/18/2005 20:15	8.02
11/17/05 8:15	5.975	11/17/05 20:30	7.645	11/18/2005 8:15	6.763	11/18/2005 20:30	7.97
11/17/05 8:30	5.975	11/17/05 20:45	7.594	11/18/2005 8:30	6.788	11/18/2005 20:45	7.92
11/17/05 8:45	6.026	11/17/05 21:00	7.544	11/18/2005 8:45	6.813	11/18/2005 21:00	7.895
11/17/05 9:00	6.102	11/17/05 21:15	7.494	11/18/2005 9:00	6.864	11/18/2005 21:15	7.845
11/17/05 9:15	6.179	11/17/05 21:30	7.469	11/18/2005 9:15	6.94	11/18/2005 21:30	7.795
11/17/05 9:30	6.281	11/17/05 21:45	7.419	11/18/2005 9:30	7.015	11/18/2005 21:45	7.77
11/17/05 9:45	6.382	11/17/05 22:00	7.393	11/18/2005 9:45	7.116	11/18/2005 22:00	7.745
11/17/05 10:00	-	11/17/05 22:15	7.368	11/18/2005 10:00	7.217	11/18/2005 22:15	7.695
11/17/05 10:15	-	11/17/05 22:30	7.318	11/18/2005 10:15	7.318	11/18/2005 22:30	7.67
11/17/05 10:30	-	11/17/05 22:45	7.268	11/18/2005 10:30	7.444	11/18/2005 22:45	7.619
11/17/05 10:45	-	11/17/05 23:00	7.242	11/18/2005 10:45	7.569	11/18/2005 23:00	7.619
11/17/05 11:00	-	11/17/05 23:15	7.242	11/18/2005 11:00	7.72	11/18/2005 23:15	7.569
11/17/05 11:15	-	11/17/05 23:30	7.192	11/18/2005 11:15	7.82	11/18/2005 23:30	7.519
11/17/05 11:30	-	11/17/05 23:45	7.192	11/18/2005 11:30	7.945	11/18/2005 23:45	7.494
11/17/05 11:45	-			11/18/2005 11:45	8.07		
11/17/05 12:00	-			11/18/2005 12:00	8.17		

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11/19/2005 0:15	7.419	11/19/2005 12:30	8.27	11/20/2005 0:15	7.318	11/20/2005 12:30	8.319
11/19/2005 0:30	7.368	11/19/2005 12:45	8.344	11/20/2005 0:30	7.293	11/20/2005 12:45	8.419
11/19/2005 0:45	7.343	11/19/2005 13:00	8.394	11/20/2005 0:45	7.268	11/20/2005 13:00	8.543
11/19/2005 1:00	7.293	11/19/2005 13:15	8.444	11/20/2005 1:00	7.242	11/20/2005 13:15	8.643
11/19/2005 1:15	7.268	11/19/2005 13:30	8.494	11/20/2005 1:15	7.217	11/20/2005 13:30	8.742
11/19/2005 1:30	7.217	11/19/2005 13:45	8.568	11/20/2005 1:30	7.217	11/20/2005 13:45	8.841
11/19/2005 1:45	7.192	11/19/2005 14:00	8.767	11/20/2005 1:45	7.192	11/20/2005 14:00	8.916
11/19/2005 2:00	7.142	11/19/2005 14:15	8.891	11/20/2005 2:00	7.167	11/20/2005 14:15	8.965
11/19/2005 2:15	7.116	11/19/2005 14:30	8.941	11/20/2005 2:15	7.142	11/20/2005 14:30	9.015
11/19/2005 2:30	7.091	11/19/2005 14:45	8.891	11/20/2005 2:30	7.116	11/20/2005 14:45	9.064
11/19/2005 2:45	7.066	11/19/2005 15:00	8.941	11/20/2005 2:45	7.091	11/20/2005 15:00	9.089
11/19/2005 3:00	7.041	11/19/2005 15:15	8.965	11/20/2005 3:00	7.041	11/20/2005 15:15	9.114
11/19/2005 3:15	7.015	11/19/2005 15:30	8.99	11/20/2005 3:15	7.015	11/20/2005 15:30	9.114
11/19/2005 3:30	6.965	11/19/2005 15:45	8.99	11/20/2005 3:30	6.99	11/20/2005 15:45	9.089
11/19/2005 3:45	6.94	11/19/2005 16:00	8.99	11/20/2005 3:45	6.965	11/20/2005 16:00	9.064
11/19/2005 4:00	6.94	11/19/2005 16:15	8.941	11/20/2005 4:00	6.94	11/20/2005 16:15	9.04
11/19/2005 4:15	6.889	11/19/2005 16:30	8.891	11/20/2005 4:15	6.914	11/20/2005 16:30	8.965
11/19/2005 4:30	6.864	11/19/2005 16:45	8.841	11/20/2005 4:30	6.889	11/20/2005 16:45	8.916
11/19/2005 4:45	6.839	11/19/2005 17:00	8.767	11/20/2005 4:45	6.864	11/20/2005 17:00	8.841
11/19/2005 5:00	6.813	11/19/2005 17:15	8.717	11/20/2005 5:00	6.839	11/20/2005 17:15	8.792
11/19/2005 5:15	6.763	11/19/2005 17:30	8.668	11/20/2005 5:15	6.813	11/20/2005 17:30	8.717
11/19/2005 5:30	6.737	11/19/2005 17:45	8.618	11/20/2005 5:30	6.788	11/20/2005 17:45	8.643
11/19/2005 5:45	6.712	11/19/2005 18:00	8.568	11/20/2005 5:45	6.763	11/20/2005 18:00	8.568
11/19/2005 6:00	6.687	11/19/2005 18:15	8.519	11/20/2005 6:00	6.737	11/20/2005 18:15	8.519
11/19/2005 6:15	6.661	11/19/2005 18:30	8.444	11/20/2005 6:15	6.687	11/20/2005 18:30	8.444
11/19/2005 6:30	6.636	11/19/2005 18:45	8.369	11/20/2005 6:30	6.661	11/20/2005 18:45	8.394
11/19/2005 6:45	6.611	11/19/2005 19:00	8.319	11/20/2005 6:45	6.636	11/20/2005 19:00	8.319
11/19/2005 7:00	6.585	11/19/2005 19:15	8.27	11/20/2005 7:00	6.585	11/20/2005 19:15	8.27
11/19/2005 7:15	6.56	11/19/2005 19:30	8.22	11/20/2005 7:15	6.56	11/20/2005 19:30	8.22
11/19/2005 7:30	6.535	11/19/2005 19:45	8.17	11/20/2005 7:30	6.535	11/20/2005 19:45	8.145
11/19/2005 7:45	6.484	11/19/2005 20:00	8.145	11/20/2005 7:45	6.484	11/20/2005 20:00	8.095
11/19/2005 8:00	6.484	11/19/2005 20:15	8.12	11/20/2005 8:00	6.458	11/20/2005 20:15	8.045
11/19/2005 8:15	6.458	11/19/2005 20:30	8.045	11/20/2005 8:15	6.458	11/20/2005 20:30	7.995
11/19/2005 8:30	6.484	11/19/2005 20:45	7.995	11/20/2005 8:30	6.484	11/20/2005 20:45	7.945
11/19/2005 8:45	6.535	11/19/2005 21:00	7.97	11/20/2005 8:45	6.509	11/20/2005 21:00	7.895
11/19/2005 9:00	6.585	11/19/2005 21:15	7.945	11/20/2005 9:00	6.585	11/20/2005 21:15	7.87
11/19/2005 9:15	6.661	11/19/2005 21:30	7.92	11/20/2005 9:15	6.661	11/20/2005 21:30	7.82
11/19/2005 9:30	6.763	11/19/2005 21:45	7.87	11/20/2005 9:30	6.763	11/20/2005 21:45	7.795
11/19/2005 9:45	6.864	11/19/2005 22:00	7.845	11/20/2005 9:45	6.864	11/20/2005 22:00	7.745
11/19/2005 10:00	6.99	11/19/2005 22:15	7.795	11/20/2005 10:00	6.99	11/20/2005 22:15	7.695
11/19/2005 10:15	7.116	11/19/2005 22:30	7.745	11/20/2005 10:15	7.116	11/20/2005 22:30	7.67
11/19/2005 10:30	7.242	11/19/2005 22:45	7.695	11/20/2005 10:30	7.268	11/20/2005 22:45	7.645
11/19/2005 10:45	7.393	11/19/2005 23:00	7.645	11/20/2005 10:45	7.393	11/20/2005 23:00	7.594
11/19/2005 11:00	7.544	11/19/2005 23:15	7.594	11/20/2005 11:00	7.544	11/20/2005 23:15	7.544
11/19/2005 11:15	7.695	11/19/2005 23:30	7.519	11/20/2005 11:15	7.67	11/20/2005 23:30	7.519
11/19/2005 11:30	7.82	11/19/2005 23:45	7.444	11/20/2005 11:30	7.82	11/20/2005 23:45	7.469
11/19/2005 11:45	7.945			11/20/2005 11:45	7.97		
11/19/2005 12:00	8.07			11/20/2005 12:00	8.07		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/21/2005 0:00	7.444	11/21/2005 12:15	7.87	11/22/2005 0:00	7.192	11/22/2005 12:15	7.745
11/21/2005 0:15	7.393	11/21/2005 12:30	7.995	11/22/2005 0:15	7.142	11/22/2005 12:30	7.87
11/21/2005 0:30	7.368	11/21/2005 12:45	8.095	11/22/2005 0:30	7.116	11/22/2005 12:45	7.995
11/21/2005 0:45	7.343	11/21/2005 13:00	8.22	11/22/2005 0:45	7.091	11/22/2005 13:00	8.095
11/21/2005 1:00	7.318	11/21/2005 13:15	8.319	11/22/2005 1:00	7.041	11/22/2005 13:15	8.195
11/21/2005 1:15	7.268	11/21/2005 13:30	8.419	11/22/2005 1:15	7.041	11/22/2005 13:30	8.295
11/21/2005 1:30	7.217	11/21/2005 13:45	8.494	11/22/2005 1:30	6.99	11/22/2005 13:45	8.394
11/21/2005 1:45	7.217	11/21/2005 14:00	8.568	11/22/2005 1:45	6.94	11/22/2005 14:00	8.469
11/21/2005 2:00	7.192	11/21/2005 14:15	8.618	11/22/2005 2:00	6.914	11/22/2005 14:15	8.543
11/21/2005 2:15	7.142	11/21/2005 14:30	8.668	11/22/2005 2:15	6.889	11/22/2005 14:30	8.593
11/21/2005 2:30	7.116	11/21/2005 14:45	8.717	11/22/2005 2:30	6.839	11/22/2005 14:45	8.643
11/21/2005 2:45	7.091	11/21/2005 15:00	8.742	11/22/2005 2:45	6.813	11/22/2005 15:00	8.668
11/21/2005 3:00	7.066	11/21/2005 15:15	8.767	11/22/2005 3:00	6.788	11/22/2005 15:15	8.693
11/21/2005 3:15	7.015	11/21/2005 15:30	8.767	11/22/2005 3:15	6.763	11/22/2005 15:30	8.668
11/21/2005 3:30	6.99	11/21/2005 15:45	8.767	11/22/2005 3:30	6.712	11/22/2005 15:45	8.668
11/21/2005 3:45	6.965	11/21/2005 16:00	8.742	11/22/2005 3:45	6.687	11/22/2005 16:00	8.643
11/21/2005 4:00	6.94	11/21/2005 16:15	8.717	11/22/2005 4:00	6.661	11/22/2005 16:15	8.593
11/21/2005 4:15	6.914	11/21/2005 16:30	8.693	11/22/2005 4:15	6.636	11/22/2005 16:30	8.543
11/21/2005 4:30	6.889	11/21/2005 16:45	8.643	11/22/2005 4:30	6.585	11/22/2005 16:45	8.469
11/21/2005 4:45	6.839	11/21/2005 17:00	8.568	11/22/2005 4:45	6.585	11/22/2005 17:00	8.419
11/21/2005 5:00	6.813	11/21/2005 17:15	8.519	11/22/2005 5:00	6.535	11/22/2005 17:15	8.344
11/21/2005 5:15	6.788	11/21/2005 17:30	8.444	11/22/2005 5:15	6.509	11/22/2005 17:30	8.27
11/21/2005 5:30	6.737	11/21/2005 17:45	8.394	11/22/2005 5:30	6.484	11/22/2005 17:45	8.195
11/21/2005 5:45	6.712	11/21/2005 18:00	8.319	11/22/2005 5:45	6.458	11/22/2005 18:00	8.12
11/21/2005 6:00	6.687	11/21/2005 18:15	8.27	11/22/2005 6:00	6.433	11/22/2005 18:15	8.07
11/21/2005 6:15	6.636	11/21/2005 18:30	8.195	11/22/2005 6:15	6.408	11/22/2005 18:30	8.02
11/21/2005 6:30	6.611	11/21/2005 18:45	8.145	11/22/2005 6:30	6.357	11/22/2005 18:45	7.945
11/21/2005 6:45	6.56	11/21/2005 19:00	8.07	11/22/2005 6:45	6.331	11/22/2005 19:00	7.895
11/21/2005 7:00	6.535	11/21/2005 19:15	7.995	11/22/2005 7:00	6.281	11/22/2005 19:15	7.87
11/21/2005 7:15	6.484	11/21/2005 19:30	7.97	11/22/2005 7:15	6.255	11/22/2005 19:30	7.82
11/21/2005 7:30	6.433	11/21/2005 19:45	7.92	11/22/2005 7:30	6.204	11/22/2005 19:45	7.77
11/21/2005 7:45	6.408	11/21/2005 20:00	7.845	11/22/2005 7:45	6.179	11/22/2005 20:00	7.72
11/21/2005 8:00	6.382	11/21/2005 20:15	7.82	11/22/2005 8:00	6.153	11/22/2005 20:15	7.695
11/21/2005 8:15	6.357	11/21/2005 20:30	7.77	11/22/2005 8:15	6.128	11/22/2005 20:30	7.67
11/21/2005 8:30	6.357	11/21/2005 20:45	7.72	11/22/2005 8:30	6.153	11/22/2005 20:45	7.645
11/21/2005 8:45	6.382	11/21/2005 21:00	7.67	11/22/2005 8:45	6.179	11/22/2005 21:00	7.594
11/21/2005 9:00	6.458	11/21/2005 21:15	7.619	11/22/2005 9:00	6.23	11/22/2005 21:15	7.569
11/21/2005 9:15	6.535	11/21/2005 21:30	7.594	11/22/2005 9:15	6.331	11/22/2005 21:30	7.519
11/21/2005 9:30	6.611	11/21/2005 21:45	7.544	11/22/2005 9:30	6.433	11/22/2005 21:45	7.494
11/21/2005 9:45	6.712	11/21/2005 22:00	7.494	11/22/2005 9:45	6.509	11/22/2005 22:00	7.469
11/21/2005 10:00	6.813	11/21/2005 22:15	7.469	11/22/2005 10:00	6.611	11/22/2005 22:15	7.419
11/21/2005 10:15	6.914	11/21/2005 22:30	7.419	11/22/2005 10:15	6.737	11/22/2005 22:30	7.368
11/21/2005 10:30	7.015	11/21/2005 22:45	7.393	11/22/2005 10:30	6.864	11/22/2005 22:45	7.343
11/21/2005 10:45	7.116	11/21/2005 23:00	7.343	11/22/2005 10:45	6.99	11/22/2005 23:00	7.318
11/21/2005 11:00	7.242	11/21/2005 23:15	7.318	11/22/2005 11:00	7.091	11/22/2005 23:15	7.268
11/21/2005 11:15	7.368	11/21/2005 23:30	7.268	11/22/2005 11:15	7.242	11/22/2005 23:30	7.242
11/21/2005 11:30	7.494	11/21/2005 23:45	7.242	11/22/2005 11:30	7.368	11/22/2005 23:45	7.192
11/21/2005 11:45	7.619			11/22/2005 11:45	7.494		
11/21/2005 12:00	7.745			11/22/2005 12:00	7.619		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/23/2005 0:00	7.167	11/23/2005 12:15	7.695	11/24/2005 0:00	7.368	11/24/2005 12:15	7.895
11/23/2005 0:15	7.142	11/23/2005 12:30	7.795	11/24/2005 0:15	7.343	11/24/2005 12:30	7.895
11/23/2005 0:30	7.091	11/23/2005 12:45	7.895	11/24/2005 0:30	7.343	11/24/2005 12:45	7.97
11/23/2005 0:45	7.066	11/23/2005 13:00	7.995	11/24/2005 0:45	7.318	11/24/2005 13:00	8.02
11/23/2005 1:00	7.041	11/23/2005 13:15	8.07	11/24/2005 1:00	7.293	11/24/2005 13:15	8.07
11/23/2005 1:15	7.015	11/23/2005 13:30	8.145	11/24/2005 1:15	7.268	11/24/2005 13:30	8.145
11/23/2005 1:30	6.99	11/23/2005 13:45	8.22	11/24/2005 1:30	7.268	11/24/2005 13:45	8.22
11/23/2005 1:45	6.94	11/23/2005 14:00	8.27	11/24/2005 1:45	7.268	11/24/2005 14:00	8.344
11/23/2005 2:00	6.94	11/23/2005 14:15	8.369	11/24/2005 2:00	7.242	11/24/2005 14:15	8.494
11/23/2005 2:15	6.914	11/23/2005 14:30	8.444	11/24/2005 2:15	7.242	11/24/2005 14:30	8.643
11/23/2005 2:30	6.889	11/23/2005 14:45	8.494	11/24/2005 2:30	7.242	11/24/2005 14:45	8.767
11/23/2005 2:45	6.839	11/23/2005 15:00	8.519	11/24/2005 2:45	7.242	11/24/2005 15:00	8.841
11/23/2005 3:00	6.813	11/23/2005 15:15	8.593	11/24/2005 3:00	7.242	11/24/2005 15:15	8.965
11/23/2005 3:15	6.788	11/23/2005 15:30	8.593	11/24/2005 3:15	7.242	11/24/2005 15:30	9.114
11/23/2005 3:30	6.763	11/23/2005 15:45	8.593	11/24/2005 3:30	7.242	11/24/2005 15:45	9.262
11/23/2005 3:45	6.737	11/23/2005 16:00	8.543	11/24/2005 3:45	7.242	11/24/2005 16:00	9.361
11/23/2005 4:00	6.737	11/23/2005 16:15	8.519	11/24/2005 4:00	7.242	11/24/2005 16:15	9.361
11/23/2005 4:15	6.687	11/23/2005 16:30	8.494	11/24/2005 4:15	7.217	11/24/2005 16:30	9.386
11/23/2005 4:30	6.687	11/23/2005 16:45	8.419	11/24/2005 4:30	7.217	11/24/2005 16:45	9.386
11/23/2005 4:45	6.661	11/23/2005 17:00	8.369	11/24/2005 4:45	7.217	11/24/2005 17:00	9.386
11/23/2005 5:00	6.636	11/23/2005 17:15	8.344	11/24/2005 5:00	7.217	11/24/2005 17:15	9.41
11/23/2005 5:15	6.611	11/23/2005 17:30	8.27	11/24/2005 5:15	7.217	11/24/2005 17:30	9.336
11/23/2005 5:30	6.585	11/23/2005 17:45	8.195	11/24/2005 5:30	7.242	11/24/2005 17:45	9.262
11/23/2005 5:45	6.56	11/23/2005 18:00	8.145	11/24/2005 5:45	7.242	11/24/2005 18:00	9.163
11/23/2005 6:00	6.535	11/23/2005 18:15	8.07	11/24/2005 6:00	7.217	11/24/2005 18:15	9.064
11/23/2005 6:15	6.509	11/23/2005 18:30	8.02	11/24/2005 6:15	7.217	11/24/2005 18:30	9.015
11/23/2005 6:30	6.484	11/23/2005 18:45	7.945	11/24/2005 6:30	7.217	11/24/2005 18:45	8.965
11/23/2005 6:45	6.433	11/23/2005 19:00	7.92	11/24/2005 6:45	7.192	11/24/2005 19:00	8.916
11/23/2005 7:00	6.408	11/23/2005 19:15	7.845	11/24/2005 7:00	7.192	11/24/2005 19:15	8.866
11/23/2005 7:15	6.382	11/23/2005 19:30	7.82	11/24/2005 7:15	7.167	11/24/2005 19:30	8.841
11/23/2005 7:30	6.331	11/23/2005 19:45	7.795	11/24/2005 7:30	7.142	11/24/2005 19:45	8.792
11/23/2005 7:45	6.306	11/23/2005 20:00	7.745	11/24/2005 7:45	7.142	11/24/2005 20:00	8.792
11/23/2005 8:00	6.281	11/23/2005 20:15	7.695	11/24/2005 8:00	7.142	11/24/2005 20:15	8.742
11/23/2005 8:15	6.255	11/23/2005 20:30	7.645	11/24/2005 8:15	7.116	11/24/2005 20:30	8.717
11/23/2005 8:30	6.281	11/23/2005 20:45	7.619	11/24/2005 8:30	7.116	11/24/2005 20:45	8.668
11/23/2005 8:45	6.306	11/23/2005 21:00	7.569	11/24/2005 8:45	7.142	11/24/2005 21:00	8.643
11/23/2005 9:00	6.357	11/23/2005 21:15	7.544	11/24/2005 9:00	7.142	11/24/2005 21:15	8.618
11/23/2005 9:15	6.433	11/23/2005 21:30	7.519	11/24/2005 9:15	7.167	11/24/2005 21:30	8.618
11/23/2005 9:30	6.535	11/23/2005 21:45	7.494	11/24/2005 9:30	7.192	11/24/2005 21:45	8.618
11/23/2005 9:45	6.636	11/23/2005 22:00	7.494	11/24/2005 9:45	7.268	11/24/2005 22:00	8.593
11/23/2005 10:00	6.737	11/23/2005 22:15	7.469	11/24/2005 10:00	7.318	11/24/2005 22:15	8.593
11/23/2005 10:15	6.839	11/23/2005 22:30	7.469	11/24/2005 10:15	7.419	11/24/2005 22:30	8.568
11/23/2005 10:30	6.94	11/23/2005 22:45	7.444	11/24/2005 10:30	7.444	11/24/2005 22:45	8.543
11/23/2005 10:45	7.041	11/23/2005 23:00	7.419	11/24/2005 10:45	7.469	11/24/2005 23:00	8.494
11/23/2005 11:00	7.167	11/23/2005 23:15	7.419	11/24/2005 11:00	7.519	11/24/2005 23:15	8.469
11/23/2005 11:15	7.293	11/23/2005 23:30	7.393	11/24/2005 11:15	7.594	11/24/2005 23:30	8.419
11/23/2005 11:30	7.393	11/23/2005 23:45	7.393	11/24/2005 11:30	7.72	11/24/2005 23:45	8.344
11/23/2005 11:45	7.494			11/24/2005 11:45	7.82		
11/23/2005 12:00	7.594			11/24/2005 12:00	7.87		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/25/2005 0:00	8.295	11/25/2005 12:15	8.543	11/26/2005 0:00	7.544	11/26/2005 12:15	7.343
11/25/2005 0:15	8.245	11/25/2005 12:30	8.668	11/26/2005 0:15	7.494	11/26/2005 12:30	7.393
11/25/2005 0:30	8.195	11/25/2005 12:45	8.792	11/26/2005 0:30	7.444	11/26/2005 12:45	7.419
11/25/2005 0:45	8.12	11/25/2005 13:00	8.891	11/26/2005 0:45	7.368	11/26/2005 13:00	7.469
11/25/2005 1:00	8.07	11/25/2005 13:15	9.015	11/26/2005 1:00	7.318	11/26/2005 13:15	7.469
11/25/2005 1:15	8.045	11/25/2005 13:30	9.139	11/26/2005 1:15	7.268	11/26/2005 13:30	7.494
11/25/2005 1:30	8.02	11/25/2005 13:45	9.238	11/26/2005 1:30	7.217	11/26/2005 13:45	7.519
11/25/2005 1:45	7.995	11/25/2005 14:00	9.336	11/26/2005 1:45	7.167	11/26/2005 14:00	7.519
11/25/2005 2:00	7.97	11/25/2005 14:15	9.41	11/26/2005 2:00	7.091	11/26/2005 14:15	7.544
11/25/2005 2:15	7.945	11/25/2005 14:30	9.46	11/26/2005 2:15	7.066	11/26/2005 14:30	7.544
11/25/2005 2:30	7.92	11/25/2005 14:45	9.509	11/26/2005 2:30	7.041	11/26/2005 14:45	7.544
11/25/2005 2:45	7.895	11/25/2005 15:00	9.534	11/26/2005 2:45	6.99	11/26/2005 15:00	7.544
11/25/2005 3:00	7.87	11/25/2005 15:15	9.558	11/26/2005 3:00	6.94	11/26/2005 15:15	7.569
11/25/2005 3:15	7.845	11/25/2005 15:30	9.583	11/26/2005 3:15	6.889	11/26/2005 15:30	7.569
11/25/2005 3:30	7.82	11/25/2005 15:45	9.558	11/26/2005 3:30	6.864	11/26/2005 15:45	7.569
11/25/2005 3:45	7.77	11/25/2005 16:00	9.534	11/26/2005 3:45	6.839	11/26/2005 16:00	7.544
11/25/2005 4:00	7.745	11/25/2005 16:15	9.485	11/26/2005 4:00	6.788	11/26/2005 16:15	7.519
11/25/2005 4:15	7.72	11/25/2005 16:30	9.46	11/26/2005 4:15	6.763	11/26/2005 16:30	7.519
11/25/2005 4:30	7.67	11/25/2005 16:45	9.386	11/26/2005 4:30	6.737	11/26/2005 16:45	7.519
11/25/2005 4:45	7.619	11/25/2005 17:00	9.336	11/26/2005 4:45	6.712	11/26/2005 17:00	7.469
11/25/2005 5:00	7.594	11/25/2005 17:15	9.262	11/26/2005 5:00	6.687	11/26/2005 17:15	7.444
11/25/2005 5:15	7.544	11/25/2005 17:30	9.163	11/26/2005 5:15	6.661	11/26/2005 17:30	7.393
11/25/2005 5:30	7.494	11/25/2005 17:45	9.089	11/26/2005 5:30	6.636	11/26/2005 17:45	7.343
11/25/2005 5:45	7.444	11/25/2005 18:00	9.015	11/26/2005 5:45	6.585	11/26/2005 18:00	7.318
11/25/2005 6:00	7.419	11/25/2005 18:15	8.941	11/26/2005 6:00	6.56	11/26/2005 18:15	7.268
11/25/2005 6:15	7.368	11/25/2005 18:30	8.841	11/26/2005 6:15	6.509	11/26/2005 18:30	7.242
11/25/2005 6:30	7.343	11/25/2005 18:45	8.767	11/26/2005 6:30	6.484	11/26/2005 18:45	7.217
11/25/2005 6:45	7.293	11/25/2005 19:00	8.693	11/26/2005 6:45	6.433	11/26/2005 19:00	7.192
11/25/2005 7:00	7.242	11/25/2005 19:15	8.618	11/26/2005 7:00	6.382	11/26/2005 19:15	7.167
11/25/2005 7:15	7.192	11/25/2005 19:30	8.543	11/26/2005 7:15	6.357	11/26/2005 19:30	7.142
11/25/2005 7:30	7.142	11/25/2005 19:45	8.469	11/26/2005 7:30	6.306	11/26/2005 19:45	7.142
11/25/2005 7:45	7.116	11/25/2005 20:00	8.419	11/26/2005 7:45	6.281	11/26/2005 20:00	7.116
11/25/2005 8:00	7.066	11/25/2005 20:15	8.344	11/26/2005 8:00	6.255	11/26/2005 20:15	7.116
11/25/2005 8:15	7.066	11/25/2005 20:30	8.295	11/26/2005 8:15	6.23	11/26/2005 20:30	7.116
11/25/2005 8:30	7.066	11/25/2005 20:45	8.22	11/26/2005 8:30	6.255	11/26/2005 20:45	7.091
11/25/2005 8:45	7.066	11/25/2005 21:00	8.17	11/26/2005 8:45	6.281	11/26/2005 21:00	7.091
11/25/2005 9:00	7.066	11/25/2005 21:15	8.095	11/26/2005 9:00	6.331	11/26/2005 21:15	7.091
11/25/2005 9:15	7.116	11/25/2005 21:30	8.045	11/26/2005 9:15	6.408	11/26/2005 21:30	7.066
11/25/2005 9:30	7.167	11/25/2005 21:45	7.995	11/26/2005 9:30	6.458	11/26/2005 21:45	7.066
11/25/2005 9:45	7.268	11/25/2005 22:00	7.945	11/26/2005 9:45	6.535	11/26/2005 22:00	7.041
11/25/2005 10:00	7.368	11/25/2005 22:15	7.895	11/26/2005 10:00	6.636	11/26/2005 22:15	7.041
11/25/2005 10:15	7.469	11/25/2005 22:30	7.845	11/26/2005 10:15	6.712	11/26/2005 22:30	6.99
11/25/2005 10:30	7.594	11/25/2005 22:45	7.77	11/26/2005 10:30	6.813	11/26/2005 22:45	6.99
11/25/2005 10:45	7.72	11/25/2005 23:00	7.745	11/26/2005 10:45	6.889	11/26/2005 23:00	6.99
11/25/2005 11:00	7.87	11/25/2005 23:15	7.695	11/26/2005 11:00	7.015	11/26/2005 23:15	6.94
11/25/2005 11:15	8.02	11/25/2005 23:30	7.645	11/26/2005 11:15	7.091	11/26/2005 23:30	6.914
11/25/2005 11:30	8.145	11/25/2005 23:45	7.594	11/26/2005 11:30	7.167	11/26/2005 23:45	6.889
11/25/2005 11:45	8.295			11/26/2005 11:45	7.242		
11/25/2005 12:00	8.419			11/26/2005 12:00	7.268		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/27/2005 0:00	6.864	11/27/2005 12:15	6.535	11/28/2005 0:00	4.168	11/28/2005 12:15	4.376
11/27/2005 0:15	6.813	11/27/2005 12:30	6.636	11/28/2005 0:15	4.141	11/28/2005 12:30	4.48
11/27/2005 0:30	6.763	11/27/2005 12:45	6.687	11/28/2005 0:30	4.089	11/28/2005 12:45	4.558
11/27/2005 0:45	6.712	11/27/2005 13:00	6.737	11/28/2005 0:45	4.063	11/28/2005 13:00	4.662
11/27/2005 1:00	6.687	11/27/2005 13:15	6.813	11/28/2005 1:00	4.063	11/28/2005 13:15	4.766
11/27/2005 1:15	6.611	11/27/2005 13:30	6.839	11/28/2005 1:15	4.011	11/28/2005 13:30	4.818
11/27/2005 1:30	6.56	11/27/2005 13:45	6.864	11/28/2005 1:30	4.011	11/28/2005 13:45	4.869
11/27/2005 1:45	6.509	11/27/2005 14:00	6.889	11/28/2005 1:45	4.011	11/28/2005 14:00	4.921
11/27/2005 2:00	6.509	11/27/2005 14:15	6.914	11/28/2005 2:00	3.985	11/28/2005 14:15	4.973
11/27/2005 2:15	6.433	11/27/2005 14:30	6.889	11/28/2005 2:15	3.985	11/28/2005 14:30	4.973
11/27/2005 2:30	6.382	11/27/2005 14:45	6.839	11/28/2005 2:30	3.985	11/28/2005 14:45	4.999
11/27/2005 2:45	6.306	11/27/2005 15:00	6.813	11/28/2005 2:45	3.958	11/28/2005 15:00	4.999
11/27/2005 3:00	6.255	11/27/2005 15:15	6.763	11/28/2005 3:00	3.906	11/28/2005 15:15	4.973
11/27/2005 3:15	6.179	11/27/2005 15:30	6.737	11/28/2005 3:15	3.854	11/28/2005 15:30	4.947
11/27/2005 3:30	6.128	11/27/2005 15:45	6.636	11/28/2005 3:30	3.801	11/28/2005 15:45	4.921
11/27/2005 3:45	6.077	11/27/2005 16:00	6.535	11/28/2005 3:45	3.749	11/28/2005 16:00	4.869
11/27/2005 4:00	6.026	11/27/2005 16:15	6.433	11/28/2005 4:00	3.67	11/28/2005 16:15	4.818
11/27/2005 4:15	5.975	11/27/2005 16:30	6.331	11/28/2005 4:15	3.643	11/28/2005 16:30	4.766
11/27/2005 4:30	5.924	11/27/2005 16:45	6.179	11/28/2005 4:30	3.591	11/28/2005 16:45	4.688
11/27/2005 4:45	5.847	11/27/2005 17:00	6.051	11/28/2005 4:45	3.564	11/28/2005 17:00	4.61
11/27/2005 5:00	5.821	11/27/2005 17:15	5.924	11/28/2005 5:00	3.512	11/28/2005 17:15	4.506
11/27/2005 5:15	5.77	11/27/2005 17:30	5.77	11/28/2005 5:15	3.459	11/28/2005 17:30	4.454
11/27/2005 5:30	5.719	11/27/2005 17:45	5.616	11/28/2005 5:30	3.406	11/28/2005 17:45	4.35
11/27/2005 5:45	5.693	11/27/2005 18:00	5.462	11/28/2005 5:45	3.38	11/28/2005 18:00	4.272
11/27/2005 6:00	5.693	11/27/2005 18:15	5.36	11/28/2005 6:00	3.327	11/28/2005 18:15	4.194
11/27/2005 6:15	5.668	11/27/2005 18:30	5.282	11/28/2005 6:15	3.274	11/28/2005 18:30	4.141
11/27/2005 6:30	5.642	11/27/2005 18:45	5.205	11/28/2005 6:30	3.248	11/28/2005 18:45	4.063
11/27/2005 6:45	5.565	11/27/2005 19:00	5.102	11/28/2005 6:45	3.195	11/28/2005 19:00	4.011
11/27/2005 7:00	5.514	11/27/2005 19:15	5.05	11/28/2005 7:00	3.168	11/28/2005 19:15	3.958
11/27/2005 7:15	5.488	11/27/2005 19:30	4.999	11/28/2005 7:15	3.142	11/28/2005 19:30	3.906
11/27/2005 7:30	5.411	11/27/2005 19:45	4.921	11/28/2005 7:30	3.142	11/28/2005 19:45	3.854
11/27/2005 7:45	5.36	11/27/2005 20:00	4.895	11/28/2005 7:45	3.142	11/28/2005 20:00	3.827
11/27/2005 8:00	5.334	11/27/2005 20:15	4.844	11/28/2005 8:00	3.142	11/28/2005 20:15	3.801
11/27/2005 8:15	5.308	11/27/2005 20:30	4.792	11/28/2005 8:15	3.142	11/28/2005 20:30	3.775
11/27/2005 8:30	5.308	11/27/2005 20:45	4.74	11/28/2005 8:30	3.142	11/28/2005 20:45	3.749
11/27/2005 8:45	5.308	11/27/2005 21:00	4.662	11/28/2005 8:45	3.195	11/28/2005 21:00	3.696
11/27/2005 9:00	5.334	11/27/2005 21:15	4.584	11/28/2005 9:00	3.248	11/28/2005 21:15	3.67
11/27/2005 9:15	5.385	11/27/2005 21:30	4.532	11/28/2005 9:15	3.301	11/28/2005 21:30	3.617
11/27/2005 9:30	5.385	11/27/2005 21:45	4.506	11/28/2005 9:30	3.354	11/28/2005 21:45	3.591
11/27/2005 9:45	5.411	11/27/2005 22:00	4.48	11/28/2005 9:45	3.406	11/28/2005 22:00	3.564
11/27/2005 10:00	5.514	11/27/2005 22:15	4.454	11/28/2005 10:00	3.485	11/28/2005 22:15	3.512
11/27/2005 10:15	5.642	11/27/2005 22:30	4.402	11/28/2005 10:15	3.591	11/28/2005 22:30	3.459
11/27/2005 10:30	5.745	11/27/2005 22:45	4.35	11/28/2005 10:30	3.67	11/28/2005 22:45	3.433
11/27/2005 10:45	5.847	11/27/2005 23:00	4.324	11/28/2005 10:45	3.749	11/28/2005 23:00	3.38
11/27/2005 11:00	5.949	11/27/2005 23:15	4.272	11/28/2005 11:00	3.854	11/28/2005 23:15	3.354
11/27/2005 11:15	6.077	11/27/2005 23:30	4.246	11/28/2005 11:15	3.958	11/28/2005 23:30	3.327
11/27/2005 11:30	6.23	11/27/2005 23:45	4.22	11/28/2005 11:30	4.063	11/28/2005 23:45	3.301
11/27/2005 11:45	6.331			11/28/2005 11:45	4.168		
11/27/2005 12:00	6.433			11/28/2005 12:00	4.272		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
11/29/2005 0:00	3.274	11/29/2005 12:15	4.48	11/30/2005 0:00	3.932	11/30/2005 12:15	4.766
11/29/2005 0:15	3.248	11/29/2005 12:30	4.61	11/30/2005 0:15	3.906	11/30/2005 12:30	4.921
11/29/2005 0:30	3.221	11/29/2005 12:45	4.714	11/30/2005 0:30	3.854	11/30/2005 12:45	5.05
11/29/2005 0:45	3.195	11/29/2005 13:00	4.844	11/30/2005 0:45	3.827	11/30/2005 13:00	5.179
11/29/2005 1:00	3.142	11/29/2005 13:15	4.947	11/30/2005 1:00	3.775	11/30/2005 13:15	5.282
11/29/2005 1:15	3.142	11/29/2005 13:30	5.05	11/30/2005 1:15	3.749	11/30/2005 13:30	5.411
11/29/2005 1:30	3.116	11/29/2005 13:45	5.128	11/30/2005 1:30	3.722	11/30/2005 13:45	5.514
11/29/2005 1:45	3.089	11/29/2005 14:00	5.205	11/30/2005 1:45	3.696	11/30/2005 14:00	5.616
11/29/2005 2:00	3.063	11/29/2005 14:15	5.282	11/30/2005 2:00	3.67	11/30/2005 14:15	5.719
11/29/2005 2:15	3.036	11/29/2005 14:30	5.308	11/30/2005 2:15	3.643	11/30/2005 14:30	5.796
11/29/2005 2:30	3.009	11/29/2005 14:45	5.334	11/30/2005 2:30	3.643	11/30/2005 14:45	5.847
11/29/2005 2:45	2.983	11/29/2005 15:00	5.36	11/30/2005 2:45	3.617	11/30/2005 15:00	5.924
11/29/2005 3:00	2.93	11/29/2005 15:15	5.36	11/30/2005 3:00	3.591	11/30/2005 15:15	5.975
11/29/2005 3:15	2.903	11/29/2005 15:30	5.36	11/30/2005 3:15	3.564	11/30/2005 15:30	6
11/29/2005 3:30	2.85	11/29/2005 15:45	5.334	11/30/2005 3:30	3.538	11/30/2005 15:45	6
11/29/2005 3:45	2.823	11/29/2005 16:00	5.308	11/30/2005 3:45	3.512	11/30/2005 16:00	6
11/29/2005 4:00	2.797	11/29/2005 16:15	5.282	11/30/2005 4:00	3.485	11/30/2005 16:15	5.975
11/29/2005 4:15	2.797	11/29/2005 16:30	5.205	11/30/2005 4:15	3.459	11/30/2005 16:30	5.949
11/29/2005 4:30	2.77	11/29/2005 16:45	5.154	11/30/2005 4:30	3.433	11/30/2005 16:45	5.898
11/29/2005 4:45	2.77	11/29/2005 17:00	5.076	11/30/2005 4:45	3.433	11/30/2005 17:00	5.847
11/29/2005 5:00	2.744	11/29/2005 17:15	4.999	11/30/2005 5:00	3.406	11/30/2005 17:15	5.77
11/29/2005 5:15	2.717	11/29/2005 17:30	4.921	11/30/2005 5:15	3.38	11/30/2005 17:30	5.719
11/29/2005 5:30	2.717	11/29/2005 17:45	4.844	11/30/2005 5:30	3.354	11/30/2005 17:45	5.642
11/29/2005 5:45	2.69	11/29/2005 18:00	4.792	11/30/2005 5:45	3.327	11/30/2005 18:00	5.591
11/29/2005 6:00	2.69	11/29/2005 18:15	4.714	11/30/2005 6:00	3.274	11/30/2005 18:15	5.539
11/29/2005 6:15	2.664	11/29/2005 18:30	4.636	11/30/2005 6:15	3.274	11/30/2005 18:30	5.488
11/29/2005 6:30	2.637	11/29/2005 18:45	4.584	11/30/2005 6:30	3.221	11/30/2005 18:45	5.437
11/29/2005 6:45	2.664	11/29/2005 19:00	4.532	11/30/2005 6:45	3.195	11/30/2005 19:00	5.411
11/29/2005 7:00	2.664	11/29/2005 19:15	4.506	11/30/2005 7:00	3.168	11/30/2005 19:15	5.36
11/29/2005 7:15	2.664	11/29/2005 19:30	4.454	11/30/2005 7:15	3.116	11/30/2005 19:30	5.334
11/29/2005 7:30	2.69	11/29/2005 19:45	4.428	11/30/2005 7:30	3.116	11/30/2005 19:45	5.308
11/29/2005 7:45	2.69	11/29/2005 20:00	4.402	11/30/2005 7:45	3.063	11/30/2005 20:00	5.282
11/29/2005 8:00	2.744	11/29/2005 20:15	4.376	11/30/2005 8:00	3.063	11/30/2005 20:15	5.257
11/29/2005 8:15	2.77	11/29/2005 20:30	4.324	11/30/2005 8:15	3.036	11/30/2005 20:30	5.231
11/29/2005 8:30	2.797	11/29/2005 20:45	4.298	11/30/2005 8:30	3.063	11/30/2005 20:45	5.205
11/29/2005 8:45	2.85	11/29/2005 21:00	4.272	11/30/2005 8:45	3.089	11/30/2005 21:00	5.205
11/29/2005 9:00	2.903	11/29/2005 21:15	4.246	11/30/2005 9:00	3.142	11/30/2005 21:15	5.179
11/29/2005 9:15	2.956	11/29/2005 21:30	4.22	11/30/2005 9:15	3.221	11/30/2005 21:30	5.154
11/29/2005 9:30	3.036	11/29/2005 21:45	4.194	11/30/2005 9:30	3.327	11/30/2005 21:45	5.128
11/29/2005 9:45	3.142	11/29/2005 22:00	4.168	11/30/2005 9:45	3.406	11/30/2005 22:00	5.102
11/29/2005 10:00	3.248	11/29/2005 22:15	4.115	11/30/2005 10:00	3.538	11/30/2005 22:15	5.102
11/29/2005 10:15	3.327	11/29/2005 22:30	4.089	11/30/2005 10:15	3.643	11/30/2005 22:30	5.076
11/29/2005 10:30	3.459	11/29/2005 22:45	4.063	11/30/2005 10:30	3.775	11/30/2005 22:45	5.05
11/29/2005 10:45	3.591	11/29/2005 23:00	4.011	11/30/2005 10:45	3.932	11/30/2005 23:00	5.05
11/29/2005 11:00	3.749	11/29/2005 23:15	3.985	11/30/2005 11:00	4.063	11/30/2005 23:15	5.05
11/29/2005 11:15	3.906	11/29/2005 23:30	3.958	11/30/2005 11:15	4.194	11/30/2005 23:30	5.024
11/29/2005 11:30	4.063	11/29/2005 23:45	3.958	11/30/2005 11:30	4.35	11/30/2005 23:45	5.024
11/29/2005 11:45	4.194			11/30/2005 11:45	4.48		
11/29/2005 12:00	4.35			11/30/2005 12:00	4.61		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
12/1/2005 0:00	4.973	12/1/2005 12:15	5.924	12/2/2005 0:00	5.898	12/2/2005 12:15	7.142
12/1/2005 0:15	4.947	12/1/2005 12:30	6.051	12/2/2005 0:15	5.872	12/2/2005 12:30	7.242
12/1/2005 0:30	4.947	12/1/2005 12:45	6.204	12/2/2005 0:30	5.872	12/2/2005 12:45	7.293
12/1/2005 0:45	4.921	12/1/2005 13:00	6.306	12/2/2005 0:45	5.847	12/2/2005 13:00	7.343
12/1/2005 1:00	4.895	12/1/2005 13:15	6.408	12/2/2005 1:00	5.821	12/2/2005 13:15	7.368
12/1/2005 1:15	4.869	12/1/2005 13:30	6.509	12/2/2005 1:15	5.796	12/2/2005 13:30	7.444
12/1/2005 1:30	4.844	12/1/2005 13:45	6.611	12/2/2005 1:30	5.77	12/2/2005 13:45	7.494
12/1/2005 1:45	4.844	12/1/2005 14:00	6.687	12/2/2005 1:45	5.745	12/2/2005 14:00	7.544
12/1/2005 2:00	4.818	12/1/2005 14:15	6.763	12/2/2005 2:00	5.719	12/2/2005 14:15	7.645
12/1/2005 2:15	4.792	12/1/2005 14:30	6.813	12/2/2005 2:15	5.693	12/2/2005 14:30	7.745
12/1/2005 2:30	4.766	12/1/2005 14:45	6.864	12/2/2005 2:30	5.668	12/2/2005 14:45	7.87
12/1/2005 2:45	4.766	12/1/2005 15:00	6.914	12/2/2005 2:45	5.642	12/2/2005 15:00	7.97
12/1/2005 3:00	4.74	12/1/2005 15:15	6.94	12/2/2005 3:00	5.616	12/2/2005 15:15	8.045
12/1/2005 3:15	4.714	12/1/2005 15:30	6.965	12/2/2005 3:15	5.616	12/2/2005 15:30	8.12
12/1/2005 3:30	4.688	12/1/2005 15:45	6.965	12/2/2005 3:30	5.591	12/2/2005 15:45	8.195
12/1/2005 3:45	4.662	12/1/2005 16:00	6.965	12/2/2005 3:45	5.565	12/2/2005 16:00	8.245
12/1/2005 4:00	4.636	12/1/2005 16:15	6.94	12/2/2005 4:00	5.565	12/2/2005 16:15	8.295
12/1/2005 4:15	4.636	12/1/2005 16:30	6.914	12/2/2005 4:15	5.539	12/2/2005 16:30	8.319
12/1/2005 4:30	4.61	12/1/2005 16:45	6.864	12/2/2005 4:30	5.539	12/2/2005 16:45	8.344
12/1/2005 4:45	4.584	12/1/2005 17:00	6.813	12/2/2005 4:45	5.514	12/2/2005 17:00	8.319
12/1/2005 5:00	4.558	12/1/2005 17:15	6.737	12/2/2005 5:00	5.488	12/2/2005 17:15	8.295
12/1/2005 5:15	4.532	12/1/2005 17:30	6.687	12/2/2005 5:15	5.488	12/2/2005 17:30	8.295
12/1/2005 5:30	4.506	12/1/2005 17:45	6.636	12/2/2005 5:30	5.488	12/2/2005 17:45	8.27
12/1/2005 5:45	4.48	12/1/2005 18:00	6.585	12/2/2005 5:45	5.462	12/2/2005 18:00	8.22
12/1/2005 6:00	4.454	12/1/2005 18:15	6.509	12/2/2005 6:00	5.437	12/2/2005 18:15	8.17
12/1/2005 6:15	4.428	12/1/2005 18:30	6.458	12/2/2005 6:15	5.411	12/2/2005 18:30	8.12
12/1/2005 6:30	4.402	12/1/2005 18:45	6.408	12/2/2005 6:30	5.411	12/2/2005 18:45	8.045
12/1/2005 6:45	4.402	12/1/2005 19:00	6.357	12/2/2005 6:45	5.411	12/2/2005 19:00	7.995
12/1/2005 7:00	4.35	12/1/2005 19:15	6.331	12/2/2005 7:00	5.385	12/2/2005 19:15	7.92
12/1/2005 7:15	4.324	12/1/2005 19:30	6.281	12/2/2005 7:15	5.36	12/2/2005 19:30	7.845
12/1/2005 7:30	4.272	12/1/2005 19:45	6.255	12/2/2005 7:30	5.334	12/2/2005 19:45	7.795
12/1/2005 7:45	4.272	12/1/2005 20:00	6.23	12/2/2005 7:45	5.308	12/2/2005 20:00	7.77
12/1/2005 8:00	4.22	12/1/2005 20:15	6.204	12/2/2005 8:00	5.282	12/2/2005 20:15	7.745
12/1/2005 8:15	4.22	12/1/2005 20:30	6.179	12/2/2005 8:15	5.282	12/2/2005 20:30	7.72
12/1/2005 8:30	4.22	12/1/2005 20:45	6.179	12/2/2005 8:30	5.308	12/2/2005 20:45	7.72
12/1/2005 8:45	4.246	12/1/2005 21:00	6.153	12/2/2005 8:45	5.334	12/2/2005 21:00	7.67
12/1/2005 9:00	4.298	12/1/2005 21:15	6.128	12/2/2005 9:00	5.385	12/2/2005 21:15	7.67
12/1/2005 9:15	4.376	12/1/2005 21:30	6.128	12/2/2005 9:15	5.437	12/2/2005 21:30	7.645
12/1/2005 9:30	4.48	12/1/2005 21:45	6.102	12/2/2005 9:30	5.514	12/2/2005 21:45	7.619
12/1/2005 9:45	4.584	12/1/2005 22:00	6.077	12/2/2005 9:45	5.616	12/2/2005 22:00	7.594
12/1/2005 10:00	4.688	12/1/2005 22:15	6.077	12/2/2005 10:00	5.745	12/2/2005 22:15	7.544
12/1/2005 10:15	4.792	12/1/2005 22:30	6.051	12/2/2005 10:15	5.872	12/2/2005 22:30	7.519
12/1/2005 10:30	4.947	12/1/2005 22:45	6.026	12/2/2005 10:30	6.026	12/2/2005 22:45	7.494
12/1/2005 10:45	5.076	12/1/2005 23:00	6	12/2/2005 10:45	6.179	12/2/2005 23:00	7.494
12/1/2005 11:00	5.205	12/1/2005 23:15	5.975	12/2/2005 11:00	6.357	12/2/2005 23:15	7.494
12/1/2005 11:15	5.36	12/1/2005 23:30	5.975	12/2/2005 11:15	6.509	12/2/2005 23:30	7.469
12/1/2005 11:30	5.514	12/1/2005 23:45	5.924	12/2/2005 11:30	6.661	12/2/2005 23:45	7.469
12/1/2005 11:45	5.668			12/2/2005 11:45	6.839		
12/1/2005 12:00	5.796			12/2/2005 12:00	7.015		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
12/3/2005 0:00	7.469	12/3/2005 12:15	8.717	12/4/2005 0:00	7.795	12/4/2005 12:15	7.217
12/3/2005 0:15	7.469	12/3/2005 12:30	8.841	12/4/2005 0:15	7.745	12/4/2005 12:30	7.293
12/3/2005 0:30	7.469	12/3/2005 12:45	8.965	12/4/2005 0:30	7.695	12/4/2005 12:45	7.368
12/3/2005 0:45	7.469	12/3/2005 13:00	9.114	12/4/2005 0:45	7.645	12/4/2005 13:00	7.444
12/3/2005 1:00	7.469	12/3/2005 13:15	9.213	12/4/2005 1:00	7.619	12/4/2005 13:15	7.519
12/3/2005 1:15	7.469	12/3/2005 13:30	9.312	12/4/2005 1:15	7.569	12/4/2005 13:30	7.569
12/3/2005 1:30	7.469	12/3/2005 13:45	9.41	12/4/2005 1:30	7.519	12/4/2005 13:45	7.619
12/3/2005 1:45	7.469	12/3/2005 14:00	9.485	12/4/2005 1:45	7.519	12/4/2005 14:00	7.695
12/3/2005 2:00	7.444	12/3/2005 14:15	9.534	12/4/2005 2:00	7.469	12/4/2005 14:15	7.745
12/3/2005 2:15	7.444	12/3/2005 14:30	9.608	12/4/2005 2:15	7.419	12/4/2005 14:30	7.745
12/3/2005 2:30	7.444	12/3/2005 14:45	9.632	12/4/2005 2:30	7.393	12/4/2005 14:45	7.72
12/3/2005 2:45	7.444	12/3/2005 15:00	9.657	12/4/2005 2:45	7.343	12/4/2005 15:00	7.695
12/3/2005 3:00	7.444	12/3/2005 15:15	9.657	12/4/2005 3:00	7.318	12/4/2005 15:15	7.645
12/3/2005 3:15	7.419	12/3/2005 15:30	9.632	12/4/2005 3:15	7.268	12/4/2005 15:30	7.619
12/3/2005 3:30	7.393	12/3/2005 15:45	9.583	12/4/2005 3:30	7.242	12/4/2005 15:45	7.569
12/3/2005 3:45	7.393	12/3/2005 16:00	9.534	12/4/2005 3:45	7.192	12/4/2005 16:00	7.519
12/3/2005 4:00	7.368	12/3/2005 16:15	9.485	12/4/2005 4:00	7.142	12/4/2005 16:15	7.444
12/3/2005 4:15	7.368	12/3/2005 16:30	9.435	12/4/2005 4:15	7.091	12/4/2005 16:30	7.368
12/3/2005 4:30	7.343	12/3/2005 16:45	9.336	12/4/2005 4:30	7.041	12/4/2005 16:45	7.268
12/3/2005 4:45	7.343	12/3/2005 17:00	9.287	12/4/2005 4:45	6.99	12/4/2005 17:00	7.167
12/3/2005 5:00	7.318	12/3/2005 17:15	9.188	12/4/2005 5:00	6.94	12/4/2005 17:15	7.066
12/3/2005 5:15	7.293	12/3/2005 17:30	9.114	12/4/2005 5:15	6.889	12/4/2005 17:30	6.965
12/3/2005 5:30	7.293	12/3/2005 17:45	9.04	12/4/2005 5:30	6.839	12/4/2005 17:45	6.889
12/3/2005 5:45	7.268	12/3/2005 18:00	8.965	12/4/2005 5:45	6.788	12/4/2005 18:00	6.788
12/3/2005 6:00	7.268	12/3/2005 18:15	8.916	12/4/2005 6:00	6.737	12/4/2005 18:15	6.687
12/3/2005 6:15	7.242	12/3/2005 18:30	8.841	12/4/2005 6:15	6.712	12/4/2005 18:30	6.611
12/3/2005 6:30	7.192	12/3/2005 18:45	8.792	12/4/2005 6:30	6.661	12/4/2005 18:45	6.535
12/3/2005 6:45	7.167	12/3/2005 19:00	8.742	12/4/2005 6:45	6.611	12/4/2005 19:00	6.433
12/3/2005 7:00	7.142	12/3/2005 19:15	8.668	12/4/2005 7:00	6.585	12/4/2005 19:15	6.331
12/3/2005 7:15	7.142	12/3/2005 19:30	8.618	12/4/2005 7:15	6.535	12/4/2005 19:30	6.255
12/3/2005 7:30	7.091	12/3/2005 19:45	8.568	12/4/2005 7:30	6.484	12/4/2005 19:45	6.179
12/3/2005 7:45	7.066	12/3/2005 20:00	8.519	12/4/2005 7:45	6.458	12/4/2005 20:00	6.077
12/3/2005 8:00	7.015	12/3/2005 20:15	8.494	12/4/2005 8:00	6.408	12/4/2005 20:15	6
12/3/2005 8:15	6.99	12/3/2005 20:30	8.444	12/4/2005 8:15	6.382	12/4/2005 20:30	5.924
12/3/2005 8:30	6.965	12/3/2005 20:45	8.419	12/4/2005 8:30	6.331	12/4/2005 20:45	5.872
12/3/2005 8:45	6.99	12/3/2005 21:00	8.394	12/4/2005 8:45	6.331	12/4/2005 21:00	5.821
12/3/2005 9:00	7.015	12/3/2005 21:15	8.344	12/4/2005 9:00	6.331	12/4/2005 21:15	5.77
12/3/2005 9:15	7.066	12/3/2005 21:30	8.295	12/4/2005 9:15	6.382	12/4/2005 21:30	5.719
12/3/2005 9:30	7.116	12/3/2005 21:45	8.27	12/4/2005 9:30	6.408	12/4/2005 21:45	5.668
12/3/2005 9:45	7.192	12/3/2005 22:00	8.245	12/4/2005 9:45	6.484	12/4/2005 22:00	5.616
12/3/2005 10:00	7.318	12/3/2005 22:15	8.195	12/4/2005 10:00	6.535	12/4/2005 22:15	5.565
12/3/2005 10:15	7.444	12/3/2005 22:30	8.145	12/4/2005 10:15	6.585	12/4/2005 22:30	5.514
12/3/2005 10:30	7.619	12/3/2005 22:45	8.095	12/4/2005 10:30	6.636	12/4/2005 22:45	5.462
12/3/2005 10:45	7.77	12/3/2005 23:00	8.045	12/4/2005 10:45	6.687	12/4/2005 23:00	5.411
12/3/2005 11:00	7.945	12/3/2005 23:15	7.97	12/4/2005 11:00	6.763	12/4/2005 23:15	5.36
12/3/2005 11:15	8.095	12/3/2005 23:30	7.92	12/4/2005 11:15	6.839	12/4/2005 23:30	5.308
12/3/2005 11:30	8.245	12/3/2005 23:45	7.87	12/4/2005 11:30	6.914	12/4/2005 23:45	5.231
12/3/2005 11:45	8.419			12/4/2005 11:45	7.015		
12/3/2005 12:00	8.568			12/4/2005 12:00	7.116		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
12/5/2005 0:00	5.179	12/5/2005 12:15	4.792	12/6/2005 0:00	3.274	12/6/2005 12:15	3.354
12/5/2005 0:15	5.102	12/5/2005 12:30	4.921	12/6/2005 0:15	3.221	12/6/2005 12:30	3.485
12/5/2005 0:30	5.05	12/5/2005 12:45	5.024	12/6/2005 0:30	3.168	12/6/2005 12:45	3.617
12/5/2005 0:45	4.999	12/5/2005 13:00	5.128	12/6/2005 0:45	3.116	12/6/2005 13:00	3.722
12/5/2005 1:00	4.947	12/5/2005 13:15	5.231	12/6/2005 1:00	3.063	12/6/2005 13:15	3.827
12/5/2005 1:15	4.869	12/5/2005 13:30	5.308	12/6/2005 1:15	3.009	12/6/2005 13:30	3.932
12/5/2005 1:30	4.844	12/5/2005 13:45	5.411	12/6/2005 1:30	2.956	12/6/2005 13:45	4.037
12/5/2005 1:45	4.766	12/5/2005 14:00	5.462	12/6/2005 1:45	2.903	12/6/2005 14:00	4.141
12/5/2005 2:00	4.714	12/5/2005 14:15	5.514	12/6/2005 2:00	2.85	12/6/2005 14:15	4.194
12/5/2005 2:15	4.662	12/5/2005 14:30	5.565	12/6/2005 2:15	2.797	12/6/2005 14:30	4.246
12/5/2005 2:30	4.584	12/5/2005 14:45	5.616	12/6/2005 2:30	2.744	12/6/2005 14:45	4.298
12/5/2005 2:45	4.532	12/5/2005 15:00	5.616	12/6/2005 2:45	2.69	12/6/2005 15:00	4.324
12/5/2005 3:00	4.48	12/5/2005 15:15	5.616	12/6/2005 3:00	2.664	12/6/2005 15:15	4.324
12/5/2005 3:15	4.454	12/5/2005 15:30	5.616	12/6/2005 3:15	2.61	12/6/2005 15:30	4.324
12/5/2005 3:30	4.402	12/5/2005 15:45	5.591	12/6/2005 3:30	2.584	12/6/2005 15:45	4.298
12/5/2005 3:45	4.324	12/5/2005 16:00	5.539	12/6/2005 3:45	2.53	12/6/2005 16:00	4.246
12/5/2005 4:00	4.272	12/5/2005 16:15	5.488	12/6/2005 4:00	2.503	12/6/2005 16:15	4.194
12/5/2005 4:15	4.22	12/5/2005 16:30	5.437	12/6/2005 4:15	2.45	12/6/2005 16:30	4.115
12/5/2005 4:30	4.168	12/5/2005 16:45	5.36	12/6/2005 4:30	2.396	12/6/2005 16:45	4.037
12/5/2005 4:45	4.141	12/5/2005 17:00	5.257	12/6/2005 4:45	2.343	12/6/2005 17:00	3.932
12/5/2005 5:00	4.089	12/5/2005 17:15	5.154	12/6/2005 5:00	2.289	12/6/2005 17:15	3.854
12/5/2005 5:15	4.037	12/5/2005 17:30	5.076	12/6/2005 5:15	2.262	12/6/2005 17:30	3.749
12/5/2005 5:30	3.985	12/5/2005 17:45	4.973	12/6/2005 5:30	2.236	12/6/2005 17:45	3.643
12/5/2005 5:45	3.958	12/5/2005 18:00	4.895	12/6/2005 5:45	2.182	12/6/2005 18:00	3.564
12/5/2005 6:00	3.906	12/5/2005 18:15	4.792	12/6/2005 6:00	2.101	12/6/2005 18:15	3.459
12/5/2005 6:15	3.854	12/5/2005 18:30	4.688	12/6/2005 6:15	2.047	12/6/2005 18:30	3.354
12/5/2005 6:30	3.801	12/5/2005 18:45	4.584	12/6/2005 6:30	2.021	12/6/2005 18:45	3.301
12/5/2005 6:45	3.775	12/5/2005 19:00	4.532	12/6/2005 6:45	1.967	12/6/2005 19:00	3.221
12/5/2005 7:00	3.722	12/5/2005 19:15	4.428	12/6/2005 7:00	1.94	12/6/2005 19:15	3.168
12/5/2005 7:15	3.67	12/5/2005 19:30	4.35	12/6/2005 7:15	1.886	12/6/2005 19:30	3.116
12/5/2005 7:30	3.617	12/5/2005 19:45	4.272	12/6/2005 7:30	1.832	12/6/2005 19:45	3.063
12/5/2005 7:45	3.564	12/5/2005 20:00	4.22	12/6/2005 7:45	1.778	12/6/2005 20:00	2.983
12/5/2005 8:00	3.538	12/5/2005 20:15	4.141	12/6/2005 8:00	1.778	12/6/2005 20:15	2.93
12/5/2005 8:15	3.512	12/5/2005 20:30	4.089	12/6/2005 8:15	1.724	12/6/2005 20:30	2.85
12/5/2005 8:30	3.485	12/5/2005 20:45	4.011	12/6/2005 8:30	1.724	12/6/2005 20:45	2.797
12/5/2005 8:45	3.485	12/5/2005 21:00	3.958	12/6/2005 8:45	1.724	12/6/2005 21:00	2.77
12/5/2005 9:00	3.538	12/5/2005 21:15	3.88	12/6/2005 9:00	1.778	12/6/2005 21:15	2.717
12/5/2005 9:15	3.564	12/5/2005 21:30	3.827	12/6/2005 9:15	1.832	12/6/2005 21:30	2.664
12/5/2005 9:30	3.617	12/5/2005 21:45	3.775	12/6/2005 9:30	1.913	12/6/2005 21:45	2.637
12/5/2005 9:45	3.696	12/5/2005 22:00	3.722	12/6/2005 9:45	2.021	12/6/2005 22:00	2.584
12/5/2005 10:00	3.775	12/5/2005 22:15	3.67	12/6/2005 10:00	2.128	12/6/2005 22:15	2.557
12/5/2005 10:15	3.88	12/5/2005 22:30	3.617	12/6/2005 10:15	2.236	12/6/2005 22:30	2.503
12/5/2005 10:30	3.985	12/5/2005 22:45	3.564	12/6/2005 10:30	2.37	12/6/2005 22:45	2.477
12/5/2005 10:45	4.089	12/5/2005 23:00	3.512	12/6/2005 10:45	2.503	12/6/2005 23:00	2.45
12/5/2005 11:00	4.194	12/5/2005 23:15	3.459	12/6/2005 11:00	2.637	12/6/2005 23:15	2.396
12/5/2005 11:15	4.324	12/5/2005 23:30	3.38	12/6/2005 11:15	2.797	12/6/2005 23:30	2.37
12/5/2005 11:30	4.428	12/5/2005 23:45	3.327	12/6/2005 11:30	2.93	12/6/2005 23:45	2.316
12/5/2005 11:45	4.558			12/6/2005 11:45	3.063		
12/5/2005 12:00	4.688			12/6/2005 12:00	3.195		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
12/7/2005 0:00	2.289	12/7/2005 12:15	3.142	12/8/2005 0:00	1.832	12/8/2005 12:15	1.886
12/7/2005 0:15	2.236	12/7/2005 12:30	3.274	12/8/2005 0:15	1.805	12/8/2005 12:30	1.967
12/7/2005 0:30	2.209	12/7/2005 12:45	3.38	12/8/2005 0:30	1.724	12/8/2005 12:45	2.074
12/7/2005 0:45	2.182	12/7/2005 13:00	3.512	12/8/2005 0:45	1.697	12/8/2005 13:00	2.155
12/7/2005 1:00	2.128	12/7/2005 13:15	3.617	12/8/2005 1:00	1.643	12/8/2005 13:15	2.262
12/7/2005 1:15	2.074	12/7/2005 13:30	3.722	12/8/2005 1:15	1.615	12/8/2005 13:30	2.37
12/7/2005 1:30	2.047	12/7/2005 13:45	3.801	12/8/2005 1:30	1.588	12/8/2005 13:45	2.45
12/7/2005 1:45	2.047	12/7/2005 14:00	3.906	12/8/2005 1:45	1.534	12/8/2005 14:00	2.503
12/7/2005 2:00	2.021	12/7/2005 14:15	3.985	12/8/2005 2:00	1.507	12/8/2005 14:15	2.584
12/7/2005 2:15	1.994	12/7/2005 14:30	4.037	12/8/2005 2:15	1.48	12/8/2005 14:30	2.637
12/7/2005 2:30	1.967	12/7/2005 14:45	4.063	12/8/2005 2:30	1.453	12/8/2005 14:45	2.69
12/7/2005 2:45	1.94	12/7/2005 15:00	4.115	12/8/2005 2:45	1.453	12/8/2005 15:00	2.717
12/7/2005 3:00	1.913	12/7/2005 15:15	4.115	12/8/2005 3:00	1.425	12/8/2005 15:15	2.717
12/7/2005 3:15	1.886	12/7/2005 15:30	4.115	12/8/2005 3:15	1.398	12/8/2005 15:30	2.744
12/7/2005 3:30	1.859	12/7/2005 15:45	4.089	12/8/2005 3:30	1.398	12/8/2005 15:45	2.717
12/7/2005 3:45	1.832	12/7/2005 16:00	4.037	12/8/2005 3:45	1.344	12/8/2005 16:00	2.69
12/7/2005 4:00	1.805	12/7/2005 16:15	3.958	12/8/2005 4:00	1.289	12/8/2005 16:15	2.637
12/7/2005 4:15	1.778	12/7/2005 16:30	3.88	12/8/2005 4:15	1.289	12/8/2005 16:30	2.61
12/7/2005 4:30	1.751	12/7/2005 16:45	3.775	12/8/2005 4:30	1.235	12/8/2005 16:45	2.557
12/7/2005 4:45	1.724	12/7/2005 17:00	3.696	12/8/2005 4:45	1.208	12/8/2005 17:00	2.477
12/7/2005 5:00	1.697	12/7/2005 17:15	3.564	12/8/2005 5:00	1.18	12/8/2005 17:15	2.396
12/7/2005 5:15	1.67	12/7/2005 17:30	3.433	12/8/2005 5:15	1.126	12/8/2005 17:30	2.343
12/7/2005 5:30	1.643	12/7/2005 17:45	3.327	12/8/2005 5:30	1.071	12/8/2005 17:45	2.262
12/7/2005 5:45	1.615	12/7/2005 18:00	3.221	12/8/2005 5:45	1.017	12/8/2005 18:00	2.182
12/7/2005 6:00	1.588	12/7/2005 18:15	3.142	12/8/2005 6:00	0.989	12/8/2005 18:15	2.128
12/7/2005 6:15	1.561	12/7/2005 18:30	3.036	12/8/2005 6:15	0.934	12/8/2005 18:30	2.074
12/7/2005 6:30	1.534	12/7/2005 18:45	2.93	12/8/2005 6:30	0.907	12/8/2005 18:45	2.047
12/7/2005 6:45	1.507	12/7/2005 19:00	2.823	12/8/2005 6:45	0.852	12/8/2005 19:00	1.967
12/7/2005 7:00	1.48	12/7/2005 19:15	2.744	12/8/2005 7:00	0.825	12/8/2005 19:15	1.913
12/7/2005 7:15	1.48	12/7/2005 19:30	2.664	12/8/2005 7:15	0.77	12/8/2005 19:30	1.859
12/7/2005 7:30	1.453	12/7/2005 19:45	2.637	12/8/2005 7:30	0.715	12/8/2005 19:45	1.832
12/7/2005 7:45	1.425	12/7/2005 20:00	2.557	12/8/2005 7:45	0.66	12/8/2005 20:00	1.778
12/7/2005 8:00	1.425	12/7/2005 20:15	2.503	12/8/2005 8:00	0.632	12/8/2005 20:15	1.751
12/7/2005 8:15	1.398	12/7/2005 20:30	2.45	12/8/2005 8:15	0.605	12/8/2005 20:30	1.724
12/7/2005 8:30	1.425	12/7/2005 20:45	2.396	12/8/2005 8:30	0.577	12/8/2005 20:45	1.67
12/7/2005 8:45	1.453	12/7/2005 21:00	2.343	12/8/2005 8:45	0.55	12/8/2005 21:00	1.643
12/7/2005 9:00	1.48	12/7/2005 21:15	2.316	12/8/2005 9:00	0.577	12/8/2005 21:15	1.615
12/7/2005 9:15	1.561	12/7/2005 21:30	2.262	12/8/2005 9:15	0.632	12/8/2005 21:30	1.561
12/7/2005 9:30	1.643	12/7/2005 21:45	2.209	12/8/2005 9:30	0.66	12/8/2005 21:45	1.588
12/7/2005 9:45	1.751	12/7/2005 22:00	2.155	12/8/2005 9:45	0.742	12/8/2005 22:00	1.561
12/7/2005 10:00	1.859	12/7/2005 22:15	2.128	12/8/2005 10:00	0.825	12/8/2005 22:15	1.561
12/7/2005 10:15	1.994	12/7/2005 22:30	2.101	12/8/2005 10:15	0.907	12/8/2005 22:30	1.507
12/7/2005 10:30	2.155	12/7/2005 22:45	2.047	12/8/2005 10:30	1.017	12/8/2005 22:45	1.48
12/7/2005 10:45	2.289	12/7/2005 23:00	1.994	12/8/2005 10:45	1.153	12/8/2005 23:00	1.453
12/7/2005 11:00	2.45	12/7/2005 23:15	1.967	12/8/2005 11:00	1.262	12/8/2005 23:15	1.398
12/7/2005 11:15	2.584	12/7/2005 23:30	1.913	12/8/2005 11:15	1.371	12/8/2005 23:30	1.371
12/7/2005 11:30	2.717	12/7/2005 23:45	1.886	12/8/2005 11:30	1.507	12/8/2005 23:45	1.344
12/7/2005 11:45	2.877			12/8/2005 11:45	1.615		
12/7/2005 12:00	3.009			12/8/2005 12:00	1.751		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
12/9/2005 0:00	1.317	12/9/2005 12:15	2.155	12/10/2005 0:00	1.859	12/10/2005 12:15	2.85
12/9/2005 0:15	1.289	12/9/2005 12:30	2.316	12/10/2005 0:15	1.832	12/10/2005 12:30	3.009
12/9/2005 0:30	1.262	12/9/2005 12:45	2.45	12/10/2005 0:30	1.778	12/10/2005 12:45	3.142
12/9/2005 0:45	1.208	12/9/2005 13:00	2.584	12/10/2005 0:45	1.751	12/10/2005 13:00	3.274
12/9/2005 1:00	1.18	12/9/2005 13:15	2.69	12/10/2005 1:00	1.724	12/10/2005 13:15	3.406
12/9/2005 1:15	1.153	12/9/2005 13:30	2.823	12/10/2005 1:15	1.67	12/10/2005 13:30	3.538
12/9/2005 1:30	1.099	12/9/2005 13:45	2.903	12/10/2005 1:30	1.643	12/10/2005 13:45	3.643
12/9/2005 1:45	1.071	12/9/2005 14:00	3.009	12/10/2005 1:45	1.615	12/10/2005 14:00	3.749
12/9/2005 2:00	1.044	12/9/2005 14:15	3.063	12/10/2005 2:00	1.588	12/10/2005 14:15	3.854
12/9/2005 2:15	1.017	12/9/2005 14:30	3.142	12/10/2005 2:15	1.561	12/10/2005 14:30	3.932
12/9/2005 2:30	0.989	12/9/2005 14:45	3.195	12/10/2005 2:30	1.561	12/10/2005 14:45	3.985
12/9/2005 2:45	0.962	12/9/2005 15:00	3.274	12/10/2005 2:45	1.534	12/10/2005 15:00	4.011
12/9/2005 3:00	0.962	12/9/2005 15:15	3.327	12/10/2005 3:00	1.507	12/10/2005 15:15	4.063
12/9/2005 3:15	0.934	12/9/2005 15:30	3.406	12/10/2005 3:15	1.48	12/10/2005 15:30	4.089
12/9/2005 3:30	0.907	12/9/2005 15:45	3.433	12/10/2005 3:30	1.453	12/10/2005 15:45	4.089
12/9/2005 3:45	0.907	12/9/2005 16:00	3.354	12/10/2005 3:45	1.425	12/10/2005 16:00	4.063
12/9/2005 4:00	0.88	12/9/2005 16:15	3.221	12/10/2005 4:00	1.398	12/10/2005 16:15	4.063
12/9/2005 4:15	0.88	12/9/2005 16:30	3.168	12/10/2005 4:15	1.371	12/10/2005 16:30	4.011
12/9/2005 4:30	0.852	12/9/2005 16:45	3.168	12/10/2005 4:30	1.344	12/10/2005 16:45	3.958
12/9/2005 4:45	0.852	12/9/2005 17:00	3.116	12/10/2005 4:45	1.317	12/10/2005 17:00	3.88
12/9/2005 5:00	0.825	12/9/2005 17:15	3.036	12/10/2005 5:00	1.289	12/10/2005 17:15	3.801
12/9/2005 5:15	0.797	12/9/2005 17:30	2.93	12/10/2005 5:15	1.289	12/10/2005 17:30	3.722
12/9/2005 5:30	0.77	12/9/2005 17:45	2.85	12/10/2005 5:30	1.262	12/10/2005 17:45	3.643
12/9/2005 5:45	0.742	12/9/2005 18:00	2.797	12/10/2005 5:45	1.235	12/10/2005 18:00	3.591
12/9/2005 6:00	0.742	12/9/2005 18:15	2.744	12/10/2005 6:00	1.235	12/10/2005 18:15	3.512
12/9/2005 6:15	0.715	12/9/2005 18:30	2.69	12/10/2005 6:15	1.208	12/10/2005 18:30	3.406
12/9/2005 6:30	0.687	12/9/2005 18:45	2.61	12/10/2005 6:30	1.208	12/10/2005 18:45	3.354
12/9/2005 6:45	0.66	12/9/2005 19:00	2.53	12/10/2005 6:45	1.18	12/10/2005 19:00	3.274
12/9/2005 7:00	0.66	12/9/2005 19:15	2.423	12/10/2005 7:00	1.18	12/10/2005 19:15	3.221
12/9/2005 7:15	0.632	12/9/2005 19:30	2.343	12/10/2005 7:15	1.126	12/10/2005 19:30	3.142
12/9/2005 7:30	0.605	12/9/2005 19:45	2.262	12/10/2005 7:30	1.099	12/10/2005 19:45	3.116
12/9/2005 7:45	0.55	12/9/2005 20:00	2.182	12/10/2005 7:45	1.071	12/10/2005 20:00	3.036
12/9/2005 8:00	0.55	12/9/2005 20:15	2.155	12/10/2005 8:00	1.071	12/10/2005 20:15	2.983
12/9/2005 8:15	0.522	12/9/2005 20:30	2.101	12/10/2005 8:15	1.017	12/10/2005 20:30	2.956
12/9/2005 8:30	0.522	12/9/2005 20:45	2.074	12/10/2005 8:30	1.044	12/10/2005 20:45	2.903
12/9/2005 8:45	0.522	12/9/2005 21:00	2.074	12/10/2005 8:45	1.071	12/10/2005 21:00	2.877
12/9/2005 9:00	0.577	12/9/2005 21:15	2.047	12/10/2005 9:00	1.126	12/10/2005 21:15	2.823
12/9/2005 9:15	0.632	12/9/2005 21:30	2.021	12/10/2005 9:15	1.18	12/10/2005 21:30	2.797
12/9/2005 9:30	0.715	12/9/2005 21:45	2.021	12/10/2005 9:30	1.289	12/10/2005 21:45	2.77
12/9/2005 9:45	0.852	12/9/2005 22:00	2.021	12/10/2005 9:45	1.398	12/10/2005 22:00	2.744
12/9/2005 10:00	0.934	12/9/2005 22:15	1.994	12/10/2005 10:00	1.534	12/10/2005 22:15	2.744
12/9/2005 10:15	1.071	12/9/2005 22:30	1.967	12/10/2005 10:15	1.643	12/10/2005 22:30	2.717
12/9/2005 10:30	1.18	12/9/2005 22:45	1.967	12/10/2005 10:30	1.778	12/10/2005 22:45	2.69
12/9/2005 10:45	1.317	12/9/2005 23:00	1.913	12/10/2005 10:45	1.913	12/10/2005 23:00	2.637
12/9/2005 11:00	1.453	12/9/2005 23:15	1.913	12/10/2005 11:00	2.047	12/10/2005 23:15	2.61
12/9/2005 11:15	1.588	12/9/2005 23:30	1.859	12/10/2005 11:15	2.236	12/10/2005 23:30	2.584
12/9/2005 11:30	1.751	12/9/2005 23:45	1.859	12/10/2005 11:30	2.396	12/10/2005 23:45	2.557
12/9/2005 11:45	1.886			12/10/2005 11:45	2.557		
12/9/2005 12:00	2.047			12/10/2005 12:00	2.69		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
12/11/2005 0:00	2.53	12/11/2005 12:15	2.956	12/12/2005 0:00	3.009	12/12/2005 12:15	3.749
12/11/2005 0:15	2.53	12/11/2005 12:30	3.009	12/12/2005 0:15	2.983	12/12/2005 12:30	3.854
12/11/2005 0:30	2.503	12/11/2005 12:45	3.063	12/12/2005 0:30	2.983	12/12/2005 12:45	3.985
12/11/2005 0:45	2.477	12/11/2005 13:00	3.142	12/12/2005 0:45	2.983	12/12/2005 13:00	4.115
12/11/2005 1:00	2.45	12/11/2005 13:15	3.221	12/12/2005 1:00	2.956	12/12/2005 13:15	4.246
12/11/2005 1:15	2.423	12/11/2005 13:30	3.274	12/12/2005 1:15	2.93	12/12/2005 13:30	4.35
12/11/2005 1:30	2.423	12/11/2005 13:45	3.327	12/12/2005 1:30	2.903	12/12/2005 13:45	4.454
12/11/2005 1:45	2.423	12/11/2005 14:00	3.38	12/12/2005 1:45	2.85	12/12/2005 14:00	4.558
12/11/2005 2:00	2.396	12/11/2005 14:15	3.433	12/12/2005 2:00	2.823	12/12/2005 14:15	4.61
12/11/2005 2:15	2.37	12/11/2005 14:30	3.512	12/12/2005 2:15	2.797	12/12/2005 14:30	4.662
12/11/2005 2:30	2.37	12/11/2005 14:45	3.564	12/12/2005 2:30	2.77	12/12/2005 14:45	4.74
12/11/2005 2:45	2.343	12/11/2005 15:00	3.591	12/12/2005 2:45	2.744	12/12/2005 15:00	4.74
12/11/2005 3:00	2.316	12/11/2005 15:15	3.617	12/12/2005 3:00	2.717	12/12/2005 15:15	4.74
12/11/2005 3:15	2.316	12/11/2005 15:30	3.643	12/12/2005 3:15	2.717	12/12/2005 15:30	4.766
12/11/2005 3:30	2.316	12/11/2005 15:45	3.643	12/12/2005 3:30	2.69	12/12/2005 15:45	4.766
12/11/2005 3:45	2.289	12/11/2005 16:00	3.643	12/12/2005 3:45	2.69	12/12/2005 16:00	4.74
12/11/2005 4:00	2.262	12/11/2005 16:15	3.643	12/12/2005 4:00	2.637	12/12/2005 16:15	4.74
12/11/2005 4:15	2.262	12/11/2005 16:30	3.617	12/12/2005 4:15	2.61	12/12/2005 16:30	4.74
12/11/2005 4:30	2.236	12/11/2005 16:45	3.591	12/12/2005 4:30	2.61	12/12/2005 16:45	4.714
12/11/2005 4:45	2.236	12/11/2005 17:00	3.564	12/12/2005 4:45	2.584	12/12/2005 17:00	4.688
12/11/2005 5:00	2.236	12/11/2005 17:15	3.538	12/12/2005 5:00	2.584	12/12/2005 17:15	4.662
12/11/2005 5:15	2.209	12/11/2005 17:30	3.512	12/12/2005 5:15	2.584	12/12/2005 17:30	4.61
12/11/2005 5:30	2.236	12/11/2005 17:45	3.459	12/12/2005 5:30	2.557	12/12/2005 17:45	4.584
12/11/2005 5:45	2.209	12/11/2005 18:00	3.433	12/12/2005 5:45	2.53	12/12/2005 18:00	4.558
12/11/2005 6:00	2.209	12/11/2005 18:15	3.38	12/12/2005 6:00	2.53	12/12/2005 18:15	4.532
12/11/2005 6:15	2.182	12/11/2005 18:30	3.38	12/12/2005 6:15	2.503	12/12/2005 18:30	4.48
12/11/2005 6:30	2.182	12/11/2005 18:45	3.354	12/12/2005 6:30	2.503	12/12/2005 18:45	4.454
12/11/2005 6:45	2.182	12/11/2005 19:00	3.327	12/12/2005 6:45	2.477	12/12/2005 19:00	4.428
12/11/2005 7:00	2.182	12/11/2005 19:15	3.301	12/12/2005 7:00	2.477	12/12/2005 19:15	4.402
12/11/2005 7:15	2.182	12/11/2005 19:30	3.274	12/12/2005 7:15	2.477	12/12/2005 19:30	4.402
12/11/2005 7:30	2.182	12/11/2005 19:45	3.248	12/12/2005 7:30	2.45	12/12/2005 19:45	4.376
12/11/2005 7:45	2.182	12/11/2005 20:00	3.221	12/12/2005 7:45	2.477	12/12/2005 20:00	4.376
12/11/2005 8:00	2.182	12/11/2005 20:15	3.195	12/12/2005 8:00	2.477	12/12/2005 20:15	4.35
12/11/2005 8:15	2.209	12/11/2005 20:30	3.168	12/12/2005 8:15	2.477	12/12/2005 20:30	4.376
12/11/2005 8:30	2.209	12/11/2005 20:45	3.168	12/12/2005 8:30	2.503	12/12/2005 20:45	4.376
12/11/2005 8:45	2.209	12/11/2005 21:00	3.142	12/12/2005 8:45	2.53	12/12/2005 21:00	4.35
12/11/2005 9:00	2.236	12/11/2005 21:15	3.142	12/12/2005 9:00	2.584	12/12/2005 21:15	4.35
12/11/2005 9:15	2.262	12/11/2005 21:30	3.116	12/12/2005 9:15	2.637	12/12/2005 21:30	4.376
12/11/2005 9:30	2.316	12/11/2005 21:45	3.089	12/12/2005 9:30	2.69	12/12/2005 21:45	4.376
12/11/2005 9:45	2.316	12/11/2005 22:00	3.063	12/12/2005 9:45	2.77	12/12/2005 22:00	4.35
12/11/2005 10:00	2.37	12/11/2005 22:15	3.063	12/12/2005 10:00	2.85	12/12/2005 22:15	4.35
12/11/2005 10:15	2.423	12/11/2005 22:30	3.063	12/12/2005 10:15	2.93	12/12/2005 22:30	4.35
12/11/2005 10:30	2.45	12/11/2005 22:45	3.036	12/12/2005 10:30	3.036	12/12/2005 22:45	4.376
12/11/2005 10:45	2.503	12/11/2005 23:00	3.036	12/12/2005 10:45	3.142	12/12/2005 23:00	4.376
12/11/2005 11:00	2.584	12/11/2005 23:15	3.009	12/12/2005 11:00	3.248	12/12/2005 23:15	4.376
12/11/2005 11:15	2.637	12/11/2005 23:30	3.009	12/12/2005 11:15	3.327	12/12/2005 23:30	4.402
12/11/2005 11:30	2.717	12/11/2005 23:45	3.009	12/12/2005 11:30	3.459	12/12/2005 23:45	4.402
12/11/2005 11:45	2.797			12/12/2005 11:45	3.538		
12/11/2005 12:00	2.877			12/12/2005 12:00	3.643		

stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)	stamp (MST)[a]	temp. (°C)
12/13/2005 0:00	4.376	12/13/2005 12:15	6.153	12/14/2005 0:00	5.539		
12/13/2005 0:15	4.402	12/13/2005 12:30	6.331	12/14/2005 0:15	5.514		
12/13/2005 0:30	4.402	12/13/2005 12:45	6.484	12/14/2005 0:30	5.462		
12/13/2005 0:45	4.376	12/13/2005 13:00	6.661	12/14/2005 0:45	5.437		
12/13/2005 1:00	4.376	12/13/2005 13:15	6.813	12/14/2005 1:00	5.411		
12/13/2005 1:15	4.35	12/13/2005 13:30	6.965	12/14/2005 1:15	5.385		
12/13/2005 1:30	4.35	12/13/2005 13:45	7.116	12/14/2005 1:30	5.36		
12/13/2005 1:45	4.324	12/13/2005 14:00	7.217	12/14/2005 1:45	5.334		
12/13/2005 2:00	4.324	12/13/2005 14:15	7.318	12/14/2005 2:00	5.282		
12/13/2005 2:15	4.324	12/13/2005 14:30	7.419	12/14/2005 2:15	5.257		
12/13/2005 2:30	4.324	12/13/2005 14:45	7.469	12/14/2005 2:30	5.231		
12/13/2005 2:45	4.324	12/13/2005 15:00	7.519	12/14/2005 2:45	5.179		
12/13/2005 3:00	4.298	12/13/2005 15:15	7.519	12/14/2005 3:00	5.179		
12/13/2005 3:15	4.324	12/13/2005 15:30	7.544	12/14/2005 3:15	5.154		
12/13/2005 3:30	4.324	12/13/2005 15:45	7.519	12/14/2005 3:30	5.102		
12/13/2005 3:45	4.324	12/13/2005 16:00	7.469	12/14/2005 3:45	5.076		
12/13/2005 4:00	4.324	12/13/2005 16:15	7.419	12/14/2005 4:00	5.024		
12/13/2005 4:15	4.324	12/13/2005 16:30	7.368	12/14/2005 4:15	4.973		
12/13/2005 4:30	4.35	12/13/2005 16:45	7.318	12/14/2005 4:30	4.947		
12/13/2005 4:45	4.35	12/13/2005 17:00	7.242	12/14/2005 4:45	4.895		
12/13/2005 5:00	4.324	12/13/2005 17:15	7.167	12/14/2005 5:00	4.844		
12/13/2005 5:15	4.35	12/13/2005 17:30	7.091	12/14/2005 5:15	4.818		
12/13/2005 5:30	4.324	12/13/2005 17:45	7.015	12/14/2005 5:30	4.792		
12/13/2005 5:45	4.298	12/13/2005 18:00	6.914	12/14/2005 5:45	4.74		
12/13/2005 6:00	4.298	12/13/2005 18:15	6.839	12/14/2005 6:00	4.714		
12/13/2005 6:15	4.272	12/13/2005 18:30	6.737	12/14/2005 6:15	4.688		
12/13/2005 6:30	4.272	12/13/2005 18:45	6.636	12/14/2005 6:30	4.688		
12/13/2005 6:45	4.272	12/13/2005 19:00	6.56	12/14/2005 6:45	4.662		
12/13/2005 7:00	4.272	12/13/2005 19:15	6.484	12/14/2005 7:00	4.636		
12/13/2005 7:15	4.246	12/13/2005 19:30	6.408	12/14/2005 7:15	4.61		
12/13/2005 7:30	4.272	12/13/2005 19:45	6.331	12/14/2005 7:30	4.584		
12/13/2005 7:45	4.246	12/13/2005 20:00	6.255	12/14/2005 7:45	4.532		
12/13/2005 8:00	4.246	12/13/2005 20:15	6.204	12/14/2005 8:00	4.532		
12/13/2005 8:15	4.194	12/13/2005 20:30	6.128	12/14/2005 8:15	4.532		
12/13/2005 8:30	4.194	12/13/2005 20:45	6.077	12/14/2005 8:30	4.532		
12/13/2005 8:45	4.22	12/13/2005 21:00	6.026	12/14/2005 8:45	4.558		
12/13/2005 9:00	4.272	12/13/2005 21:15	6	12/14/2005 9:00	4.61		
12/13/2005 9:15	4.324	12/13/2005 21:30	5.949				
12/13/2005 9:30	4.402	12/13/2005 21:45	5.898				
12/13/2005 9:45	4.532	12/13/2005 22:00	5.847				
12/13/2005 10:00	4.662	12/13/2005 22:15	5.821				
12/13/2005 10:15	4.818	12/13/2005 22:30	5.796				
12/13/2005 10:30	4.973	12/13/2005 22:45	5.745				
12/13/2005 10:45	5.179	12/13/2005 23:00	5.719				
12/13/2005 11:00	5.36	12/13/2005 23:15	5.693				
12/13/2005 11:15	5.539	12/13/2005 23:30	5.642				
12/13/2005 11:30	5.719	12/13/2005 23:45	5.616				
12/13/2005 11:45	5.872						
12/13/2005 12:00	6.026						

APPENDIX H
Statistical analyses of water-level responses and potential forcing mechanisms measured during flood events and high river-stage conditions September to November 2005

This appendix contains summary tables of stream-aquifer water level responses (magnitude and timing), regression plots, wave speed calculations, and cross correlation analyses referenced in the narrative. Data were collected during large and small magnitude flood events, high river stage, and low river stage recorded September and November 2005.

Table H-1. Stream and groundwater responses[a] during small magnitude, short-duration flood events 5–8 September 2005.

Date	Río Grande	PZ-1	PZ-2	PZ-3	ESC-E01A	ESC-E04A[b]	ESC-E04B[b]	ESC-E05EX[b]	ESC-E02A[b]
	mm	mm	mm	mm	mm	mm	mm	mm	mm
9/5/2005	344	139	138	55	65	53	59	61	44
9/6/2005	146	51	52	16	16	12	14	14	7
9/7/2005	328	84	84	31	42	37	41	42	31
9/8/2005	195	77	78	18	14	12	13	15	7

[a] The water level response is defined as the onset of hydrograph-increase to the maximum value for that daily flood event.

[b] Indicates a 60-minute sampling interval; all other data were recorded in 15-minute intervals.

Cross correlation between piezometer heads contained two missing data points due to datalogger downloading that occurred on 7 September 2005 12:30-12:45.

Table H-2. Cross correlation between hydraulic head measured in PZ-1 and PZ-2 (m) 5–8 September 2005 completed in Minitab.

The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates PZ-1_h_total (m)(t) and PZ-2_h_total (m)(t+k)

```
        -1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
          +----+----+----+----+----+----+----+----+----+----+----+
-29  -0.141                XXXXX
-28  -0.110                XXXX
-27  -0.078                XXX
-26  -0.044                XX
-25  -0.009                X
-24   0.028                XX
-23   0.066                XXX
-22   0.105                XXXX
-21   0.146                XXXXX
-20   0.189                XXXXXX
-19   0.233                XXXXXXX
-18   0.277                XXXXXXXX
-17   0.323                XXXXXXXXX
-16   0.370                XXXXXXXXXX
-15   0.417                XXXXXXXXXXX
-14   0.465                XXXXXXXXXXXXX
-13   0.514                XXXXXXXXXXXXXX
-12   0.563                XXXXXXXXXXXXXXX
-11   0.612                XXXXXXXXXXXXXXXX
-10   0.661                XXXXXXXXXXXXXXXXXX
 -9   0.710                XXXXXXXXXXXXXXXXXXX
 -8   0.757                XXXXXXXXXXXXXXXXXXXX
 -7   0.803                XXXXXXXXXXXXXXXXXXXXX
 -6   0.846                XXXXXXXXXXXXXXXXXXXXXX
 -5   0.886                XXXXXXXXXXXXXXXXXXXXXXX
 -4   0.921                XXXXXXXXXXXXXXXXXXXXXXXX
 -3   0.952                XXXXXXXXXXXXXXXXXXXXXXXXX
 -2   0.976                XXXXXXXXXXXXXXXXXXXXXXXXXX
 -1   0.992                XXXXXXXXXXXXXXXXXXXXXXXXXXX
  0   1.000                XXXXXXXXXXXXXXXXXXXXXXXXXXX
  1   0.992                XXXXXXXXXXXXXXXXXXXXXXXXXXX
```

	PZ-1_h (m)	PZ-2_h (m)
mean	1.220	1.164
std dev	0.036	0.037
number	382	382

2	0.976	XXXXXXXXXXXXXXXXXXXXXXXXX
3	0.952	XXXXXXXXXXXXXXXXXXXXXXXXX
4	0.922	XXXXXXXXXXXXXXXXXXXXXXXX
5	0.887	XXXXXXXXXXXXXXXXXXXXXX
6	0.847	XXXXXXXXXXXXXXXXXXXXX
7	0.804	XXXXXXXXXXXXXXXXXXXX
8	0.759	XXXXXXXXXXXXXXXXXXX
9	0.711	XXXXXXXXXXXXXXXXXX
10	0.663	XXXXXXXXXXXXXXXXX
11	0.614	XXXXXXXXXXXXXXXX
12	0.565	XXXXXXXXXXXXXXX
13	0.516	XXXXXXXXXXXXXX
14	0.468	XXXXXXXXXXXX
15	0.420	XXXXXXXXXX
16	0.372	XXXXXXXXX
17	0.325	XXXXXXXX
18	0.280	XXXXXXX
19	0.235	XXXXXX
20	0.191	XXXXX
21	0.148	XXXX
22	0.107	XXX
23	0.067	XX
24	0.028	X
25	-0.008	XX
26	-0.044	XXX
27	-0.078	XXXX
28	-0.110	XXXXX
29	-0.141	

Table H-3. Cross correlation between hydraulic head measured in PZ-1 and PZ-3 (m) 5–8 September 2005 completed in Minitab.

The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates PZ-1_h_total (m)(t) and PZ-3_h_total (m)(t+k)

		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+----+----+----+----+----+----+----+----+----+----+
-29	-0.112	XXXX
-28	-0.110	XXXX
-27	-0.106	XXXX
-26	-0.100	XXX
-25	-0.092	XXX
-24	-0.082	XXX
-23	-0.071	XXX
-22	-0.057	XX
-21	-0.041	XX
-20	-0.024	XX
-19	-0.005	X
-18	0.016	X
-17	0.040	XX
-16	0.064	XXX
-15	0.091	XXX
-14	0.120	XXXX
-13	0.150	XXXXX
-12	0.182	XXXXXX
-11	0.215	XXXXXX
-10	0.250	XXXXXXX
-9	0.287	XXXXXXXX
-8	0.325	XXXXXXXXX
-7	0.364	XXXXXXXXXX
-6	0.404	XXXXXXXXXXX
-5	0.445	XXXXXXXXXXXX
-4	0.487	XXXXXXXXXXXXX
-3	0.528	XXXXXXXXXXXXXX
-2	0.570	XXXXXXXXXXXXXXX
-1	0.610	XXXXXXXXXXXXXXXX
0	0.649	XXXXXXXXXXXXXXXXX

	PZ-1_h (m)	PZ-3_h (m)
mean	1.22	1.073
std dev	0.036	0.018
number	382	382

1	0.681	XXXXXXXXXXXXXXXXX
2	0.711	XXXXXXXXXXXXXXXXXX
3	0.737	XXXXXXXXXXXXXXXXXX
4	0.760	XXXXXXXXXXXXXXXXXXX
5	0.780	XXXXXXXXXXXXXXXXXXXX
6	0.796	XXXXXXXXXXXXXXXXXXXX
7	0.809	XXXXXXXXXXXXXXXXXXXX
8	0.817	XXXXXXXXXXXXXXXXXXXX
9	0.823	XXXXXXXXXXXXXXXXXXXXX
10	**0.824**	XXXXXXXXXXXXXXXXXXXXX
11	0.823	XXXXXXXXXXXXXXXXXXXXX
12	0.817	XXXXXXXXXXXXXXXXXXXX
13	0.809	XXXXXXXXXXXXXXXXXXXX
14	0.798	XXXXXXXXXXXXXXXXXXXX
15	0.784	XXXXXXXXXXXXXXXXXXXX
16	0.768	XXXXXXXXXXXXXXXXXXX
17	0.749	XXXXXXXXXXXXXXXXXXX
18	0.728	XXXXXXXXXXXXXXXXXX
19	0.705	XXXXXXXXXXXXXXXXXX
20	0.681	XXXXXXXXXXXXXXXXX
21	0.655	XXXXXXXXXXXXXXXX
22	0.627	XXXXXXXXXXXXXXXX
23	0.598	XXXXXXXXXXXXXXX
24	0.569	XXXXXXXXXXXXXX
25	0.538	XXXXXXXXXXXXX
26	0.506	XXXXXXXXXXXXX
27	0.474	XXXXXXXXXXXX
28	0.441	XXXXXXXXXXX
29	0.408	XXXXXXXXXX

Figure H-1. Groundwater response in streambed versus vertical distance from river surface to piezometer depth

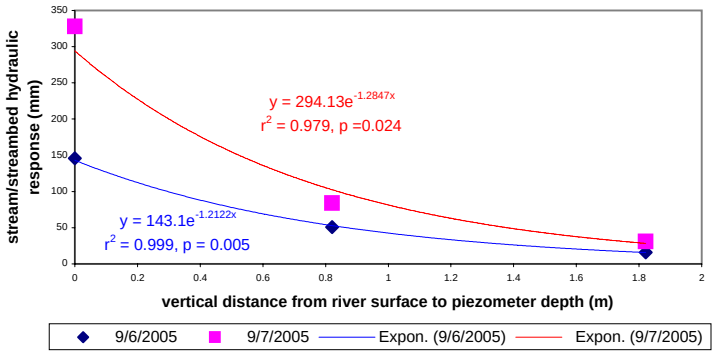


Figure H-2. Groundwater response in aquifer versus lateral distance from river

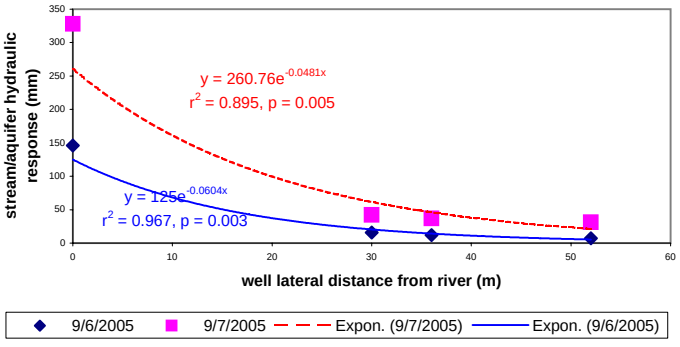


Table H-4. Stream and groundwater responses[a] during small magnitude, short-duration flood events 6–7 September 2005.

	distance[a] m	9/6/2005 response mm	9/7/2005 response mm		distance[b] m	9/6/2005 response mm	9/7/2005 response mm
Río Grande	0	146	328	Río Grande	0	146	328
PZ-1	0.821	51	84	ESC-E01A	30	16	42
PZ-3	1.821	16	31	ESC-E04A[c]	36	12	37
				ESC-E042A[c]	52	7	31

[a] Distance defined as maximum stream surface to piezometer depth. Dry streambed floodplain corresponds to river stage ~ 7.68 m, which is based on field notes constraining timing of shallow streambed floodplain inundation.
[b] Measured from the edge of the river channel at bankfull conditions.
[c] Indicates a 60-minute sampling interval; all other data were recorded in 15-minute intervals.

Table H-5. Time of maximum water elevations during small magnitude, short-duration flood events 5–7 September 2005 and wave speed[a] calculations for 6 September.

	9/5/2005 time[b]	9/6/2005 time[b]	9/7/2005 time[b]
E01A	11:30	15:30-15:45	11:00
E04A[c]	12:00	16:00	11:00
E02A[c]	12:00	17:00	11:00
PZ-1	11:00-11:15	15:30	10:45-11:30
PZ-2	11:00-11:15	15:30	11:00
PZ-3	14:15-16:00	18:00	14:30-15:30
Río	11:30	15:15-15:30	10:15

	9/6/2005 E01A–E04A	9/6/2005 E04A–E02A	9/6/2005 E01A–E02A
wave velocity	393 m/d	384 m/d	382 m/d

[a] The median time stamp (e.g., E01A, 9/6, 15:37) was selected for multiple maximum elevations; lateral distances between E01A-E04A is 6 m and between E04A and E02A is 16 m.
[b] Referenced to mountain standard time.
[c] Indicates a 60-minute sampling interval; all other data were recorded in 15-minute intervals.

Table H-6. Time of maximum water elevations and wave speed[a] calculations during the large magnitude, multi-day flood event 27 September to 6 October 2005

	9/29/2005 time[c]	9/30/2005 time[c]	9/30/2005 time[c]	10/3/2005 time[c]
E01A[b]	11:15-12:15	4:15-4:45	9:30	8:00-8:30
E02A[b]	12:00-12:45	4:45-5:15	9:30	8:00-8:30
wave velocity	856 m/d	1056 m/d	--	--
W05A[b]	10:45	4:15	9:30	7:45
W04A[b]	11:30-12:00	not discer.	9:45	7:15; 8:00-8:30
wave velocity	2688 m/d	--	10752 m/d	5376 m/d

[a] The median time stamp was selected for multiple maximum groundwater elevations; lateral distance between E01A–E02A is 22 m; lateral distance between W05A and W04A is 112 m.
[b] All groundwater elevations were recorded in 15-minute intervals.
[c] Referenced to mountain standard time.

Table H-7. Cross correlation between filtered river stage (m) and groundwater elevation at E01A (m above MSL) 12–16 November 2005 completed in Minitab.

The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates stage_filt_1hr (m)(t) and head E01A (m)(t+k)

```
        -1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
          +----+----+----+----+----+----+----+----+----+----+
-31  0.654                XXXXXXXXXXXXXXXXX
-30  0.664                XXXXXXXXXXXXXXXXXX
-29  0.673                XXXXXXXXXXXXXXXXXX
-28  0.683                XXXXXXXXXXXXXXXXXX
-27  0.693                XXXXXXXXXXXXXXXXXX
-26  0.703                XXXXXXXXXXXXXXXXXXX
```

	stage_filt (m)	E01A_h (m)
mean	8.417	1405.007
std. dev.	0.027	0.018
number	480	480

-25	0.713	XXXXXXXXXXXXXXXXXX
-24	0.723	XXXXXXXXXXXXXXXXXX
-23	0.734	XXXXXXXXXXXXXXXXXX
-22	0.744	XXXXXXXXXXXXXXXXXXX
-21	0.755	XXXXXXXXXXXXXXXXXXX
-20	0.765	XXXXXXXXXXXXXXXXXXX
-19	0.776	XXXXXXXXXXXXXXXXXXX
-18	0.787	XXXXXXXXXXXXXXXXXXXX
-17	0.798	XXXXXXXXXXXXXXXXXXXX
-16	0.809	XXXXXXXXXXXXXXXXXXXX
-15	0.819	XXXXXXXXXXXXXXXXXXXX
-14	0.830	XXXXXXXXXXXXXXXXXXXXX
-13	0.840	XXXXXXXXXXXXXXXXXXXXX
-12	0.850	XXXXXXXXXXXXXXXXXXXXX
-11	0.861	XXXXXXXXXXXXXXXXXXXXXX
-10	0.871	XXXXXXXXXXXXXXXXXXXXXX
-9	0.881	XXXXXXXXXXXXXXXXXXXXXX
-8	0.891	XXXXXXXXXXXXXXXXXXXXXX
-7	0.900	XXXXXXXXXXXXXXXXXXXXXX
-6	0.908	XXXXXXXXXXXXXXXXXXXXXXX
-5	0.916	XXXXXXXXXXXXXXXXXXXXXXX
-4	0.924	XXXXXXXXXXXXXXXXXXXXXXX
-3	0.932	XXXXXXXXXXXXXXXXXXXXXXX
-2	0.939	XXXXXXXXXXXXXXXXXXXXXXX
-1	0.947	XXXXXXXXXXXXXXXXXXXXXXXX
0	**0.955**	XXXXXXXXXXXXXXXXXXXXXXXX
1	0.950	XXXXXXXXXXXXXXXXXXXXXXXX
2	0.944	XXXXXXXXXXXXXXXXXXXXXXXX
3	0.938	XXXXXXXXXXXXXXXXXXXXXXX
4	0.932	XXXXXXXXXXXXXXXXXXXXXXX
5	0.925	XXXXXXXXXXXXXXXXXXXXXXX
6	0.918	XXXXXXXXXXXXXXXXXXXXXXX
7	0.910	XXXXXXXXXXXXXXXXXXXXXXX
8	0.902	XXXXXXXXXXXXXXXXXXXXXXX
9	0.893	XXXXXXXXXXXXXXXXXXXXXX
10	0.884	XXXXXXXXXXXXXXXXXXXXXX
11	0.875	XXXXXXXXXXXXXXXXXXXXXX
12	0.866	XXXXXXXXXXXXXXXXXXXXXX
13	0.856	XXXXXXXXXXXXXXXXXXXXX
14	0.847	XXXXXXXXXXXXXXXXXXXXX
15	0.837	XXXXXXXXXXXXXXXXXXXXX
16	0.827	XXXXXXXXXXXXXXXXXXXXX
17	0.817	XXXXXXXXXXXXXXXXXXXX
18	0.806	XXXXXXXXXXXXXXXXXXXX
19	0.796	XXXXXXXXXXXXXXXXXXXX
20	0.784	XXXXXXXXXXXXXXXXXXXX
21	0.773	XXXXXXXXXXXXXXXXXXX
22	0.762	XXXXXXXXXXXXXXXXXXX
23	0.750	XXXXXXXXXXXXXXXXXXX
24	0.738	XXXXXXXXXXXXXXXXXX
25	0.725	XXXXXXXXXXXXXXXXXX
26	0.712	XXXXXXXXXXXXXXXXXX
27	0.700	XXXXXXXXXXXXXXXXX
28	0.686	XXXXXXXXXXXXXXXXX
29	0.673	XXXXXXXXXXXXXXXXX
30	0.660	XXXXXXXXXXXXXXXX
31	0.647	XXXXXXXXXXXXXXXX

Table H-8. Cross correlation between filtered river stage (m) and groundwater elevation at E02A (m above MSL) 12–16 November 2005 completed in Minitab.

The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates stage_filt_1hr (m)(t) and head E02A (m)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
-31	0.647 XXXXXXXXXXXXXXXXX
-30	0.656 XXXXXXXXXXXXXXXXX
-29	0.665 XXXXXXXXXXXXXXXXX
-28	0.675 XXXXXXXXXXXXXXXXX
-27	0.685 XXXXXXXXXXXXXXXXX
-26	0.695 XXXXXXXXXXXXXXXXX
-25	0.705 XXXXXXXXXXXXXXXXXX
-24	0.715 XXXXXXXXXXXXXXXXXX
-23	0.725 XXXXXXXXXXXXXXXXXX
-22	0.735 XXXXXXXXXXXXXXXXXX
-21	0.746 XXXXXXXXXXXXXXXXXXX
-20	0.756 XXXXXXXXXXXXXXXXXXX
-19	0.767 XXXXXXXXXXXXXXXXXXX
-18	0.778 XXXXXXXXXXXXXXXXXXX
-17	0.789 XXXXXXXXXXXXXXXXXXXX
-16	0.799 XXXXXXXXXXXXXXXXXXXX
-15	0.809 XXXXXXXXXXXXXXXXXXXX
-14	0.820 XXXXXXXXXXXXXXXXXXXX
-13	0.830 XXXXXXXXXXXXXXXXXXXXX
-12	0.840 XXXXXXXXXXXXXXXXXXXXX
-11	0.851 XXXXXXXXXXXXXXXXXXXXX
-10	0.861 XXXXXXXXXXXXXXXXXXXXXX
-9	0.871 XXXXXXXXXXXXXXXXXXXXXX
-8	0.881 XXXXXXXXXXXXXXXXXXXXXX
-7	0.890 XXXXXXXXXXXXXXXXXXXXXX
-6	0.898 XXXXXXXXXXXXXXXXXXXXXX
-5	0.906 XXXXXXXXXXXXXXXXXXXXXXX
-4	0.914 XXXXXXXXXXXXXXXXXXXXXXX
-3	0.922 XXXXXXXXXXXXXXXXXXXXXXX
-2	0.930 XXXXXXXXXXXXXXXXXXXXXXX
-1	0.938 XXXXXXXXXXXXXXXXXXXXXXX
0	**0.946** XXXXXXXXXXXXXXXXXXXXXXX
1	0.942 XXXXXXXXXXXXXXXXXXXXXXX
2	0.937 XXXXXXXXXXXXXXXXXXXXXXX
3	0.931 XXXXXXXXXXXXXXXXXXXXXXX
4	0.925 XXXXXXXXXXXXXXXXXXXXXXX
5	0.919 XXXXXXXXXXXXXXXXXXXXXXX
6	0.913 XXXXXXXXXXXXXXXXXXXXXXX
7	0.905 XXXXXXXXXXXXXXXXXXXXXXX
8	0.898 XXXXXXXXXXXXXXXXXXXXXX
9	0.890 XXXXXXXXXXXXXXXXXXXXXX
10	0.882 XXXXXXXXXXXXXXXXXXXXXX
11	0.873 XXXXXXXXXXXXXXXXXXXXXX
12	0.864 XXXXXXXXXXXXXXXXXXXXXX
13	0.855 XXXXXXXXXXXXXXXXXXXXX
14	0.847 XXXXXXXXXXXXXXXXXXXXX
15	0.838 XXXXXXXXXXXXXXXXXXXXX
16	0.828 XXXXXXXXXXXXXXXXXXXXX
17	0.818 XXXXXXXXXXXXXXXXXXXX
18	0.808 XXXXXXXXXXXXXXXXXXXX
19	0.798 XXXXXXXXXXXXXXXXXXXX
20	0.787 XXXXXXXXXXXXXXXXXXXX
21	0.776 XXXXXXXXXXXXXXXXXXX
22	0.765 XXXXXXXXXXXXXXXXXXX
23	0.753 XXXXXXXXXXXXXXXXXXX
24	0.741 XXXXXXXXXXXXXXXXXXX
25	0.729 XXXXXXXXXXXXXXXXXX
26	0.716 XXXXXXXXXXXXXXXXXX

	stage_filt (m)	E02A_h (m)
mean	8.417	1404.921
std. dev.	0.027	0.017
number	480	480

27	0.704	XXXXXXXXXXXXXXXXXX
28	0.690	XXXXXXXXXXXXXXXXX
29	0.677	XXXXXXXXXXXXXXXXX
30	0.663	XXXXXXXXXXXXXXXXX
31	0.650	XXXXXXXXXXXXXXXX

Figure H-3a

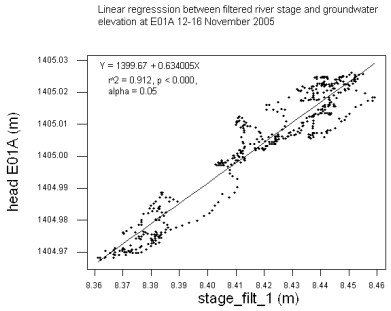


Figure H-4a

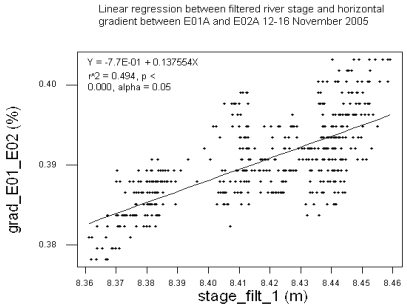


Figure H-3b

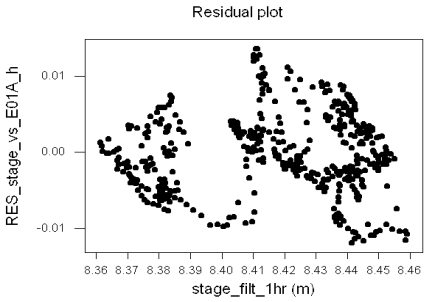


Figure H-4b

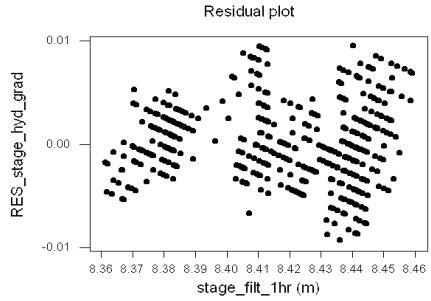


Table H-9. Diurnal head change of stream and aquifer water level responses during high river stage 12–16 November 2005.

Date	Río Grande	Río (filtered)	ESC-E01A	ESC-E04A[a]	ESC-E04B[a]	ESC-E05EX[a]	ESC-E02A
	mm	mm	mm	mm	mm	mm	mm
11/12/2005	43	28	21	19	20	20	20
11/13/2005	61	49	43	42	42	42	41
11/14/2005	49	43	28	28	27	28	27
11/15/2005	46	35	22	20	21	21	21
11/16/2005	46	39	24	21	21	21	23

[a] Indicates a 60-minute sampling interval; all other data were recorded in 15-minute intervals.

Table H-10. Cross correlation between filtered river stage (m) and horizontal hydraulic gradient between E01A and E01A (%) 12–16 November 2005 completed in Minitab.

The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates stage_filt_1hr (m)(t) and grad_E01_E02 (%)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
	+----+----+----+----+----+----+----+----+----+----+
-31	0.497 XXXXXXXXXXXX
-30	0.507 XXXXXXXXXXXXX
-29	0.517 XXXXXXXXXXXXX
-28	0.525 XXXXXXXXXXXXX

	stage_filt (m)	horiz_grad (%)
mean	8.417	0.390
std. dev.	0.027	0.005
number	480	480

-27	0.533	XXXXXXXXXXXXX
-26	0.541	XXXXXXXXXXXXXX
-25	0.549	XXXXXXXXXXXXXX
-24	0.556	XXXXXXXXXXXXXX
-23	0.564	XXXXXXXXXXXXXX
-22	0.573	XXXXXXXXXXXXXX
-21	0.582	XXXXXXXXXXXXXXX
-20	0.590	XXXXXXXXXXXXXXX
-19	0.598	XXXXXXXXXXXXXXX
-18	0.607	XXXXXXXXXXXXXXX
-17	0.616	XXXXXXXXXXXXXXX
-16	0.626	XXXXXXXXXXXXXXXX
-15	0.635	XXXXXXXXXXXXXXXX
-14	0.641	XXXXXXXXXXXXXXXX
-13	0.649	XXXXXXXXXXXXXXXX
-12	0.656	XXXXXXXXXXXXXXXX
-11	0.662	XXXXXXXXXXXXXXXXX
-10	0.668	XXXXXXXXXXXXXXXXX
-9	0.673	XXXXXXXXXXXXXXXXX
-8	0.676	XXXXXXXXXXXXXXXXX
-7	0.681	XXXXXXXXXXXXXXXXX
-6	0.687	XXXXXXXXXXXXXXXXX
-5	0.691	XXXXXXXXXXXXXXXXX
-4	0.695	XXXXXXXXXXXXXXXXX
-3	0.697	XXXXXXXXXXXXXXXXX
-2	0.699	XXXXXXXXXXXXXXXXX
-1	0.702	XXXXXXXXXXXXXXXXXX
0	**0.703**	XXXXXXXXXXXXXXXXXX
1	0.693	XXXXXXXXXXXXXXXXX
2	0.681	XXXXXXXXXXXXXXXXX
3	0.667	XXXXXXXXXXXXXXXXX
4	0.653	XXXXXXXXXXXXXXXX
5	0.641	XXXXXXXXXXXXXXXX
6	0.627	XXXXXXXXXXXXXXXX
7	0.612	XXXXXXXXXXXXXXX
8	0.595	XXXXXXXXXXXXXXX
9	0.577	XXXXXXXXXXXXXX
10	0.562	XXXXXXXXXXXXXX
11	0.549	XXXXXXXXXXXXXX
12	0.534	XXXXXXXXXXXXX
13	0.521	XXXXXXXXXXXXX
14	0.507	XXXXXXXXXXXXX
15	0.493	XXXXXXXXXXXX
16	0.481	XXXXXXXXXXXX
17	0.469	XXXXXXXXXXXX
18	0.455	XXXXXXXXXXX
19	0.443	XXXXXXXXXXX
20	0.432	XXXXXXXXXXX
21	0.419	XXXXXXXXXX
22	0.408	XXXXXXXXXX
23	0.399	XXXXXXXXXX
24	0.389	XXXXXXXXXX
25	0.377	XXXXXXXXX
26	0.367	XXXXXXXXX
27	0.359	XXXXXXXXX
28	0.353	XXXXXXXXX
29	0.345	XXXXXXXXX
30	0.341	XXXXXXXXX
31	0.337	XXXXXXXX

Table H-11. Cross correlation between river temperature (°C) and filtered river stage (m) 12–16 November 2005 completed in Minitab.

The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates river_temp (deg C)(t) and stage_filt_1hr (m)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
	+----+----+----+----+----+----+----+----+----+----+
-31	-0.405 XXXXXXXXXX
-30	-0.394 XXXXXXXXXX
-29	-0.383 XXXXXXXXXX
-28	-0.372 XXXXXXXXX
-27	-0.363 XXXXXXXXX
-26	-0.354 XXXXXXXXX
-25	-0.345 XXXXXXXXX
-24	-0.338 XXXXXXXX
-23	-0.330 XXXXXXXX
-22	-0.323 XXXXXXXX
-21	-0.317 XXXXXXXX
-20	-0.312 XXXXXXXX
-19	-0.307 XXXXXXXX
-18	-0.303 XXXXXXXX
-17	-0.300 XXXXXXXX
-16	-0.298 XXXXXXX
-15	-0.296 XXXXXXX
-14	-0.295 XXXXXXX
-13	-0.294 XXXXXXX
-12	-0.295 XXXXXXX
-11	-0.297 XXXXXXX
-10	-0.300 XXXXXXXX
-9	-0.304 XXXXXXXX
-8	-0.309 XXXXXXXX
-7	-0.315 XXXXXXXX
-6	-0.321 XXXXXXXX
-5	-0.328 XXXXXXXX
-4	-0.336 XXXXXXXX
-3	-0.345 XXXXXXXXX
-2	-0.354 XXXXXXXXX
-1	-0.363 XXXXXXXXX
0	**-0.373 XXXXXXXXX**
1	-0.374 XXXXXXXXX
2	-0.375 XXXXXXXXX
3	-0.376 XXXXXXXXX
4	-0.378 XXXXXXXXX
5	-0.379 XXXXXXXXX
6	-0.381 XXXXXXXXXX
7	-0.383 XXXXXXXXXX
8	-0.384 XXXXXXXXXX
9	-0.386 XXXXXXXXXX
10	-0.388 XXXXXXXXXX
11	-0.389 XXXXXXXXXX
12	-0.391 XXXXXXXXXX
13	-0.394 XXXXXXXXXX
14	-0.396 XXXXXXXXXX
15	-0.398 XXXXXXXXXX
16	-0.401 XXXXXXXXXX
17	-0.403 XXXXXXXXXX
18	-0.405 XXXXXXXXXX
19	-0.407 XXXXXXXXXX
20	-0.409 XXXXXXXXXX
21	-0.411 XXXXXXXXXX
22	-0.412 XXXXXXXXXX
23	-0.414 XXXXXXXXXX
24	-0.415 XXXXXXXXXX
25	-0.416 XXXXXXXXXX
26	-0.417 XXXXXXXXXX
27	-0.418 XXXXXXXXXX

	stage_filt (m)	river temp (°C)
mean	8.417	10.576
std. dev.	0.027	1.478
number	480	480

28	-0.418	XXXXXXXXXX
29	-0.418	XXXXXXXXXX
30	-0.418	XXXXXXXXXX
31	-0.418	XXXXXXXXXX

Table H-12. Cross correlation between (average) net radiation (W/m ^{2}) and river temperature (°C) 12–16 November 2005 completed in Minitab. River temperature was resampled for a 30-minute recording interval.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates Rn_avg (W/m^2)(t) and resamp_water temp deg.C(t+k)

		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+----+----+----+----+----+----+----+----+----+----+----+
-25	0.004	X
-24	-0.026	XX
-23	-0.057	XX
-22	-0.089	XXX
-21	-0.123	XXXX
-20	-0.157	XXXXX
-19	-0.193	XXXXXX
-18	-0.230	XXXXXXX
-17	-0.268	XXXXXXXX
-16	-0.307	XXXXXXXXX
-15	-0.347	XXXXXXXXXX
-14	-0.385	XXXXXXXXXXX
-13	-0.419	XXXXXXXXXXX
-12	-0.446	XXXXXXXXXXXX
-11	-0.465	XXXXXXXXXXXXX
-10	-0.474	XXXXXXXXXXXXX
-9	-0.472	XXXXXXXXXXXXX
-8	-0.456	XXXXXXXXXXXX
-7	-0.427	XXXXXXXXXXXX
-6	-0.384	XXXXXXXXXX
-5	-0.328	XXXXXXXXX
-4	-0.260	XXXXXXXX
-3	-0.182	XXXXXX
-2	-0.096	XXX
-1	-0.006	X
0	0.087	XXX
1	0.174	XXXXX
2	0.255	XXXXXXX
3	0.328	XXXXXXXXX
4	0.388	XXXXXXXXXX
5	0.435	XXXXXXXXXXX
6	0.467	XXXXXXXXXXXX
7	0.485	XXXXXXXXXXXX
8	**0.489**	XXXXXXXXXXXX
9	0.479	XXXXXXXXXXXX
10	0.458	XXXXXXXXXXX
11	0.427	XXXXXXXXXXX
12	0.386	XXXXXXXXXX
13	0.339	XXXXXXXXX
14	0.288	XXXXXXXX
15	0.236	XXXXXXX
16	0.187	XXXXXX
17	0.140	XXXXX
18	0.099	XXX
19	0.061	XXX
20	0.028	XX
21	0.000	X
22	-0.024	XX
23	-0.045	XX
24	-0.064	XXX
25	-0.081	XXX

	river temp (°C)	Rn_avg (W/m^2)
mean	10.581	75.548
std dev	1.476	193.53
number	240	240

APPENDIX I
Conceptual and mathematical model and results of one-dimensional coupled heat and mass transport beneath the streambed

Analytical simulations of coupled heat and mass transport were completed to evaluate the thermal response and resultant hydraulic conductivity variation of the Río Grande streambed. The solution to the one-dimensional, homogeneous, advection-conduction equation in a semi-infinite half-space with a sinusoidal variation in surface temperature and uniform vertical fluid flow was adapted after Stallman (1965) as reproduced by Goto et al. (2005, modified after Equations 4, 5, and 6):

$$T(z,t) = T_{avg} + T_{amp}\exp\left(\frac{vz}{2\kappa} - \frac{z}{2\kappa}\sqrt{\frac{\alpha+v^2}{2}}\right)\cos\left(\frac{2\pi t}{P} - \frac{z}{2\kappa}\sqrt{\frac{\alpha+v^2}{2}}\right) \qquad (A-1)$$

where T, T_{avg}, and T_{amp} are temperature, average daily temperature, and amplitude of the temperature variation, respectively [ºC]; z is depth [L], κ is thermal diffusivity [$L^2 T^{-1}$], P is period [T^{-1}], and t is time [T]. The thermal diffusivity of saturated sediment is defined as the ratio of the saturated thermal conductivity and heat capacity. The thermal boundary condition assumes that the surface temperature variation can be represented by a *cos* function, and effects from thermal dispersion are considered to be negligible. The parameter v [$L T^{-1}$] is a product of the seepage velocity v_f [$L T^{-1}$] and the ratio of the heat capacity of the fluid $(\rho c_p)_f$ and fluid-saturated sediment $(\rho c_p)_m$ given by:

$$v = \frac{(\rho c_p)_f}{(\rho c_p)_m} v_f \qquad (A-2)$$

where ρ [$L M^{-3}$] and c_p [$J L^{-3}ºC^{-1}$] denote the density and specific heat of the fluid and fluid saturated sediment. The parameter α [$L^2 T^{-2}$] is equal to:

$$\alpha = \sqrt{v^4\left[1 + \left(\frac{8\pi\kappa}{Pv^2}\right)^2\right]} \qquad (A-3)$$

Estimates of the physical properties of the streambed were obtained from the results of a conservative tracer experiment discussed previously. Estimates of the thermal properties of a fine-grained streambed are summarized in Table I-1.

Table I-1. Thermal properties used in simulating coupled heat and mass transport beneath the Río Grande streambed.

Fall Average Diurnal Temp. T_{avg}[a]	Fall Diurnal Amplitude T_{amp}[a]	Heat Capacity fluid c_f[b]	Heat capacity Saturated Sediment c_m fine grained[c]
21ºC	5ºC	4.18e6 J/m^{3}ºC	3.56e6 J/m^{3}ºC

Winter Average Diurnal Temp. T_{avg}[a]	Winter Amplitude T_{amp}[a]	Thermal Diffusivity Saturated Sediment κ[c,d]
12ºC	1.5ºC	2.07e-2 m^2/d

[a] Field measurements recorded at the Escondida transect.

[b] Product of specific heat and density of water at 20 ºC converted from Hillel (1998, p. 49).

[c] Reported value of a fine-grained sediment obtained from Lapham (1989, Table 1). Original value was converted.

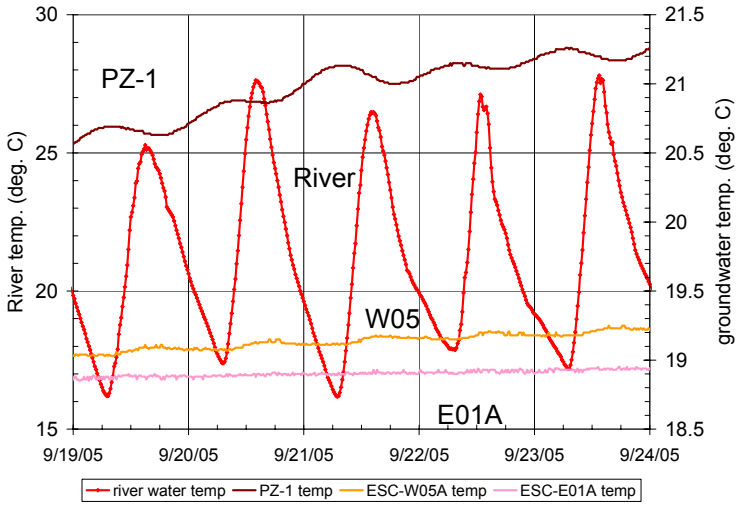
[d] Thermal conductivity of saturated fine-grained sediment is equal to product of the thermal diffusivity and heat capacity.

For streams characterized as losing reaches, previous researchers (e.g., Stonestrom and Constantz, 2003) have demonstrated that a diurnal change in the water temperatures can propagate vertically beneath the streambed. The subsurface temperature profile is strongly a nonlinear function of the thermal diffusivity, fluid velocity, and period of the fluctuations. As a result, the amplitude of the thermal response decays exponentially (Equation A-1). During September 2005 groundwater temperature measurements in the river, streambed, and aquifer indicate that significant quantities of heat were transported across the stream-aquifer interface (Figure I-1). Assuming a sinusoidal diurnal surface temperature change between 16 and 26 °C—representative of conditions measured during late September 2005—and a vertical seepage velocity of 0.3 m/d (Cardenas, 2006), the percent change in subsurface temperature or streambed hydraulic conductivity as a function of depth beneath the streambed was evaluated (Figure I-2a).

A nonlinear response of the change in subsurface temperature (streambed hydraulic conductivity) was calculated for a linear change in vertical seepage velocity. The simulations indicated that a sinusoidal thermal boundary condition significantly affected the subsurface hydrogeologic characteristics up to 0.5 m depth. As expected, the thermal wave penetration depth was strongly dependent on the seepage velocity and period of the fluctuations. A diurnal temperature change of 3˚C during November 2005 penetrated an equivalent depth compared to a 10˚C change, but the magnitude of the thermal response was significantly smaller (Figure I-2b). Sensitivity analyses indicate that the change in subsurface temperatures beneath the streambed was relatively insensitive to the sediment grain size (coarse- versus fine-grained), as evaluated by modifying the thermal diffusivity and heat capacities of the saturated sediments obtained from Lapham (1989, Table 1). Temperature modeling was completed to evaluate a conservative change in subsurface hydraulic properties. Therefore, calibration with measured temperatures in the piezometers was not completed.

Figure I-1. Time series of **(a)** river and groundwater temperatures in two shallow monitoring wells, shallow piezometer and **(b)** three piezometers 19–23 September 2005.

(a)



(b)

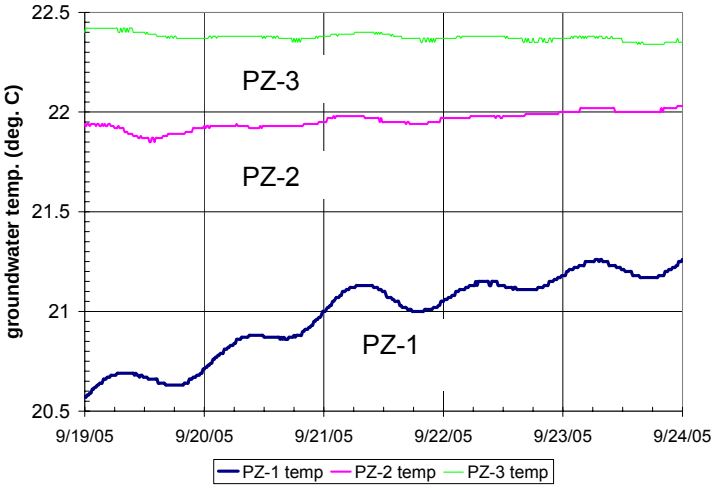
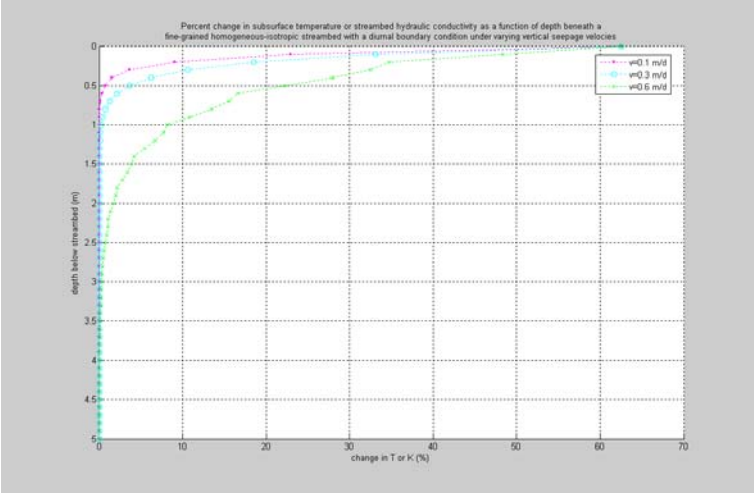
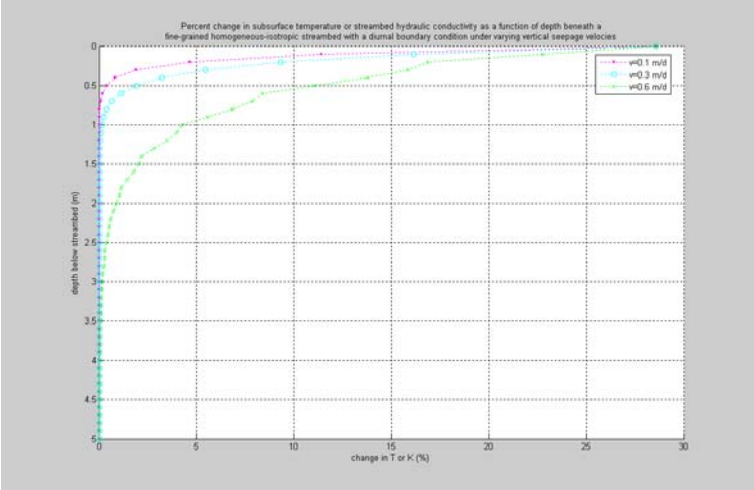


Figure I-2. Percent change in subsurface temperature (inferred streambed hydraulic conductivity) as a function of vertical depth beneath a saturated, fine-grained, homogeneous streambed with a sinusoidal thermal boundary condition under varying vertical seepage velocities. A vertical seepage velocity of 0.3 m/d was measured ~ 0.5 m beneath the channel with a conservative tracer during December 2003 (Cardenas, 2006). **(a)** Percent change in subsurface temperatures for a 10˚C and **(b)** 3˚C diurnal stream temperature change measured on 21 September and 12 November 2005, respectively.

(a)



(b)



Matlab script used to simulate coupled heat and mass transport

```
% Ryan Jakubowski
% 2/15/06

% This code calculates the 1D vertical temperature distribution beneath a fine-grained
homog/iso streambed for a diurnal (approximated as cos function) variation in surface
water temperature
% range in river water temperature data are for 9/21/2005
% river water temperature data, max 26.475, min 16.177, avg 20.960, range 10.298, amplit
5.149 deg. C
% minimum vertical seepage (Darcy) velocity of 1.3 cm/hr or 0.013 m/hr, assuming
effective porosity of 0.3 value obtained from Cardenas' SF_6 tracer injection

% The analytical solution was originally presented by Stallman 1965 and represented by
Goto et al. 2005 JGR
% Analytical solution accounts for coupled 1D (homog/iso) advection and conduction
vertical fluid flow

clear;

% amplitude of river water temp fluctuation (deg C.)
T_amp=5;

% average water temp (deg. C)
T_avg=21;

% circular frequency (rad/hour)
omega=0.261792;

% period (h)
P = 24;

% term 1 thermal diffusivity (m^2/h) min value for fine-grained saturated sediments from
Lapham 1989 Table 1
Kappa_fine=8.64e-4;

% term 2 thermal diffusivity (m^2/h) max value for coarse-grained saturated sediments
from Lapham 1989 Table 1
%%%%%%%%%%%%%%%%%%%%%%%%%%Kappa_coarse=3.53e-3;

% term 1 wet bulk density (kg/m^3) min value for fine-grained saturated sediments from
Lapham 1989
%rho_fine = 1400;

% term 2 wet bulk density (kg/m^3) min value for coarse-grained saturated sediments from
Lapham 1989
%rho_coarse = 2300;

% heat capacity of water (cal/cm^3 C) at 20 deg. C converted from from Hillel 1998, p. 49
density x specific heat
heat_cap_fluid = .998;

% heat capacity (cal/cm^3 C) of fine-grained saturated sediments from Lapham 1989 Table 1
heat_cap_fine = .85;

% heat capacity (cal/cm^3 C) of coarse-grained saturated sediments from Lapham 1989 Table
1
%%%%%%%%%%%%%%%%%%%%%%%%heat_cap_coarse = .60;

% velocity of fluid (m/h) determiend SF_6 tracer; minimum seepage velocity is .013 m/hr

v_fluid_a = .0065; % 0.156 m/d or 0.1 m/d
v_fluid_b = .013; % 0.312 m/d or 0.3 m/d, which was measured
v_fluid_c = .026; % 0.624 m/d or 0.6 m/d
v_fluid_d = .052; % 1.248 m/d

v_fluid_all = [v_fluid_a, v_fluid_b, v_fluid_c, v_fluid_d];
```

```
% v fine-grained calculated from Eq 3 Goto et al. 2005
v_fine_a = ((heat_cap_fluid / heat_cap_fine) * v_fluid_a );
v_fine_b = ((heat_cap_fluid / heat_cap_fine) * v_fluid_b );
v_fine_c = ((heat_cap_fluid / heat_cap_fine) * v_fluid_c );
v_fine_d = ((heat_cap_fluid / heat_cap_fine) * v_fluid_d );

% alpha (m^2/h^2) fine-grained calcualted from Eq 6 Goto et al. 2005
alpha_fine_a = (v_fine_a^4 * (1 + ( (8*3.14159*Kappa_fine) / (P*(v_fine_a^2)))^2))^.5;
alpha_fine_b = (v_fine_b^4 * (1 + ( (8*3.14159*Kappa_fine) / (P*(v_fine_b^2)))^2))^.5;
alpha_fine_c = (v_fine_c^4 * (1 + ( (8*3.14159*Kappa_fine) / (P*(v_fine_c^2)))^2))^.5;
alpha_fine_d = (v_fine_d^4 * (1 + ( (8*3.14159*Kappa_fine) / (P*(v_fine_d^2)))^2))^.5;

% depth below land surface (m)
z=[0:.1:5];

% various times (hours)
t0=0;
t1=4;
t2=8;
t3=12;
t4=16;
t5=20;

sqrt_plus_fine_a = (((alpha_fine_a + (v_fine_a^2))/2)^.5);
sqrt_plus_fine_b = (((alpha_fine_b + (v_fine_b^2))/2)^.5);
sqrt_plus_fine_c = (((alpha_fine_c + (v_fine_c^2))/2)^.5);
sqrt_plus_fine_d = (((alpha_fine_d + (v_fine_d^2))/2)^.5);

sqrt_minus_fine_a = (((alpha_fine_a - (v_fine_a^2))/2)^.5);
sqrt_minus_fine_b = (((alpha_fine_b - (v_fine_b^2))/2)^.5);
sqrt_minus_fine_c = (((alpha_fine_c - (v_fine_c^2))/2)^.5);
sqrt_minus_fine_d = (((alpha_fine_d - (v_fine_d^2))/2)^.5);

exponent_fine_a =  (2.718281828.^(((v_fine_a .* z)./(2 .* Kappa_fine)) - ((z ./ (2 .*
Kappa_fine)) .* sqrt_plus_fine_a)));
exponent_fine_b =  (2.718281828.^(((v_fine_b .* z)./(2 .* Kappa_fine)) - ((z ./ (2 .*
Kappa_fine)) .* sqrt_plus_fine_b)));
exponent_fine_c =  (2.718281828.^(((v_fine_c .* z)./(2 .* Kappa_fine)) - ((z ./ (2 .*
Kappa_fine)) .* sqrt_plus_fine_c)));
exponent_fine_d =  (2.718281828.^(((v_fine_d .* z)./(2 .* Kappa_fine)) - ((z ./ (2 .*
Kappa_fine)) .* sqrt_plus_fine_d)));


% temp calculations for thermal diffusivity of saturated fine-grained sediment
T0a = T_avg + (T_amp .* exponent_fine_a .* (cos ( ((6.28319*t0)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_a))));
T0b = T_avg + (T_amp .* exponent_fine_b .* (cos ( ((6.28319*t0)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_b))));
T0c = T_avg + (T_amp .* exponent_fine_c .* (cos ( ((6.28319*t0)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_c))));
T0d = T_avg + (T_amp .* exponent_fine_d .* (cos ( ((6.28319*t0)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_d))));

T1a = T_avg + (T_amp .* exponent_fine_a .* (cos ( ((6.28319*t1)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_a))));
T1b = T_avg + (T_amp .* exponent_fine_b .* (cos ( ((6.28319*t1)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_b))));
T1c = T_avg + (T_amp .* exponent_fine_c .* (cos ( ((6.28319*t1)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_c))));
T1d = T_avg + (T_amp .* exponent_fine_d .* (cos ( ((6.28319*t1)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_d))));

T2a = T_avg + (T_amp .* exponent_fine_a .* (cos ( ((6.28319*t2)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_a))));
T2b = T_avg + (T_amp .* exponent_fine_b .* (cos ( ((6.28319*t2)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_b))));
T2c = T_avg + (T_amp .* exponent_fine_c .* (cos ( ((6.28319*t2)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_c))));
T2d = T_avg + (T_amp .* exponent_fine_d .* (cos ( ((6.28319*t2)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_d))));
```

```
T3a = T_avg + (T_amp .* exponent_fine_a .* (cos ( ((6.28319*t3)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_a))));
T3b = T_avg + (T_amp .* exponent_fine_b .* (cos ( ((6.28319*t3)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_b))));
T3c = T_avg + (T_amp .* exponent_fine_c .* (cos ( ((6.28319*t3)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_c))));
T3d = T_avg + (T_amp .* exponent_fine_d .* (cos ( ((6.28319*t3)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_d))));

T4a = T_avg + (T_amp .* exponent_fine_a .* (cos ( ((6.28319*t4)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_a))));
T4b = T_avg + (T_amp .* exponent_fine_b .* (cos ( ((6.28319*t4)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_b))));
T4c = T_avg + (T_amp .* exponent_fine_c .* (cos ( ((6.28319*t4)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_c))));
T4d = T_avg + (T_amp .* exponent_fine_d .* (cos ( ((6.28319*t4)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_d))));

T5a = T_avg + (T_amp .* exponent_fine_a .* (cos ( ((6.28319*t5)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_a))));
T5b = T_avg + (T_amp .* exponent_fine_b .* (cos ( ((6.28319*t5)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_b))));
T5c = T_avg + (T_amp .* exponent_fine_c .* (cos ( ((6.28319*t5)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_c))));
T5d = T_avg + (T_amp .* exponent_fine_d .* (cos ( ((6.28319*t5)/P) - ((z / (2 *
Kappa_fine)) * sqrt_minus_fine_d))));

% ------------------------------------------------------

% create a matrix of T along columns and x along rows
% first row is z and other rows are T at different times
% first column at z=0, second column is z=depth spatial step, etc.
% b is equal to measured vertical seepage velocity of 0.3 m/d

T_x_b = [z;T0b;T1b;T2b;T3b;T4b;T5b];
T_b = [T0b;T1b;T2b;T3b;T4b;T5b];

% E0S: density of water as a function of water temperature units are kg/m^3,
% Dingman 2002 equation B-3 page 542
% b is equal to measured vertical seepage velocity of 0.3 m/d
rho_T_b = (1000 - (0.019549 .* ((T_b-3.98).^1.68)));


% EOS: dynamic viscosity as a function of water temperature units are Ns/m^2
% viscosity equation B-12 page 545
% b is equal to measured vertical seepage velocity of 0.3 m/d
mu_T_b = 0.00020319 + ((0.0015883) .* (2.718281828 .^ -((T_b.^0.9)./22)));

% intrinsic permeability in m^2, value obtained by converting hydraulic conductivity
obtained from 48-hour aquifer test at Escondida,
% and assuming water temperature of 20 deg. C to convert to k; also value of clean sand
from Freeze and Cherry 1979,
k = 1e-13;

% average gravitational acceleration constant in m^2/s
g = 9.8066;

% K-k equation: K = (rho*g*k / mu) units are in m/s
% b is equal to measured vertical seepage velocity of 0.3 m/d
K_b_meter_sec = ((g * rho_T_b * k) ./ mu_T_b);

% convert to m/d
K_b_meter_day = K_b_meter_sec .* 86400;

%K_z_data_b = [T0b;T1b;T2b;T3b;T4b;T5b];

%for i=1:51
%    Max_K_b_meter_day(i) = max(Max_K_b_meter_DAY(:,i));
%    Min_K_b_meter_day(i) = min(Max_K_b_meter_DAY(:,i));
%    Perecent_Diff_K_data_fine_a(i) = ((Max_Temp_z_data_fine_a(i) -
Min_Temp_z_data_fine_a(i))/Min_Temp_z_data_fine_a(i))*100;
```

```
%end


% -------------------------------------------------------

temp_z_data_FINE_a = [T0a;T1a;T2a;T3a;T4a;T5a];
temp_z_data_FINE_b = [T0b;T1b;T2b;T3b;T4b;T5b];
temp_z_data_FINE_c = [T0c;T1c;T2c;T3c;T4c;T5c];
temp_z_data_FINE_d = [T0d;T1d;T2d;T3d;T4d;T5d];

for i=1:51
    Max_Temp_z_data_fine_a(i) = max(temp_z_data_FINE_a(:,i));
    Min_Temp_z_data_fine_a(i) = min(temp_z_data_FINE_a(:,i));
    Perecent_Diff_z_data_fine_a(i) = ((Max_Temp_z_data_fine_a(i) -
Min_Temp_z_data_fine_a(i))/Min_Temp_z_data_fine_a(i))*100;
end

for i=1:51
    Max_Temp_z_data_fine_b(i) = max(temp_z_data_FINE_b(:,i));
    Min_Temp_z_data_fine_b(i) = min(temp_z_data_FINE_b(:,i));
    Perecent_Diff_z_data_fine_b(i) = ((Max_Temp_z_data_fine_b(i) -
Min_Temp_z_data_fine_b(i))/Min_Temp_z_data_fine_b(i))*100;
end

for i=1:51
    Max_Temp_z_data_fine_c(i) = max(temp_z_data_FINE_c(:,i));
    Min_Temp_z_data_fine_c(i) = min(temp_z_data_FINE_c(:,i));
    Perecent_Diff_z_data_fine_c(i) = ((Max_Temp_z_data_fine_c(i) -
Min_Temp_z_data_fine_c(i))/Min_Temp_z_data_fine_c(i))*100;
end

for i=1:51
    Max_Temp_z_data_fine_d(i) = max(temp_z_data_FINE_d(:,i));
    Min_Temp_z_data_fine_d(i) = min(temp_z_data_FINE_d(:,i));
    Perecent_Diff_z_data_fine_d(i) = ((Max_Temp_z_data_fine_d(i) -
Min_Temp_z_data_fine_d(i))/Min_Temp_z_data_fine_d(i))*100;
end


% -------------------------------------------------------

z_pene_a = (2 * Kappa_fine) / (sqrt_plus_fine_a - v_fine_a);
z_pene_b = (2 * Kappa_fine) / (sqrt_plus_fine_b - v_fine_b);
z_pene_c = (2 * Kappa_fine) / (sqrt_plus_fine_c - v_fine_c);
z_pene_d = (2 * Kappa_fine) / (sqrt_plus_fine_d - v_fine_d);

z_pene_all_fine = [z_pene_a, z_pene_b, z_pene_c, z_pene_d];

% -------------------------------------------------------


% plots for fine-grained sediment
figure(1)

subplot(2,2,1)
title({'Temperature distribution as a function of time' , 'beneath a fine-grained
homogeneous streambed' , 'with a periodic boundary condition'} )
set(gca,'yDir', 'reverse')
hold on
plot(T0a,z)
plot(T1a,z)
plot(T2a,z)
plot(T3a,z)
plot(T4a,z)
plot(T5a,z)

ylabel('depth below streambed (m)')
xlabel('temp (deg. C)')
hold off

subplot(2,2,2)
```

```
title({'Temperature distribution as a function of time' , 'beneath a fine-grained
homogeneous streambed' , 'with a periodic boundary condition'} )
set(gca,'yDir', 'reverse')
hold on
plot(T0b,z)
plot(T1b,z)
plot(T2b,z)
plot(T3b,z)
plot(T4b,z)
plot(T5b,z)
ylabel('depth below streambed (m)')
xlabel('temp (deg. C)')

hold off

subplot(2,2,3)
set(gca,'yDir', 'reverse')
hold on
plot(T0c,z)
plot(T1c,z)
plot(T2c,z)
plot(T3c,z)
plot(T4c,z)
plot(T5c,z)
ylabel('depth below streambed (m)')
xlabel('temp (deg. C)')

hold off

subplot(2,2,4)
set(gca,'yDir', 'reverse')
hold on
plot(T0d,z)
plot(T1d,z)
plot(T2d,z)
plot(T3d,z)
plot(T4d,z)
plot(T5d,z)
ylabel('depth below streambed (m)')
xlabel('temp (deg. C)')

hold off



% plots for %-change in T/K for varying vertical fluid velocities
figure(2)
hold on
grid on
set(gca,'yDir', 'reverse')

plot(Perecent_Diff_z_data_fine_a, z, 'm:.');
plot(Perecent_Diff_z_data_fine_b, z, 'c:o');
plot(Perecent_Diff_z_data_fine_c, z, 'g:x');
%plot(Perecent_Diff_z_data_fine_d, z, 'm:+');

ylabel('depth below streambed (m)')
xlabel('change in T or K (%)')
title({'Percent change in subsurface temperature or streambed hydraulic conductivity as a
function of depth beneath a' , 'fine-grained homogeneous-isotropic streambed with a
diurnal boundary condition under varying vertical seepage velocities'})
hold off
legend('v=0.1 m/d','v=0.3 m/d','v=0.6 m/d')


% plots for specific penetration depths for varying vertical fluid velocities
figure(3)
plot(v_fluid_all, z_pene_all_fine, 'b:o');
set(gca,'yDir', 'reverse')
ylabel('penetration depth where amplitude decays to e^-1 (m)')
xlabel('fluid velocity (m/h)')
```

```
title({'Specific penetration depths beneath a fine-grained homogeneous streambed for a
periodic boundary condition under varying vertical velocities'})

% plot for measured vertical seepage velocity
figure(4)

title({'Temperature distribution as a function of time' , 'beneath a fine-grained
homogeneous streambed' , 'with a periodic boundary condition'} )
set(gca,'yDir', 'reverse')
hold on
axis([16 26 0 1.5])
plot(T0b,z)
plot(T1b,z)
plot(T2b,z)
plot(T3b,z)
plot(T4b,z)
plot(T5b,z)
ylabel('depth below streambed (m)')
xlabel('temp (deg. C)')

hold off
```

Matlab script used to calculate change in streambed hydraulic conductivity and flux as a function of river temperature

```
% Ryan Jakubowski
% 3/6/06

% This code evaluates the change in streambed hydraulic conductivity as a fuction of
river temperature.
% The percent change in fluid density, dynamic viscosity, and streambed
% hydraulic conductivity is also calculated.
% The change in streambed hydraulic conductivity conservatively assumes
% that the river temperature is equal to streambed temperature (not necessarily true)

clear;

% Equations of state for water were obtained from Dingman 2002
% density equation B-3 page 542
% dynamic viscosity equation B-12 page 545

% Code calculates that for a diurnal river temperature change from 17 to
% 27 ºC would result in a percent increase of 26.8% in fluid viscosity and
% a 0.2% change in fluid density, i.e. changes in streambed hydraulic
% conductivity are more sensitive to changes in dynamic viscosity of the
% fluid.

load('river_temp_30min_Sept_19_28_2005.txt'); %river temp (deg.C) 19-28 Sept 2005

%T = river_temp_15min_Sept_19_28_2005(:,1);
T = river_temp_30min_Sept_19_28_2005(:,1);

% gravitational constant in m/s^2
g = 9.8066;

% water temperature in deg. C
%T = [17:1:27];
%T = [9.11:.01:11.73];
%T = [16:.02:28];

%T = [9:0.2:12];
%T = 19.413;

% density of water as a function of water temperature
rho = (1000 - (0.019549 .* ((T-3.98).^1.68)));

% dynamic viscosity as a function of water temperature units are Ns/m^2
mu = 0.00020319 + ((0.0015883) .* (2.718281828 .^ -((T.^0.9)./22)));

% permeability range from Freeze and Cherry , table 2.2, page 29, units are m^2
% range from mid-gravel, clean-sand, silty sand, and silty loess
% k for clean sand modified to best fit measured K_streambed
k_gravel = 1e-9;
k_clean_sand = 1.2e-11;
k_silty_sand = 1e-13;
k_silty_loess = 1e-15;

% Muskat equation evaluating hydraulic conductivity (m/s) as a function of
% water temperature and intrinsic permeability
K_gravel = ((g .* rho .* k_gravel)./mu);
K_clean_sand = ((g .* rho .* k_clean_sand)./mu);
K_silty_sand = ((g .* rho .* k_silty_sand)./mu);
K_silty_loess = ((g .* rho .* k_silty_loess)./mu);

% convert m/s to m/d
K_m_d_clean_sand = K_clean_sand * 86400;
K_m_d_silty_sand = K_silty_sand * 86400;

percent_incr_K_silty_sand = (max(K_silty_sand) - min(K_silty_sand)) ./
(min(K_silty_sand))


figure(1)
subplot(2,2,1)
```

```
plot(T,K_m_d_clean_sand)
xlabel('water temperature (deg. C)')
ylabel('K (m/d)')
title('Clean sand where k = 1e-11 m^2 ')

subplot(2,2,2)
plot(T,K_m_d_silty_sand)
xlabel('water temperature (deg. C)')
ylabel('K (m/d)')
title('Silty sand where k = 1e-13 m^2')

% second set of plots

figure(3)
plot(T,K_silty_sand)
xlabel('water temperature (deg. C)')
ylabel('Hydraulic conductivity (m/s)')
title('K as a function of temperature')


percent_incr2_rho = ((max(rho) - min(rho)) / (min(rho)))*100
percent_incr3_mu = ((max(mu) - min(mu)) / (min(mu)))*100

max_rho = max(rho)
min_rho = min(rho)
```

Table I-2. Temperature distribution (ºC) during late September 2005 with a vertical seepage velocity of 0.3 m/d.

depth	time (h)					
z (m)	0	4	8	12	16	20
0	26	23.5	18.5	16	18.5	23.5
0.1	22.399	23.986	22.587	19.601	18.014	19.413
0.2	19.997	21.778	22.781	22.003	20.222	19.219
0.3	19.939	20.369	21.43	22.061	21.631	20.57
0.4	20.765	20.369	20.604	21.235	21.631	21.396
0.5	21.247	20.872	20.625	20.753	21.128	21.375
0.6	21.222	21.154	20.932	20.778	20.846	21.068
0.7	21.036	21.132	21.096	20.964	20.868	20.904
0.8	20.941	21.019	21.078	21.059	20.981	20.922
0.9	20.954	20.963	21.009	21.046	21.037	20.991
1	20.995	20.973	20.977	21.005	21.027	21.023
1.1	21.014	20.998	20.984	20.986	21.002	21.016
1.2	21.009	21.009	20.999	20.991	20.991	21.001
1.3	21	21.006	21.005	21	20.994	20.995
1.4	20.997	21	21.003	21.003	21	20.997
1.5	20.998	20.998	21	21.002	21.002	21
1.6	21	20.999	20.999	21	21.001	21.001
1.7	21.001	21	20.999	20.999	21	21.001
1.8	21	21	21	21	21	21
1.9	21	21	21	21	21	21
2	21	21	21	21	21	21
2.1	21	21	21	21	21	21
2.2	21	21	21	21	21	21
2.3	21	21	21	21	21	21
2.4	21	21	21	21	21	21
2.5	21	21	21	21	21	21
2.6	21	21	21	21	21	21
2.7	21	21	21	21	21	21
2.8	21	21	21	21	21	21
2.9	21	21	21	21	21	21
3	21	21	21	21	21	21
3.1	21	21	21	21	21	21
3.2	21	21	21	21	21	21
3.3	21	21	21	21	21	21
3.4	21	21	21	21	21	21
3.5	21	21	21	21	21	21
3.6	21	21	21	21	21	21
3.7	21	21	21	21	21	21
3.8	21	21	21	21	21	21
3.9	21	21	21	21	21	21
4	21	21	21	21	21	21
4.1	21	21	21	21	21	21
4.2	21	21	21	21	21	21
4.3	21	21	21	21	21	21
4.4	21	21	21	21	21	21
4.5	21	21	21	21	21	21
4.6	21	21	21	21	21	21
4.7	21	21	21	21	21	21
4.8	21	21	21	21	21	21
4.9	21	21	21	21	21	21
5	21	21	21	21	21	21

APPENDIX J
Stage-discharge relationship of the Río Grande at Escondida

Rating curve of stage-discharge relationship at the Escondida bridge USGS gauge.
obtained from Lynn Miller May 2006. Discharge was calculated during
September and November 2005 for discussion of diurnal stream-aquifer interactions.
A cross section measurement completed by the USGS is also included.

English units		Metric units	
river stage from sensor	discharge measured	river stage from sensor	discharge measured
(ft)	Q (ft3/s)	(m)	(m3/s)
22.8	1	6.9	0.0
22.9	1.3	7.0	0.0
23	1.6	7.0	0.0
23.1	2	7.0	0.1
23.2	2.6	7.1	0.1
23.3	3.2	7.1	0.1
23.4	3.9	7.1	0.1
23.5	4.8	7.2	0.1
23.6	5.9	7.2	0.2
23.7	7.1	7.2	0.2
23.8	8.6	7.3	0.2
23.9	10.3	7.3	0.3
24	12.4	7.3	0.4
24.1	14.7	7.3	0.4
24.2	17.4	7.4	0.5
24.3	20.6	7.4	0.6
24.4	24.2	7.4	0.7
24.5	28.4	7.5	0.8
24.6	33.1	7.5	0.9
24.7	38.6	7.5	1.1
24.8	44.7	7.6	1.3
24.9	51.7	7.6	1.5
25	59.6	7.6	1.7
25.1	68.6	7.7	1.9
25.2	78.6	7.7	2.2
25.3	89.9	7.7	2.5
25.4	103	7.7	2.9
25.5	117	7.8	3.3
25.6	133	7.8	3.8
25.7	150	7.8	4.2
25.8	169	7.9	4.8
25.9	190	7.9	5.4
26	214	7.9	6.1
26.1	239	8.0	6.8
26.2	268	8.0	7.6
26.3	299	8.0	8.5
26.4	330	8.0	9.3
26.5	363	8.1	10.3
26.6	399	8.1	11.3
26.7	437	8.1	12.4
26.8	479	8.2	13.6
26.9	523	8.2	14.8
27	571	8.2	16.2
27.1	623	8.3	17.6
27.2	679	8.3	19.2
27.3	738	8.3	20.9
27.4	802	8.4	22.7
27.5	871	8.4	24.7
27.6	944	8.4	26.7
27.7	1020	8.4	28.9
27.8	1110	8.5	31.4
27.9	1200	8.5	34.0
28	1290	8.5	36.5
28.1	1390	8.6	39.4
28.2	1500	8.6	42.5

English units		Metric units	
river stage from sensor	discharge measured	river stage from sensor	discharge measured
(ft)	Q (ft3/s)	(m)	(m3/s)
28.3	1620	8.6	45.9
28.4	1740	8.7	49.3
28.5	1870	8.7	53.0
28.6	2010	8.7	56.9
28.7	2160	8.7	61.2
28.8	2310	8.8	65.4
28.9	2480	8.8	70.2
29	2650	8.8	75.0
29.1	2840	8.9	80.4
29.2	3030	8.9	85.8
29.3	3240	8.9	91.7
29.4	3460	9.0	98.0
29.5	3720	9.0	105.3
29.6	3990	9.0	113.0
29.7	4280	9.1	121.2
29.8	4580	9.1	129.7
29.9	4910	9.1	139.0
30	5250	9.1	148.7
30.1	5620	9.2	159.1
30.2	6010	9.2	170.2
30.3	6410	9.2	181.5
30.4	6850	9.3	194.0
30.5	7300	9.3	206.7
30.6	7790	9.3	220.6
30.7	8300	9.4	235.0
30.8	8830	9.4	250.0
30.9	9400	9.4	266.2

Figure J-1.

Stage-discharge relationship at Escondida from USGS rating curve

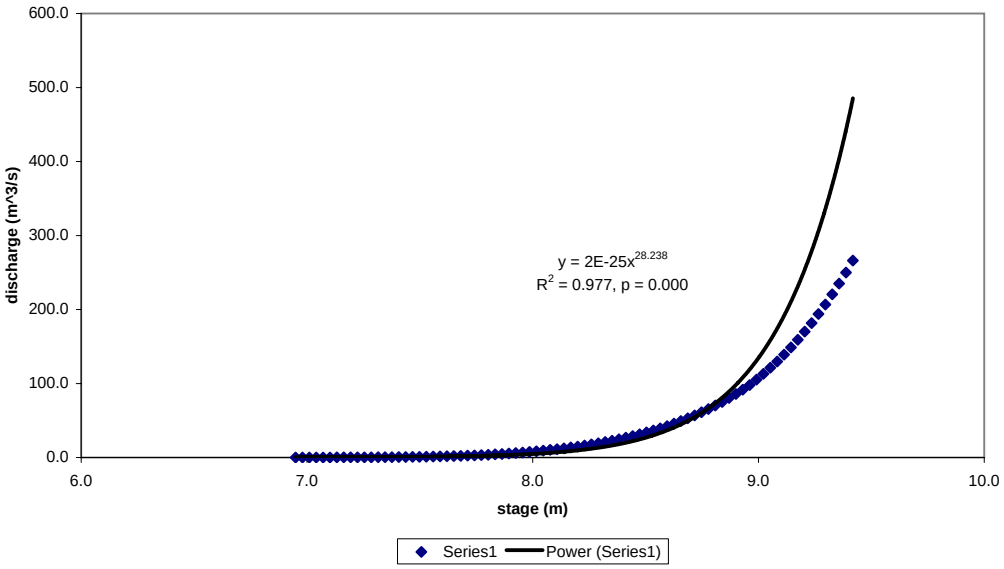
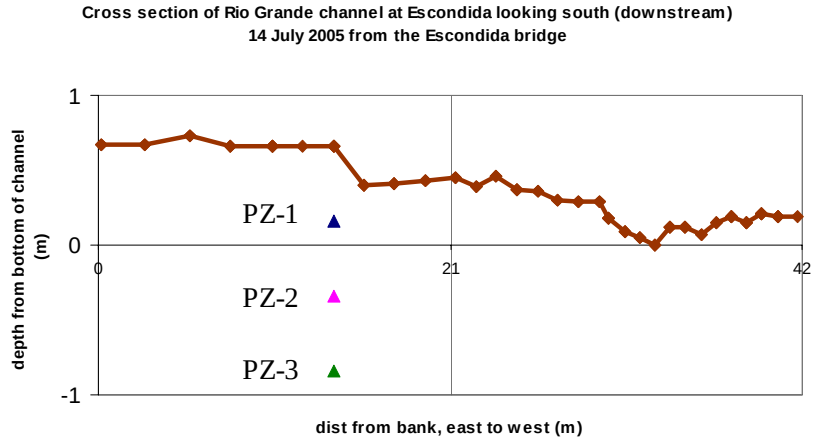


Figure J-2.


Cross section of Rio Grande channel at Escondida looking south (downstream)
14 July 2005 from the Escondida bridge
depth from bottom of channel (m)
1
0
-1
0
21
42
PZ-1
PZ-2
PZ-3
dist from bank, east to west (m)

APPENDIX K
Statistical analyses of water-level responses during low river-stage conditions September 2005

This appendix contains results from cross correlation between piezometers, streamflow and groundwater elevation, and normalized hydrographs, in addition to diurnal river stage and groundwater changes recorded 19–28 September 2005. Cross correlation and linear regression was completed in Minitab.

Detrending was computed in Matlab with the "detrend" algorithm. Normalization involved detrending and calculating the water level deviation from the time series minimum value and dividing by the 24-h range in head. Diurnal head changes during this period are presented in Table K-3.

Table K-1. Cross Correlation between total head in PZ-1 (m) and PZ-2 (m)
19–28 September 2005 completed in Minitab. The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates PZ-1_total head (m)(t) and PZ-2_total head (m)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
	+----+----+----+----+----+----+----+----+----+----+
-40	0.665 XXXXXXXXXXXXXXXXXX
-39	0.672 XXXXXXXXXXXXXXXXXX
-38	0.678 XXXXXXXXXXXXXXXXXX
-37	0.686 XXXXXXXXXXXXXXXXXX
-36	0.693 XXXXXXXXXXXXXXXXXX
-35	0.701 XXXXXXXXXXXXXXXXXXX
-34	0.710 XXXXXXXXXXXXXXXXXXX
-33	0.718 XXXXXXXXXXXXXXXXXXX
-32	0.728 XXXXXXXXXXXXXXXXXXX
-31	0.737 XXXXXXXXXXXXXXXXXXX
-30	0.747 XXXXXXXXXXXXXXXXXXXX
-29	0.757 XXXXXXXXXXXXXXXXXXXX
-28	0.767 XXXXXXXXXXXXXXXXXXXX
-27	0.777 XXXXXXXXXXXXXXXXXXXX
-26	0.788 XXXXXXXXXXXXXXXXXXXXX
-25	0.798 XXXXXXXXXXXXXXXXXXXXX
-24	0.809 XXXXXXXXXXXXXXXXXXXXX
-23	0.819 XXXXXXXXXXXXXXXXXXXXX
-22	0.830 XXXXXXXXXXXXXXXXXXXXXX
-21	0.841 XXXXXXXXXXXXXXXXXXXXXX
-20	0.851 XXXXXXXXXXXXXXXXXXXXXX
-19	0.862 XXXXXXXXXXXXXXXXXXXXXXX
-18	0.872 XXXXXXXXXXXXXXXXXXXXXXX
-17	0.882 XXXXXXXXXXXXXXXXXXXXXXX
-16	0.892 XXXXXXXXXXXXXXXXXXXXXXX
-15	0.902 XXXXXXXXXXXXXXXXXXXXXXXX
-14	0.911 XXXXXXXXXXXXXXXXXXXXXXXX
-13	0.920 XXXXXXXXXXXXXXXXXXXXXXXX
-12	0.929 XXXXXXXXXXXXXXXXXXXXXXXX
-11	0.938 XXXXXXXXXXXXXXXXXXXXXXXX
-10	0.946 XXXXXXXXXXXXXXXXXXXXXXXXX
-9	0.954 XXXXXXXXXXXXXXXXXXXXXXXXX
-8	0.961 XXXXXXXXXXXXXXXXXXXXXXXXX
-7	0.968 XXXXXXXXXXXXXXXXXXXXXXXXX
-6	0.975 XXXXXXXXXXXXXXXXXXXXXXXXX
-5	0.980 XXXXXXXXXXXXXXXXXXXXXXXXXX
-4	0.985 XXXXXXXXXXXXXXXXXXXXXXXXXX
-3	0.990 XXXXXXXXXXXXXXXXXXXXXXXXXX
-2	0.994 XXXXXXXXXXXXXXXXXXXXXXXXXX
-1	0.997 XXXXXXXXXXXXXXXXXXXXXXXXXX
0	**0.999** XXXXXXXXXXXXXXXXXXXXXXXXXX
1	0.997 XXXXXXXXXXXXXXXXXXXXXXXXXX
2	0.994 XXXXXXXXXXXXXXXXXXXXXXXXXX
3	0.991 XXXXXXXXXXXXXXXXXXXXXXXXXX
4	0.987 XXXXXXXXXXXXXXXXXXXXXXXXXX
5	0.982 XXXXXXXXXXXXXXXXXXXXXXXXXX
6	0.977 XXXXXXXXXXXXXXXXXXXXXXXXX
7	0.971 XXXXXXXXXXXXXXXXXXXXXXXXX

	PZ-1_h (m)	PZ-2_h (m)
mean	1.155	1.098
std dev	0.015	0.015
number	960	960

8	0.964	XXXXXXXXXXXXXXXXXXXXXXXXX
9	0.957	XXXXXXXXXXXXXXXXXXXXXXXXX
10	0.950	XXXXXXXXXXXXXXXXXXXXXXXXX
11	0.942	XXXXXXXXXXXXXXXXXXXXXXXXX
12	0.933	XXXXXXXXXXXXXXXXXXXXXXX
13	0.925	XXXXXXXXXXXXXXXXXXXXXXX
14	0.915	XXXXXXXXXXXXXXXXXXXXXXX
15	0.906	XXXXXXXXXXXXXXXXXXXXXXX
16	0.896	XXXXXXXXXXXXXXXXXXXXX
17	0.886	XXXXXXXXXXXXXXXXXXXXX
18	0.876	XXXXXXXXXXXXXXXXXXXXX
19	0.866	XXXXXXXXXXXXXXXXXXXXX
20	0.856	XXXXXXXXXXXXXXXXXXXX
21	0.845	XXXXXXXXXXXXXXXXXXXX
22	0.835	XXXXXXXXXXXXXXXXXXXX
23	0.824	XXXXXXXXXXXXXXXXXXXX
24	0.813	XXXXXXXXXXXXXXXXXXX
25	0.802	XXXXXXXXXXXXXXXXXXX
26	0.792	XXXXXXXXXXXXXXXXXXX
27	0.781	XXXXXXXXXXXXXXXXXXX
28	0.771	XXXXXXXXXXXXXXXXXX
29	0.760	XXXXXXXXXXXXXXXXXX
30	0.750	XXXXXXXXXXXXXXXXXX
31	0.740	XXXXXXXXXXXXXXXXXX
32	0.731	XXXXXXXXXXXXXXXXX
33	0.721	XXXXXXXXXXXXXXXXX
34	0.712	XXXXXXXXXXXXXXXXX
35	0.704	XXXXXXXXXXXXXXXXX
36	0.695	XXXXXXXXXXXXXXXX
37	0.688	XXXXXXXXXXXXXXXX
38	0.680	XXXXXXXXXXXXXXXX
39	0.673	XXXXXXXXXXXXXXXX
40	0.666	XXXXXXXXXXXXXXXX

Table K-2. Cross Correlation between total head in PZ-1 (m) and PZ-3 (m)
19–28 September 2005 completed in Minitab. The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates PZ-1_total head (m)(t) and PZ-3_total head (m)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0			
	+----+----+----+----+----+----+----+----+----+----+			
-40	0.745 XXXXXXXXXXXXXXXXXXXX		PZ-1_h (m)	PZ-3_h (m)
-39	0.748 XXXXXXXXXXXXXXXXXXXX	mean	1.155	1.023
-38	0.750 XXXXXXXXXXXXXXXXXXXX	std dev	0.015	0.013
-37	0.753 XXXXXXXXXXXXXXXXXXXX	number	960	960
-36	0.757 XXXXXXXXXXXXXXXXXXXX			
-35	0.760 XXXXXXXXXXXXXXXXXXXX			
-34	0.764 XXXXXXXXXXXXXXXXXXXX			
-33	0.767 XXXXXXXXXXXXXXXXXXXX			
-32	0.771 XXXXXXXXXXXXXXXXXXXX			
-31	0.775 XXXXXXXXXXXXXXXXXXXX			
-30	0.780 XXXXXXXXXXXXXXXXXXXX			
-29	0.784 XXXXXXXXXXXXXXXXXXXXX			
-28	0.789 XXXXXXXXXXXXXXXXXXXXX			
-27	0.793 XXXXXXXXXXXXXXXXXXXXX			
-26	0.798 XXXXXXXXXXXXXXXXXXXXX			
-25	0.803 XXXXXXXXXXXXXXXXXXXXX			
-24	0.809 XXXXXXXXXXXXXXXXXXXXX			
-23	0.814 XXXXXXXXXXXXXXXXXXXXX			
-22	0.820 XXXXXXXXXXXXXXXXXXXXX			
-21	0.825 XXXXXXXXXXXXXXXXXXXXXX			
-20	0.831 XXXXXXXXXXXXXXXXXXXXXX			
-19	0.837 XXXXXXXXXXXXXXXXXXXXXX			
-18	0.843 XXXXXXXXXXXXXXXXXXXXXX			
-17	0.849 XXXXXXXXXXXXXXXXXXXXXX			
-16	0.855 XXXXXXXXXXXXXXXXXXXXXX			
-15	0.862 XXXXXXXXXXXXXXXXXXXXXXX			

-14	0.868	XXXXXXXXXXXXXXXXXXXXXX
-13	0.874	XXXXXXXXXXXXXXXXXXXXXX
-12	0.881	XXXXXXXXXXXXXXXXXXXXXX
-11	0.887	XXXXXXXXXXXXXXXXXXXXXX
-10	0.893	XXXXXXXXXXXXXXXXXXXXXX
-9	0.900	XXXXXXXXXXXXXXXXXXXXXX
-8	0.906	XXXXXXXXXXXXXXXXXXXXXXX
-7	0.912	XXXXXXXXXXXXXXXXXXXXXXX
-6	0.918	XXXXXXXXXXXXXXXXXXXXXXX
-5	0.924	XXXXXXXXXXXXXXXXXXXXXXX
-4	0.930	XXXXXXXXXXXXXXXXXXXXXXX
-3	0.936	XXXXXXXXXXXXXXXXXXXXXXX
-2	0.941	XXXXXXXXXXXXXXXXXXXXXXXX
-1	0.947	XXXXXXXXXXXXXXXXXXXXXXXX
0	0.952	XXXXXXXXXXXXXXXXXXXXXXXX
1	0.953	XXXXXXXXXXXXXXXXXXXXXXXX
2	0.954	XXXXXXXXXXXXXXXXXXXXXXXX
3	0.955	XXXXXXXXXXXXXXXXXXXXXXXX
4	**0.956**	XXXXXXXXXXXXXXXXXXXXXXXX
5	**0.956**	XXXXXXXXXXXXXXXXXXXXXXXX
6	**0.956**	XXXXXXXXXXXXXXXXXXXXXXXX
7	**0.956**	XXXXXXXXXXXXXXXXXXXXXXXX
8	0.955	XXXXXXXXXXXXXXXXXXXXXXXX
9	0.954	XXXXXXXXXXXXXXXXXXXXXXXX
10	0.953	XXXXXXXXXXXXXXXXXXXXXXXX
11	0.952	XXXXXXXXXXXXXXXXXXXXXXXX
12	0.950	XXXXXXXXXXXXXXXXXXXXXXXX
13	0.949	XXXXXXXXXXXXXXXXXXXXXXXX
14	0.946	XXXXXXXXXXXXXXXXXXXXXXXX
15	0.944	XXXXXXXXXXXXXXXXXXXXXXXX
16	0.941	XXXXXXXXXXXXXXXXXXXXXXXX
17	0.938	XXXXXXXXXXXXXXXXXXXXXXX
18	0.934	XXXXXXXXXXXXXXXXXXXXXXX
19	0.931	XXXXXXXXXXXXXXXXXXXXXXX
20	0.927	XXXXXXXXXXXXXXXXXXXXXXX
21	0.923	XXXXXXXXXXXXXXXXXXXXXXX
22	0.918	XXXXXXXXXXXXXXXXXXXXXXX
23	0.913	XXXXXXXXXXXXXXXXXXXXXXX
24	0.908	XXXXXXXXXXXXXXXXXXXXXXX
25	0.903	XXXXXXXXXXXXXXXXXXXXXXX
26	0.898	XXXXXXXXXXXXXXXXXXXXXX
27	0.892	XXXXXXXXXXXXXXXXXXXXXX
28	0.887	XXXXXXXXXXXXXXXXXXXXXX
29	0.881	XXXXXXXXXXXXXXXXXXXXXX
30	0.875	XXXXXXXXXXXXXXXXXXXXXX
31	0.869	XXXXXXXXXXXXXXXXXXXXXX
32	0.863	XXXXXXXXXXXXXXXXXXXXXX
33	0.857	XXXXXXXXXXXXXXXXXXXX
34	0.852	XXXXXXXXXXXXXXXXXXXX
35	0.846	XXXXXXXXXXXXXXXXXXXX
36	0.840	XXXXXXXXXXXXXXXXXXXX
37	0.835	XXXXXXXXXXXXXXXXXXXX
38	0.829	XXXXXXXXXXXXXXXXXXXX
39	0.823	XXXXXXXXXXXXXXXXXXXX
40	0.818	XXXXXXXXXXXXXXXXXXXX

Table K-3. Diurnal head change of water level responses in streambed and aquifer during low river stage 19–28 September 2005.

Date	Río Grande[b]	PZ-1	PZ-2	PZ-3	ESC-E01A	ESC-E04A[a]	ESC-E04B[a]	ESC-E05EX[a]	ESC-E02A
	mm	mm	mm	mm	mm	mm	mm	mm	mm
9/19/2005	--	22	22	17	36	35	35	34	40
9/20/2005	--	16	16	11	33	34	33	33	38
9/21/2005	--	20	20	15	35	35	35	34	39
9/22/2005	--	14	13	12	30	30	29	28	34
9/23/2005	--	20	20	16	36	36	36	35	40
9/24/2005	31	18	18	14	33	34	34	33	37
9/25/2005	34	15	14	9	30	30	29	29	34
9/26/2005	34	15	15	9	28	30	30	29	33
9/27/2005	--	17	16	10	30	30	30	29	34
9/28/2005	--	16	15	14	26	26	26	26	29
average	--	17	17	13	32	32	32	31	36

[a] Indicates a 60-minute sampling interval; all other data were recorded in 15-minute intervals.

[b] Obtained from river stage measurements filtered with a zero-phase forward and reverse filter with a one-hour moving window.

Table K-4. Cross Correlation between heads at E01A and E02A (m above MSL)
19–28 September 2005 completed in Minitab. The sampling interval was 15-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates E01A_head (m)(t) and E02A_head (m)(t+k)

```
        -1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
          +----+----+----+----+----+----+----+----+----+----+----+
-40   0.243                XXXXXXX
-39   0.255                XXXXXXX
-38   0.268                XXXXXXXX
-37   0.282                XXXXXXXX
-36   0.298                XXXXXXXX
-35   0.314                XXXXXXXXX
-34   0.332                XXXXXXXXX
-33   0.351                XXXXXXXXXX
-32   0.370                XXXXXXXXX
-31   0.391                XXXXXXXXXX
-30   0.413                XXXXXXXXXX
-29   0.435                XXXXXXXXXXX
-28   0.458                XXXXXXXXXXX
-27   0.482                XXXXXXXXXXXX
-26   0.506                XXXXXXXXXXXXX
-25   0.531                XXXXXXXXXXXXX
-24   0.556                XXXXXXXXXXXXXX
-23   0.581                XXXXXXXXXXXXXXX
-22   0.606                XXXXXXXXXXXXXXX
-21   0.631                XXXXXXXXXXXXXXXX
-20   0.657                XXXXXXXXXXXXXXXX
-19   0.682                XXXXXXXXXXXXXXXXX
-18   0.707                XXXXXXXXXXXXXXXXXX
-17   0.732                XXXXXXXXXXXXXXXXXX
-16   0.756                XXXXXXXXXXXXXXXXXXX
-15   0.779                XXXXXXXXXXXXXXXXXXX
-14   0.802                XXXXXXXXXXXXXXXXXXXX
-13   0.825                XXXXXXXXXXXXXXXXXXXXX
-12   0.846                XXXXXXXXXXXXXXXXXXXXX
-11   0.866                XXXXXXXXXXXXXXXXXXXXXX
-10   0.886                XXXXXXXXXXXXXXXXXXXXXX
 -9   0.904                XXXXXXXXXXXXXXXXXXXXXXX
 -8   0.921                XXXXXXXXXXXXXXXXXXXXXXX
 -7   0.936                XXXXXXXXXXXXXXXXXXXXXXX
 -6   0.950                XXXXXXXXXXXXXXXXXXXXXXXX
 -5   0.962                XXXXXXXXXXXXXXXXXXXXXXXX
 -4   0.973                XXXXXXXXXXXXXXXXXXXXXXXX
 -3   0.982                XXXXXXXXXXXXXXXXXXXXXXXXX
 -2   0.989                XXXXXXXXXXXXXXXXXXXXXXXXX
 -1   0.993                XXXXXXXXXXXXXXXXXXXXXXXXX
```

	E01A_h (m)	E02A_h (m)
mean	1404.096	1404.079
std dev	0.017	0.018
number	960	960

0	0.997	XXXXXXXXXXXXXXXXXXXXXXXXX
1	0.995	XXXXXXXXXXXXXXXXXXXXXXXXX
2	0.992	XXXXXXXXXXXXXXXXXXXXXXXXX
3	**0.987**	XXXXXXXXXXXXXXXXXXXXXXXXX
4	0.979	XXXXXXXXXXXXXXXXXXXXXXXX
5	0.970	XXXXXXXXXXXXXXXXXXXXXXXX
6	0.960	XXXXXXXXXXXXXXXXXXXXXXXX
7	0.947	XXXXXXXXXXXXXXXXXXXXXXXX
8	0.933	XXXXXXXXXXXXXXXXXXXXXXX
9	0.917	XXXXXXXXXXXXXXXXXXXXXXX
10	0.900	XXXXXXXXXXXXXXXXXXXXXX
11	0.881	XXXXXXXXXXXXXXXXXXXXXX
12	0.862	XXXXXXXXXXXXXXXXXXXXXX
13	0.841	XXXXXXXXXXXXXXXXXXXXX
14	0.819	XXXXXXXXXXXXXXXXXXXX
15	0.796	XXXXXXXXXXXXXXXXXXXX
16	0.773	XXXXXXXXXXXXXXXXXXX
17	0.749	XXXXXXXXXXXXXXXXXXX
18	0.724	XXXXXXXXXXXXXXXXXX
19	0.699	XXXXXXXXXXXXXXXXX
20	0.674	XXXXXXXXXXXXXXXXX
21	0.648	XXXXXXXXXXXXXXXX
22	0.623	XXXXXXXXXXXXXXXX
23	0.597	XXXXXXXXXXXXXXX
24	0.571	XXXXXXXXXXXXXX
25	0.546	XXXXXXXXXXXXXX
26	0.521	XXXXXXXXXXXXX
27	0.496	XXXXXXXXXXXX
28	0.471	XXXXXXXXXXXX
29	0.448	XXXXXXXXXXX
30	0.425	XXXXXXXXXXX
31	0.402	XXXXXXXXXX
32	0.381	XXXXXXXXXX
33	0.360	XXXXXXXXX
34	0.340	XXXXXXXXX
35	0.322	XXXXXXXX
36	0.304	XXXXXXXX
37	0.288	XXXXXXX
38	0.272	XXXXXXX
39	0.258	XXXXXX
40	0.245	XXXXXX

Table K-5. Cross correlation between filtered streamflow (m^3/s) and the detrended well deviation (m) measured at E01A 19–28 September 2005 completed in Minitab. Detrending was completed in Matlab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates Q_m^3/s_filtered_rating_curve(t) and E01A_detrend_well_dev (m)(t+k)

		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+----+----+----+----+----+----+----+----+----+----+
-31	-0.083	XXX
-30	-0.097	XXX
-29	-0.108	XXXX
-28	-0.117	XXXX
-27	-0.124	XXXX
-26	-0.129	XXXX
-25	-0.131	XXXX
-24	-0.131	XXXX
-23	-0.127	XXXX
-22	-0.122	XXXX
-21	-0.114	XXXX
-20	-0.104	XXXX
-19	-0.093	XXX
-18	-0.081	XXX
-17	-0.067	XXX

	Strmfl (m^3/s)	E01A_det (m)
mean	1.390	0.019
std dev	0.125	0.011
number	480	480

-16	-0.053	XX
-15	-0.038	XX
-14	-0.023	XX
-13	-0.007	X
-12	0.008	X
-11	0.023	XX
-10	0.037	XX
-9	0.051	XX
-8	0.064	XXX
-7	0.077	XXX
-6	0.089	XXX
-5	0.100	XXXX
-4	0.110	XXXX
-3	0.117	XXXX
-2	0.123	XXXX
-1	0.125	XXXX
0	0.124	XXXX
1	0.121	XXXX
2	0.114	XXXX
3	0.104	XXXX
4	0.090	XXX
5	0.073	XXX
6	0.053	XX
7	0.031	XX
8	0.008	X
9	-0.017	X
10	-0.043	XX
11	-0.069	XXX
12	-0.095	XXX
13	-0.120	XXXX
14	-0.144	XXXXX
15	-0.167	XXXXX
16	-0.188	XXXXXX
17	-0.206	XXXXXX
18	-0.221	XXXXXXX
19	-0.235	XXXXXXX
20	-0.245	XXXXXXX
21	-0.253	XXXXXXX
22	-0.258	XXXXXXX
23	-0.259	XXXXXXX
24	-0.256	XXXXXXX
25	-0.249	XXXXXXX
26	-0.239	XXXXXXX
27	-0.225	XXXXXXX
28	-0.209	XXXXXX
29	-0.190	XXXXXX
30	-0.169	XXXXX
31	-0.148	XXXXX

Table K-6. Cross Correlation between normalized piezometer and well hydrographs (--) 19–28 September 2005 completed in Minitab. The sampling interval was 15-minutes. The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates PZ_norm_hyd (--)(t) and E01A_norm_hyd (--)(t+k)

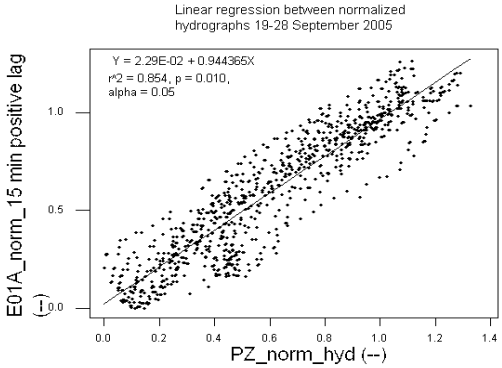
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+----+----+----+----+----+----+----+----+----+----+
-40	-0.416	XXXXXXXXXXX
-39	-0.388	XXXXXXXXXXX
-38	-0.358	XXXXXXXXXX
-37	-0.326	XXXXXXXXX
-36	-0.293	XXXXXXXX
-35	-0.258	XXXXXXX
-34	-0.222	XXXXXXX
-33	-0.184	XXXXXX
-32	-0.145	XXXXX
-31	-0.105	XXXX
-30	-0.064	XXX

	PZ-1	E01A
	norm_hyd	norm_hyd
	(--)	(--)
mean	0.616	0.606
std dev	0.330	0.338
number	960	960

-29	-0.022	XX
-28	0.020	XX
-27	0.064	XXX
-26	0.109	XXXX
-25	0.153	XXXXX
-24	0.199	XXXXXX
-23	0.245	XXXXXXX
-22	0.290	XXXXXXXX
-21	0.336	XXXXXXXXX
-20	0.382	XXXXXXXXXX
-19	0.427	XXXXXXXXXXX
-18	0.471	XXXXXXXXXXXX
-17	0.515	XXXXXXXXXXXXX
-16	0.558	XXXXXXXXXXXXXX
-15	0.599	XXXXXXXXXXXXXXX
-14	0.640	XXXXXXXXXXXXXXXX
-13	0.678	XXXXXXXXXXXXXXXXX
-12	0.715	XXXXXXXXXXXXXXXXXX
-11	0.749	XXXXXXXXXXXXXXXXXXX
-10	0.781	XXXXXXXXXXXXXXXXXXXX
-9	0.811	XXXXXXXXXXXXXXXXXXXX
-8	0.837	XXXXXXXXXXXXXXXXXXXXX
-7	0.860	XXXXXXXXXXXXXXXXXXXXXX
-6	0.880	XXXXXXXXXXXXXXXXXXXXXX
-5	0.897	XXXXXXXXXXXXXXXXXXXXXX
-4	0.909	XXXXXXXXXXXXXXXXXXXXXXX
-3	0.918	XXXXXXXXXXXXXXXXXXXXXXX
-2	*0.922*	XXXXXXXXXXXXXXXXXXXXXXX
-1	**0.923**	XXXXXXXXXXXXXXXXXXXXXXX
0	*0.919*	XXXXXXXXXXXXXXXXXXXXXXX
1	0.908	XXXXXXXXXXXXXXXXXXXXXXX
2	0.893	XXXXXXXXXXXXXXXXXXXXXX
3	0.873	XXXXXXXXXXXXXXXXXXXXXX
4	0.850	XXXXXXXXXXXXXXXXXXXXX
5	0.824	XXXXXXXXXXXXXXXXXXXX
6	0.794	XXXXXXXXXXXXXXXXXXX
7	0.761	XXXXXXXXXXXXXXXXXX
8	0.725	XXXXXXXXXXXXXXXXX
9	0.686	XXXXXXXXXXXXXXXX
10	0.645	XXXXXXXXXXXXXXX
11	0.601	XXXXXXXXXXXXXX
12	0.556	XXXXXXXXXXXXX
13	0.509	XXXXXXXXXXXX
14	0.460	XXXXXXXXXX
15	0.410	XXXXXXXXX
16	0.360	XXXXXXXX
17	0.308	XXXXXXX
18	0.257	XXXXXX
19	0.205	XXXXX
20	0.154	XXXX
21	0.103	XXX
22	0.053	XX
23	0.004	X
24	-0.044	XX
25	-0.090	XXX
26	-0.135	XXXX
27	-0.179	XXXXX
28	-0.220	XXXXXX
29	-0.260	XXXXXXX
30	-0.298	XXXXXXXX
31	-0.333	XXXXXXXXX
32	-0.367	XXXXXXXXXX
33	-0.399	XXXXXXXXXXX
34	-0.428	XXXXXXXXXXXX
35	-0.456	XXXXXXXXXXXX
36	-0.480	XXXXXXXXXXXXX
37	-0.502	XXXXXXXXXXXXXX
38	-0.521	XXXXXXXXXXXXXX

39 -0.538 XXXXXXXXXXXXXX
40 -0.551 XXXXXXXXXXXXXXX

Figure K-1.



APPENDIX L
Statistical analyses of water-level responses and potential forcing mechanisms measured during low river-stage conditions September 2005

This appendix contains results from cross correlation and linear regression
between hydrologic variables (groundwater elevation, hydraulic gradients, aquifer fluxes)
and potential forcing mechanisms driving diurnal groundwater fluctuations
(ET [latent heat fluxes], streambed seepage [river temperature], streamflow).
All variables measured 19–28 September 2005.

Cross correlation and linear regression was completed in Minitab.
Descriptive statistics for data are included in Table L-9

Groundwater, aquifer fluxes, and river temperature data were resampled for 30-minute intervals.
Latent heat fluxes and net radiation were smoothed with a four-point centered
moving average in Minitab. Smoothing also interpolated between missing data points.

Table L-1a. Cross correlation between latent heat fluxes (W/m^2) smoothed with a
four-point centered moving average (in Minitab) and groundwater elevation (m above MSL)
at E01A 19–28 September 2005 completed in Minitab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates LE_mov_avg_cen_4_win_Minitab(t) and E01_h (m)(t+k)

```
        -1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
          +----+----+----+----+----+----+----+----+----+----+----+
-31  -0.274                XXXXXXXX
-30  -0.222                 XXXXXXX
-29  -0.167                  XXXXX
-28  -0.112                   XXXX
-27  -0.055                     XX
-26   0.001                      X
-25   0.057                     XX
-24   0.112                   XXXX
-23   0.166                  XXXXX
-22   0.217                 XXXXXX
-21   0.266                XXXXXXXX
-20   0.311               XXXXXXXXX
-19   0.351              XXXXXXXXXX
-18   0.387             XXXXXXXXXXX
-17   0.417             XXXXXXXXXXX
-16   0.439            XXXXXXXXXXXX
-15   0.451            XXXXXXXXXXXX
-14   0.454            XXXXXXXXXXXX
-13   0.447            XXXXXXXXXXXX
-12   0.431            XXXXXXXXXXXX
-11   0.407             XXXXXXXXXXX
-10   0.375              XXXXXXXXXX
 -9   0.334               XXXXXXXXX
 -8   0.286                XXXXXXXX
 -7   0.230                 XXXXXXX
 -6   0.167                  XXXXX
 -5   0.100                   XXX
 -4   0.028                    XX
 -3  -0.046                    XX
 -2  -0.121                   XXXX
 -1  -0.195                  XXXXXX
  0  -0.268                XXXXXXXX
  1  -0.334               XXXXXXXXX
  2  -0.395            XXXXXXXXXXX
  3  -0.447           XXXXXXXXXXXX
  4  -0.492          XXXXXXXXXXXXX
```

5	-0.527	XXXXXXXXXXXXX
6	-0.552	XXXXXXXXXXXXXX
7	-0.567	XXXXXXXXXXXXXX
8	**-0.571**	XXXXXXXXXXXXXX
9	-0.566	XXXXXXXXXXXXXX
10	-0.551	XXXXXXXXXXXXXX
11	-0.528	XXXXXXXXXXXXX
12	-0.497	XXXXXXXXXXXX
13	-0.459	XXXXXXXXXXX
14	-0.414	XXXXXXXXXX
15	-0.366	XXXXXXXXX
16	-0.315	XXXXXXXX
17	-0.261	XXXXXXX
18	-0.206	XXXXXX
19	-0.150	XXXXX
20	-0.092	XXX
21	-0.034	XX
22	0.022	XX
23	0.077	XXX
24	0.129	XXXX
25	0.178	XXXXX
26	0.225	XXXXXXX
27	0.269	XXXXXXXX
28	0.309	XXXXXXXXX
29	0.345	XXXXXXXXXX
30	0.376	XXXXXXXXXX
31	0.401	XXXXXXXXXXX

Figure L-1a.

Figure L-1b.

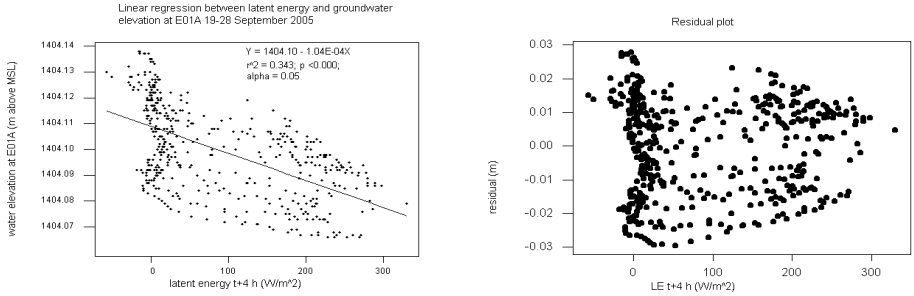


Table L-1b. Cross correlation between latent heat fluxes (W/m ^{2}) smoothed with a four-point centered moving average (in Minitab) and detrended well deviation (m) at E01A 19–28 September 2005 completed in Minitab. Detrending was completed in Matlab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates LE_mov_avg_cen_4_win_Minitab(t) and E01A_detrend_well_dev (m)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
-31	-0.308 XXXXXXXXX
-30	-0.226 XXXXXXX
-29	-0.141 XXXXX
-28	-0.054 XX
-27	0.034 XX
-26	0.122 XXXX
-25	0.207 XXXXXX
-24	0.290 XXXXXXXX
-23	0.371 XXXXXXXXX
-22	0.449 XXXXXXXXXXX
-21	0.523 XXXXXXXXXXXXX
-20	0.592 XXXXXXXXXXXXXXX

-19 0.655 XXXXXXXXXXXXXXXXX
-18 0.709 XXXXXXXXXXXXXXXXXXX
-17 0.755 XXXXXXXXXXXXXXXXXXXX
-16 0.790 XXXXXXXXXXXXXXXXXXXX
-15 0.813 XXXXXXXXXXXXXXXXXXXX
-14 0.823 XXXXXXXXXXXXXXXXXXXXX
-13 0.819 XXXXXXXXXXXXXXXXXXXX
-12 0.800 XXXXXXXXXXXXXXXXXXXX
-11 0.766 XXXXXXXXXXXXXXXXXXX
-10 0.718 XXXXXXXXXXXXXXXXXX
-9 0.657 XXXXXXXXXXXXXXXXX
-8 0.583 XXXXXXXXXXXXXXXX
-7 0.497 XXXXXXXXXXXXX
-6 0.401 XXXXXXXXXX
-5 0.295 XXXXXXXX
-4 0.182 XXXXXX
-3 0.066 XXX
-2 -0.053 XX
-1 -0.170 XXXXX
0 -0.285 XXXXXXXX
1 -0.392 XXXXXXXXXX
2 -0.491 XXXXXXXXXXXX
3 -0.577 XXXXXXXXXXXXXX
4 -0.650 XXXXXXXXXXXXXXXX
5 -0.709 XXXXXXXXXXXXXXXXXX
6 -0.753 XXXXXXXXXXXXXXXXXXX
7 -0.781 XXXXXXXXXXXXXXXXXXXX
8 -0.793 XXXXXXXXXXXXXXXXXXXX
9 -0.790 XXXXXXXXXXXXXXXXXXXX
10 -0.773 XXXXXXXXXXXXXXXXXXX
11 -0.742 XXXXXXXXXXXXXXXXXXX
12 -0.699 XXXXXXXXXXXXXXXXXX
13 -0.645 XXXXXXXXXXXXXXXXX
14 -0.585 XXXXXXXXXXXXXXXX
15 -0.516 XXXXXXXXXXXXXX
16 -0.441 XXXXXXXXXXXX
17 -0.362 XXXXXXXXXX
18 -0.279 XXXXXXXX
19 -0.193 XXXXXX
20 -0.107 XXXX
21 -0.020 XX
22 0.065 XXX
23 0.148 XXXXX
24 0.227 XXXXXXX
25 0.303 XXXXXXXXX
26 0.375 XXXXXXXXXX
27 0.442 XXXXXXXXXXXX
28 0.504 XXXXXXXXXXXXXX
29 0.560 XXXXXXXXXXXXXXX
30 0.610 XXXXXXXXXXXXXXXX
31 0.651 XXXXXXXXXXXXXXXXX

Figure L-1c.

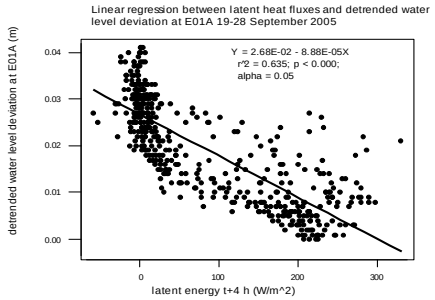


Figure L-1d.

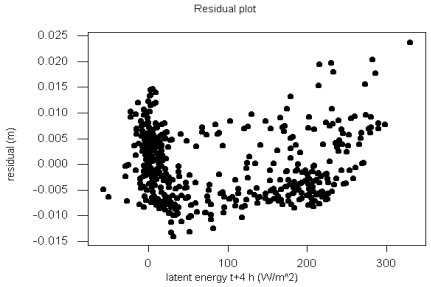


Table L-2. Cross correlation between smoothed net radiation (W/m ^{2}) and river temperature (ºC)
19–28 September 2005 completed in Minitab. The average net radiation was smoothed with a four point centered moving average.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates Rn_avg_mov_avg_cen_4_win_mini(t) and temp (deg.C)(t+k)

```
         -1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
          +----+----+----+----+----+----+----+----+----+----+----+
-20  -0.533          XXXXXXXXXXXXXX
-19  -0.591         XXXXXXXXXXXXXXX
-18  -0.646         XXXXXXXXXXXXXXX
-17  -0.695        XXXXXXXXXXXXXXXXX
-16  -0.735        XXXXXXXXXXXXXXXXX
-15  -0.765       XXXXXXXXXXXXXXXXXX
-14  -0.783      XXXXXXXXXXXXXXXXXXX
-13  -0.786      XXXXXXXXXXXXXXXXXXX
-12  -0.773       XXXXXXXXXXXXXXXXXX
-11  -0.741       XXXXXXXXXXXXXXXXXX
-10  -0.691        XXXXXXXXXXXXXXXXX
 -9  -0.622        XXXXXXXXXXXXXXXXX
 -8  -0.534         XXXXXXXXXXXXXXX
 -7  -0.430          XXXXXXXXXXXX
 -6  -0.310            XXXXXXXXX
 -5  -0.179              XXXXX
 -4  -0.039                XX
 -3   0.106                XXXX
 -2   0.250                XXXXXXX
 -1   0.389                XXXXXXXXXX
  0   0.518                XXXXXXXXXXXXX
  1   0.630                XXXXXXXXXXXXXXXX
  2   0.724                XXXXXXXXXXXXXXXXX
  3   0.796                XXXXXXXXXXXXXXXXXXX
  4   0.847                XXXXXXXXXXXXXXXXXXXX
  5   0.874                XXXXXXXXXXXXXXXXXXXXX
  6   0.879                XXXXXXXXXXXXXXXXXXXXX
  7   0.863                XXXXXXXXXXXXXXXXXXXXX
  8   0.828                XXXXXXXXXXXXXXXXXXXX
  9   0.778                XXXXXXXXXXXXXXXXXX
 10   0.714                 XXXXXXXXXXXXXXXXX
 11   0.641                 XXXXXXXXXXXXXXXX
 12   0.562                 XXXXXXXXXXXXXX
 13   0.478                 XXXXXXXXXXXX
 14   0.393                 XXXXXXXXXX
 15   0.309                 XXXXXXXX
 16   0.227                 XXXXXX
 17   0.147                 XXXX
 18   0.072                 XX
 19  -0.000                 X
```

Table L-3a. Cross correlation between river temperature (ºC) and calculated aquifer flux (m/d)
measured between E01A and E02A 19–28 September 2005 completed in Minitab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates T (deg.C)(t) and q_aquifer (m/d)(t+k)

```
         -1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
          +----+----+----+----+----+----+----+----+----+----+----+
-31  -0.062                XXX
-30  -0.140                XXXX
-29  -0.212                XXXXXX
-28  -0.278               XXXXXXXX
-27  -0.339               XXXXXXXXX
-26  -0.393              XXXXXXXXXXX
-25  -0.439              XXXXXXXXXXXX
```

-24	-0.479	XXXXXXXXXXXX
-23	-0.511	XXXXXXXXXXXXX
-22	-0.539	XXXXXXXXXXXXX
-21	-0.558	XXXXXXXXXXXXXX
-20	-0.571	XXXXXXXXXXXXXX
-19	-0.580	XXXXXXXXXXXXXXX
-18	-0.582	XXXXXXXXXXXXXXX
-17	-0.576	XXXXXXXXXXXXXX
-16	-0.566	XXXXXXXXXXXXXX
-15	-0.547	XXXXXXXXXXXXXX
-14	-0.519	XXXXXXXXXXXXX
-13	-0.484	XXXXXXXXXXXX
-12	-0.441	XXXXXXXXXXX
-11	-0.388	XXXXXXXXXX
-10	-0.324	XXXXXXXX
-9	-0.251	XXXXXXX
-8	-0.171	XXXXX
-7	-0.083	XXX
-6	0.012	X
-5	0.111	XXXX
-4	0.214	XXXXXX
-3	0.318	XXXXXXXXX
-2	0.420	XXXXXXXXXX
-1	0.518	XXXXXXXXXXXXX
0	0.608	XXXXXXXXXXXXXXX
1	0.685	XXXXXXXXXXXXXXXXX
2	0.747	XXXXXXXXXXXXXXXXXXX
3	0.792	XXXXXXXXXXXXXXXXXXXX
4	0.817	XXXXXXXXXXXXXXXXXXXX
5	**0.822**	XXXXXXXXXXXXXXXXXXXX
6	0.808	XXXXXXXXXXXXXXXXXXXX
7	0.776	XXXXXXXXXXXXXXXXXXX
8	0.726	XXXXXXXXXXXXXXXXXX
9	0.660	XXXXXXXXXXXXXXXX
10	0.583	XXXXXXXXXXXXXX
11	0.495	XXXXXXXXXXX
12	0.400	XXXXXXXXX
13	0.302	XXXXXXX
14	0.204	XXXXX
15	0.106	XXX
16	0.010	X
17	-0.080	XXX
18	-0.164	XXXXX
19	-0.241	XXXXXX
20	-0.311	XXXXXXXX
21	-0.372	XXXXXXXXX
22	-0.425	XXXXXXXXXX
23	-0.470	XXXXXXXXXXX
24	-0.505	XXXXXXXXXXXX
25	-0.535	XXXXXXXXXXXX
26	-0.557	XXXXXXXXXXXXX
27	-0.574	XXXXXXXXXXXXX
28	-0.584	XXXXXXXXXXXXXX
29	-0.588	XXXXXXXXXXXXXX
30	-0.584	XXXXXXXXXXXXXX
31	-0.575	XXXXXXXXXXXXXX

Figure L-2a.

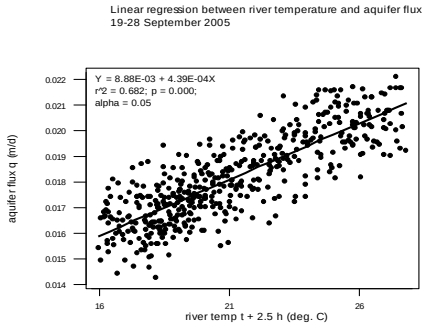


Figure L-2b.

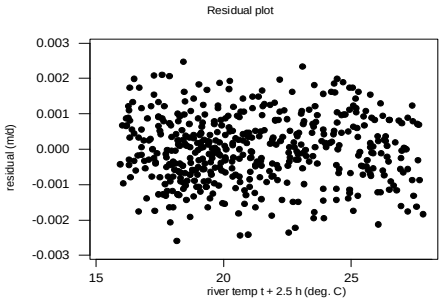


Table L-3b. Cross correlation between river temperature (ºC) and calculated aquifer flux (using the detrended well deviation) (m/d) measured between E01A and E02A 19–28 September 2005 completed in Minitab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates T (deg.C)(t) and q_aq_from well_detr_dev (m/d)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
	+----+----+----+----+----+----+----+----+----+----+
-31	-0.093 XXX
-30	-0.176 XXXXX
-29	-0.254 XXXXXXX
-28	-0.324 XXXXXXXXX
-27	-0.389 XXXXXXXXXXX
-26	-0.446 XXXXXXXXXXXX
-25	-0.496 XXXXXXXXXXXXX
-24	-0.538 XXXXXXXXXXXXXX
-23	-0.572 XXXXXXXXXXXXXXX
-22	-0.601 XXXXXXXXXXXXXXXX
-21	-0.621 XXXXXXXXXXXXXXXXX
-20	-0.633 XXXXXXXXXXXXXXXXX
-19	-0.642 XXXXXXXXXXXXXXXXX
-18	-0.643 XXXXXXXXXXXXXXXXX
-17	-0.635 XXXXXXXXXXXXXXXXX
-16	-0.622 XXXXXXXXXXXXXXXXX
-15	-0.601 XXXXXXXXXXXXXXXX
-14	-0.570 XXXXXXXXXXXXXXX
-13	-0.530 XXXXXXXXXXXXXX
-12	-0.484 XXXXXXXXXXXX
-11	-0.427 XXXXXXXXXXX
-10	-0.358 XXXXXXXXX
-9	-0.280 XXXXXXXX
-8	-0.195 XXXXXX
-7	-0.101 XXXX
-6	0.000 X
-5	0.105 XXXX
-4	0.215 XXXXXX
-3	0.324 XXXXXXXXX
-2	0.432 XXXXXXXXXXX
-1	0.535 XXXXXXXXXXXXX
0	0.631 XXXXXXXXXXXXXXXX
1	0.712 XXXXXXXXXXXXXXXXXX
2	0.778 XXXXXXXXXXXXXXXXXXX
3	0.826 XXXXXXXXXXXXXXXXXXXXX
4	0.854 XXXXXXXXXXXXXXXXXXXXX
5	**0.860** XXXXXXXXXXXXXXXXXXXXX
6	0.846 XXXXXXXXXXXXXXXXXXXXX
7	0.813 XXXXXXXXXXXXXXXXXXXX
8	0.761 XXXXXXXXXXXXXXXXXXX

9	0.692	XXXXXXXXXXXXXXXXXX
10	0.612	XXXXXXXXXXXXXXXX
11	0.520	XXXXXXXXXXXXXX
12	0.420	XXXXXXXXXX
13	0.317	XXXXXXXXX
14	0.213	XXXXXX
15	0.110	XXXX
16	0.009	X
17	-0.087	XXX
18	-0.175	XXXXX
19	-0.257	XXXXXXX
20	-0.332	XXXXXXXXX
21	-0.397	XXXXXXXXXX
22	-0.453	XXXXXXXXXXX
23	-0.501	XXXXXXXXXXXXX
24	-0.539	XXXXXXXXXXXXX
25	-0.570	XXXXXXXXXXXXXX
26	-0.593	XXXXXXXXXXXXXXX
27	-0.610	XXXXXXXXXXXXXXX
28	-0.621	XXXXXXXXXXXXXXXX
29	-0.624	XXXXXXXXXXXXXXXX
30	-0.620	XXXXXXXXXXXXXXX
31	-0.608	XXXXXXXXXXXXXXX

Figure L-2c.

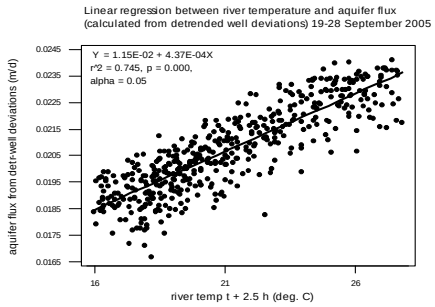


Figure L-2d.

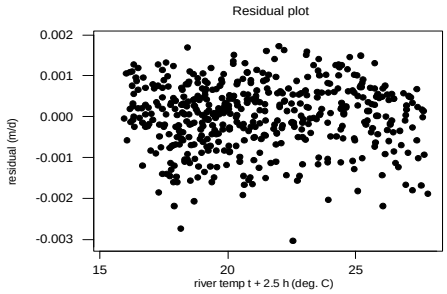


Table L-4. Cross correlation between latent heat fluxes (W/m^2) smoothed with a four-point centered moving average (in Minitab) and the incremental change in head (mm) at E01A 19–28 September 2005 completed in Minitab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates LE_mov_avg_cen_4_win_Minitab(t) and E01_dh (mm)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
	+----+----+----+----+----+----+----+----+----+----+
-31	0.533 XXXXXXXXXXXXX
-30	0.561 XXXXXXXXXXXXXX
-29	0.579 XXXXXXXXXXXXXX
-28	0.592 XXXXXXXXXXXXXXX
-27	0.598 XXXXXXXXXXXXXXX
-26	0.595 XXXXXXXXXXXXXXX
-25	0.586 XXXXXXXXXXXXXXX
-24	0.572 XXXXXXXXXXXXXX
-23	0.558 XXXXXXXXXXXXXX
-22	0.535 XXXXXXXXXXXXX
-21	0.507 XXXXXXXXXXXXX
-20	0.473 XXXXXXXXXXX
-19	0.423 XXXXXXXXXX
-18	0.370 XXXXXXXXX
-17	0.310 XXXXXXXX
-16	0.235 XXXXXXX

-15	0.154	XXXXX
-14	0.064	XXX
-13	-0.034	XX
-12	-0.134	XXXX
-11	-0.231	XXXXXXX
-10	-0.328	XXXXXXXXX
-9	-0.419	XXXXXXXXXXX
-8	-0.507	XXXXXXXXXXXXXX
-7	-0.589	XXXXXXXXXXXXXXXX
-6	-0.661	XXXXXXXXXXXXXXXXXX
-5	-0.723	XXXXXXXXXXXXXXXXXXX
-4	-0.766	XXXXXXXXXXXXXXXXXXXX
-3	-0.793	XXXXXXXXXXXXXXXXXXXXX
-2	**-0.805**	XXXXXXXXXXXXXXXXXXXX
-1	**-0.799**	XXXXXXXXXXXXXXXXXXXX
0	**-0.779**	XXXXXXXXXXXXXXXXXXX
1	-0.733	XXXXXXXXXXXXXXXXXX
2	-0.668	XXXXXXXXXXXXXXXXX
3	-0.588	XXXXXXXXXXXXXXX
4	-0.496	XXXXXXXXXXXX
5	-0.396	XXXXXXXXXX
6	-0.291	XXXXXXX
7	-0.182	XXXXXX
8	-0.070	XXX
9	0.033	XX
10	0.132	XXXX
11	0.224	XXXXXXX
12	0.306	XXXXXXXXX
13	0.380	XXXXXXXXXX
14	0.438	XXXXXXXXXXX
15	0.489	XXXXXXXXXXXX
16	0.527	XXXXXXXXXXXXX
17	0.556	XXXXXXXXXXXXXX
18	0.580	XXXXXXXXXXXXXXX
19	0.596	XXXXXXXXXXXXXXX
20	0.603	XXXXXXXXXXXXXXX
21	0.602	XXXXXXXXXXXXXXX
22	0.592	XXXXXXXXXXXXXXX
23	0.574	XXXXXXXXXXXXXX
24	0.551	XXXXXXXXXXXXXX
25	0.526	XXXXXXXXXXXXX
26	0.499	XXXXXXXXXXXX
27	0.467	XXXXXXXXXXXX
28	0.425	XXXXXXXXXXX
29	0.386	XXXXXXXXXX
30	0.337	XXXXXXXX
31	0.280	XXXXXXXX

Figure L-3a.

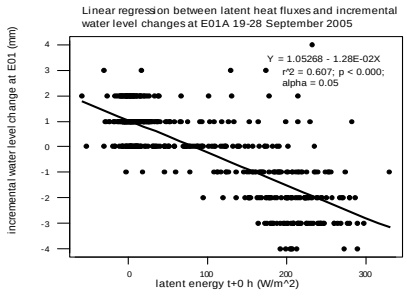


Figure L-3b.

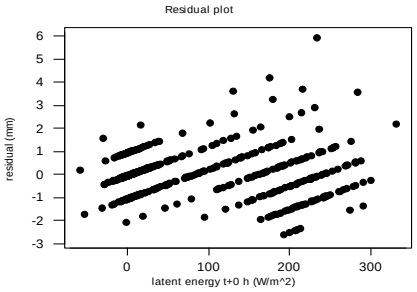


Table L-5. Cross correlation between latent heat fluxes (W/m^2) smoothed with a four-point centered moving average (in Minitab) and aquifer fluxes between E01A and E02A (m/d) 19–28 September 2005 completed in Minitab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates LE_mov_avg_cen_4_win_Minitab(t) and q_aquifer (m/d)(t+k)

```
        -1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
          +----+----+----+----+----+----+----+----+----+----+
-31  0.352                     XXXXXXXXXX
-30  0.283                     XXXXXXXX
-29  0.212                     XXXXXX
-28  0.139                     XXXX
-27  0.066                     XXX
-26 -0.007                     X
-25 -0.081                    XXX
-24 -0.155                   XXXXX
-23 -0.224                  XXXXXXX
-22 -0.291                  XXXXXXXX
-21 -0.351                 XXXXXXXXXX
-20 -0.406                 XXXXXXXXXX
-19 -0.459                XXXXXXXXXXX
-18 -0.510               XXXXXXXXXXXXX
-17 -0.557               XXXXXXXXXXXXXX
-16 -0.604              XXXXXXXXXXXXXXX
-15 -0.645              XXXXXXXXXXXXXXXX
-14 -0.679             XXXXXXXXXXXXXXXXX
-13 -0.705            XXXXXXXXXXXXXXXXXX
-12 -0.721            XXXXXXXXXXXXXXXXXX
-11 -0.725            XXXXXXXXXXXXXXXXXX
-10 -0.716            XXXXXXXXXXXXXXXXXX
 -9 -0.693            XXXXXXXXXXXXXXXXX
 -8 -0.657             XXXXXXXXXXXXXXXX
 -7 -0.608             XXXXXXXXXXXXXXXX
 -6 -0.546              XXXXXXXXXXXXXX
 -5 -0.473              XXXXXXXXXXXXX
 -4 -0.389               XXXXXXXXXXX
 -3 -0.296                XXXXXXXX
 -2 -0.199                 XXXXXX
 -1 -0.099                  XXX
  0  0.007                   X
  1  0.116                   XXXX
  2  0.222                   XXXXXXX
  3  0.324                   XXXXXXXXX
  4  0.418                   XXXXXXXXXX
  5  0.500                   XXXXXXXXXXXXX
  6  0.574                   XXXXXXXXXXXXXX
  7  0.633                   XXXXXXXXXXXXXXXX
  8  0.679                   XXXXXXXXXXXXXXXXX
  9  0.705                   XXXXXXXXXXXXXXXXXX
 10  0.715                   XXXXXXXXXXXXXXXXXX
 11  0.708                   XXXXXXXXXXXXXXXXXX
 12  0.684                   XXXXXXXXXXXXXXXXX
 13  0.649                   XXXXXXXXXXXXXXXX
 14  0.602                   XXXXXXXXXXXXXXX
 15  0.549                   XXXXXXXXXXXXXX
 16  0.487                   XXXXXXXXXXXX
 17  0.419                   XXXXXXXXXX
 18  0.350                   XXXXXXXXX
 19  0.278                   XXXXXXX
 20  0.204                   XXXXXX
 21  0.128                   XXXX
 22  0.056                   XX
 23 -0.016                   X
 24 -0.085                  XXX
 25 -0.152                 XXXXX
```

26	-0.214	XXXXXX
27	-0.273	XXXXXXXX
28	-0.330	XXXXXXXXX
29	-0.378	XXXXXXXXXX
30	-0.422	XXXXXXXXXXX
31	-0.463	XXXXXXXXXXXX

Figure L-4a.

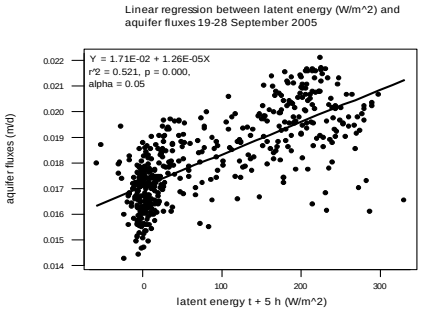


Figure L-4b.

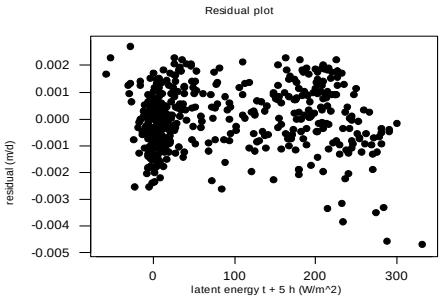


Table L-6. Cross correlation between incremental change in smoothed net radiation (W/m ^{2}) and incremental river temperature change (ºC) 19–28 September 2005 completed in Minitab.
The average net radiation was smoothed with a four point centered moving average.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates d_Rn_avg_mov(t) and dT(t+k)

		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+----+----+----+----+----+----+----+----+----+----+----+
-31	-0.057	XX
-30	-0.064	XXX
-29	-0.068	XXX
-28	-0.067	XXX
-27	-0.061	XXX
-26	-0.053	XX
-25	-0.044	XX
-24	-0.035	XX
-23	-0.029	XX
-22	-0.032	XX
-21	-0.049	XX
-20	-0.083	XXX
-19	-0.134	XXXX
-18	-0.198	XXXXXX
-17	-0.269	XXXXXXXX
-16	-0.344	XXXXXXXXX
-15	-0.422	XXXXXXXXXXX
-14	-0.498	XXXXXXXXXXXX
-13	-0.567	XXXXXXXXXXXXXX
-12	-0.622	XXXXXXXXXXXXXXXX
-11	-0.654	XXXXXXXXXXXXXXXX
-10	-0.657	XXXXXXXXXXXXXXXX
-9	-0.635	XXXXXXXXXXXXXXXX
-8	-0.589	XXXXXXXXXXXXXXX
-7	-0.516	XXXXXXXXXXXXX
-6	-0.422	XXXXXXXXXXX
-5	-0.297	XXXXXXXX
-4	-0.151	XXXXX
-3	0.009	X
-2	0.184	XXXXXX
-1	0.357	XXXXXXXXX
0	0.515	XXXXXXXXXXXXX

1	0.642	XXXXXXXXXXXXXXXXX
2	0.730	XXXXXXXXXXXXXXXXXXX
3	0.784	XXXXXXXXXXXXXXXXXXXXX
4	**0.798**	XXXXXXXXXXXXXXXXXXXX
5	0.778	XXXXXXXXXXXXXXXXXXX
6	0.727	XXXXXXXXXXXXXXXXXX
7	0.648	XXXXXXXXXXXXXXXX
8	0.551	XXXXXXXXXXXXXX
9	0.444	XXXXXXXXXX
10	0.336	XXXXXXXX
11	0.227	XXXXXX
12	0.133	XXX
13	0.058	XX
14	-0.001	X
15	-0.043	XX
16	-0.075	XXX
17	-0.094	XXX
18	-0.103	XXX
19	-0.103	XXX
20	-0.096	XXX
21	-0.088	XXX
22	-0.081	XXX
23	-0.073	XXX
24	-0.065	XXX
25	-0.060	XX
26	-0.061	XXX
27	-0.075	XXX
28	-0.103	XXX
29	-0.143	XXXX
30	-0.194	XXXXX
31	-0.254	XXXXXX

Figure L-5a.

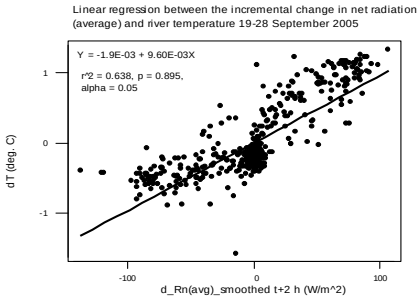


Figure L-5b.

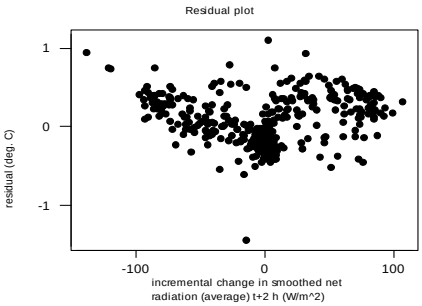


Table L-7. Cross correlation between filtered river stage (m) and the detrended well deviation (m) measured at E01A 19–28 September 2005 completed in Minitab. Detrending was completed in Matlab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates stage_filtfilt_4window(t) and E01A_detrend_well_dev (m)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
	+----+----+----+----+----+----+----+----+----+----+----+
-31	-0.079 XXX
-30	-0.093 XXX
-29	-0.104 XXXX
-28	-0.114 XXXX
-27	-0.121 XXXX
-26	-0.127 XXXX
-25	-0.129 XXXX

-24	-0.129	XXXX
-23	-0.126	XXXX
-22	-0.121	XXXX
-21	-0.113	XXXX
-20	-0.104	XXXX
-19	-0.093	XXX
-18	-0.081	XXX
-17	-0.068	XXX
-16	-0.055	XX
-15	-0.040	XX
-14	-0.025	XX
-13	-0.009	X
-12	0.006	X
-11	0.021	XX
-10	0.035	XX
-9	0.049	XX
-8	0.062	XXX
-7	0.076	XXX
-6	0.089	XXX
-5	0.100	XXXX
-4	0.110	XXXX
-3	0.118	XXXX
-2	0.124	XXXX
-1	0.127	XXXX
0	0.126	XXXX
1	0.124	XXXX
2	0.118	XXXX
3	0.108	XXXX
4	0.094	XXX
5	0.077	XXX
6	0.058	XX
7	0.036	XX
8	0.013	X
9	-0.011	X
10	-0.036	XX
11	-0.062	XXX
12	-0.087	XXX
13	-0.112	XXXX
14	-0.136	XXXX
15	-0.159	XXXXX
16	-0.179	XXXXX
17	-0.196	XXXXXX
18	-0.212	XXXXXX
19	-0.225	XXXXXXX
20	-0.235	XXXXXXX
21	-0.243	XXXXXXX
22	-0.248	XXXXXXX
23	-0.249	XXXXXXX
24	-0.247	XXXXXXX
25	-0.241	XXXXXXX
26	-0.231	XXXXXXX
27	-0.218	XXXXXX
28	-0.202	XXXXXX
29	-0.184	XXXXXX
30	-0.164	XXXXX
31	-0.144	XXXXX

Table L-8. Cross correlation between filtered streamflow (m^3/s) and the detrended well deviation (m) measured at E01A 19–28 September 2005 completed in Minitab. Detrending was completed in Matlab.

The sampling interval was 30-minutes.
The number of lags must be multiplied by the sampling interval to yield a time.

CCF - correlates Q_m^3/s_filtered_rating_curve(t) and E01A_detrend_well_dev (m)(t+k)

	-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
-31	-0.083 XXX
-30	-0.097 XXX
-29	-0.108 XXXX
-28	-0.117 XXXX
-27	-0.124 XXXX
-26	-0.129 XXXX
-25	-0.131 XXXX
-24	-0.131 XXXX
-23	-0.127 XXXX
-22	-0.122 XXXX
-21	-0.114 XXXX
-20	-0.104 XXXX
-19	-0.093 XXX
-18	-0.081 XXX
-17	-0.067 XXX
-16	-0.053 XX
-15	-0.038 XX
-14	-0.023 XX
-13	-0.007 X
-12	0.008 X
-11	0.023 XX
-10	0.037 XX
-9	0.051 XX
-8	0.064 XXX
-7	0.077 XXX
-6	0.089 XXX
-5	0.100 XXXX
-4	0.110 XXXX
-3	0.117 XXXX
-2	0.123 XXXX
-1	0.125 XXXX
0	0.124 XXXX
1	0.121 XXXX
2	0.114 XXXX
3	0.104 XXXX
4	0.090 XXX
5	0.073 XXX
6	0.053 XX
7	0.031 XX
8	0.008 X
9	-0.017 X
10	-0.043 XX
11	-0.069 XXX
12	-0.095 XXX
13	-0.120 XXXX
14	-0.144 XXXXX
15	-0.167 XXXXX
16	-0.188 XXXXXX
17	-0.206 XXXXXX
18	-0.221 XXXXXXX
19	-0.235 XXXXXXX
20	-0.245 XXXXXXX
21	-0.253 XXXXXXX
22	-0.258 XXXXXXX
23	-0.259 XXXXXXX
24	-0.256 XXXXXXX
25	-0.249 XXXXXXX

26	-0.239	XXXXXXX
27	-0.225	XXXXXXX
28	-0.209	XXXXXX
29	-0.190	XXXXXX
30	-0.169	XXXXX
31	-0.148	XXXXX

Table L-9. Descriptive statistics for cross correlation analyses of data measured 19–28 September 2005 completed in Minitab.

mean	std dev	number	variable
88.681	95.801	480	smoothed latent heat fluxes (W/m^2)
1404.096	0.017	480	head E01A (m)
0.019	0.011	480	detrended water level deviation from minimum E01A (m)
-0.077	1.572	480	incremental head change E01A (mm)
0.076	0.007	480	horizontal hydraulic gradient E01A-E02A (%)
21.153	3.148	480	river temperature (deg. C)
137.701	239.074	480	smoothed (average) net radiation (W/m^2)
-0.004	0.509	480	incremental change in river temperature (ºC)
0.049	42.256	480	incremental change in smoothed (avg) net rad. (W/m^2)
7.580	0.024	480	filtered river stage (m)
1.390	0.125	480	filtered streamflow (m^3/s)
0.018	0.002	480	aquifer flux (m/d)
0.021	0.002	480	aquifer flux from detrended well deviations (m/d)
0.007	0.001	480	streambed flux (m/d)

APPENDIX M
Chi-squared analysis of groundwater-level fluctuations

This appendix contains results from a chi-squared analysis of groundwater-level fluctuations measured during five time frames. The relative significance of ET and river temperature was evaluated with a parameter-minimization approach, in which the chi-squared function was calculated for a linear signal-response model representing the two forcing mechanisms and the (diurnal and multi-day) groundwater response measured in the aquifer.

Table M-1. Measurements of river temperature, total day-and-night evapotranspiration (ET) [a], and water-level fluctuations recorded in the aquifer for the five time frames used in the chi-squared analysis.

date	max temp. (deg. C)	min temp. (deg. C)	diurnal temp. change (deg. C)	ET flux (mm)	diurnal head change at E01A (mm)
6/30/2005	25.841	23.809	2.032	6.968	69
7/1/2005	25.841	23.040	2.801	7.171	91
7/2/2005	25.768	22.729	3.039	7.688	105
7/3/2005	25.963	23.545	2.418	6.913	39
7/4/2005	26.622	22.992	3.630	7.529	84
mean			2.784	7.3	78
std dev			0.608	0.3	25

date	max temp. (deg. C)	min temp. (deg. C)	diurnal temp. change (deg. C)	ET flux (mm)	diurnal head change at E01A (mm)
9/19/2005	25.283	16.201	9.082	3.576	36
9/20/2005	27.628	17.391	10.237	3.989	33
9/21/2005	26.475	16.177	10.298	3.803	35
9/22/2005	27.112	17.867	9.245	2.792	30
9/23/2005	27.801	17.177	10.624	4.983	36
mean			9.897	3.8	34
std dev			0.688	0.8	2

date	max temp. (deg. C)	min temp. (deg. C)	diurnal temp. change (deg. C)	ET flux (mm)	diurnal head change at E01A (mm)
11/12/2005	13.185	10.345	2.840	0.323	21
11/13/2005	12.968	10.100	2.868	0.341	43
11/14/2005	12.340	9.435	2.905	0.529	28
11/15/2005	11.734	9.114	2.620	0.469	22
11/16/2005	9.706	7.041	2.665	0.278	24
mean			2.780	0.4	28
std dev			0.128	0.1	9

date	max temp. (deg. C)	min temp. (deg. C)	multi-day river temp. change (deg. C)	avg. ET flux (mm)	multi-day head change at E01A [b] (mm)
11/29 - 12/1	6.965	2.664	4.301	0.5	9
std dev			1.188	0.2	2

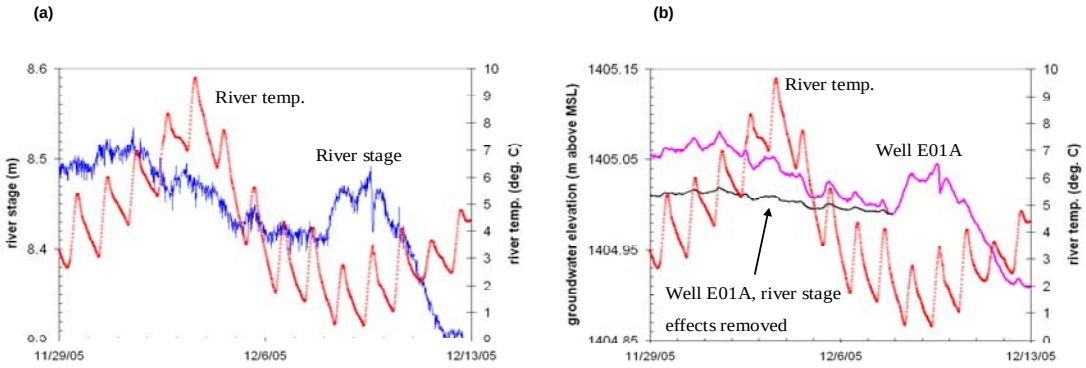
date	max temp. (deg. C)	min temp. (deg. C)	multi-day river temp. change (deg. C)	avg. ET flux (mm)	multi-day head change at E01A [b] (mm)
12/4 - 12/7	9.657	0.577	9.080	0.3	21
std dev			1.854	0.04	4

[a] ET was measured at a nearby flux tower, courtesy of Cleverly et al. (2006).

[b] The proportion of variation in groundwater levels due to changes in river stage was removed from the well hydrograph.

The proportional rise in groundwater-levels due to changes in river stage was removed from the well hydrograph record during late November-early December by (1) calculating the proportional rise in groundwater levels on 8 December 2005 (rise in groundwater elevation divided by the rise in river stage, equal to 0.67) and (2) subtracting this from the groundwater elevation time series.

Figure M-1. Time series that includes the two, multi-day time frames presented in this Appendix: **(a)** river stage and river temperature and **(b)** groundwater elevation, groundwater elevation with river stage effects removed, and river temperature.



River temperature was converted to dynamic viscosity to account for the nonlinearity of the temperature-viscosity function. The equation of state for the dynamic viscosity of water was obtained from Dingman (2002, Eq. B-12, p. 545), and is reproduced for convenience:

$$\mu_k = 2.0319 \text{x} 10^{-4} + 1.5883 \text{x} 10^{-3} \exp\left[-\left(\frac{T^{0.9}}{22}\right)\right] \qquad \text{(M-1)}$$

Here μ is fluid dynamic viscosity [M L^{-1} T^{-1}] and T is temperature [T].

Table M-2. Dynamic viscosity (visc.) of the river water for the five time frames, as calculated with the Eq. (M-1).

date	max visc. (Ns/m^2)	min visc. (Ns/m^2)	range in visc. (Ns/m^2)
6/30/2005	9.25E-04	8.83E-04	4.23E-05
7/1/2005	9.42E-04	8.83E-04	5.90E-05
7/2/2005	9.49E-04	8.85E-04	6.45E-05
7/3/2005	9.31E-04	8.81E-04	5.04E-05
7/4/2005	9.43E-04	8.68E-04	7.56E-05
mean			5.83E-05
std dev			1.28E-05

date	max visc. (Ns/m^2)	min visc. (Ns/m^2)	range in visc. (Ns/m^2)
9/19/2005	1.11E-03	8.94E-04	2.18E-04
9/20/2005	1.08E-03	8.48E-04	2.32E-04
9/21/2005	1.11E-03	8.70E-04	2.43E-04
9/22/2005	1.07E-03	8.58E-04	2.09E-04
9/23/2005	1.09E-03	8.45E-04	2.41E-04
mean			2.29E-04
std dev			1.46E-05

date	max visc. (Ns/m^2)	min visc. (Ns/m^2)	range in visc. (Ns/m^2)
11/12/2005	1.30E-03	1.20E-03	9.50E-05
11/13/2005	1.31E-03	1.21E-03	9.68E-05
11/14/2005	1.33E-03	1.23E-03	1.01E-04
11/15/2005	1.34E-03	1.25E-03	9.26E-05
11/16/2005	1.42E-03	1.32E-03	1.03E-04
mean			9.76E-05
std dev			4.24E-06

date	max visc. (Ns/m^2)	min visc. (Ns/m^2)	range in visc. (Ns/m^2)
11/29 - 12/1	1.63E-03	1.43E-03	1.99E-04
std dev			1.71E-03

date	max visc. (Ns/m^2)	min visc. (Ns/m^2)	range in visc. (Ns/m^2)
12/4 - 12/7	1.75E-03	1.32E-03	4.26E-04
std dev			1.67E-03

Five equations were used to determine the modeled head change for the time frames summarized in Tables M-1 and M-2, which in addition to Eq. (2) described in the narrative, were used for the chi-squared analysis.

	equation	equation	std dev in head change (mm)
July 2005	$(5.83 \times 10^{-5} * a) + (7.3 * b) = 78$	(M-2)	25
Sept 2005	$(2.29 \times 10^{-4} * a) + (3.8 * b) = 34$	(M-3)	2
Nov 2005	$(9.76 \times 10^{-5} * a) + (0.4 * b) = 28$	(M-4)	9
late Nov 2005	$(1.99 \times 10^{-4} * a) + (0.5 * b) = 9$	(M-5)	2
early Dec 2005	$(4.26 \times 10^{-4} * a) + (0.3 * b) = 21$	(M-6)	4

The chi-squared function χ^2 was evaluated in four steps. First, the maximum expected water-level response (modeled head change) due to ET and river temperature (dynamic viscosity) effects were evaluated with Eq. (M-2) and (M-3), respectively. Second, the a- and b-values were classified into ten bins from zero to the maximum value. Third, the sum of χ^2 was calculated for each period of interest using Eq. (3) described in the narrative and Eq. (M-2) through (M-6) for the binned range of fitting parameters. Fourth, a contoured matrix of the chi-squared function was assembled in the following manner. The minimum value of the sum of the chi-squared function χ^2_{min} was selected, which corresponded to the best estimate to explain the proportion of variation in water-level fluctuations in the aquifer due to ET and river temperature (seepage). Within the ET-river temperature (dynamic viscosity) parameter space, one-standard deviation uncertainty bounds were obtained from the limits of the $\chi^2_{min} + D\chi^2_v$ contour, where $D\chi^2_v$ is the critical value of the change in sum of χ^2 for a specified level of confidence and the number of fitted parameters (v) (e.g., Davis, 2002). For a confidence level of 68.3% and two free parameters, the critical value for χ^2 was 2.3. The one-standard deviation uncertainty limit is contoured in Tables M-3 and M-4.

Table M-3. Sum of the chi-squared function for the five time frames. The italicized fitting parameter a- and b-values were further subdivided and are presented in Table M-4.

	b											
max ET	**10.680**	40.9	39.4	53.1	81.9	126.0	185.3	259.7	349.4	454.3	574.3	709.6
	9.612	33.8	24.3	30.0	50.9	87.0	138.2	204.7	286.4	383.3	495.4	622.7
	8.544	35.3	17.8	15.5	28.4	56.5	99.8	158.3	232.0	320.9	425.0	544.4
	7.476	45.3	19.9	9.6	14.5	34.7	70.0	120.5	186.2	267.2	363.3	474.6
	6.408	64.0	30.5	12.3	**9.2**	21.4	48.7	91.3	149.0	222.0	310.1	413.5
	5.340	91.2	49.8	23.6	12.5	16.7	36.1	70.7	120.4	185.4	265.6	360.9
	4.272	127.0	77.6	43.4	24.4	20.6	32.0	58.6	100.4	157.4	229.6	317.0
	3.204	171.4	114.1	71.9	44.9	33.1	36.5	55.1	89.0	138.0	202.2	281.6
	2.136	224.4	159.1	108.9	74.0	54.2	49.6	60.3	86.1	127.2	183.4	254.8
	1.068	286.0	212.7	154.6	111.6	83.9	71.3	74.0	91.9	124.9	173.2	236.6
min ET	**0**	356.2	274.9	208.8	157.9	122.2	101.6	96.3	106.2	131.3	171.6	227.0
	a	**0**	***14847.2***	***29694.3***	***44541.5***	***59388.6***	**74235.8**	**89083.0**	**103930.1**	**118777.3**	**133624.5**	**148471.6**
		min T										max T

Table M-4. Sum of the chi-squared function for the five time frames for the expanded window. The interval bounding χ^2_{min} was expanded to provide a larger window of uncertainty in the ET-river temperature (dynamic viscosity) parameter space. The expanded window, as italicized in Table M-3, included four a- and five b-cells with a 10-bin breakdown.

	b											
max ET	**8.544**	17.8	15.5	14.6	15.0	16.9	20.0	24.6	30.5	37.8	46.5	56.5
	8.117	17.6	14.3	12.5	12.0	12.8	15.1	18.7	23.6	30.0	37.7	46.7
	7.690	18.8	14.6	11.7	10.3	10.2	11.4	14.1	18.1	23.5	30.2	38.3
	7.262	21.3	16.1	12.4	9.9	8.9	9.2	10.9	13.9	18.4	24.2	31.3
	6.835	25.2	19.1	14.4	11.0	9.0	**8.3**	9.1	11.2	14.6	19.5	25.7
	6.408	30.5	23.5	17.8	13.4	10.5	8.9	8.6	9.8	12.3	16.1	21.4
	5.981	37.2	29.2	22.5	17.2	13.3	10.7	9.6	9.7	11.3	14.2	18.5
	5.554	45.2	36.3	28.6	22.4	17.5	14.0	11.9	11.1	11.7	13.6	17.0
	5.126	54.7	44.7	36.1	28.9	23.1	18.6	15.5	13.8	13.4	14.4	16.8
	4.699	65.5	54.6	45.0	36.9	30.1	24.6	20.6	17.9	16.6	16.6	18.0
min ET	**4.272**	77.6	65.8	55.3	46.2	38.4	32.0	27.0	23.4	21.1	20.2	20.6
	a	**14847.2**	**19301.3**	**23755.5**	**28209.6**	**32663.8**	**37117.9**	**41572.0**	**46026.2**	**50480.3**	**54934.5**	**59388.6**
		min T										max T

From Table M-4, χ^2_{min} was used to select the optimal values for a and b, which were approximately $(37 \pm 10) \times 10^{-3}$ and 6.8 ± 1.1, respectively.

Table M-5. Predicted groundwater-level response and percentage attributed to temperature-dependent changes in river temperature (seepage) and ET based on optimized values of *a* and *b*. Uncertainty estimates were obtained from Table M-4.

time frame	observed total head change (mm)	predicted total head change (mm)	predicted river temp. head change (mm)	predicted ET head change (mm)	predicted river temp. effects (%)	predicted ET effects (%)
July 2005	78	51.7	3.1 ± 0.6	49.6 ± 8.0	4 ± 1	96 ± 15
Sept 2005	34	34.3	8.5 ± 2.3	25.8 ± 4.2	33 ± 9	67 ± 11
early Dec 2005	21	17.8	15.8 ± 4.3	2.0 ± 0.3	87 ± 23	13 ± 2