

**HYDROLOGIC RESPONSE OF THE SHALLOW
GROUNDWATER TO A FLOOD EVENT ALONG THE SAN
ACACIA REACH OF THE RIO GRANDE, NM**

By

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ABSTRACT

This study's objective was to gain a better understanding of the regional hydrologic system along the San Acacia Reach of the Rio Grande, which starts at the San Acacia Diversion Dam and ends north of Elephant Butte Reservoir in central New Mexico. Through data collected along a highly instrumented 50-mile (80 km) reach of the Rio Grande, we were able to see how shallow groundwater responds to changes in the river stage. This critical reach on the Rio Grande had 154 wells, 19 stream gages, and 70 pressure transducers that recorded hourly water levels, providing a detailed look at flood events. The high-resolution data showed that during flood events the aquifer responded quickly to changes in river stage, resulting in an upward gradient between the lower aquifer and the phreatic aquifer, which are separated by a low permeability unit. Detailed flood event data, water table elevations, well logs, and pump test data were used to create a numerical model referred to as the Discontinuous Layer Model (DLM), which was used to test subsurface geology configurations and evaluate what type of geological layering yields results that best match the observed groundwater response.

Nine scenarios were tested. These included three geologic interpretations and three hydraulic conductivity patterns. The three geologic interpretations include (1)

removing the low-permeability unit below the river, (river geology), (2) creating holes in the low-permeability unit in the shapes of ellipses (ellipse geology), and (3) removing the low-permeability layer in the northern part of the domain (gap geology). For each interpretation, permutations were run for varying ratios of phreatic and lower-aquifer hydraulic conductivities. Simulations were then compared to the observed data and were evaluated to see which geologic scenarios provided the most accurate simulations of the system response.

Eleven of the model runs predicted moderate to strong upward gradients similar to the observed response. The eleven models were further evaluated based on how realistically they represented the observed hydrogeological system and how well they predicted the observed shallow and intermediate well responses. From the additional criteria the model that best predicted the observed aquifer was the River Removed Model with the lower aquifer having greater hydraulic conductivity than the phreatic aquifer and with the lower aquifer having a specific storage value of 10^{-3} ft⁻¹ (3.05×10^{-4} m⁻¹).

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1. INTRODUCTION

1.1. Motivation

The Rio Grande is located in the Southwest portion of the United States and in Mexico. Its headwaters start in southern Colorado. The river then moves through New Mexico, and forms the border between Texas and Mexico before discharging into the Gulf of Mexico. The Rio Grande is an important water source for this arid region. Water in the Rio Grande is shared among Colorado, New Mexico, Texas and Mexico as set forth in interstate compacts and international treaty. Major New Mexico cities along this reach, including Santa Fe, Albuquerque, Las Cruces, and surrounding areas, rely on surface water and groundwater supplies for industrial, municipal, and agricultural use

The focus of this study is the San Acacia reach of the Rio Grande, which is about 50 miles long and runs from the San Acacia diversion dam to just north of Elephant Butte Reservoir (Figure 1). There are many demands on this section of the Rio Grande including agricultural, riparian ecosystem, wildlife habitat, and municipal needs (Figure 2). This reach of the Rio Grande historically runs dry in the summer, which may result in straining agricultural and environmental water demands. In addition, low river flows may result in New Mexico failing to meet the water obligations to Texas as set forth in the Rio Grande Compact.

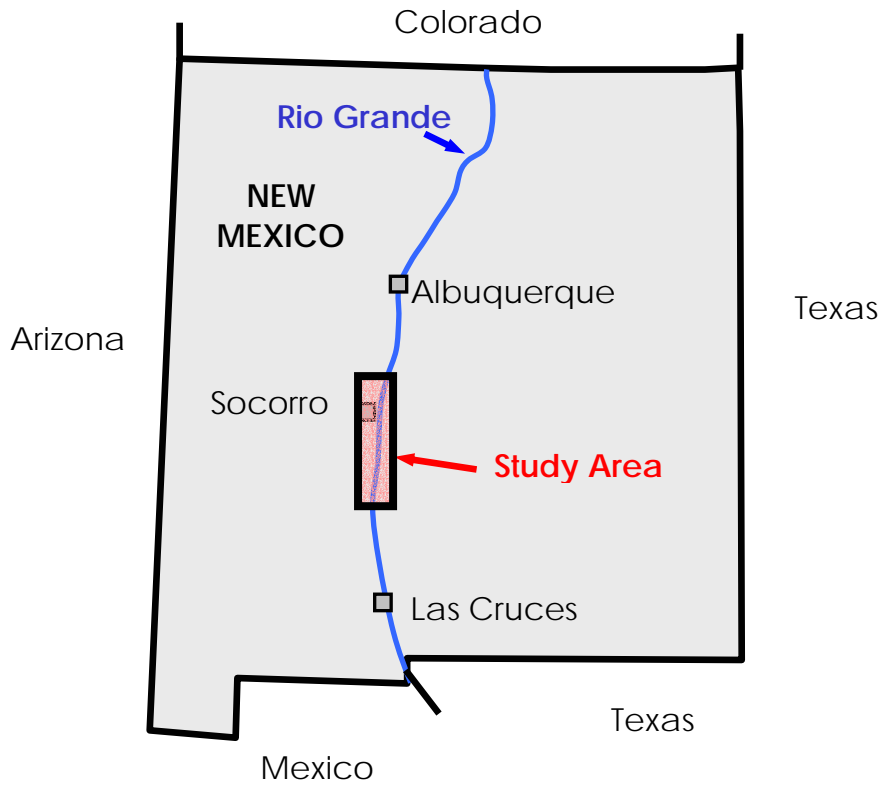


Figure 1. Location of the San Acacia reach of the Rio Grande.

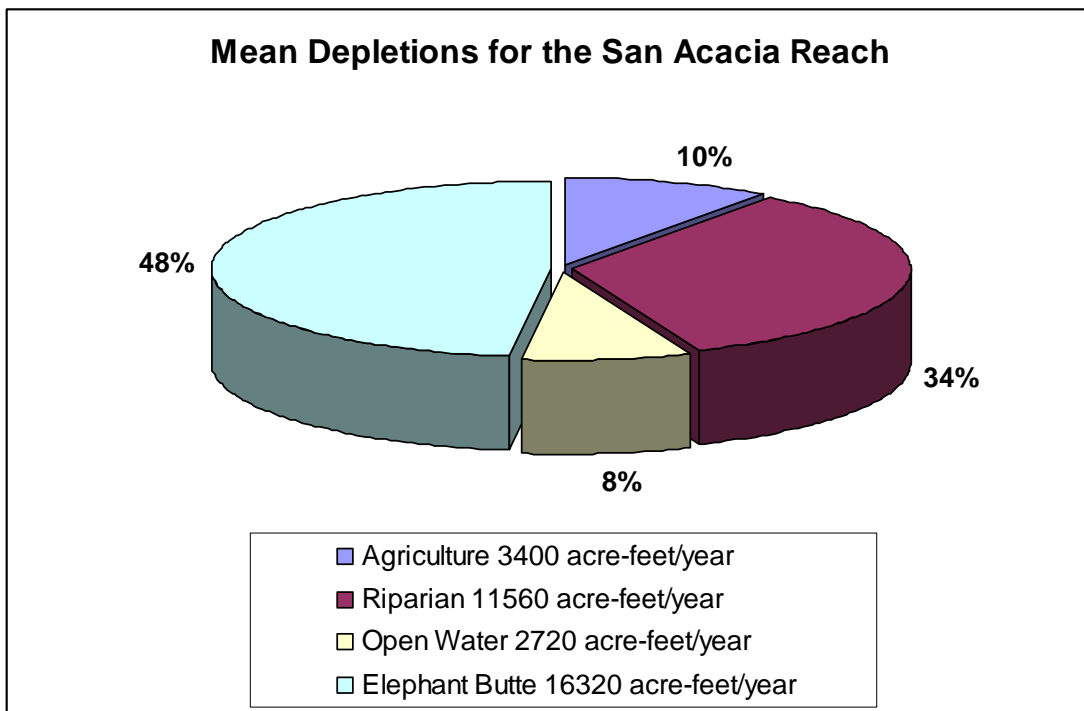


Figure 2. Mean depletions for the San Acacia reach (SSPA, 2004b).

The Rio Grande Compact of 1938 is an agreement between the states of Colorado, New Mexico and Texas to share the water of the Rio Grande according to schedules set forth in the compact (U. S. Fish and Wildlife Service, 1999). New Mexico is obligated to deliver a portion of water, measured at the Otowi gage, to Texas. The point of delivery is at the discharge of Elephant Butte Reservoir. Under rules specified in the compact, New Mexico calculates the amount of water to be delivered to Texas and allocates the remainder of the Rio Grande water to fulfill the State's needs, which include agricultural use and municipal use.

Agriculture in New Mexico dates back to the original Native American inhabitants and Spanish settlers. When the Spanish settled in the region, they built a series of irrigation canals called acequias that were fed by the Rio Grande. These canals reduce river flows by diverting a portion of the water from the river for irrigation. In 1600, there were 25,555 reported acres of irrigated land in the Middle Rio Grande Valley, and by 1950 the amount of irrigated land had grown to 172,400 acres (Scurlock 1998). Since the 1950's the amount of irrigated land has declined; currently, there are about 90,000 acres of irrigated land in the Middle Rio Grande Valley (U. S. Bureau of Reclamation, 2006). This land uses pumping wells or irrigation canals to provide water to irrigate crops. The main crops grown in New Mexico and the San Acacia reach are alfalfa, corn, grains, fruits and vegetables, according to the U. S. Bureau of Reclamation (2006). In the San Acacia reach, most farming is located on the west side of the Rio Grande and accounts for 10% of the river system water depletions along this reach (SSPA, 2004b).

The Rio Grande provides habitat for many species of plants and animals. Within the San Acacia reach, the Bosque del Apache National Wildlife Refuge diverts water from the Rio Grande to create wetlands for many bird species. In addition, the Rio Grande in the middle valley is designated as critical habitat for the silvery minnow, which was listed as an endangered species on July 20, 1994 (U. S. Fish and Wildlife, 2006a). The U.S. Bureau of Reclamation supports the silvery minnow by managing flows, assisting in rescuing the minnows from drying pools of water, and by pumping water into dry reaches of the Rio Grande from the Low Flow Conveyance Channel (LFCC) (U. S. Bureau of Reclamation, 2006d).

Municipal use is low within the San Acacia reach, accounting for less than 1% of the total water use between San Acacia and Elephant Butte Reservoir (SSPA, 2004b) (Figure 2). The city of Socorro uses springs and pumping wells west of the Rio Grande flood plain for its water supply. There is not a large population located along this reach. Farmers and ranchers in the area use domestic groundwater wells for irrigation and household water.

The Rio Grande is a highly managed river with many regional demands. State agencies need to be able to predict river flows to meet user needs. The surface water relationship to groundwater is not well understood or documented. The overall goal of this study is to increase the understanding of surface water/groundwater

interactions in the San Acacia reach and thereby improve management of Rio Grande flows.

1.2. Study Objectives

This study has three objectives aimed at gaining a better understanding of the regional hydrologic system in the Socorro basin north of Elephant Butte Reservoir.

- 1) To design and implement a surface water and groundwater monitoring system using previously installed groundwater wells and surface water gages.
- 2) To formulate conceptual and numerical models of the hydrogeologic structure of the San Acacia reach.
- 3) To use observed and simulated groundwater response to varying river flows to distinguish among the various conceptual hydrogeologic models.

In order to understand surface-water/groundwater interactions, it is first important to understand the subsurface geology. The alluvium, which makes up the upper 100 feet of unconsolidated sediment in the Rio Grande flood plain, consists of a series of layers and lenses of sediments ranging in grain size from gravels to clays. The distribution of these sediments has a significant effect on the aquifer. By using high-resolution data of a flood event and a simplified numerical model of the surface water and groundwater system, different geological scenarios can be explored. A numerical model, referred to as the *Discontinuous Layer Model* (DLM), was used to test subsurface geology configurations and evaluate what type of geological layering best matches the observed groundwater response to a flood event. Nine conceptual

models were developed and tested. They were then compared to the observed data and evaluated to see which geologic structures provided the most accurate explanation of the system.

2. REGIONAL OVERVIEW

2.1. Location

The study area focuses on the San Acacia reach of the Rio Grande which starts at the San Acacia diversion dam and ends just south of Fort Craig where the river enters the delta at Elephant Butte Reservoir (Figure 3). The city of Socorro and the town of San Antonio are located along this reach. Both have relatively small populations of 8,877 and 719 respectively (U.S. Census Bureau, 2000). The Rio Grande flows through the middle of the study area. The Low Flow Conveyance Channel (LFCC), constructed to aid in water delivery, parallels the Rio Grande to the west, from the San Acacia diversion dam to Elephant Butte Reservoir. Farm land and most of the population inhabiting the study area, are located west of the Rio Grande. The eastern side of the flood plain is mostly riparian vegetation that supports many animal species.

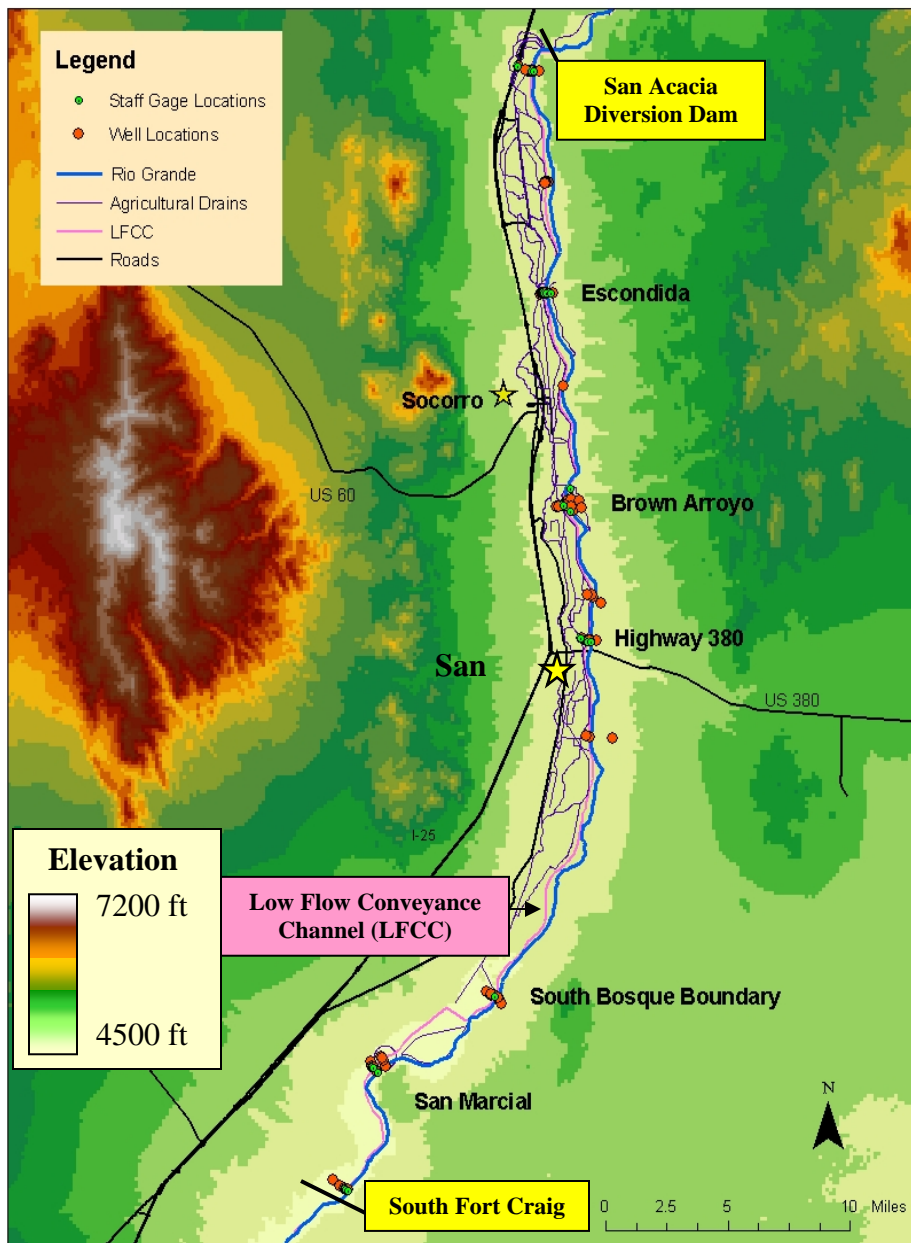


Figure 3. Map of the San Acacia reach of the Rio Grande showing the location of the Low Flow Conveyance Channel, San Acacia Diversion Dam and South Fort Craig.

2.2. Climate

The Middle Rio Grande is in an arid to semiarid climate, which is characterized by low relative humidity, limited precipitation, abundant sunlight, and large diurnal temperature fluctuations (Bullard, 1992). Annual average temperature ranges from an

average high of 90 degrees Fahrenheit (32 °C) in the summer (June-September) and an average low of 27 degrees Fahrenheit (-2.8 °C) in the winter (December-February) (NOAA, 2006). The average daily temperature fluctuation is 35 degrees Fahrenheit (1.7 °C) (NOAA, 2006). High summer temperatures and low humidity contribute to high rates of evaporation. In addition, this region receives limited rainfall. Over the period 1996 to 2005 Socorro's average yearly rainfall has been 9.7 inches (246.4 mm) (Figure 4) (NOAA, 2006). Adjacent mountainous regions receive larger amounts of precipitation, which contributes to the recharge of surface water and groundwater in the form of snowmelt and run off.

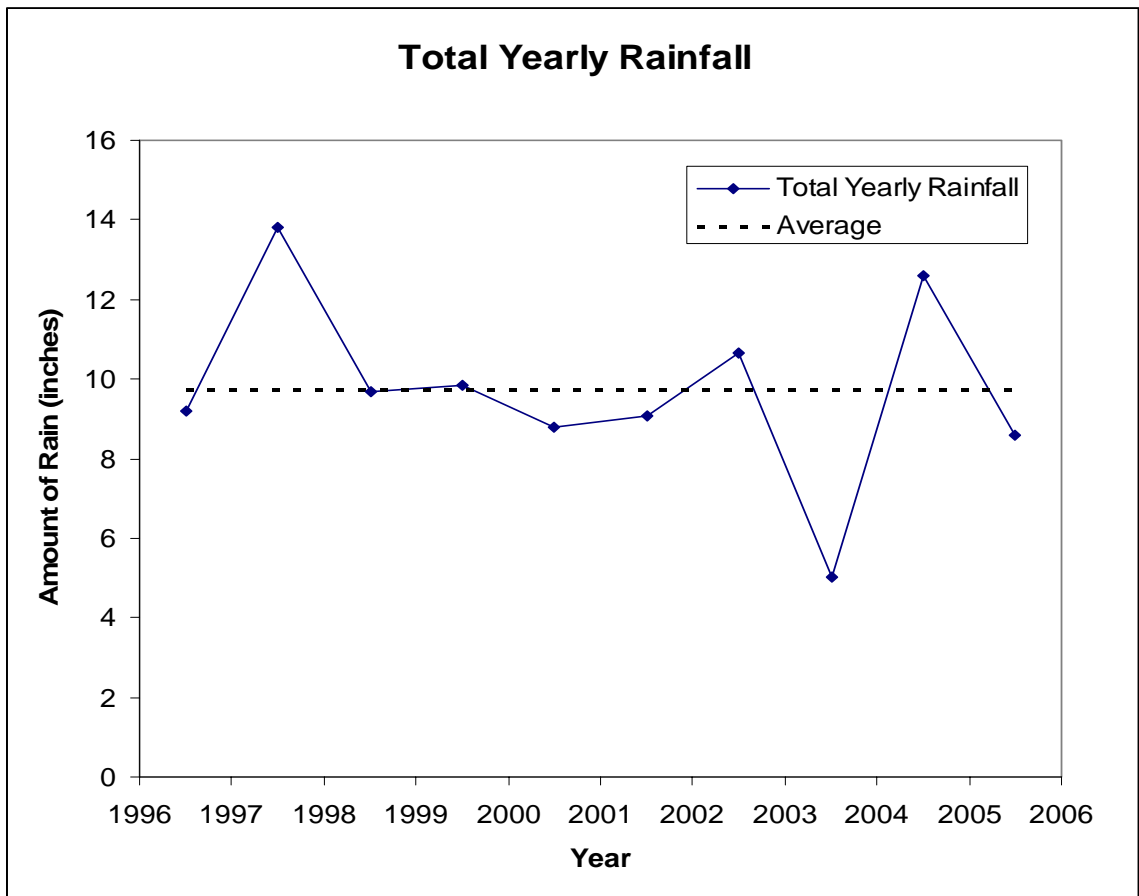


Figure 4. Total yearly rainfall data for Socorro obtained from the National Climatic Data Center (NOAA, 2006).

2.3. Geology

The Socorro Basin is part of the Rio Grande rift, which is made up of a series of sedimentary basins extending more than 684 miles (1100 km) from central Colorado to west Texas and the State of Chihuahua, Mexico (Keller and Cather, 1994). The Rio Grande flows north to south linking these basins (Anderholm, 1987). The Rio Grande flows across about 100 ft (30.48 m) of holocene alluvium below which lies the principle aquifer, the Santa Fe group deposits, composed of the Popotosa and Sierra Ladrones Formations (Anderholm, 1987). The recent alluvium beneath the modern Rio Grande consists of interbedded layers of clay, silt, sand and gravel consistent with floodplain deposits. The Popotosa Formation has a maximum thickness of 8530 ft (2600 m) and consists of conglomerates, debris flow breccia, mudstone, and sandstone (Cather et al., 1994). The Sierra Ladrones Formation ranges from 0 to 1500 ft (470 m) in thickness and consists primarily of poorly indurated conglomerates and sandstones, mudstones, and siltstones (Cather et al., 1994). The exact thickness of Santa Fe group deposits is unknown, but is estimated to be on the order a maximum 10,000 ft (3048 m) thick in the Socorro area (Cather et al., 1994)

2.4. Hydrology

2.4.1. Rio Grande

The Rio Grande has its headwaters in the Sangre de Cristo and San Juan mountains in southern Colorado and ends at the Gulf of Mexico. The Rio Grande is the 26th longest river in the world with a length of 1,900 miles (3058 km) and a drainage area of 220,078 square miles (569,999 km²) (Wikipedia, 2006). Historically, the Rio

Grande was a meandering stream with a wide flood plain. Due to flooding and water logging, efforts have been taken to control the river. Cochiti Reservoir, located upstream from Albuquerque, is the major flood control structure north of the San Acacia reach. Since its completion in 1975, it has been preventing floods and reducing river flows (U. S. Bureau of Reclamation, 2006c). The San Acacia Diversion Dam was built in 1934 and rehabilitated in 1957 as part of the Rio Grande project, whose purpose was to improve and stabilize the economy of the Middle Rio Grande Valley (U. S. Bureau of Reclamation, 2006b; Hydrosphere Resource Consultants, 2001). As part of the same management plan, the Rio Grande was dredged and straightened.

The Rio Grande experiences high river flows in late spring and early summer due to snowmelt and run off. The river has historically dried in mid-summer, with flows starting to increase during the monsoon season, which starts in July and ends in October. Rainfall events and watershed run-off ensure high river flows during these months.

The Rio Grande is the hydrologic high within the valley of the San Acacia reach; thus, the river generally loses water to the west and east (Figure 5). The Rio Grande is well connected to shallow groundwater (Hydrosphere, 2001). However, the Rio Grande is losing its connection with the Elephant Butte Reservoir due to large amounts of sediment clogging the channel. To help with water delivery to Elephant Butte, the LFCC was built at an elevation below the bottom of the river. The LFCC

parallels the Rio Grande and creates a strong gradient that drains additional water from the river. In dry months, water is pumped from the LFCC back into the Rio Grande to help maintain minimum water flows and provide habitat for endangered species, such as the silvery minnow.

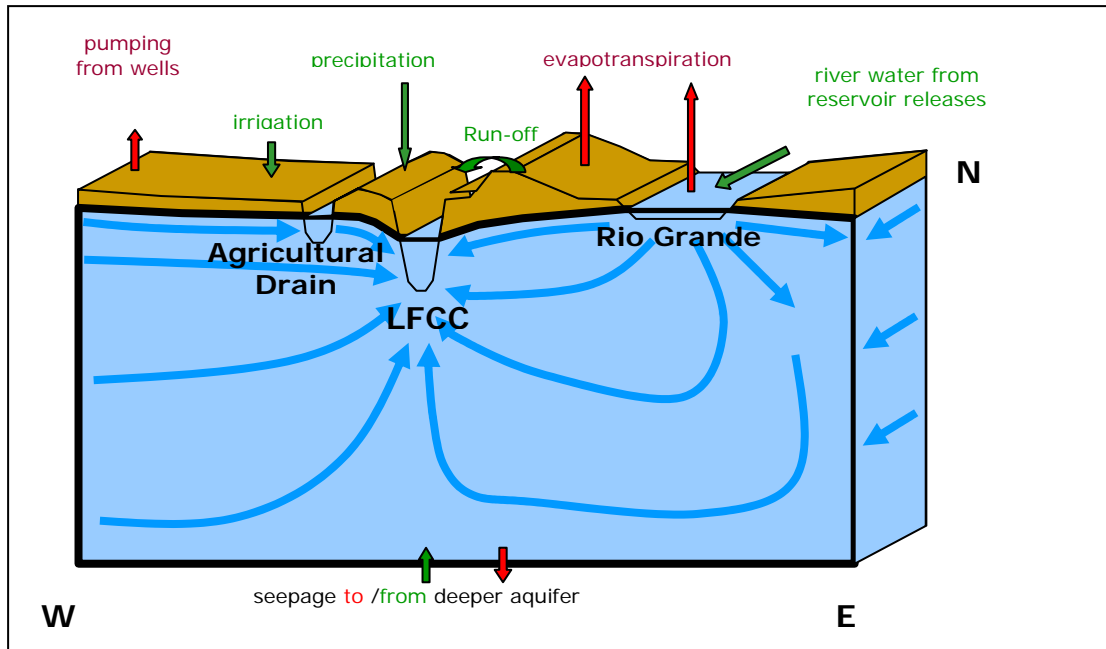


Figure 5. Conceptual model of the surface water/groundwater system in the San Acacia reach (Wilcox, 2004).

2.4.2. Low Flow Conveyance Channel

The LFCC, which was completed in 1959, is the hydrologic and topographical low of the system (Figure 5) (U. S. Bureau of Reclamation, 2006b). The LFCC is a 50 ft (80 m) wide, 74.6 mile (120 km) long, rock-lined channel that extends from the San Acacia diversion dam to the narrows of Elephant Butte Reservoir and has a capacity of 2,000 cfs (56.63 m²/s) (Bullard, 1992). The LFCC's purpose is to convey water to Elephant Butte Reservoir in an efficient manner. Originally, water was diverted from the Rio Grande into the LFCC at the San Acacia diversion dam. This operation ended

in 1987 (U. S. Bureau of Reclamation, 2006b). Currently, the LFCC acts as a drain for the Rio Grande valley groundwater, gaining water from the east and west.

2.4.3. Agricultural Canals and Drains

Various agricultural canals and drains exist in the study area to irrigate agricultural land on the west side of the Rio Grande. The Socorro main canal is the largest and longest irrigation canal along the San Acacia reach. It starts at the San Acacia diversion dam, where water is diverted from the Rio Grande into the canal during the irrigation season, and it is the main supply of water used for irrigation (Anderholm, 1987). Farmers irrigate their crops from irrigation ditches and the return flow is carried back to the river via drains. The irrigation ditches were constructed higher than the water table and the drains were constructed to be lower than the ditches to drain agricultural land and prevent water logging (Anderholm, 1987). Thus, irrigation ditches are dry when farms are inactive. In contrast, irrigation drains typically have low water levels in them throughout the year, reflecting water table elevations.

2.4.4. Tributaries

The two main tributaries immediately north of the San Acacia reach are the Rio Salado and Rio Puerco. The Rio Salado enters the Rio Grande 2 miles north of the San Acacia diversion dam and drains a 1378 mi² (3569 km²) watershed. The Rio Puerco enters the Rio Grande 12 miles (19 km) north of the San Acacia diversion dam and drains a 9,942 mi² (25,750 km²) watershed. Both are known for high flows during rain storm events and for high sediment loads. Other small ungaged tributaries enter the Rio Grande between San Acacia and San Marcial.

2.4.5. Elephant Butte Reservoir

Elephant Butte Reservoir forms the largest lake in New Mexico, covering about 40,000 acres (162 km²) of land, with a length of about 40 miles (64 km) (Scurlock, 1998). Elephant Butte dam was completed in 1916 and is primarily used to store irrigation water for southern New Mexico and Texas (Scurlock, 1998). Elephant Butte is also used for recreation and to produce hydroelectric power. Since its construction, sediment has been building up in the reservoir, decreasing the amount of storage and decreasing the reservoir's connection to the Rio Grande and the LFCC.

2.4.6. Groundwater

Groundwater in the Rio Grande valley is recharged by the Rio Grande and mountain front recharge (Anderholm, 1987). The groundwater table is shallow in the vicinity of the floodplain. Direction of groundwater flow is primarily southward and is locally controlled by the river, LFCC, and various irrigation ditches and drains (Anderholm, 1987). Groundwater and surface water are highly connected along this reach, and groundwater levels are highly responsive to changes in surface water elevation.

2.5. Flora

There are many plant species growing in the Rio Grande valley. The major agriculture crops in the area include chili, corn, alfalfa and other types of hay. Most farming is located west of the Rio Grande. Salt cedar, cotton wood, Russian olive, and honey mesquite are the dominant tree species in the riparian corridor east and west of the Rio Grande. Both salt cedar and Russian olive are non-native species.

Salt cedar was introduced in 1926 to help stabilize the river bank (Scurlock, 1998). It now dominates the landscape. Salt cedar provides poor habitat for local animal species. In addition, it increases the soil salinity (Ladenburger, 2005). New Mexico is currently trying to remove large areas of salt cedar and replace it with native plants. Historically, the Rio Grande floodplain was fairly bare with stands of cottonwoods, providing habitat for many native animal species and New Mexicans consider it the desirable vegetation. Unfortunately, cottonwood trees are in decline due to encroachment of other non native plant species, and lack of overbank flooding (U. S. Fish and Wildlife, 2004).

2.6. Fauna

There are two federally-listed endangered species whose habitat includes the San Acacia reach of the Rio Grande valley. These are the Southwest willow flycatcher, a species of bird listed in 1995, and the silvery minnow, a species of fish listed in 1994 (U. S. Fish and Wildlife, 2006a,b). New Mexico has been making efforts to preserve these species' critical habitats by eradicating salt cedar and planting native vegetation and by keeping minimum flows in the Rio Grande during summer months. In addition, efforts have been made to rescue minnows from drying ponds (U. S. Bureau of Reclamation 2006d).

3. PREVIOUS AND ON GOING WORK

There were few studies on the San Acacia reach of the Rio Grande until the past 5 years. Increasing demands on water and decreasing rain fall have prompted state agencies to investigate New Mexico's largest water source, the Rio Grande and its connected aquifers. Previous reports were conducted by the U.S. Geological Survey (Anderholm, 1987; Roybal, 1991). Recent studies have been supported by the New Mexico Interstate Stream Commission and the U.S. Army Corps of Engineers (SSPA, 2001; SSPA, 2003; SSPA, 2004a; Wilcox, 2004). These recent studies included an additional 137 wells installed along the Rio Grande. These wells and well logs were used to study the geology and in pump tests to calculated aquifer parameters. In addition, seepage analysis was performed to understand how water was moving between surface water and groundwater

3.1. Surface Water/Groundwater Monitoring System

In 2001, the New Mexico Interstate Stream Commission (NM ISC) and the U.S. Army Corps of Engineers (USCOE) initiated a large-scale study of the San Acacia Reach, referred to as "The Rio Grande Watershed Study". The purpose of the study was to characterize the surface water / groundwater interactions along the reach north of Elephant Butte Reservoir. The study began in 2001 with the monitoring of 38 Bureau of Reclamation (BOR) wells, named for their river mile location, that were

constructed in the 1990's (Wilcox, 2004). These wells are primarily shallow water-table wells in the Rio Grande Floodplain. They were installed across the Rio Grande in transects named for the river mile. Additional private wells and New Mexico Institute of Mining and Technology (NMT) environmental wells, installed to monitor groundwater chemistry surrounding NMT, were added to the study.

New Mexico Institute of Mining and Technology graduate and undergraduate students took monthly water level measurements starting in February 2002. In addition, groundwater and surface water samples were collected for chemical analysis three times a year from February 2002 until November 2005. The samples were analyzed for water quality and major anions and cations.

In 2003, 137 wells and 19 surface water gages were added to the sampling network along seven transects starting at San Acacia and ending at South Forth Craig (Figure 6). These wells were installed at three different levels. The shallow wells (referred to as the A wells) are about 20 ft (6 m) deep and screened across the water table. The intermediate wells (referred to as the B wells) are about 50 ft (15 m) deep and screened for the bottom 5 ft (1.5 m). There is only one deep well per transect (referred to as the C well) The C wells are about 100 ft (30.5 m) deep and screened for the bottom 5 ft (1.5m); they terminate approximately at the contact with the Santa Fe Group. At each transect, staff gages are installed in the Rio Grande, LFCC and agricultural drains or ditches if present. NMT began monthly monitoring on these additional wells in May 2003. In February 2004, monitoring stopped on some private

and BOR wells, creating a new set of monitoring points, which totaled 154 wells and 19 staff gages. In addition to monthly water level measurements, 70 pressure transducers were installed in selected wells and on staff gages. These pressure transducers were set to measure water levels hourly. All data was compiled into a Microsoft Access data base called the “RGFCDM3v2” created by Intera Inc. and maintained by NMT. Monitoring was transferred from NMT to SSPA in December 2005.

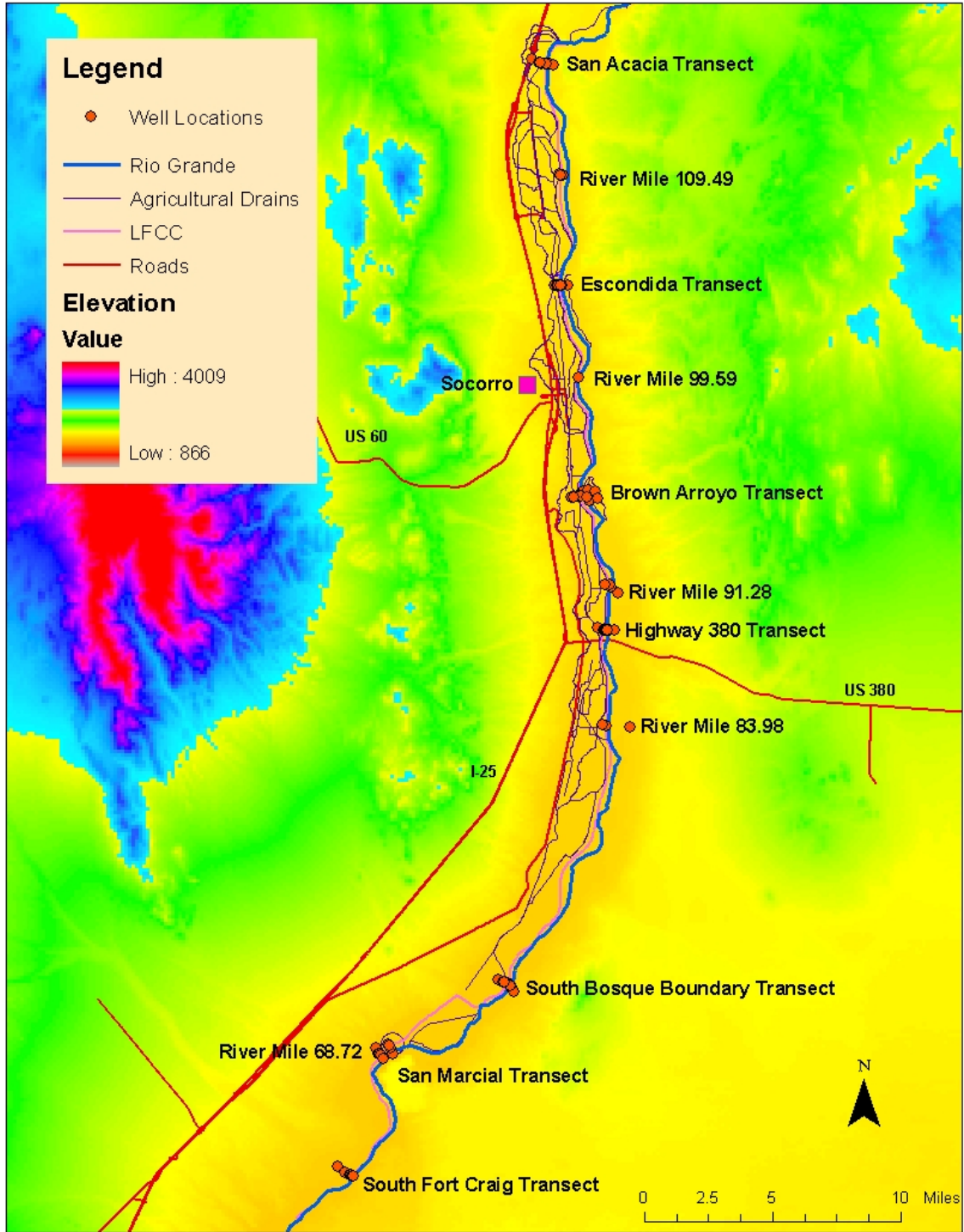


Figure 6. Bureau of Reclamation well locations and new well locations installed as part of The Rio Grande Watershed Study along San Acacia Reach.

3.2. Sediment Analyses

The U.S. Army Corps of Engineers Albuquerque District (USCOE) contracted SSPA to aid the Middle Rio Grande Watershed Study well construction. The well drilling and construction was conducted by Geotest, Inc. and supervised by SSPA. During drilling, SSPA took measurements and collected data, including soil samples, geologic logs, and recorded well construction. These data along with sediment analyses, soil characteristics, grain size distribution, unsaturated soil hydraulic properties, well location maps, and field log books were compiled into a final technical report titled, “Technical Memorandum Exploratory and Shallow Well Drilling Middle Rio Grande Watershed Study Phase 1” (SSPA 2003).

The SSPA (2003) provides alluvium geology data. Along the San Acacia reach the 100 ft thick unconsolidated alluvium within the flood plain is fluvial in origin, deposited by the Rio Grande (SSPA, 2003). Composed mainly of sand with lenses of clay, silt and gravel, these layers are discontinuous and vary in thickness. Along the San Acacia reach clay lenses are located primarily between 30 and 40 ft (9-12 m) below the ground surface between the shallow (A-wells) and intermediate (B-wells) wells (Figure 7). At the Highway 380 transect the first 40 (12 m) ft below the ground surface is primarily composed of silts and fine to medium sands and at depths greater than 40 ft (12 m) there are coarser sand and gravel layers (Figure 8). Grain size analysis at the Highway 380 transect performed by SSPA (2003) shows that the median grain size increases with depth (Figure 9). The coarser sediments at depth suggest higher hydraulic conductivities deeper in the alluvium.

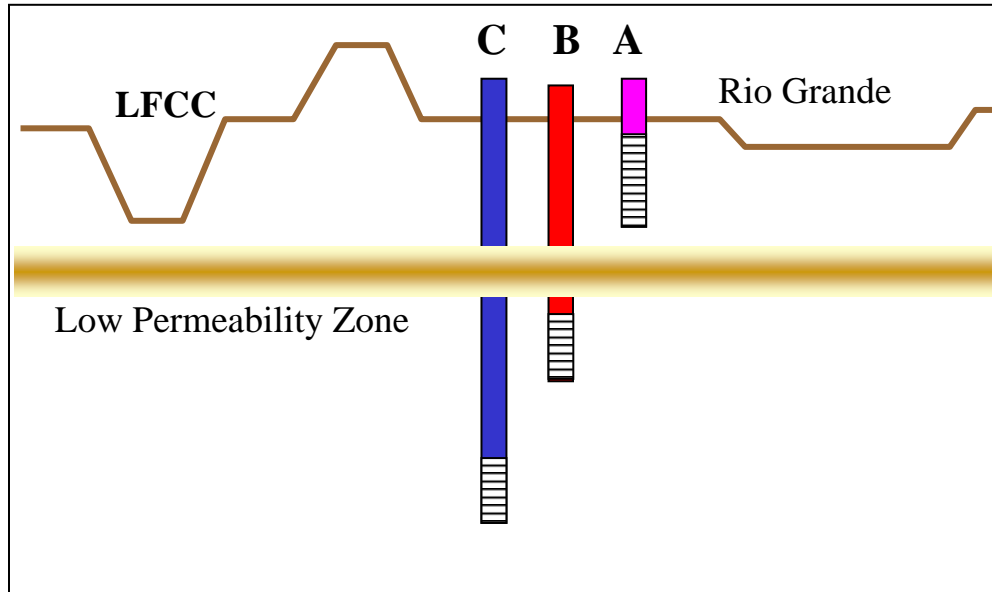


Figure 7. Well depths in relation to the low-permeability zone composed of clay lenses.

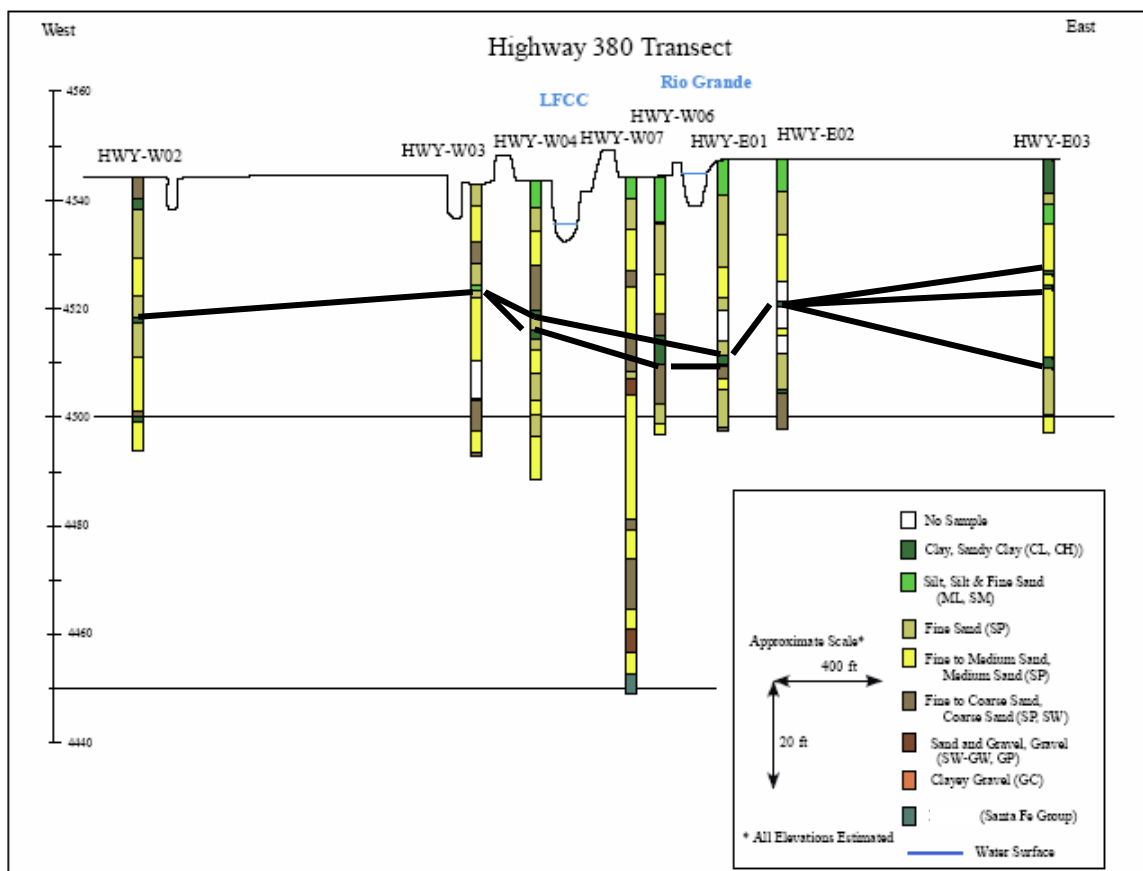


Figure 8. Borehole diagram, showing layers of clay, silt, sand, and gravel (SSPA, 2003).

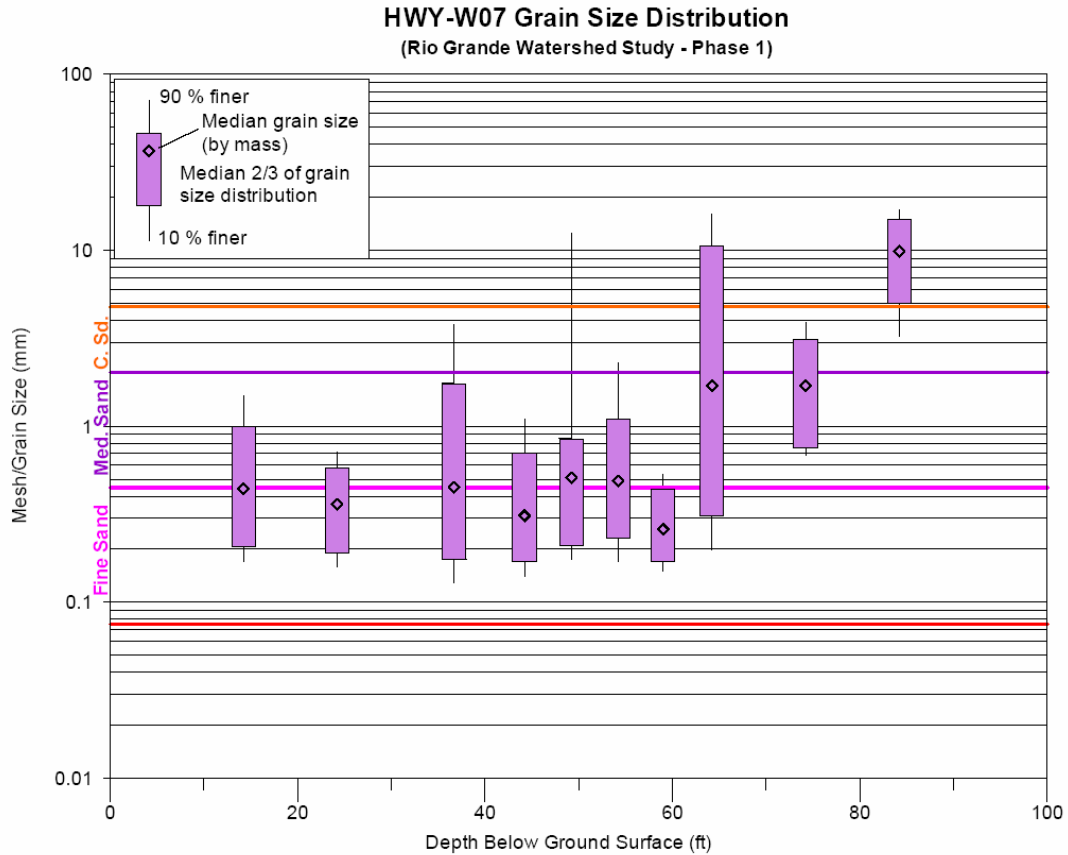


Figure 9. Sediment grain analysis for borehole HWY-W07, showing grain average grain size increasing with depth from the ground surface (SSPA, 2003).

3.3. Aquifer Tests

SSPA (2004a) performed and analyzed an aquifer pump test along the San Acacia reach at the Highway 380 transect. Two analytical methods and two numerical methods were used to analyze the data. The Highway 380 aquifer test was conducted from June 20-26, 2003. The extraction well, HWY-W08EX, was located 220 ft (67 m) west of the Rio Grande and 190 ft (58 m) east of the LFCC. The well was 10 inches (254 mm) in diameter and was screened from 35 to 59 ft (11-18 m) below the ground surface. The extraction well and 13 observation wells were monitored during the aquifer test. The observation wells included six shallow wells screened across the

water table (A-wells) six wells screened at the same depth as the pumping well (B-wells) and one deep well screened at a depth of about 86 to 91 ft (26-28 m) below the ground surface at the Santa Fe Group contact (C-well).

During the test, water levels in the intermediate wells and deep well stabilized within 5 to 15 minutes. Water levels in the shallow wells did not stabilize during the test. The measured drawdown for the pumping and observation wells are plotted in Figure 10. The pumping well, HWY-W08EX, was located 64.6 ft (19.7 m) below the ground surface. The first wells to respond were intermediate wells closest to the pumping well, HWY-W07B and HWY-W09B, located 49.5 ft (15.1 m) below the ground surface. The next two wells to respond were the intermediate wells located further from the pumping well. The next to respond was the deep well, HWY-W07C located 91.5 ft (27.9 m) below the ground surface and close to the pumping well. The wells that responded last with the least drawdown were the shallow observation wells, located about 20 ft (6 m) below the ground surface. As shown on Figure 11, wells HWY-W09A and HWY-W07A were located next to the pumping well at the same location as the intermediate wells, HWY-W07B and HWY-W09B, which exhibited the quickest response. If there was no low-permeability zone, the wells at all depths would respond approximately simultaneously. The fact that the deep well responded faster than the shallow wells, which were closer in proximity to the pumping well, provides further evidence that a low-permeability zone exists between the shallow well and pumping well.

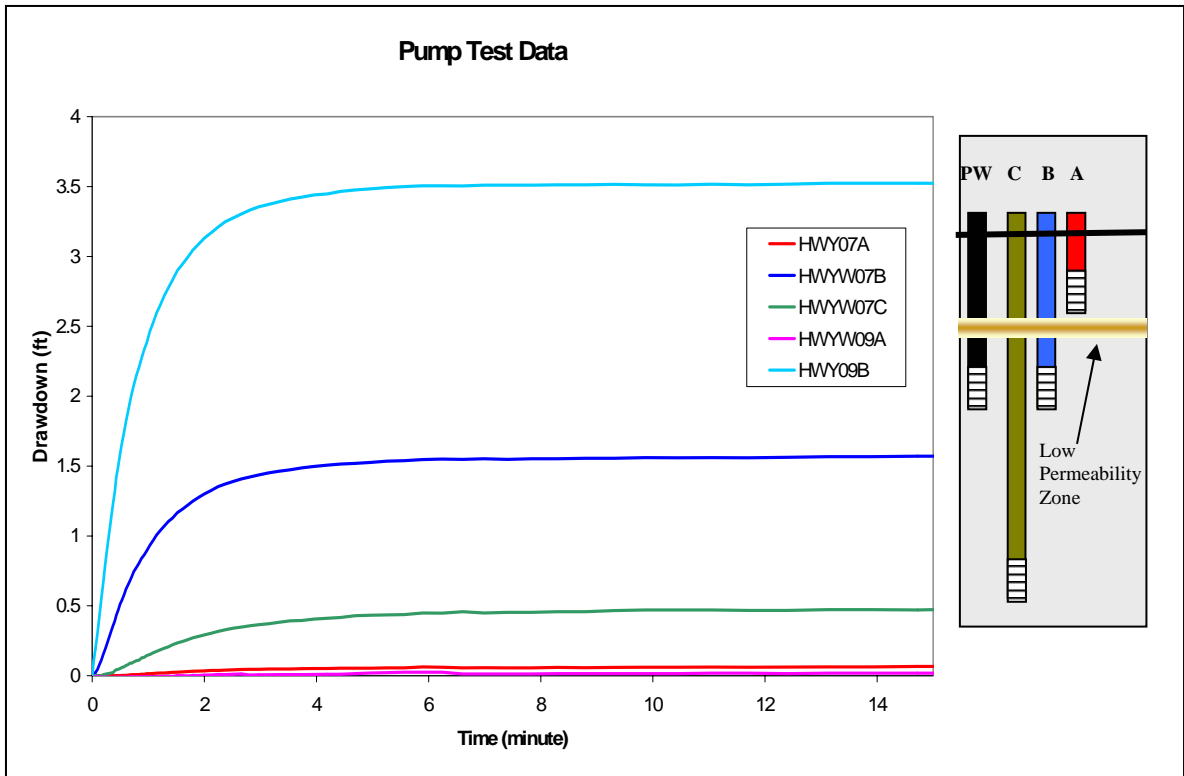


Figure 10. Pump test data showing the observation well drawdown (SSPA, 2004a).

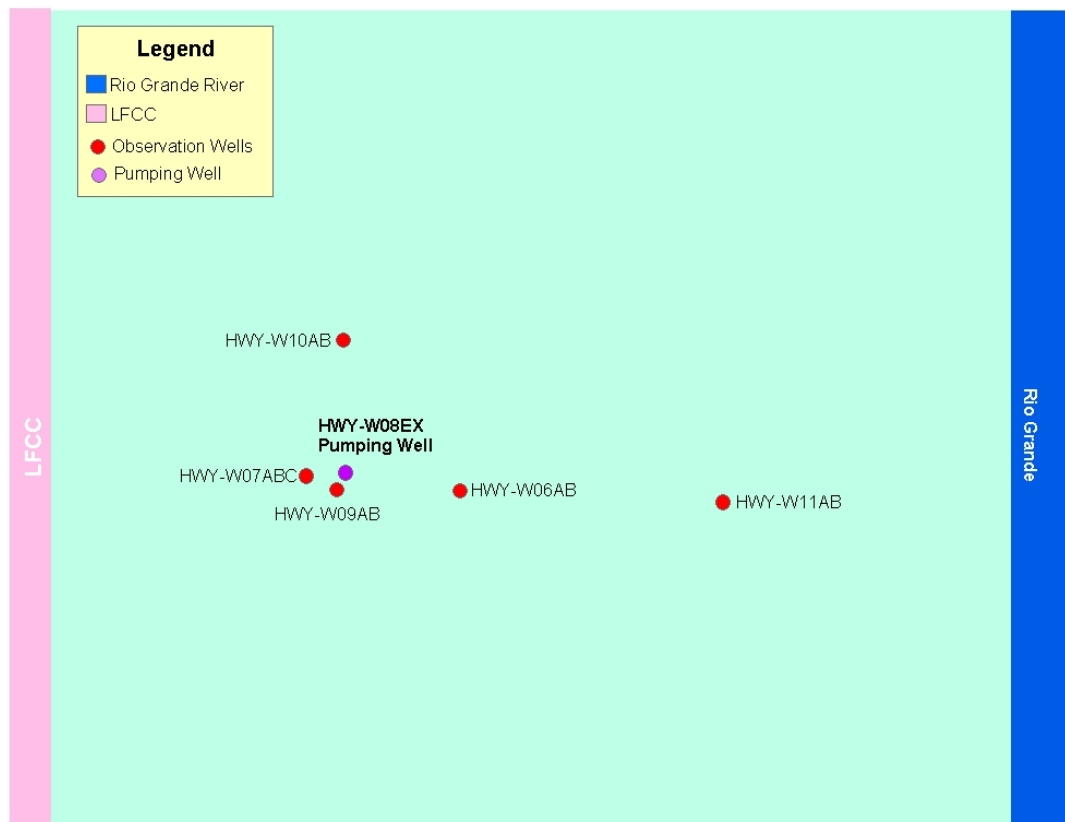


Figure 11. Map of well locations for the Highway 380 transect pump test. The LFCC was located 190 ft (58 m) east of the pumping well and the Rio Grande is located 220 ft (67 m) west of the pumping well (SSPA,2004a).

Two analytical methods were used to analyze the data: a steady-state method for a leaky-confined aquifer derived by Hantush and Jacob (1955), and a transient method for leaky-aquifers derived by Hantush and Jacob (1955), implemented using the curve-fitting software AQTESOLV Version 3.5 (HydroSOLVE, Inc.). Figure 12 shows the drawdown verses time from the pump test wells and the AQTESOLV curve fits. These methods only analyzed the lower leaky confined aquifer. The steady-state and transient methods produced an estimated transmissivity of 4,000 ft²/day (372 m²/day) and a storage coefficient from 0.001 to 0.05.

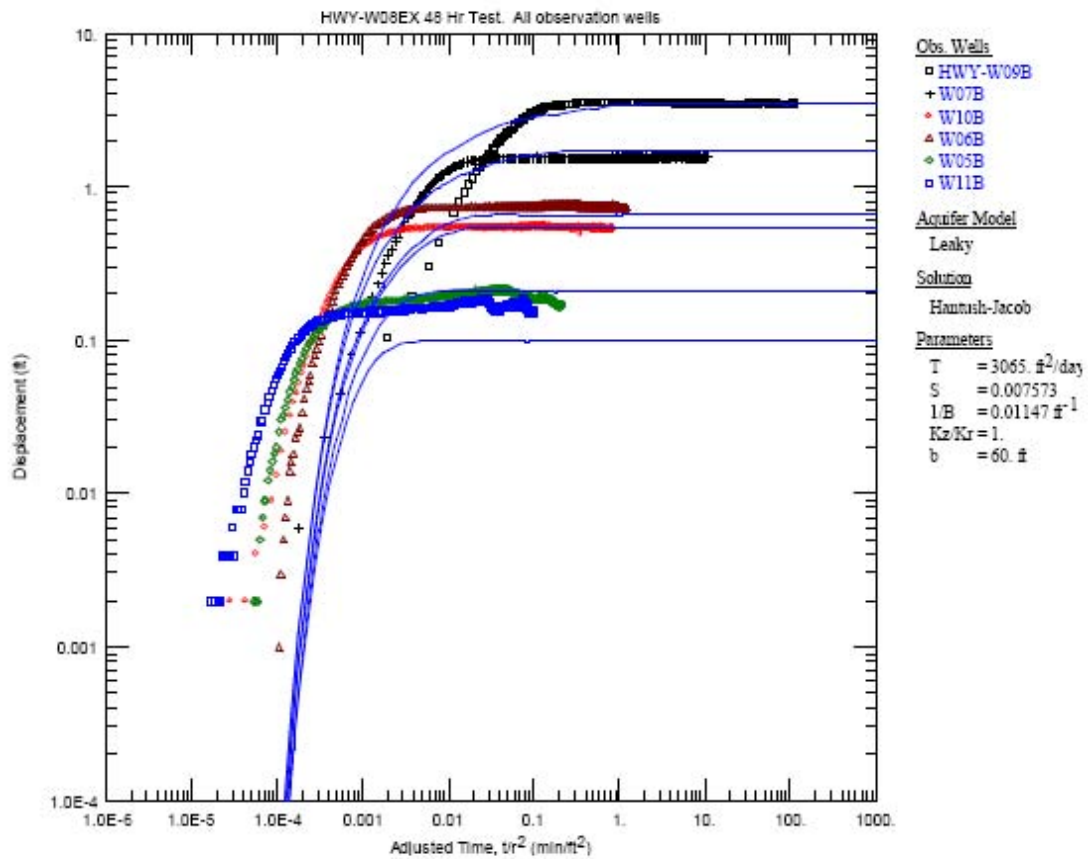


Figure 12. Composite plot of drawdown versus time and type curves for the Highway 380 pump test (SSPA, 2004a).

In addition to the analytical methods, two numerical methods were used to evaluate the steady-state test data. These methods included a finite-difference radial-flow model (RZ model), and a three-dimensional MODFLOW model. Both models calculated aquifer parameters for the upper phreatic and lower leaky-confined aquifers. The RZ model calculated a horizontal hydraulic conductivity for the upper unit of about 65 ft/day (19.8 m/day) and a vertical to horizontal anisotropy ratio of about 2:25. The RZ model calculated a horizontal hydraulic conductivity for the lower unit of about 150 ft/day (45.7 m/day) and an anisotropy ratio of about 1:3. The MODFLOW model calculated horizontal hydraulic conductivities of 70 ft/day (21.3

m/day) and 150 ft/day (45.7 m/day) for the upper and lower aquifers and an anisotropy ratio of 1:20 for the upper unit and 1:2 to 2:3 for the lower unit. The model estimated a transmissivity of 8,000 ft²/day, twice the value calculated using analytical methods.

Results from SSPA's (2004a) aquifer test analysis were used to parameterize the DLM: the average horizontal and vertical hydraulic conductivities for the upper phreatic aquifer were 67.5 ft/day (20.5 m/day) and 4.35 ft/day (1.33 ft/day). For the lower leaky-confined aquifer, the average horizontal and vertical hydraulic conductivities were 150 ft/day (45.7 m/day) and 67.5 ft/day (20.6 m/day) (SSPA, 2004a). The analysis did not evaluate hydraulic parameters for the low-permeability lenses located between the two aquifers; therefore these parameters were assigned values of 2 ft/day (0.61 m/day) for the horizontal hydraulic conductivity and 0.1 ft/day (0.03 m/day) for the vertical hydraulic conductivity, which are typical values for clayey sand (Fetter, 1994).

SSPA's (2004a) aquifer test analysis was used to determine the DLM layer characteristics. The test concluded there were two distinct aquifers in the shallow alluvium. SSPA (2004a) concluded that the two aquifers included a phreatic aquifer in the upper 30 feet (9 m) and a leaky-confined aquifer between 30 feet to 90 feet (9-27 m) below the surface. In both aquifers they found the horizontal hydraulic conductivity to be greater than the vertical, partially due to the lateral layering of the alluvium. The lower aquifer was not considered fully confined because the low-

permeability layer was laterally discontinuous (SSPA, 2004a). The layer description and aquifer parameters for the DLM were derived from the aquifer test analyses, the geologic logs data, and grain size analyses (SSPA, 2004a).

3.4. River Seepage Analysis

S. S. Papadopoulos and Associates, Inc. (SSPA), in conjunction with Mussetter Engineering, Inc (MEI), conducted a field assessment of flow and seepage along the San Acacia reach of the Rio Grande. This study was documented in the SSPA report entitled, “Field Assessment of Flow and Seepage Conditions along the Rio Grande and Low Flow Conveyance Channel, San Acacia to Elephant Butte”, (2001). The study objective was to “assess flow and channel seepage conditions along the Rio Grande and Low Flow Conveyance channel from San Acacia to Elephant Butte Reservoir” (SSPA, 2001).

Flows along the Rio Grande and LFCC were measured and the channel seepage was calculated from these measurements. The field data were collected from July 2000 through February 2001. However, measurements prior to August 2000 were considered poor to fair with discharge variations exceeding 25%. Measurements were taken at 11 locations on the Rio Grande and 7 locations on the LFCC. Flow measurements were normalized to account for fluctuations in flow. The seepage between two measurement points was calculated by subtracting the outflow from the inflow. The highest calculated seepage rates of 8.1 to 19.7 cfs/mile (0.23-0.56 m³/mile) were from the reach that extends between Brown Arroyo transect and the

Highway 380 transect. Figure 13 shows the range of Rio Grande seepage rates for each segment of the San Acacia reach measured between August 2000 and February 2001.

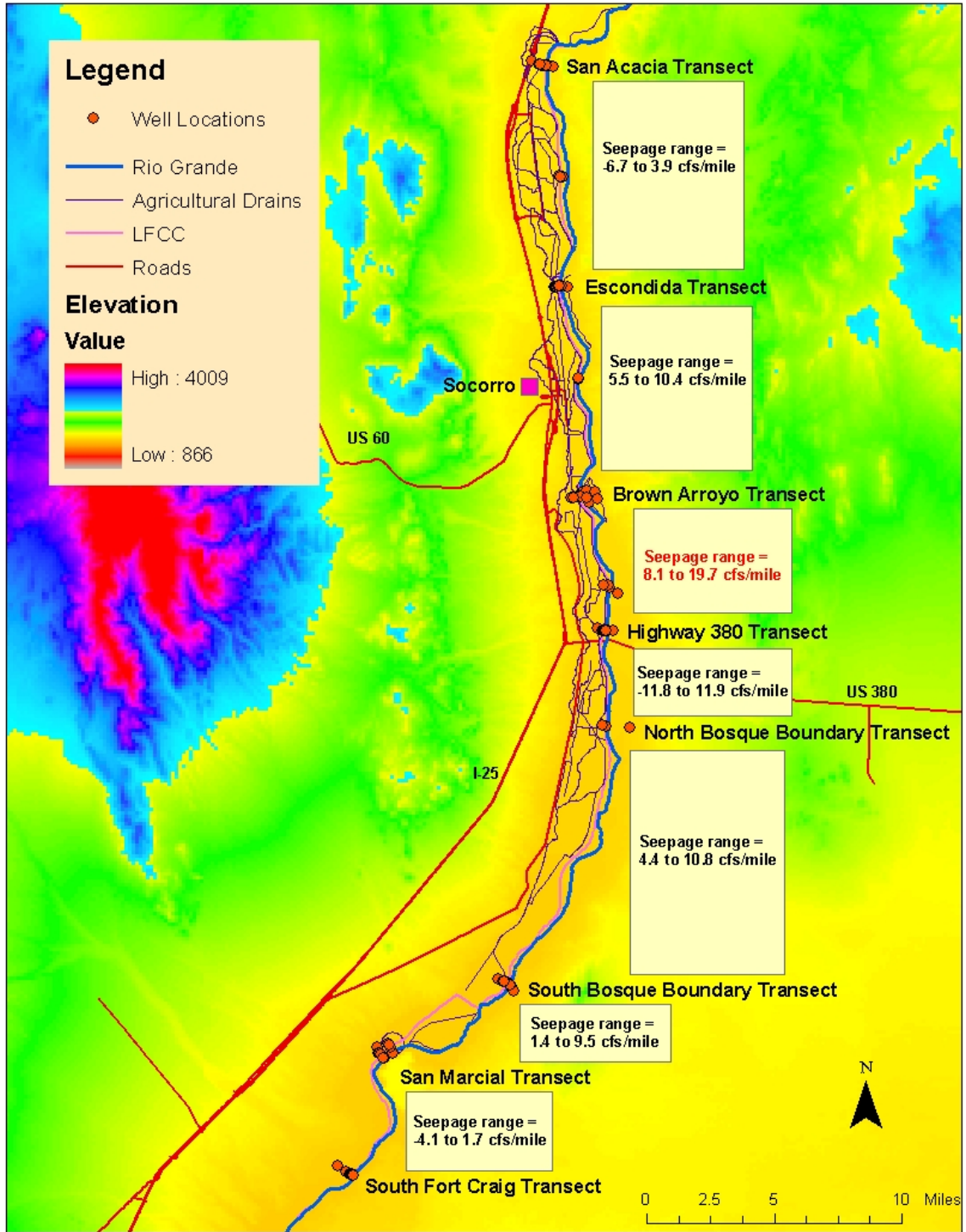


Figure 13. SSPA seepage run results for each segment of the San Acacia reach. The seepage calculations for each segment is the range of results from the seven seepage runs conducted from August 2000 to February 2001 (SSPA, 2001).

3.5. River Bed Conductance

In December 2003, a three-day tracer test was conducted using sulfur hexafluoride (SF_6) to determine vertical streambed hydraulic conductivity in the Rio Grande (Cardenas, 2006). The experiment was conducted at the Escondida transect in the Rio Grande channel December 9-11, 2003. Four piezometers were driven into the river bed using a post driver. The injection piezometer was screened about 1.6 ft (0.5m) below the bed surface. The second piezometer was 3.0 ft (0.9 m) below the bed surface, the third 3.9 ft (1.2 m), and the fourth 4.9 ft (1.5 m). The experiment was designed for the tracer to be injected into the shallow piezometer and detected in the three deeper piezometers. Arrival times were determined from the breakthrough curves and using Darcy's Law, the vertical hydraulic conductivity of the streambed sediments was calculated.

The tracer, SF_6 , is an inert, odorless, colorless, nonflammable, environmentally safe, benign gas. The gas was injected into the screened section of the shallow piezometer through a diffusing stone. The tracer was released starting 10 PM and finished at 7 AM the following day. Water samples were taken from the piezometers before the test started and throughout the test. Forty-five samples were taken from the three extraction piezometers using a peristaltic pump and vacutainers (pre-evacuated vacuum containers) at intervals ranging from 2 to 3.5 hours and at longer intervals later during the test. The samples collected from the injection piezometer and shallow sample piezometer were analyzed at the University of California at Santa Barbara by Dr. Jordan F. Clark.

Background concentrations measured from samples taken prior to the tracer release were low, about 1×10^{-10} mol/L. The arrival time for the peak concentration in the shallow sample piezometer was nine hours. The distance between the injection piezometer and the shallow sample piezometer was 15.7 inches (40 cm). Assuming a typical effective porosity for medium sands of 0.3, and the measured head difference, the minimum vertical seepage velocity was calculated to be 0.51 inches/hr (1.3 cm/hr) and the gradient was calculated to be between 0.025 and 0.05. These calculations resulted in a vertical hydraulic conductivity of the streambed sediments of 21.0 ft/day (6.4 m/day) to 42.0 ft/day (12.8 m/day) (Cardenas, 2006). These values were used in the DLM.

3.6. Modeling Efforts

3.6.1. Regional Model

NM ISC developed a linked surface water and groundwater regional model, extending from San Acacia to Elephant Butte, to aid in water management (Shafike, 2004) (Figure 14). The simulated surface water system included the Rio Grande, LFCC and irrigation ditches and drains within the model domain. The regional model had the ability to route surface water flows down stream, as oppose to a specified constant head. This allowed the model to predict downstream flows. The model had 5 layers and included the shallow alluvium as layer 1 and the primary aquifer, the Santa Fe group, as layers 2 through 5. The model domain represented 600 square miles and it was discretized into 1000 by 1000 ft cells. The model boundaries were

specified fixed flow or head-dependent flow boundaries. The model simulated mountain-front recharge, municipal pumping, evapotranspiration and recharge from irrigation return flow (Bureau of Reclamation et al., 2006). The regional model was validated using groundwater and surface water observations, water chemistry data, pump test data, and tracer test data (Wilcox, 2004).

3.6.2. Continuous Layer Model

In order to explore management alternatives in more detail, New Mexico Tech hydrology student Laura Wilcox developed a sub regional groundwater flow model. The Wilcox (2004) telescopic model was developed using MODFLOW 96. Due to the conceptualization of the semi-confining layer at 30 ft (9.1 m) depth as a continuous aquitard, this model will subsequently be referred to as the *Continuous Layer Model* (CLM). The model domain was for a sub-reach of the San Acacia reach extending from north of the Brown Arroyo transect to south of Highway 380. This reach was chosen because the location was previously used for an aquifer test and it had the highest calculated river seepage according to the SSPA (2001) river seepage report (Figure 13). The CLM is a telescopic model of the ISC Regional Model (Figure 14). The model domain was 320 rows by 170 columns, with each cell being 100 by 100 feet. The model used constant-head boundary conditions for the north, south, east and west model boundaries from the Regional Model. The bottom boundary was a no flow boundary. The CLM included the Rio Grande, LFCC, and all other drains and ditches in the modeled area. The transient model time step was one day, and the model was run for 365 days. All ditches and drains were modeled with a constant head of two feet (0.6 m) and the Rio Grande was modeled with a

transient head calculated from daily average water elevation for a 1-year period. Evapotranspiration was estimated from IKONOS satellite imagery and eddy covariance towers and recharge was estimated for the irrigation season, April through October. After the model was calibrated, various management alternatives were tested, including relocating and widening the river channel, removing the LFCC, and decreasing evapotranspiration (Wilcox, 2004).

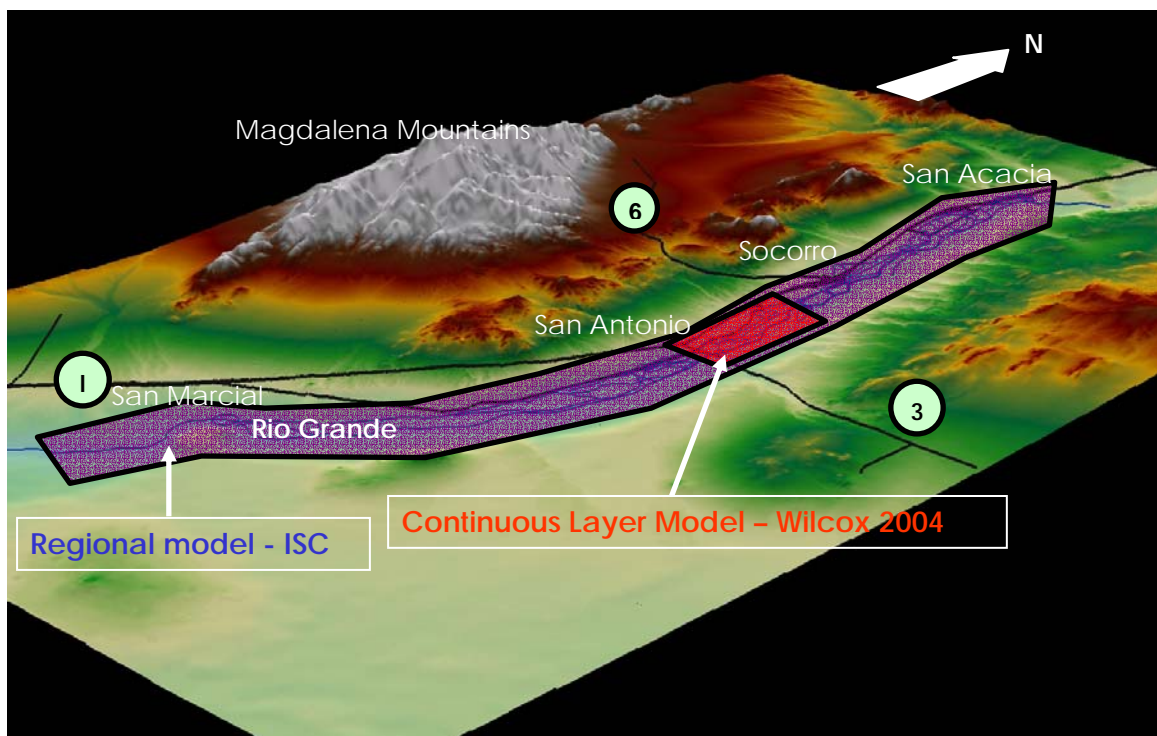


Figure 14. Location of regional and Continuous Layer Model (Wilcox, 2003)

The CLM model used a three-layer system with the first and third layer having equal hydraulic conductivities based on pump test data. The three-layer system represented the shallow alluvium, which was about 100 ft (30.48 m) thick. The model did not include the Santa Fe Group. The horizontal and vertical hydraulic conductivity was 100 ft/day (30.78 m) and 50 ft/day respectively (15.24 m). The second layer was a continuous low-permeability layer with horizontal and vertical hydraulic

conductivities of 2 ft/day (0.61 m) and 0.1 ft/day (0.03 m). The CLM was calibrated using monthly groundwater level data (Wilcox, 2004).

3.7. Additional Studies

3.7.1. Groundwater/Surface Water Interactions

Hydrosphere Resource Consultants prepared a report for the U.S. Bureau of Reclamation in 2001 titled, “Investigation of Surface Water – Groundwater Interactions along the Rio Grande Low Flow Conveyance Channel, Socorro County, NM”, which summarizes previous studies and their results. The report analyzes previously collected data to provide insight on the surface water and groundwater systems. Hydrosphere (2001) concluded the following: (1) there is a strong connection between the surface water system and the shallow groundwater system to the depth of 100 feet (30.48 m); (2) 30% to 60% of LFCC gains correlate to Rio Grande losses; and (3) the saturated hydraulic conductivities in the shallow alluvium range from 40 to 120 ft/day (12.2-36.6 ft/day). The report suggests additional investigations should include continued and additional surface water and groundwater monitoring of irrigated farmland to the west of the LFCC, development of a physically-based groundwater-flow model, additional seepage runs, slug tests, and long-duration aquifer tests (Hydrosphere Resource Consultants, 2001).

3.7.2 Groundwater Resources

U. S. Geological Survey Water-Resources Investigation Reports focusing on the Socorro Basin, have provided a foundation for recent hydrogeologic studies. The report titled “Hydrogeology of the Socorro and La Jencia Basins, Socorro County,

New Mexico” focused the groundwater and surface water system in a geologic context and discussed water quality and water quantity. The report connected the Socorro and La Jencia Basins geologically and hydrologically (Anderholm, 1987). The report titled “Ground-water Resources of Socorro County, New Mexico” was an inventory of available water in the region and discussed aquifer quantity and quality to aid in water management. The report also inventoried all wells and springs in Socorro County (Roybal, 1991).

4. METHODS

4.1. Characterization of Study Area

The hydrogeology of the study area was characterized by utilizing lithologic data from boreholes, aquifer tests, measured groundwater and surface water elevations, and hourly discharge and stage data from two flood events. Geologic logs and grain size analyses provide insight into the lithologies and depositional heterogeneity of the system. Aquifer tests provide aquifer parameters and insight into groundwater flow. Groundwater and surface water elevations quantified hydraulic gradient and the direction of flow and provided an insight into the regional groundwater system. Flood event data showed the groundwater response to a sudden change in surface water elevations.

4.1.1 Groundwater and Surface Water Elevations

Monthly groundwater and surface water measurements were recorded starting in February 2003 at all 154 wells and 19 staff gages used as part of the Rio Grande Watershed Study. In addition, 70 pressure transducers recorded hourly data. From these data we concluded that the groundwater on the west side of the LFCC was controlled by the agricultural ditches, drains and the LFCC rather than by the Rio Grande. This was seen in the lack of response to changes in the river stage by the wells west of LFCC. Figure 15 shows hydrographs for two wells located west of the

LFCC. They were not affected by the river stage. Instead they mimicked the irrigation canal's two-week releases. In contrast, the groundwater to the east of the Rio Grande and between the Rio Grande and LFCC responded directly to changes in river stage.

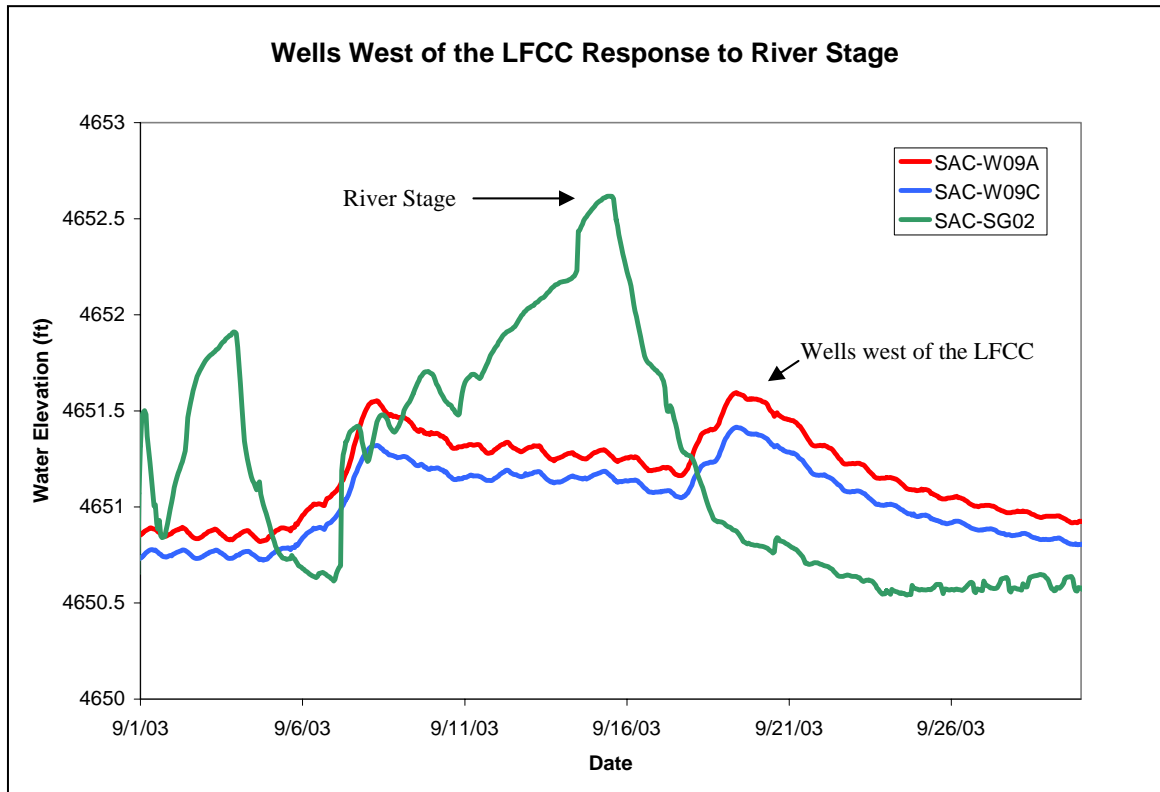


Figure 15. The hydrograph shows the river stage and water level elevation in two wells west of the LFCC at the San Acacia transect. The wells are responding to irrigation canals and not to the change in river stage.

From river seepage data provided by SSPA (2001) and the difference in elevation between the Rio Grande and LFCC, shown in Figure 16 from the northern DLM boundary discussed in Section 4.2, we concluded that the San Acacia Reach of the Rio Grande was a losing reach and that the LFCC was a gaining channel through most of the year (Figure 13). The gradient between the Rio Grande and LFCC was not as strong in the reach between San Marcial and South Fort Craig, which could

have resulted in the Rio Grande gaining groundwater. SSPA's (2001) river seepage analysis found that during the winter the reach gained 4.1 cfs/mile (0.12 m³/mile) (Figure 13).

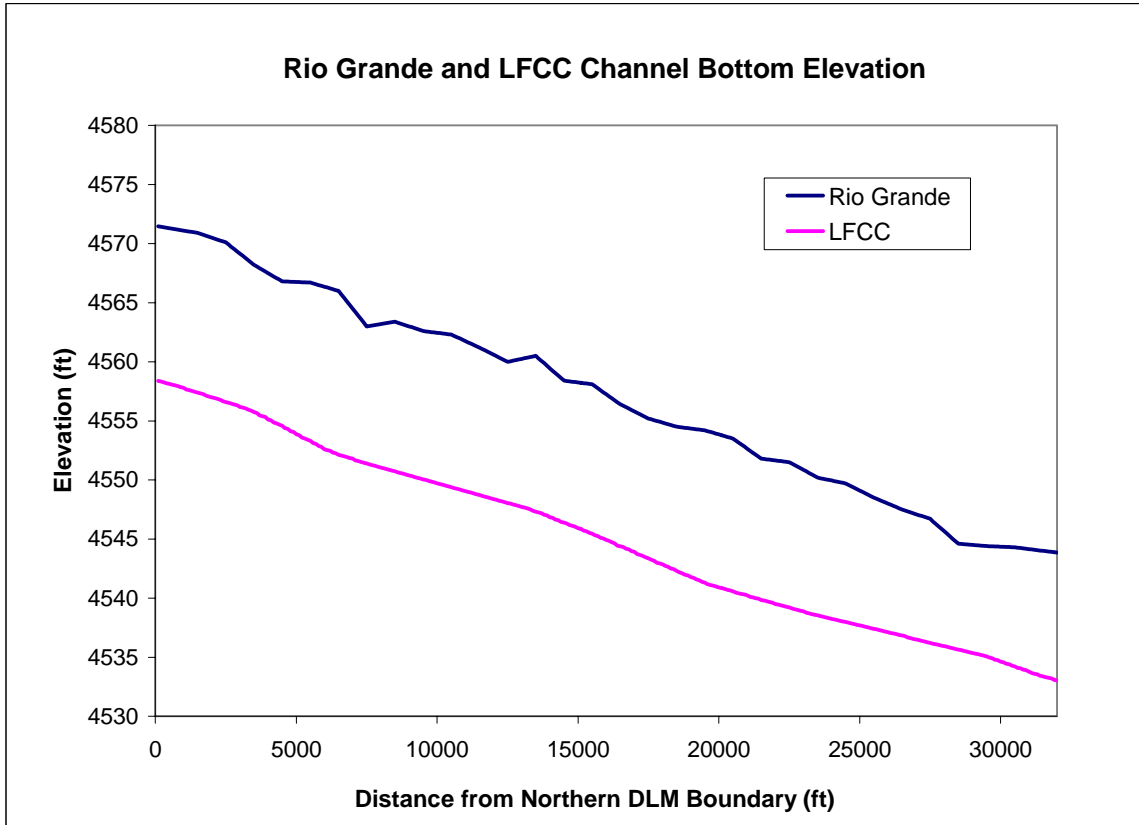


Figure 16. Graph shows the channel bottom elevations of the Rio Grande and LFCC. The LFCC is always lower than the Rio Grande, creating a gradient from the river to the LFCC. Elevations start at the northern boundary of the DLM discussed in Section 4.2.

Groundwater measurements show there was an upward vertical gradient between the intermediate wells (B wells) and the shallow (A wells). At well set BRN-E01A,B, located on the Brown Arroyo transect, the intermediate piezometric head was 0.2 feet (6.1 cm) higher than the shallow piezometric head, based on data recorded between February 1 and December 1, 2004 (Figure 17). At well set HWY-W07A,B, located on the Highway 380 transect, the intermediate piezometric head was 0.3 feet (9.1 cm)

higher than the shallow piezometric head, calculated from data recorded between March 13 and March 13, 2005 (Figure 18). The vertical gradient at both locations is slightly upward. This difference in water elevation with depth is evidence of heterogeneity within the aquifer.

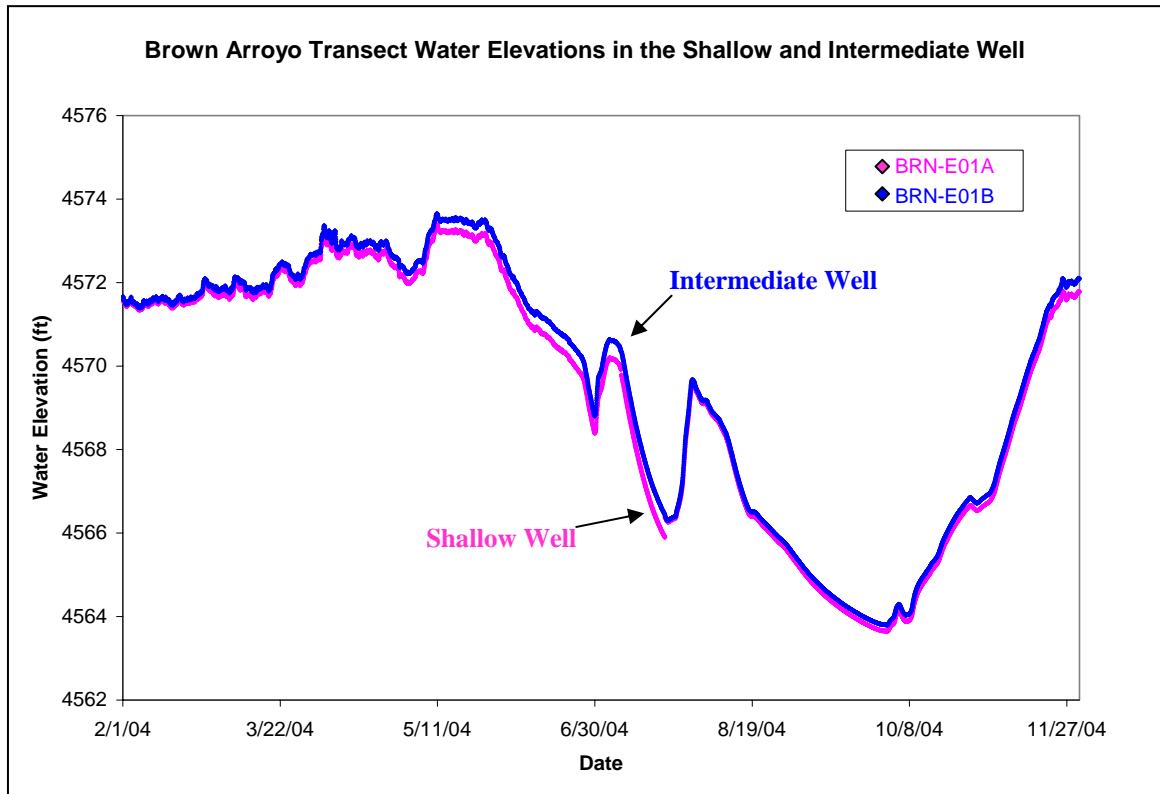


Figure 17. Water elevations measured at the Brown Arroyo transect showing the vertically upward gradient between the shallow and intermediate wells.

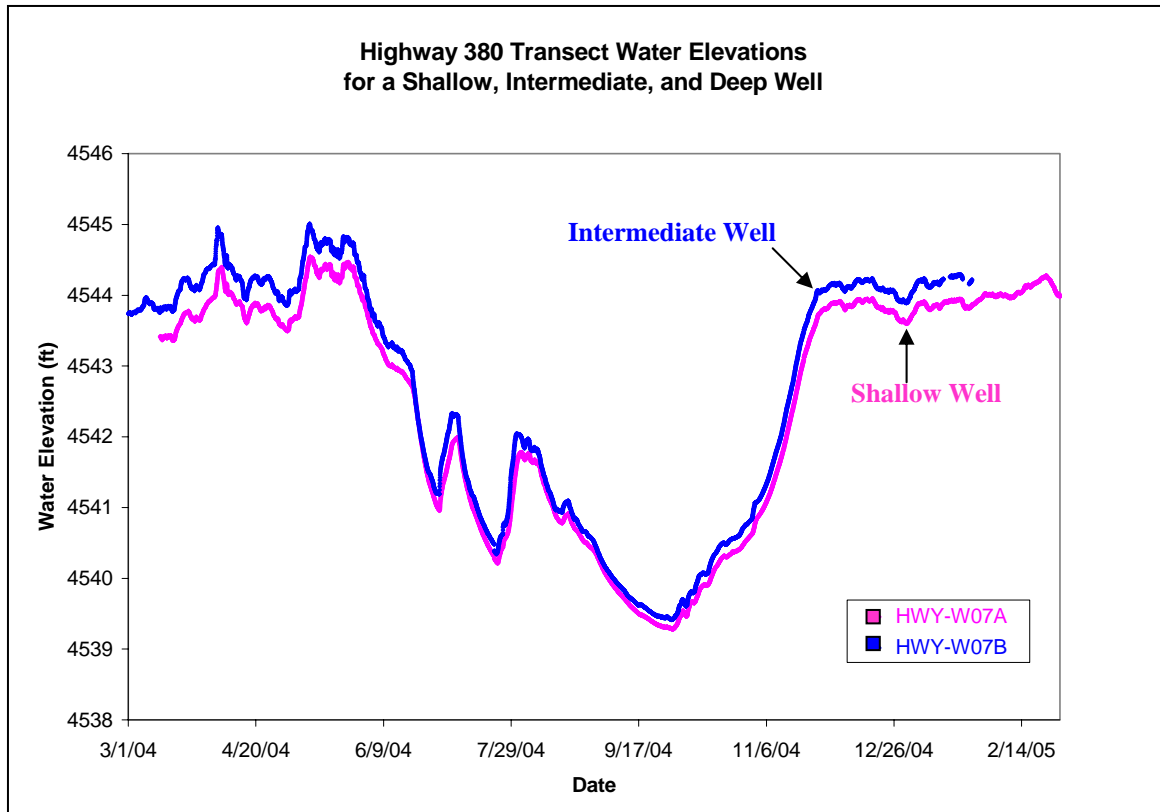


Figure 18. Water elevations measured at the Highway 380 transect showing the vertical gradient between the shallow and intermediate wells

4.1.2. Flood Event Data

Two flood events occurred during the monitoring period February 1, 2002 to November 30, 2005: one occurring in September 2003 and the other in April 2004. Both resulted from distinct flood pulses originating upstream from the San Acacia reach. The September 2003 flood event was due to heavy rain during the monsoon season and originated in the Rio Puerco watershed (Vivoni, 2006). The April 2004 flood event was the result of snowmelt runoff. During both flood events there was no contributing precipitation in the study area.

The pressure-transducer network recorded both flood events. Due to the magnitude of the floods, all the river gages, except for the San Acacia transect river gage, were

destroyed during the event; therefore, the recorded data were unreliable. The groundwater data at each transect show the pulse moving laterally through the aquifer away from the river. The pulse lags and diminishes in magnitude in wells further from the river, but does not respond similarly with depth (Figure 19). No flood pulse was recorded in groundwater west of the LFCC, because the LFCC buffers the river's influence (Figure 15). The gradient between the river and the LFCC increased during the flood events due to the increase in head in the Rio Grande.

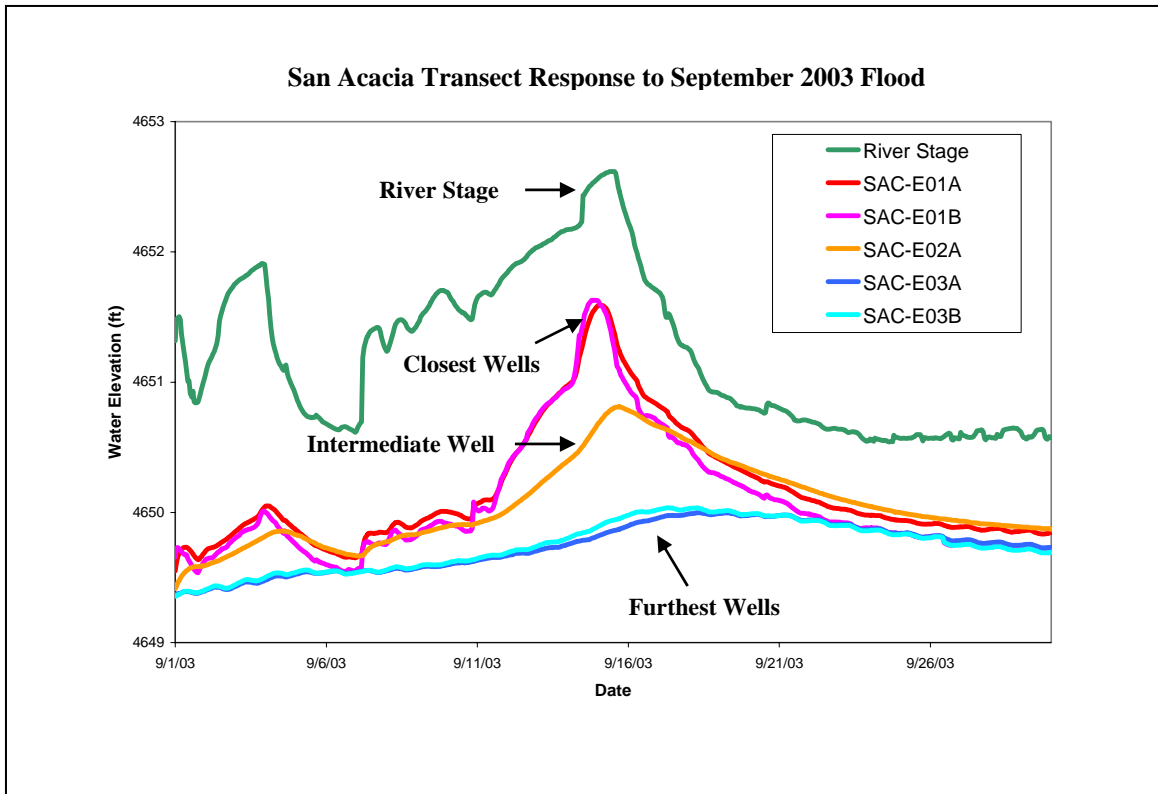


Figure 19. September 2003 hydrograph for the San Acacia transect.

Vertical gradients were calculated for the shallow (A wells) and intermediate wells (B wells) for the period of the flood event. At the San Acacia transect, the vertical gradient was normally upward. However, during the flood event, the vertical gradient reversed and became an upward gradient (Figure 20). The closest well pair shows the

upward gradient occurred on the rising limb. At the Highway 380 transect the vertical gradient was normally slightly downward. During the flood event, the upward gradient increased in magnitude (Figure 21). At both transects, the intermediate wells responded quickly to the change in river stage.

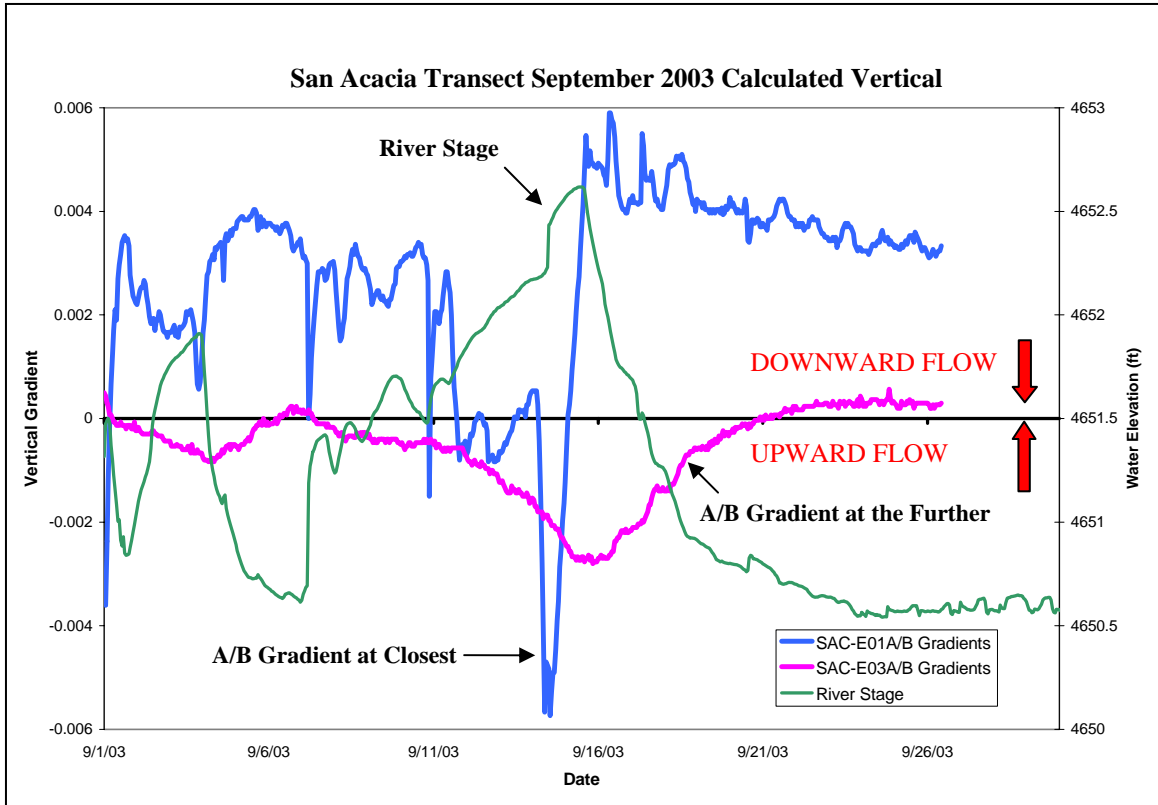


Figure 20. Calculated vertical gradients for the San Acacia Transect showing a gradient reversal at the flood peak.

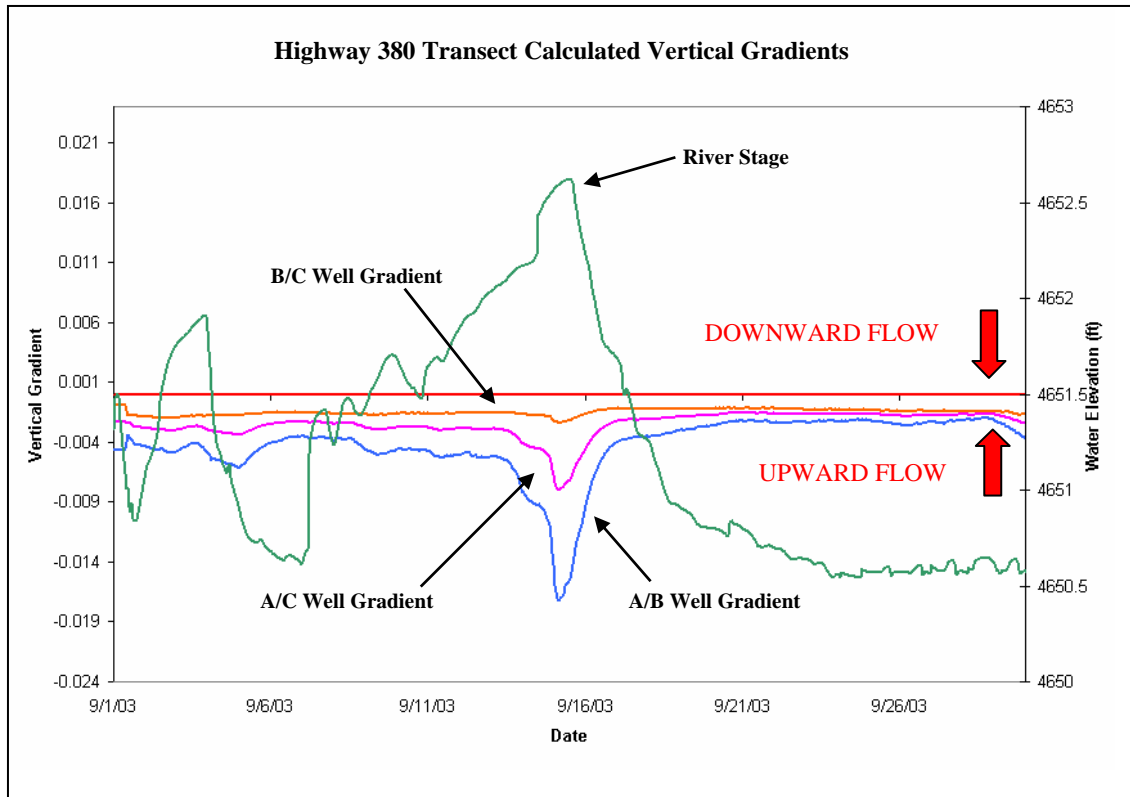


Figure 21. Calculated vertical gradients at the Highway 380 Transect, showing a strong upward flow at the peak of the flood event.

The intermediate well's quick response can not be explained by the CLM. In our hydrogeologic conceptual model, a continuous low-permeability layer would disconnect shallow and deep aquifers and impede vertical groundwater flow (Figure 22). The shallow well would respond to the flood pulse, but the intermediate and deep wells located below the low-permeability layer would have a delayed and attenuated response. For the intermediate well to respond to the flood pulse, there must be a flow path from the river to the lower aquifer. The presence of a discontinuous as opposed to a continuous low-permeability layer could provide a flow path to the intermediate well laterally from the river and from the groundwater up gradient (Figure 22). The DLM conceptualizes the low-permeability layer as a

zone of low-permeability lenses rather than a layer of regional extent. Geologic well logs show that this zone is located between the shallow and intermediate wells.

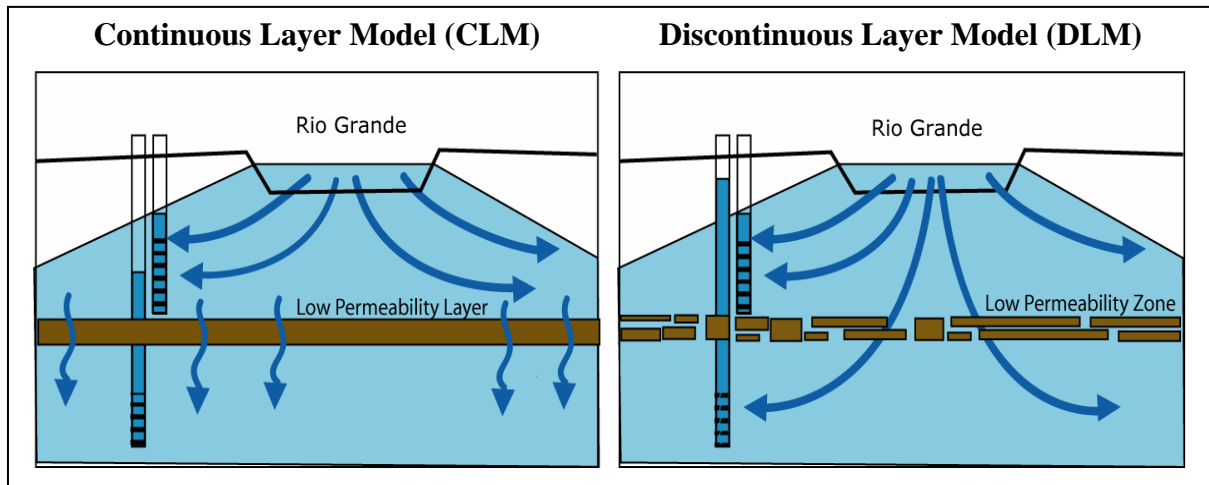


Figure 22. Conceptual diagram of proposed flow paths for CLM and DLM aquifer configurations.

4.2. Discontinuous Layer Model

The CLM fails to reflect known heterogeneity and the response of the lower aquifer to the flood pulse. The DLM was constructed to more accurately reflect the conceptual model and to distinguish among possible hydrostratigraphic alternatives by altering the low-permeability layer to provide flow paths to the lower aquifer. The DLM was constructed using Arc Map, Matlab, and MODFLOW 2000 files converted from MODFLOW 96 files. The CLM was programmed by Wilcox (2004) in MODFLOW 96 as described in Section 3.6.2. The CLM was created as a telescopic model using boundary conditions from the regional model. The purpose of the CLM was to test management alternatives. The purpose of the DLM was to use higher resolution data to investigate whether stratigraphic heterogeneity can explain observed groundwater gradient changes in shallow aquifers beneath the Rio Grande

flood plain. Both models used the same model domain and cell size.

Evapotranspiration data used in the DLM was developed for use in the Regional Model and adapted for use in the CLM (Wilcox, 2004). The river and LFCC locations and bottom elevations are the same in all three models. Inputs including surface elevation, constant head boundaries, recharge, river, drain, model layers, hydraulic conductivity, and specific storage were changed in the DLM. A summary of the changes are shown Table 1.

Table 1. Table comparing DLM and CLM model inputs.

Summary of Model Changes

| | Steady State Model | | Transient Model | |
|--------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| | CLM | DLM | CLM | DLM |
| River | Modeled as River Stage = 2 ft Kz** = 1 ft/day | Modeled as River Stage = 0.1 ft Bed Kz** from Tracer Test = 20.99 ft/day | Modeled as River Stage = Monthly Cycle Kz** = 1 ft/day | Modeled as River Stage = Flood Event Stage Kz** from tracer test = 20.99 ft/day |
| LFCC | Constant Head Stage = 2 ft Kz** = 2 ft/day | Drain Kz** = 10 ft/day | Constant Head Stage = 2 ft Kz** = 2 ft/day | Drain Kz** = 10 ft/day |
| Drains | None | None | Irrigation Ditches and Drains Constant Stage = 2 ft | None |
| ET | Lowest Annual ET 1999 | September ET 1999 | Changes Monthly 1999 | September ET 1999 |
| Recharge | None | None | 0.00279 ft/day | None |
| Elevation | Coarse DEM | Higher Resolution DEM | Coarse DEM | Higher Resolution DEM |
| Boundary Conditions | Layers 1-3 use Regional BC on ALL sides from Regional Model | North and South derived from Anderholm 1987 No flow on East and West boundary | Layers 1-3 use Regional BC on ALL sides from Regional Model | North and South derived from Anderholm 1987 No flow on East and West boundary |
| Layers | 3 Layers | 4 Layers | 3 Layers | 4 Layers |
| Layer 1 | Kxy*= 100 ft/day Kz**= 50 ft/day 30ft thick at center | Kxy*=67.5 ft/day Kz**=4.35 ft/day 30ft thick at center | Kxy*= 100 ft/day Kz**= 50 ft/day 30ft thick at center | Kxy*=67.5 ft/day Kz**=4.35 ft/day 30ft thick at center |
| Layer 2 | Kxy*=2 ft/day Kz**=0.1 ft/day Constant 2 ft thick | Kxy*=2 ft/day Kz**=0.1 ft/day Constant 2 ft thick | Kxy*=2 ft/day Kz**=0.1 ft/day Constant 2 ft thick | Kxy*=2 ft/day Kz**=0.1 ft/day Constant 2 ft thick |
| Layer 3 | Kxy*= 100 ft/day Kz**= 50 ft/day 60 ft thick at center | Kxy*=150 ft/day Kz**=67.5 ft/day 60 ft thick at center | Kxy*= 100 ft/day Kz**= 50 ft/day 60 ft thick at center | Kxy*=150 ft/day Kz**=67.5 ft/day 60 ft thick at center |
| Layer 4 | No Layer 4 | Kxy*= 100 ft/day Kz**= 50 ft/day Constant 500 ft thick | No Layer 4 | Kxy*= 100 ft/day Kz**= 50 ft/day Constant 500 ft thick |
| Specific Storage | 10 ⁻⁵ ft ⁻¹ | 10 ⁻⁵ ft ⁻¹ | 10 ⁻⁵ ft ⁻¹ | 10 ⁻⁵ ft ⁻¹ |
| Specific Yield | 0.2 | 0.2 | 0.2 | 0.2 |
| Effective Porosity | 0.15 | 0.15 | 0.15 | 0.15 |
| Porosity | 0.3 | 0.3 | 0.3 | 0.3 |

*Kxy is the horizontal hydraulic conductivity.

** Kz is the vertical hydraulic conductivity.

4.2.1. Domain

The model grid is 170 by 320 cells starting north of the Brown Arroyo transect and ending just south of the Highway 380 transect (Figure 23). Each cell is 100 by 100 feet (30.48 x 30.48 m). The model domain for both the CLM and DLM are the same. The surface elevation for the DLM was created from a refined digital elevation model data (DEM) using Arc Map. These imported values were compared to field survey elevations performed after well installation by the US Army Corps of Engineers to check for accuracy and were found to be within an average of 2.5 ft (0.76 m) of surveyed values.

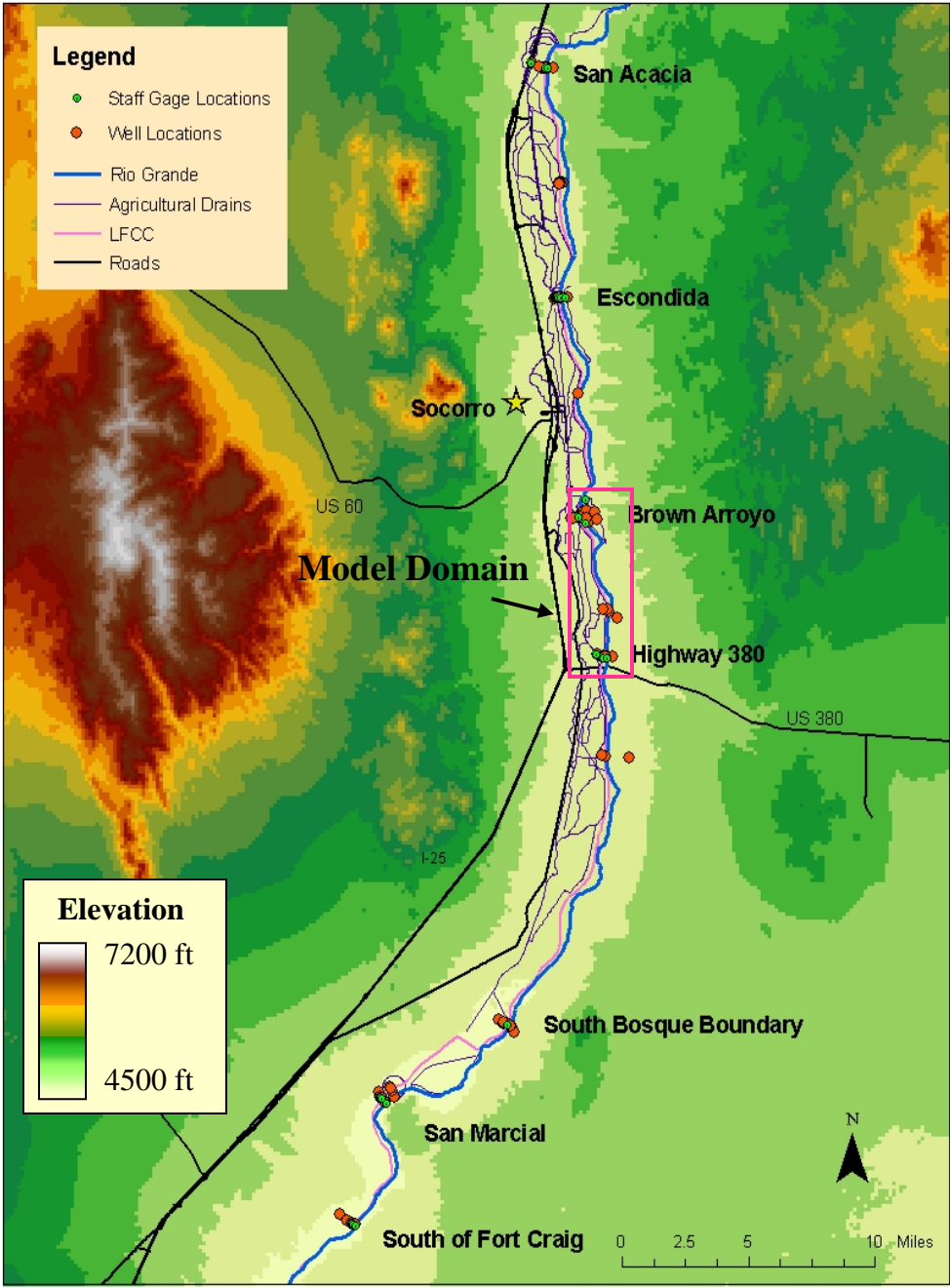


Figure 23. Map shows the location of the DLM model relative to the well network.

4.2.2. Boundary Conditions

There are constant head boundaries on the north and south boundaries of the model domain. The DLM did not use the Regional Model boundary conditions used in the CLM because they resulted in a very high regional water table. Instead, the values used for these constant head boundary conditions are based on the regional water table map of Anderholm (1987) and the LFCC channel elevations (Figure 24). The regional map shows the gradient north to south, but is too coarse to show the gradient between the LFCC and the east and west model boundaries. The regional water table map provides the water table elevation for the northeast, northwest, southeast and southwest corners. The LFCC channel elevation provides water elevation at the location of the channel in the center of the model domain. The northern boundary was created by linearly interpolating the northeast corner with the water elevation in the center of the domain, and similarly, the northwest corner water table elevation with the lower LFCC water elevation at the center (Figure 25). The southern boundary was similarly calculated.

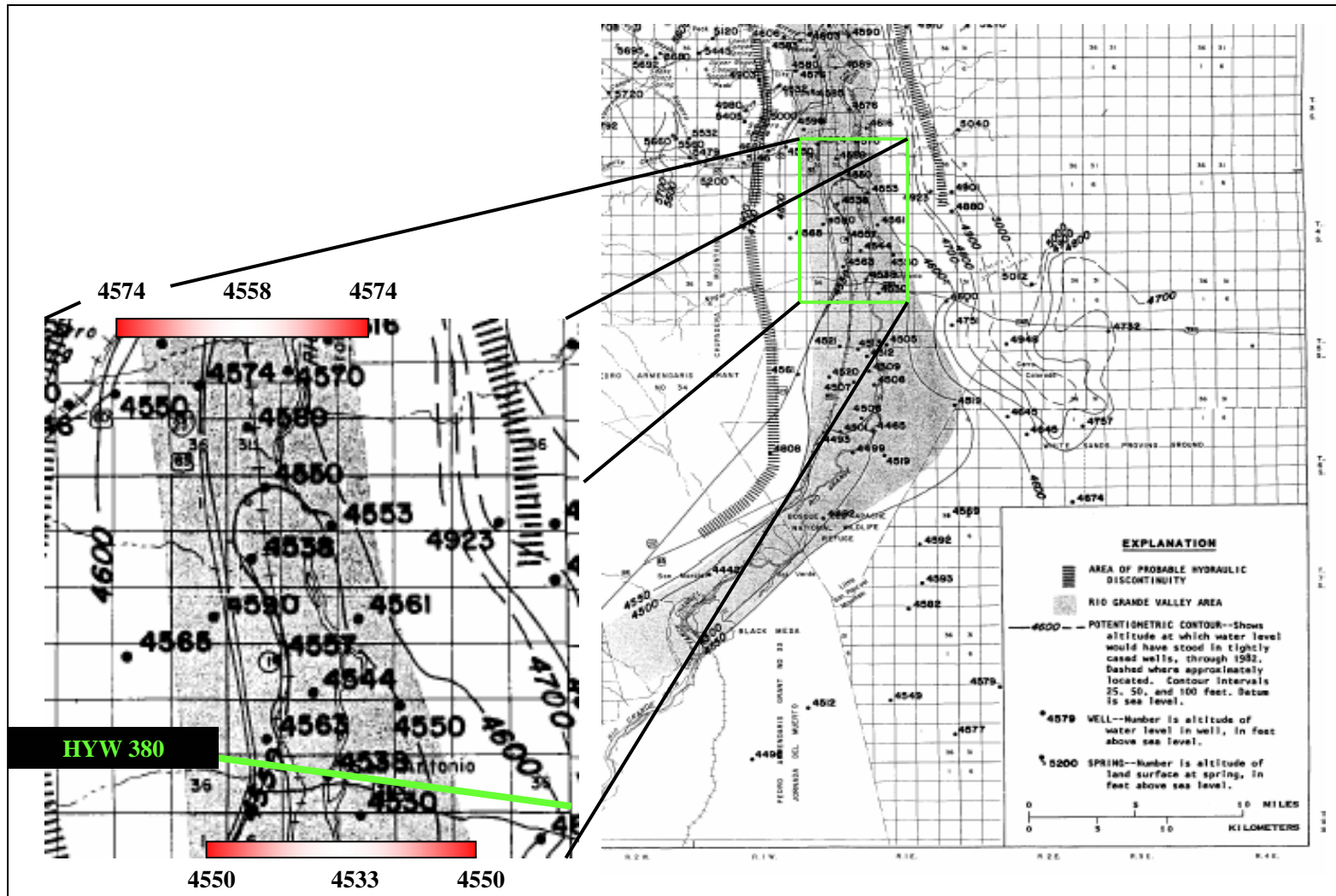


Figure 24. Water Table Map (Anderholm, 1987).

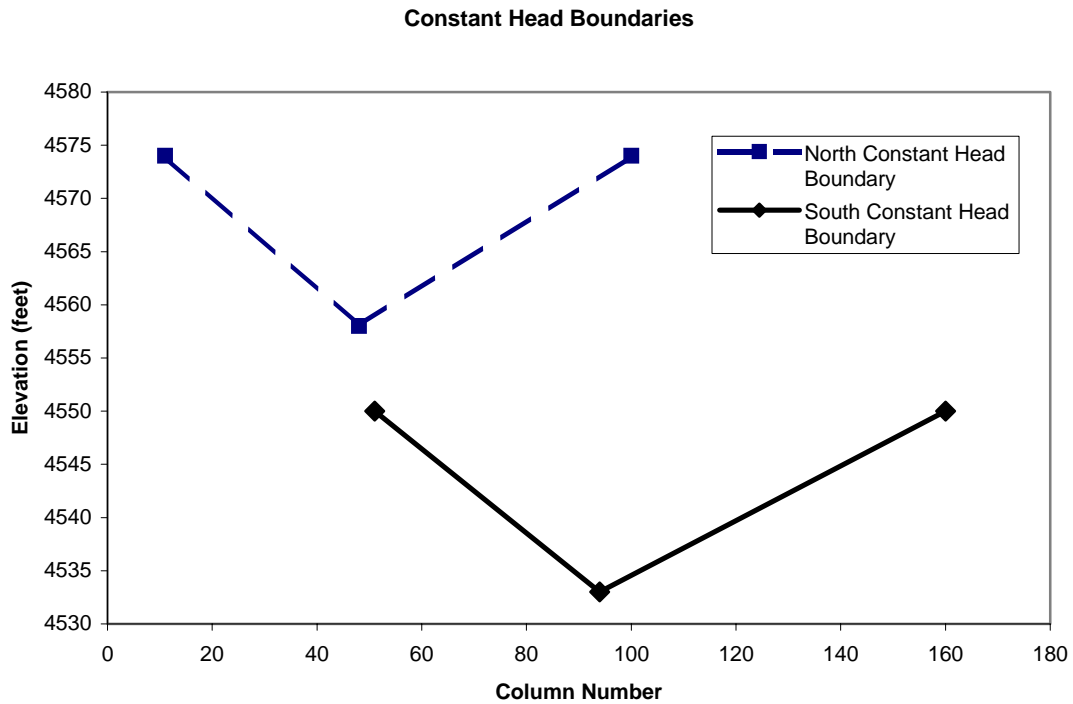


Figure 25. Constant Head Boundaries at the North and South of the Model Domain.

No-flow boundary conditions were assigned to the east and west model boundaries.

The area of focus was between the Rio Grande and LFCC. The east and west boundaries are far from the area of interest, about 7500 ft (2286 m), and expected to have little or no effect on local groundwater flow conditions in the vicinity of the river. The hydraulic gradients with the greatest affect on the study area are the north-south gradient induced by the north and south constant-head boundaries and the east-west gradient induced by the difference in elevation between the river and the LFCC. Figure 26 shows the water table elevations for the steady state model and the gradient from the north to south and from the river to the LFCC.

Water Table Elevations Layer 1

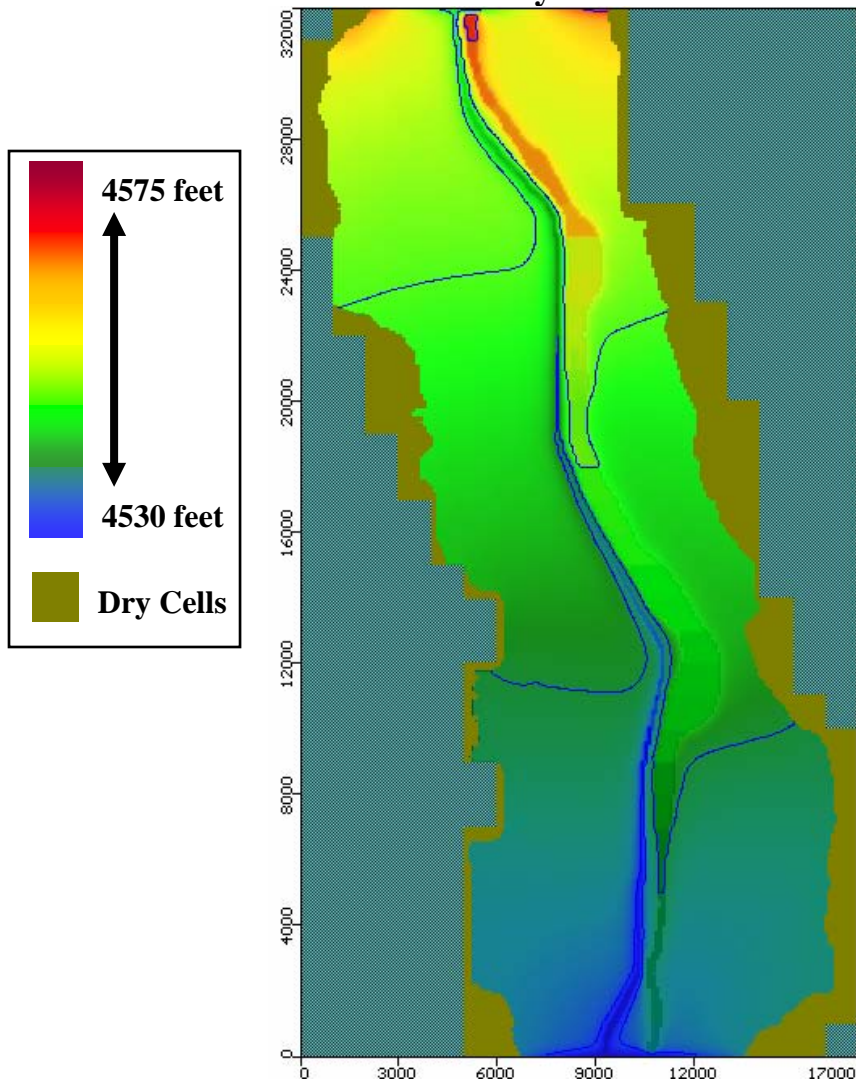


Figure 26. Layer 1 steady state water table elevation.

The bottom boundary condition at the base of layer 4 was also a no flow boundary.

The area of interest in the DLM model is the shallow alluvium, represented in the top 100 ft (30.48) of the model. The total model thickness was 600 ft (182.88), the bottom 500 ft (152.4) representing the Santa Fe Group. The purpose of the Santa Fe Group was to create a buffer between the bottom boundary and the alluvium. This

allowed the alluvium to drain into the deeper aquifer. This creates a more accurate flow system compared to inserting the no flow boundary directly under the shallow alluvium at 100 ft (30.48 m).

4.2.3. Evapotranspiration

The DLM included simulated evapotranspiration. The CLM MODFLOW 96 evapotranspiration file was converted to a MODFLOW 2000 file, and imported into the DLM. Wilcox (2004) used IKONOS satellite imagery from July 2000 and ESRI ArcGIS software to classify crop, riparian, sandbar, and inactive zones in the CLM model domain. Estimated monthly evapotranspiration rates were obtained from 1999 eddy covariance tower data located in the Bosque del Apache National Wildlife Refuge (Wilcox, 2004). Both CLM and DLM models used a rate of 3 ac-ft/a/yr (0.9 m/yr) for open ground evapotranspiration. The steady state CLM used a constant rate of 3.5 ac-ft/a/yr (1.1 m/yr) for riparian evapotranspiration and the transient CLM used the average measured value for each month. The steady state and transient DLM model used the average riparian evapotranspiration rate for the month of September, which was 7.36 ac-ft/a/month (2.24 m/yr) (Wilcox, 2004). The evapotranspiration rates for the CLM and DLM models are consistent with the rates used in the regional model.

4.2.4. Recharge and Pumping

There is no recharge or groundwater pumping simulated in the DLM model because the amount of recharge from precipitation and applied irrigation, and the amount of water pumped from the groundwater, are considered to have little effect on the model.

The precipitation event that produced the modeled September 2003 flood originated in the Rio Puerco drainage basin. The total rainfall for the DLM simulated time period, September 2003, recorded at the Socorro, NM weather tower was 0.65 inches (1.65 cm) (NOAA, 2006). This amount was considered insignificant. Virtually all irrigated land and personal and private pumping wells are located west of the LFCC; the DLM model focuses on the floodplain between the Rio Grande and the LFCC. The LFCC buffers the modeled system, which lies east of these recharge sources, and recharge and pumping to the west are considered inconsequential.

4.2.5. Surface Water Inputs

There are two surface water bodies modeled in the DLM (Figure 27): the Rio Grande and the LFCC. The Rio Grande was input into the model as a river with the river-bottom elevation estimated from survey data provided by the ISC (Wilcox, 2004). The river-bed conductance was calculated from the river-bed vertical hydraulic conductivity, estimated from the Cardenas (2006) tracer test discussed in Section 3.5. The river stage for the steady state model is 0.1 ft (3.05 cm), which is the average starting stage of the Rio Grande before the flood pulse. The river stage for the transient model resembles the flood pulse and was assigned a daily value. Because there were no stage data recorded in the model domain during the flood event, data from the USGS gage at San Acacia were used to model the flood pulse. The USGS gage data were input into the regional model, described in Section 3.6.1. The regional model used a MODFLOW river routing package to direct the pulse downstream through the DLM model domain. Thirty-two river stages calculated from the regional model (Shafike, personal communication, 2006) were input into the

DLM transient model (Figure 28). The stage input simulates the September 2003 flood pulse.

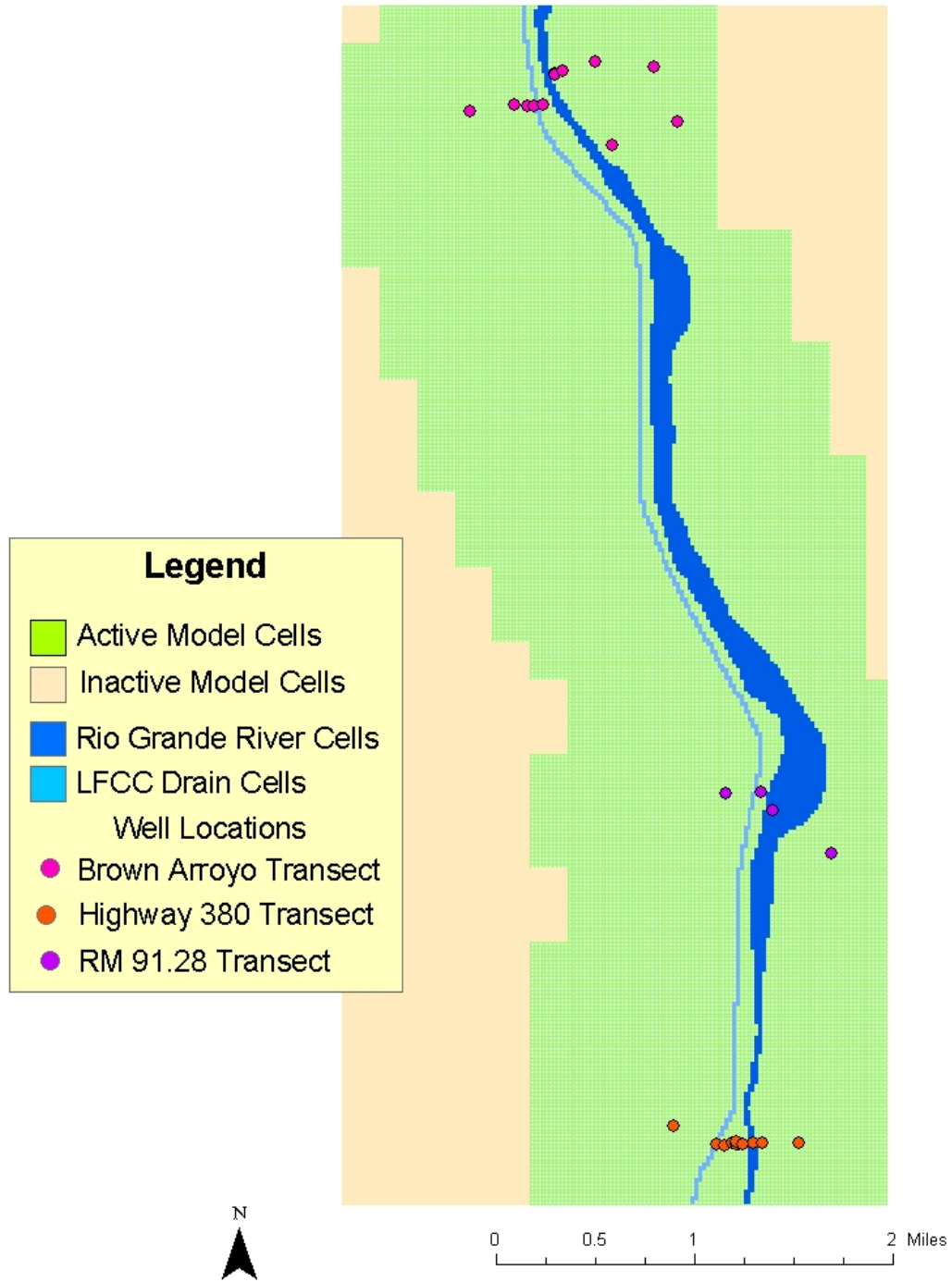


Figure 27. Model domain, showing position of the surface water bodies and wells.

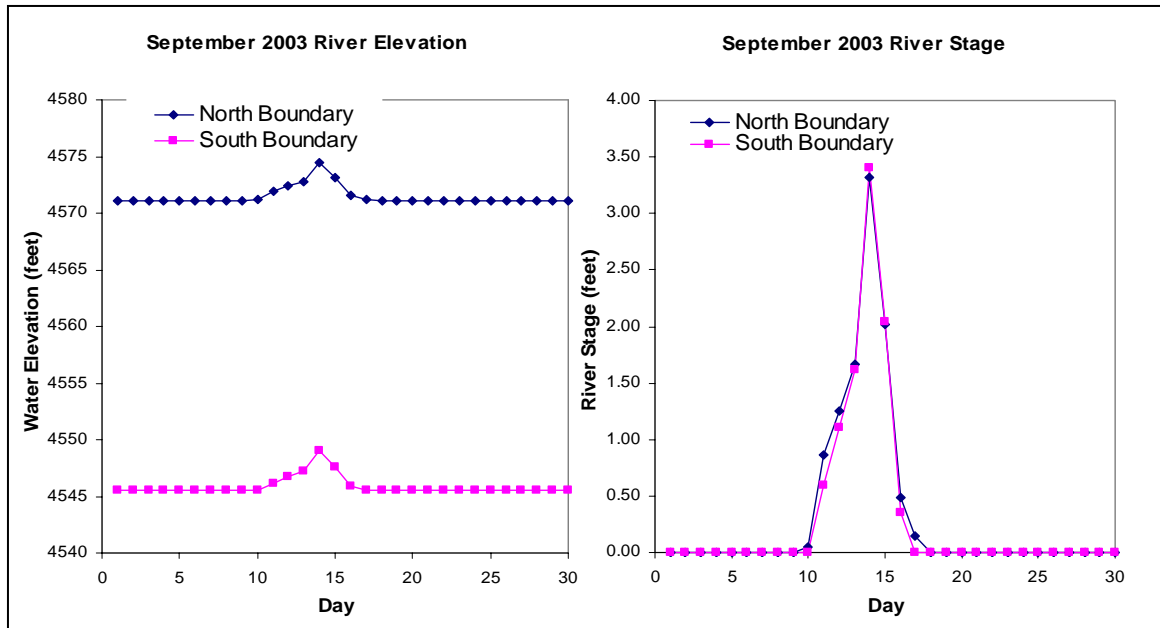


Figure 28. Rio Grande September 2003 elevation and stage model input.

The LFCC was treated as a drain in the model. The drain-bottom elevations are from previous channel survey data provided by the ISC (Wilcox, 2004). The LFCC bed vertical hydraulic conductivity was set at 10 ft/day. There have been no vertical hydraulic conductivity measurements for the LFCC. The regional model and CLM both treated the LFCC as a constant head boundary with a vertical hydraulic conductivity of 2 ft/day (0.6 m/day). The value of 10 ft/day (3.0 m/day) was determined from calibration of the steady-state DLM. Figure 29 shows the steady-state model calibration using LFCC vertical hydraulic conductivity values of 1 ft/day (0.3 m/day) and 10 ft/day (3.0 m/day). The low value resulted in unrealistically high groundwater elevations. By increasing the vertical hydraulic conductivity to 10 ft/day (0.3 m/day), groundwater was allowed to drain more freely into the LFCC. The LFCC was treated as a drain, as opposed to a prescribed head, in agreement with the conceptual model. By modeling the LFCC as a drain, the groundwater has a discharge point and the calculated water table elevations match observed data.

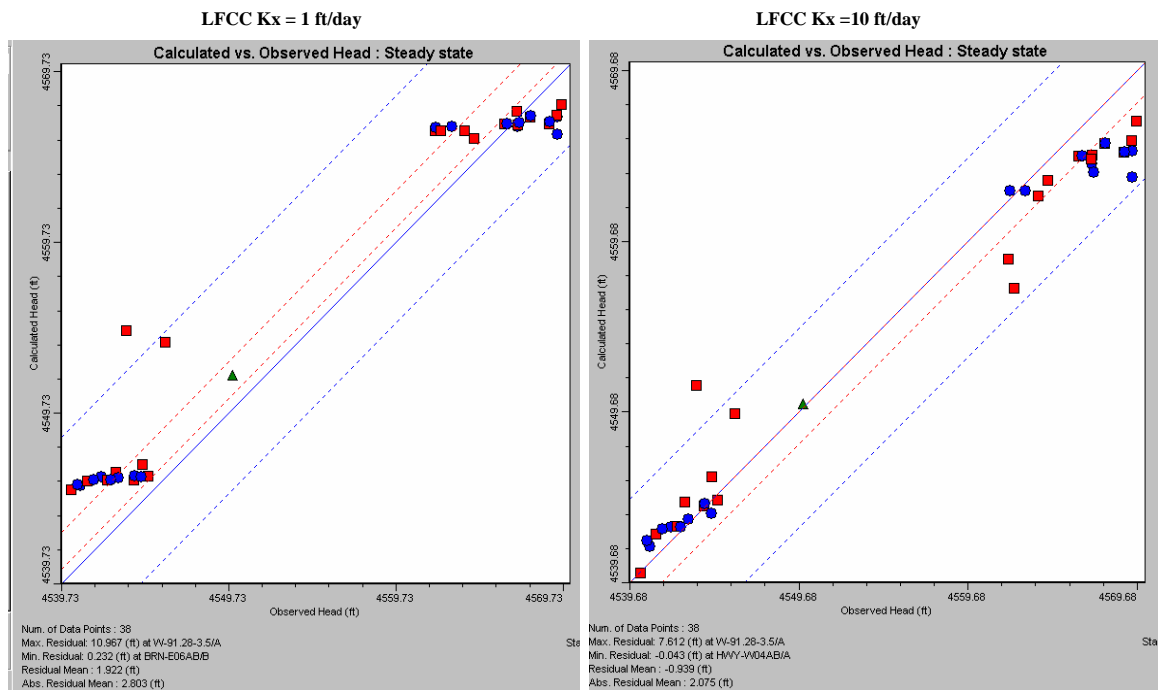


Figure 29. DLM steady-state results with varying the LFCC vertical hydraulic conductivity. The graph shows the observed monitoring well head elevations compared to the calculated elevations. The solid blue line is the one to one line. The red squares represent the A wells located in layer 1 the phreatic aquifer, the blue circles represent the B wells located in layer 3 the lower aquifer, and the green triangle represents a deep BOR well located in layer 4 the Santa Fe Group.

4.2.6. Model Layers

The model assumed a four-layer system as shown in Figure 30. Layers 1, 2 and 3 represented the shallow, unconsolidated alluvium and had a maximum combined thickness of 100 ft (30.48 m). Layer 4 represented the Santa Fe Group and was 500-foot-thick. The SSPA analysis of the Highway 380 aquifer test data, as described in Section 3.3., concluded that the hydraulic conductivity of layer 3 was greater than layer 1 (SSPA, 2004a). This scenario was also supported by bore-hole logs and grain size analysis described in Sections 3.2. Therefore, the hydraulic conductivities of layers 1 and 3 were modeled in three ways: (1) equal ($K_1=K_3$), (2) layer 1 is greater ($K_1>K_3$), or (3) layer 3 is greater ($K_1<K_3$). When layers 1 and 3 were equal, the

horizontal hydraulic conductivity was 100 ft/day (30.48 m/day) and the vertical hydraulic conductivity was 50 ft/day (15.24 m/day). These values were used in previous modeling efforts, including the CLM, described in Section 3.6.2. When layer 3 was greater than layer 1, layer 3 had a horizontal hydraulic conductivity of 150 ft/day (45.7 m/day) and a vertical hydraulic conductivity of 67.5 ft/day (20.6 m/day) and layer 1 had a horizontal hydraulic conductivity of 67.5 ft/day (20.5 m/day) and a vertical hydraulic conductivity of 4.35 ft/day (1.33 m/day). The layer hydraulic conductivity values are summarized in Table 2. These values are the average values calculated from the Highway 380 aquifer test analysis. There was no evidence that layer 1 had a higher hydraulic conductivity than layer 3, however this relationship was modeled for comparison by switching the values used for layers 1 and 3. The hydraulic conductivities assigned to layer 2 were the values attributed to clayey sand, equal to 2 ft/day (0.61 m/day) and 0.1 ft/day (0.03 m/day) for horizontal and vertical conductivities, respectively (Fetter, 1994). The hydraulic conductivities assigned to layer 4 were 100 ft/day (30.48 m/day) and 50 ft/day (15.24 m/day), which allowed layers 1, 3, and 4 to be equal when $K_1=K_3$ and it allowed layer 4 to lower in hydraulic conductivity than layer 3 when $K_1<K_3$. Due to the Santa Fe Group being more consolidated than the alluvium, it was thought that the Santa Fe Group had a lower hydraulic conductivity than the unconsolidated alluvium. The actual aquifer parameters for the Santa Fe Group along the San Acacia reach are unknown.

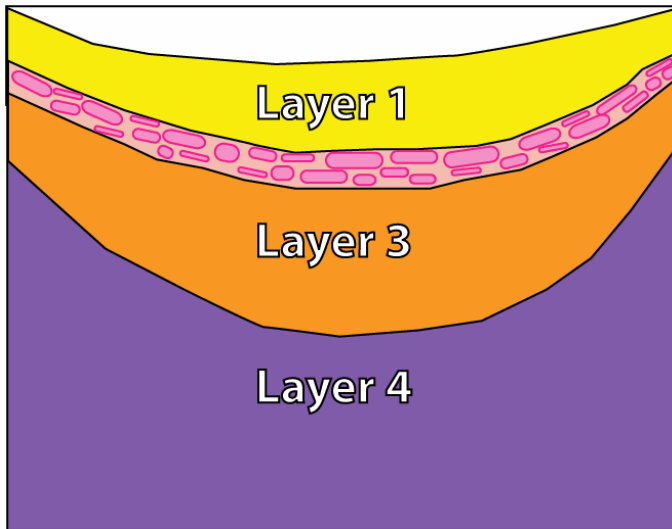


Figure 30. Layer diagram of layering used in DLM. Layer 2 represents the discontinuous low-permeability layer. Layers 1 and 3 represent the unconsolidated alluvium and layer 4 represents the Santa Fe group.

Table 2. Summary of layer horizontal and vertical hydraulic conductivities for each model scenario.

| | K1=K3 | K1>K3 | K1<K3 |
|---------|--------------------------------|-----------------------------------|-----------------------------------|
| Layer 1 | Kxy=100 ft/day Kz=50 ft/day | Kxy=150 ft/day Kz=67.5 ft/day | Kxy=67.5 ft/day Kz=4.35 ft/day |
| Layer 2 | Kxy=2 ft/day Kz=0.1 ft/day | Kxy=2 ft/day Kz=0.1 ft/day | Kxy=2 ft/day Kz=0.1 ft/day |
| Layer 3 | Kxy=100 ft/day Kz=50 ft/day | Kxy=67.5 ft/day Kz=4.35 ft/day | Kxy=150 ft/day Kz=67.5 ft/day |
| Layer 4 | Kxy=100 ft/day Kz=50 ft/day | Kxy=100 ft/day Kz=50 ft/day | Kxy=100 ft/day Kz=50 ft/day |

4.2.7. Hypothetical Alluvium Geologies

Three hypothetical alluvium geologies were used in simulations with the DLM.

These include a *river geology*, an *ellipse geology*, and a *gap geology*. In addition, models were run using a continuous low-permeability layer (continuous layer 2 geology) and without a low-permeability layer (no layer 2 geology) for comparison (Table 3). Each geological conceptual model was run with all three layer conductivity scenarios. In addition, the no layer 2 geology model was run with an

additional hydraulic conductivity scenario in which the horizontal and vertical hydraulic conductivity ratio was equal to 1 ($K_{xy}=K_z$). In this model, layers 1 and 3 had horizontal and vertical hydraulic conductivities equal to 100 ft/day (30.48 m/day).

Table 3. Description of model run scenarios.

| Model Geology | Layer Conductivity Assumptions | | | |
|--------------------|---------------------------------------|---------------------------------------|---------------------------------------|------------------------------------------------|
| | K1=K3 | K1>K3 | K1<K3 | K _{xy} =K _z |
| Continuous Layer 2 | Basic 4 Layer Model, K1=K3 | Basic 4 Layer Model, K1>K3 | Basic 4 Layer Model, K1<K3 | |
| No Clay Layer 2 | No Clay Model, K1=K3 | No Clay Model, K1>K3 | No Clay Model, K1<K3 | No Clay Model, K _{xy} =K _z |
| River Geology | River Removed Model, K1=K3 | River Removed Model, K1>K3 | River Removed Model, K1<K3 | |
| | River and LFCC Removed Model, K1=K3 | River and LFCC Removed Model, K1>K3 | River and LFCC Removed Model, K1<K3 | |
| Ellipse Geology | 20% Random Gap Model, K1=K3 | 20% Random Gap Model, K1>K3 | 20% Random Gap Model, K1<K3 | |
| | 40% Random Gap Model, K1=K3 | 40% Random Gap Model, K1>K3 | 40% Random Gap Model, K1<K3 | |
| | 60% Random Gap Model, K1=K3 | 60% Random Gap Model, K1>K3 | 60% Random Gap Model, K1<K3 | |
| | 80% Random Gap Model, K1=K3 | 80% Random Gap Model, K1>K3 | 80% Random Gap Model, K1<K3 | |
| Gap Geology | Northern Portion Removed Model, K1=K3 | Northern Portion Removed Model, K1>K3 | Northern Portion Removed Model, K1<K3 | |

The *river geology* represented two models; (1) with layer 2 removed below the river, and (2) with layer 2 removed below the river and LFCC (Figure 31). The River Removed Model represented a scenario in which fine-grained sediment was deposited via a flood event in the flood plain, but not in the river channel or where fine-grained sediment was deposited via a flood event in the flood plain and river channel, and later the river scoured the channel removing the clay layer below the river channel. The River and LFCC Removed Model was where layer 2 was removed below both the river and LFCC. This model represents a scenario in which the LFCC construction greatly disturbed the alluvium sediments. The River Removed model

and the River and LFCC Removed model were run with all three layer conductivity combinations (Table 3).

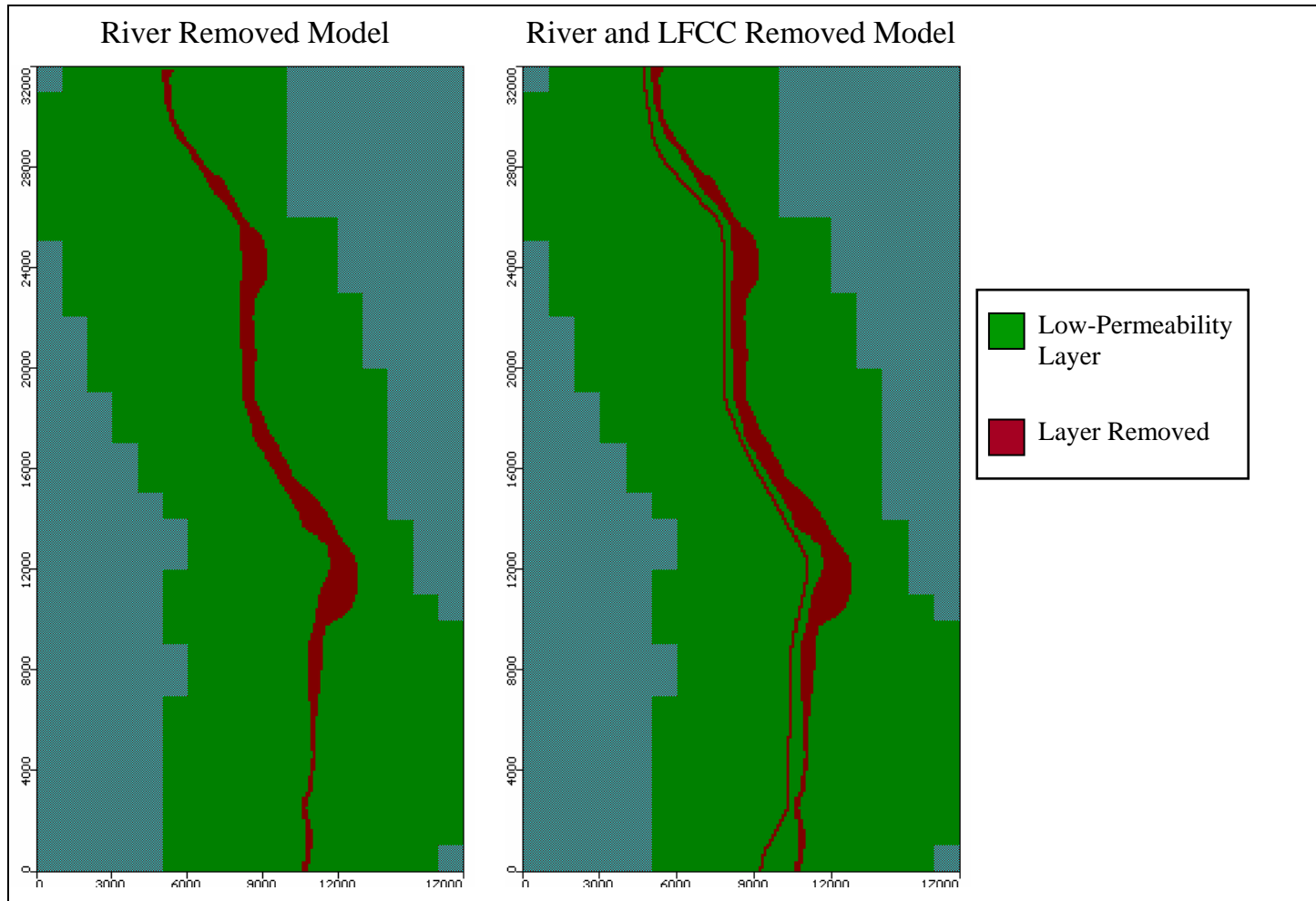


Figure 31. The river geology represented by the River Removed Model and the River and LFCC removed Model.

The *ellipse geology* represents an environment in which low-permeability sediments were deposited randomly, varying in time and spatial extent. This depositional pattern in combination with a meandering river would produce a random pattern of layering similar to what was observed in the borehole data. The *ellipse geology* simulated the case in which the low-permeability layer was randomly removed throughout the model domain. Four *ellipse geology* scenarios were generated, where 20%, 40%, 60%, or 80% of the low-permeability layer was removed (Figure 32). The random pattern of model cells was generated using Matlab. Matlab generated 54,400 random numbers between 0 and 1, each corresponding to a cell location within the model domain. To create the 20% removal of layer 2, all numbers equal to or less than 0.2 corresponded to removal of the low-permeability layer at that cell location. The cell removed was given horizontal and vertical hydraulic conductivity values of 100 ft/day (30.48 m/day) and 50 ft/day (15.24 m/day). After all four ellipse geologies were generated and converted into a matrix format using Matlab. The MODFLOW 2000.LPF file was then replaced and the MODFLOW 2000 files were re-imported into Visual MODFLOW to create the random pattern. The *ellipse geology* is represented by the Random Gap Model in which a model grid is used and thus, the assumed elliptical geometry of the low-permeability beds is actually represented in the model by squares and rectangles. Each Random Gap Model was run three times, varying the layer conductivities (Table 3).

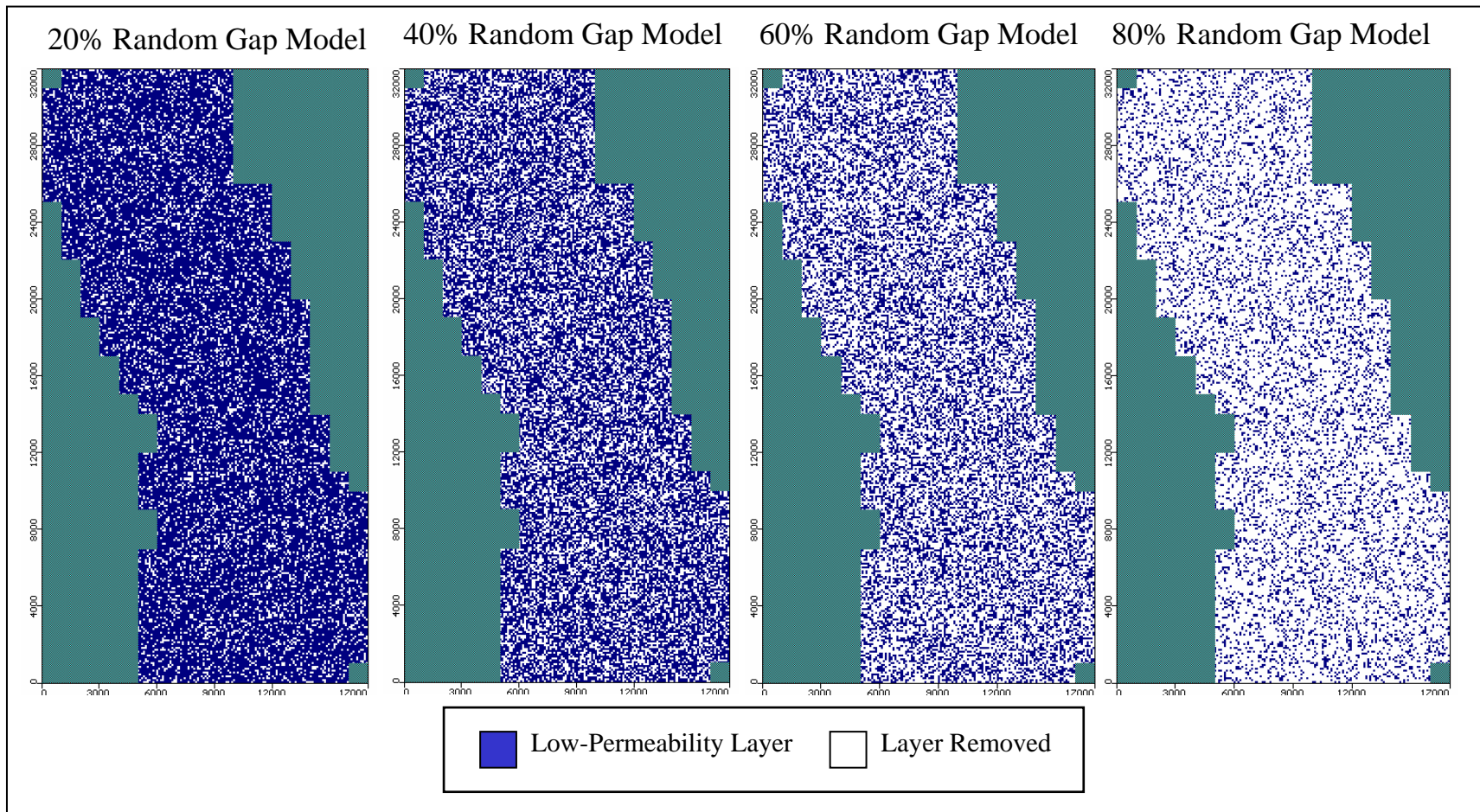


Figure 32. The ellipse geology is represented by the 20%, 40%, 60%, and 80% Random Gap Model.

The *gap geology* simulated the case in which the low-permeability layer was removed in the northern portion of the model (Figure 33). Evidence for the *gap geology* scenario can be seen from the borehole logs (Figure 34). The borehole logs at the Highway 380 transect showed clay lenses at around 30 to 40 feet (9-12 m) below the ground surface in each well location. The borehole logs at the Brown Arroyo transect only showed clay lenses at around 30 to 40 feet (9-12 m) below the ground surface, at the most eastern and western wells. There was no evidence of clay lenses in the middle wells. This evidence suggested that the clay may not be as extensive in the northern portion of the model domain. To create the *gap geology*, the northern 80 rows (corresponding to the northern 8,000 feet (2438.4 m) of the domain) of the low-permeability layer were removed. The *gap geology* was represented by the Northern Portion Removed Model and was run with all three layer conductivity combinations.

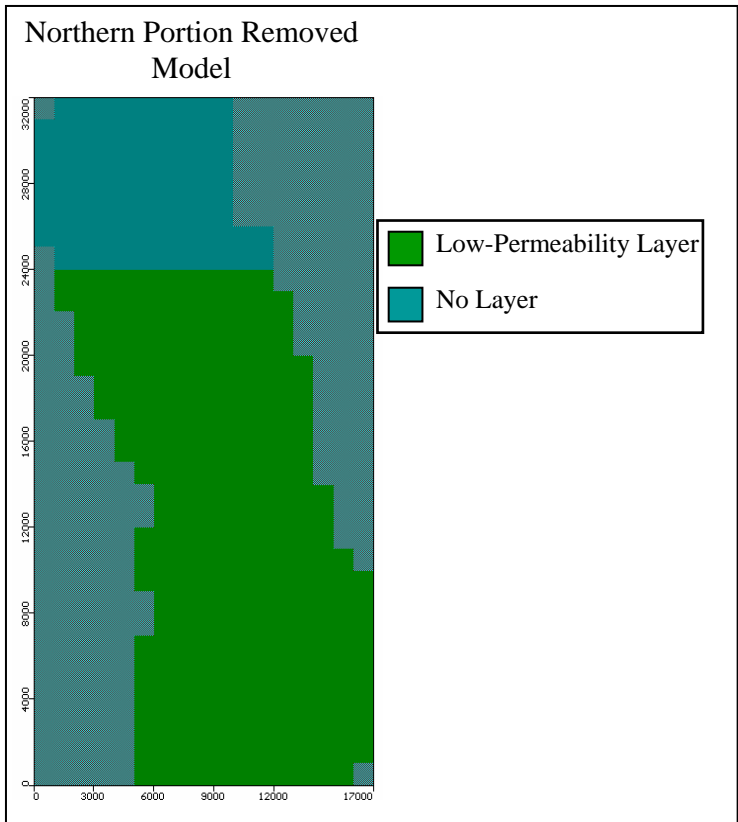


Figure 33. The gap geology is represented by the Northern Portion Removed Model.

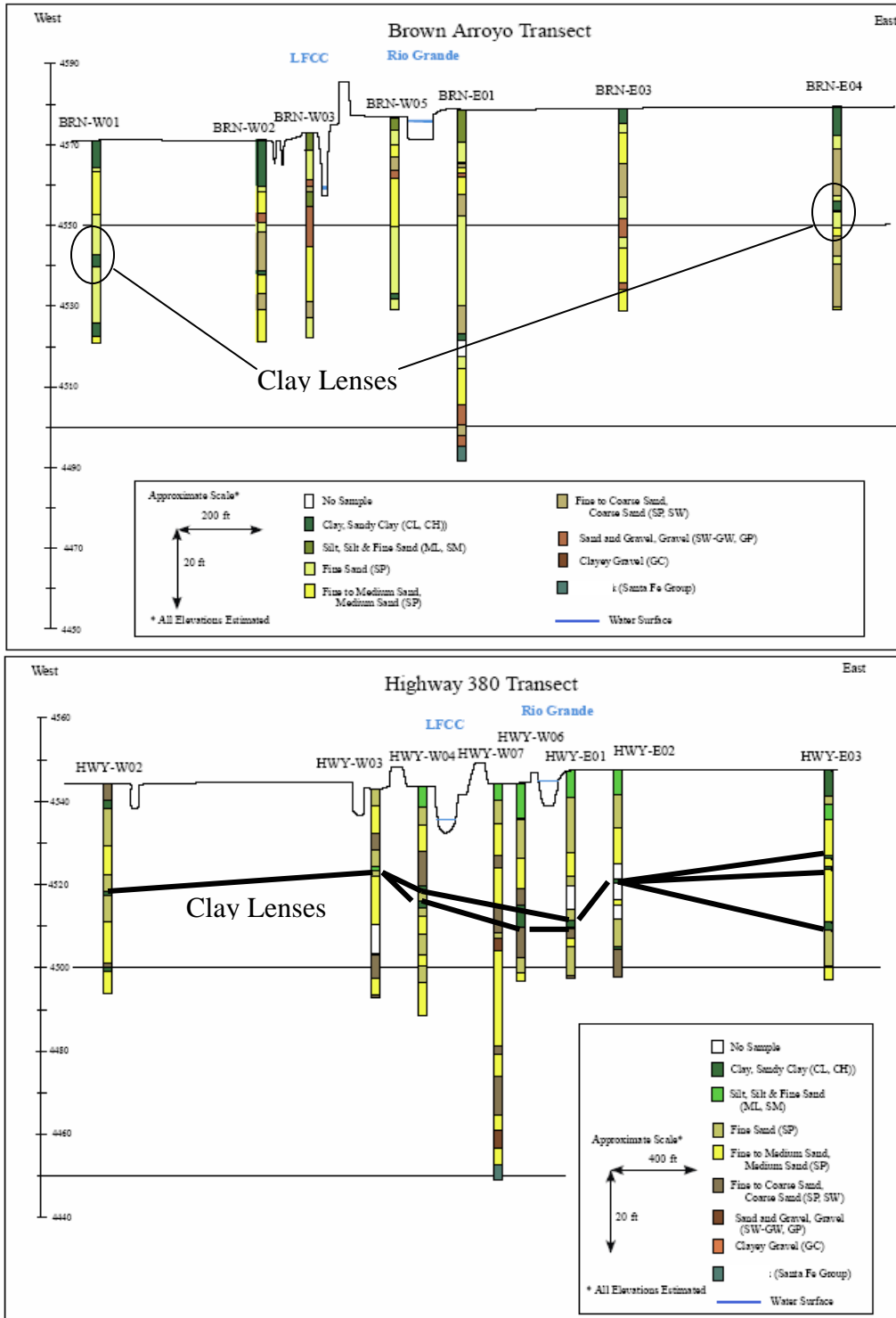


Figure 34. Borehole data for the Brown Arroyo Transect and the Highway 380 Transect, showing the distribution of clay lenses.

4.2.8. Model Runs

The steady-state Basic 4 Layer Model, in which layer 2 was continuous, was calibrated to observed water level elevations for the thirty-one wells located within the model domain (Figure 35). The model was calibrated in this manner to make sure it adequately represented the hydrologic system. After a basic model was established, all model inputs remained constant except for the distribution of layer 2 and the hydraulic conductivities of layers 1 and 3. Twenty-eight model scenarios were run with various layer and hydraulic conductivity assumptions (Table 3). Each was run with a steady-state model to establish initial conditions and a transient model to simulate the flood event, using the Visual MODFLOW WHS solver without rewetting. The average difference between the calculated and observed head for all steady state models, referred to as the residual mean, fell within -1.5 to 1.0 ft (-45.7-30.5 cm).

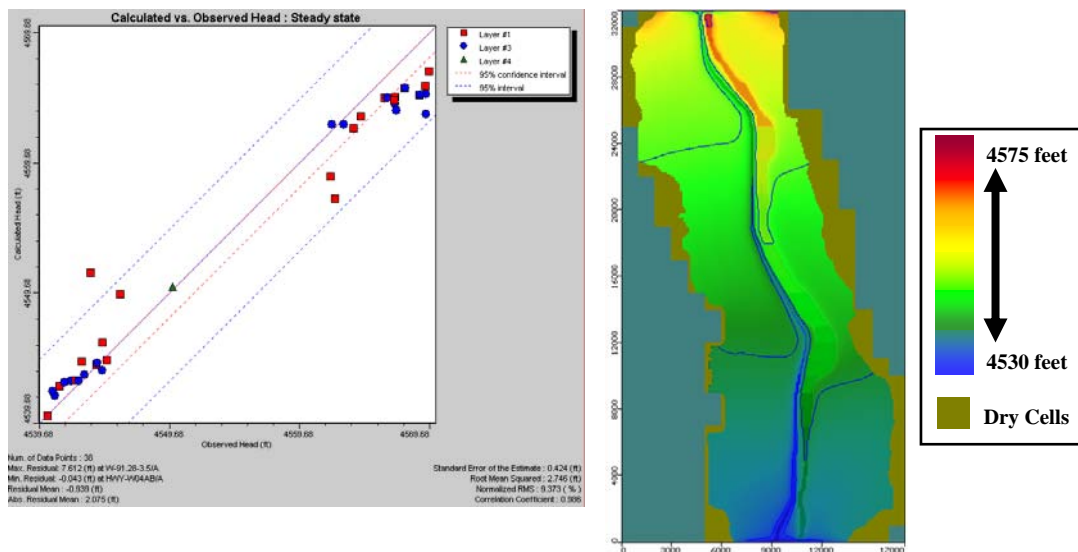


Figure 35. Graph of steady state model results showing the calculated and observed head comparison and a map of calculated water table elevation for layer 1.

5. RESULTS

Twenty-eight model scenarios were run with the spatial distribution of layer 2 and the hydraulic conductivities of layers 1 and 3 varied (Table 3). All other inputs were the same for each model scenario. For comparing modeling results for each of the scenarios, the time series of simulated and observed water levels for the month of September 2003 is plotted. The pink and light blue lines represent the observed water levels for the shallow and intermediate wells. The red and blue lines represent the calculated water levels for the shallow and intermediate wells. To highlight the various models ability to simulate vertical gradients between the phreatic and lower aquifer as was observed in the field data, water levels are presented as “stage” defined as:

- Observation: at 7.5 days, the water level in the shallow well (A-well) is set as the datum (stage=0), and all other observational data for both the shallow and intermediate wells is plotted relative to that datum.
- Calculated: at 7.5 days, the simulated head at the observation point that exhibits the lowest water level is set as the datum (stage=0), and all other calculated data for both the shallow and intermediate wells is plotted relative to that datum.

5.1. Basic 4 Layer Model

The Basic 4 Layer Model had a continuous, 2 ft (0.61 m) low-permeability layer representing layer 2 in the model. Three Basic 4 Models were run varying the hydraulic conductivities of layers 1 and 3. The Basic 4 Layer Model with $K_1=K_3$, over-predicted the shallow aquifer response and under-predicted the deeper aquifer response (Figure 36). The shallow aquifer responded quickly to the increase in river stage where as response in the deeper aquifer appears to have been impeded by the low-permeability layer as expected for the CLM hypothesis (Figure 22).

For the Basic 4 Layer Model with $K_1>K_3$, the shallow aquifer response increases and the deeper aquifer has even less of a response, resulting in no upward gradient. When the Basic 4 Layer Model with $K_1<K_3$, the deeper aquifer had a stronger response, resulting in a slight upward gradient (Figure 37). However, the upward gradient was small in magnitude and short in duration, and thus, was considered insignificant. None of the three Basic 4 Layer scenarios results in a moderate to strong upward gradient.

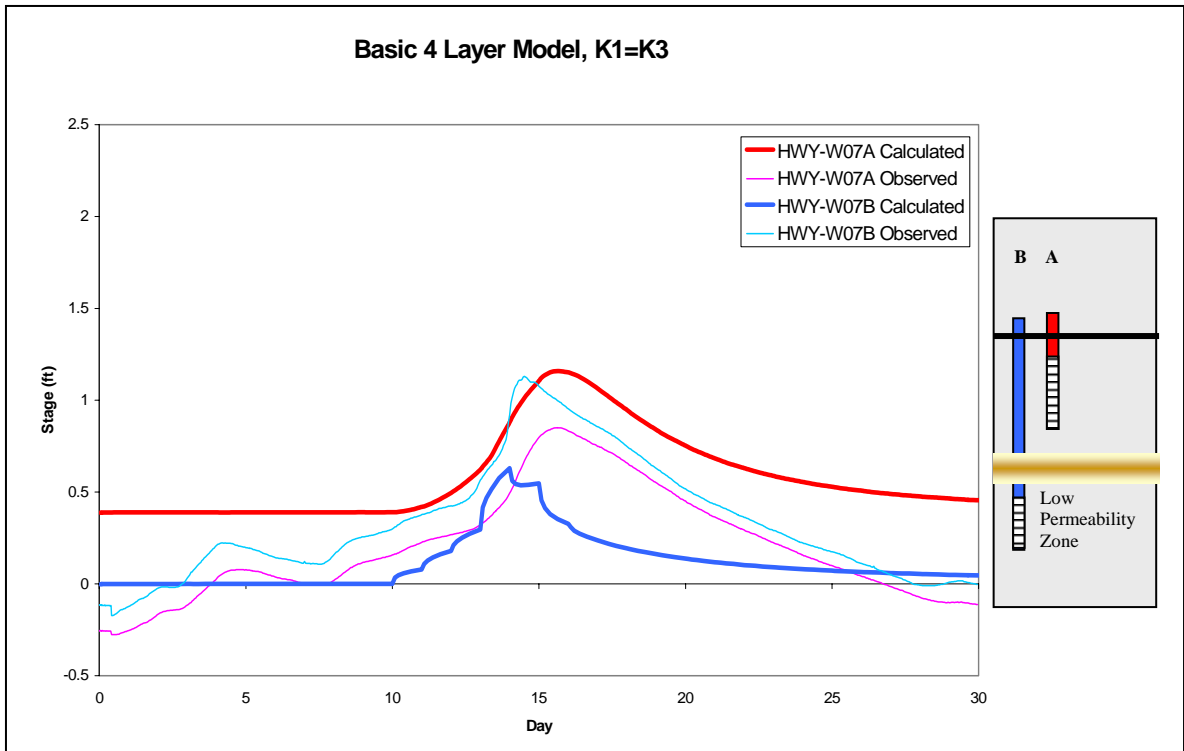


Figure 36. Basic 4 Layer Model where $K_1=K_3$ resulted in no upward gradient.

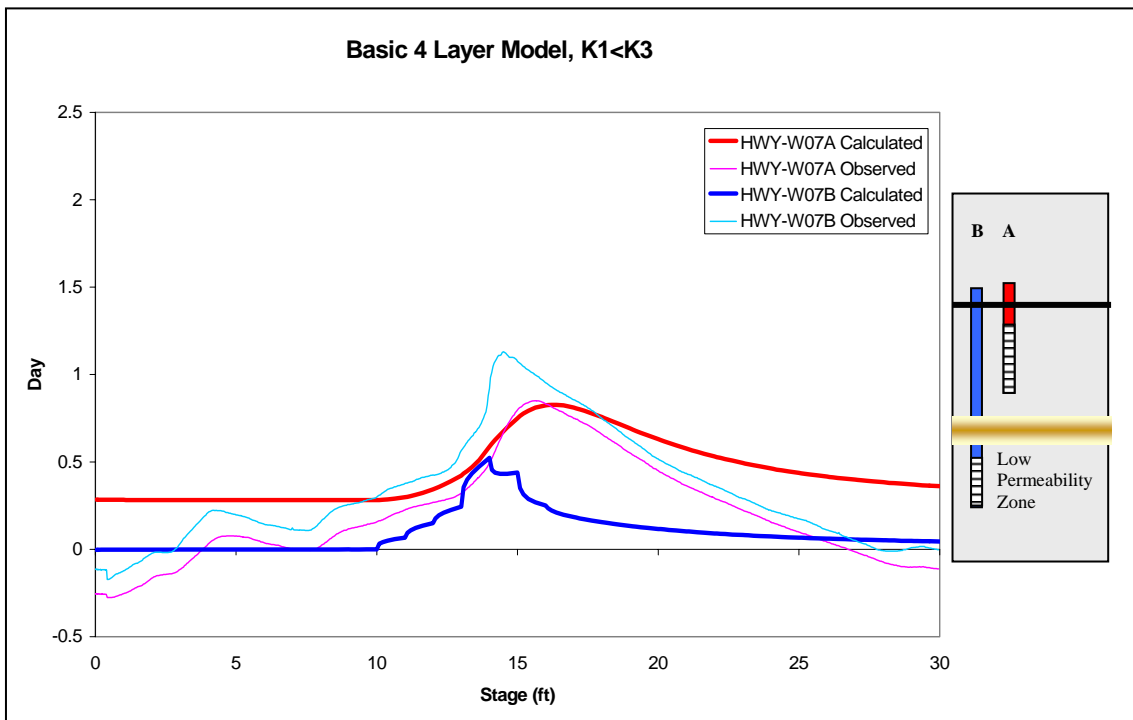


Figure 37. Basic 4 Layer Model where $K_1 < K_3$ resulted in a slight upward gradient.

5.2. No Clay Model

The No Clay Model had the low-permeability layer removed completely throughout the model and the hydraulic conductivities of layers 1 and 3 varied. One No Clay Model was run where $K_{xy}=K_z$, to represent homogenous and isotropic conditions. The No Clay Model with $K_{xy}=K_z$, resulted in the shallow and intermediate wells responding the same (Figure 38). Another variation of the No Clay Model was when $K1=K3$. Under these homogenous and anisotropic conditions, a slight vertical gradient occurred (Figure 39). The upward gradient was small in magnitude and short in duration and was considered insignificant. When the No Clay Model was run with $K1>K3$, the shallow well response was greater and no upward gradient occurred. When the No Clay Model was run with $K1<K3$, the result was a moderate upward gradient (Figure 40). A total of four models were run with the low-permeability layer removed varying the hydraulic conductivities of layers 1 and 3 and only one of these models produced a significant upward gradient. The No Clay Model with $K1<K3$ (Figure 40) produced a magnitude of response from the calculated shallow and intermediate wells similar to the observed wells response.

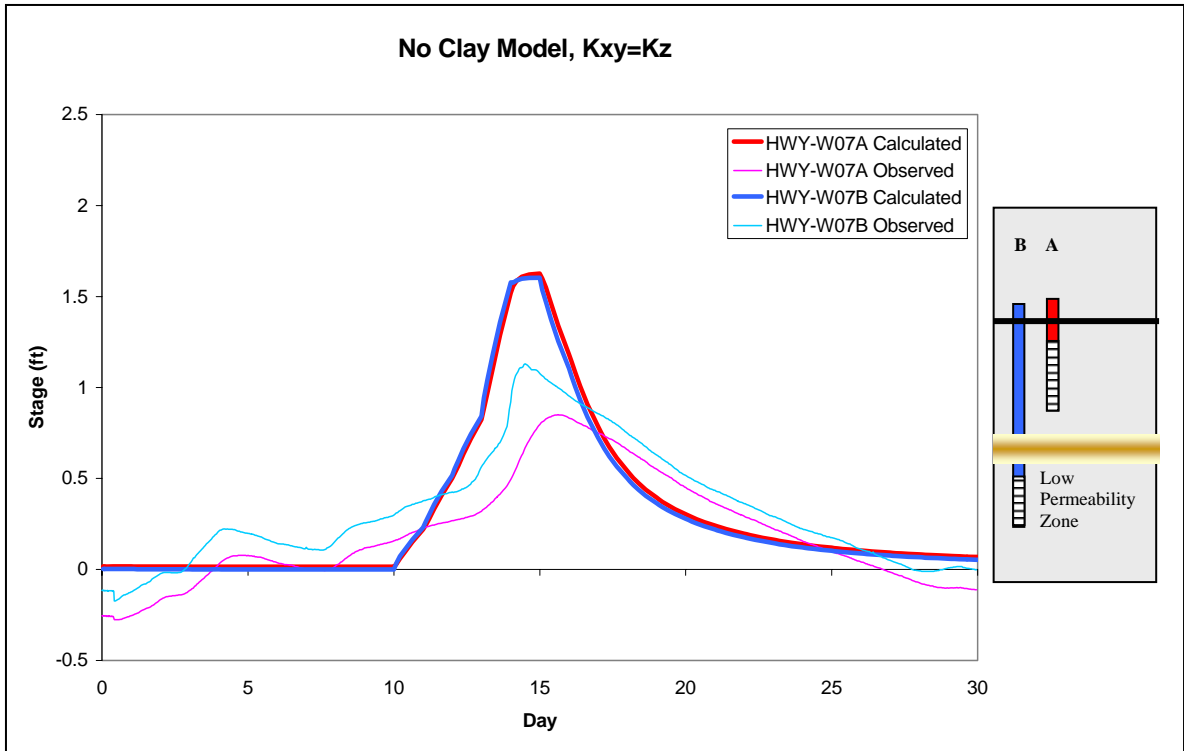


Figure 38. No Clay Layer Model where $K_{xy}=K_z$ resulted in no significant vertical gradient occurs.

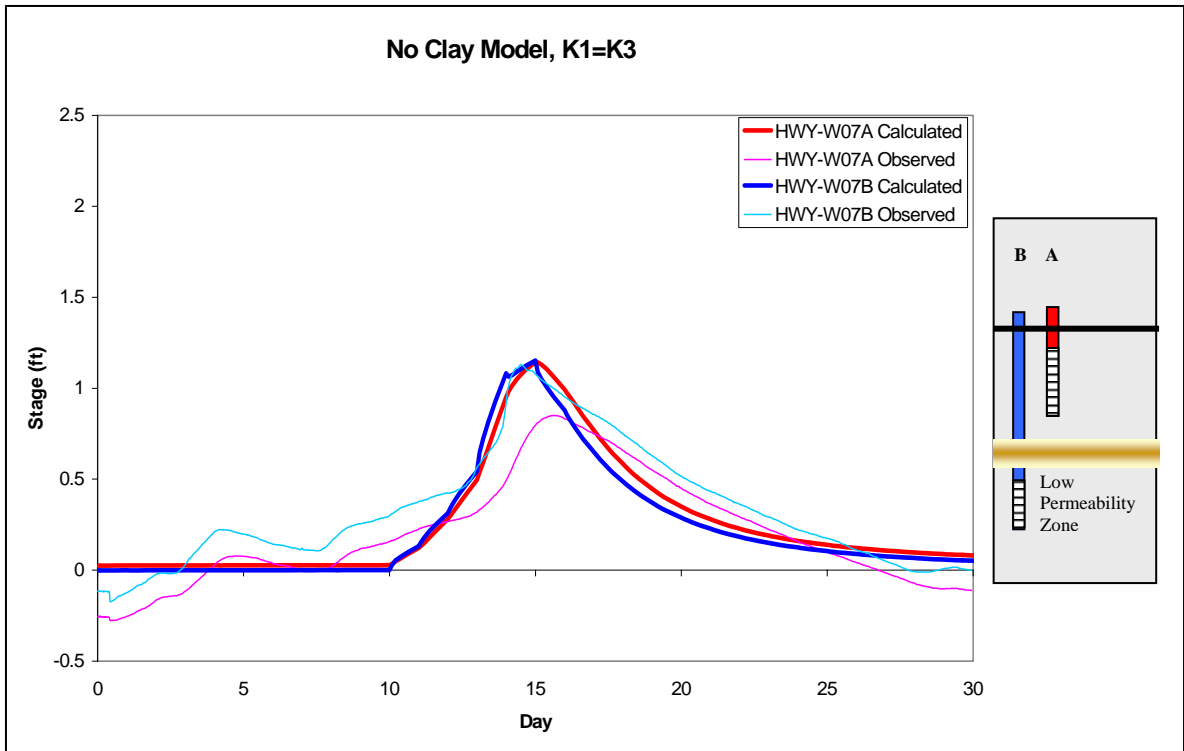


Figure 39. No Clay Layer Model, where $K_1=K_3$. The horizontal hydraulic conductivity for layers 1 and 3 was twice the vertical hydraulic conductivity, which resulted in a slight vertical gradient.

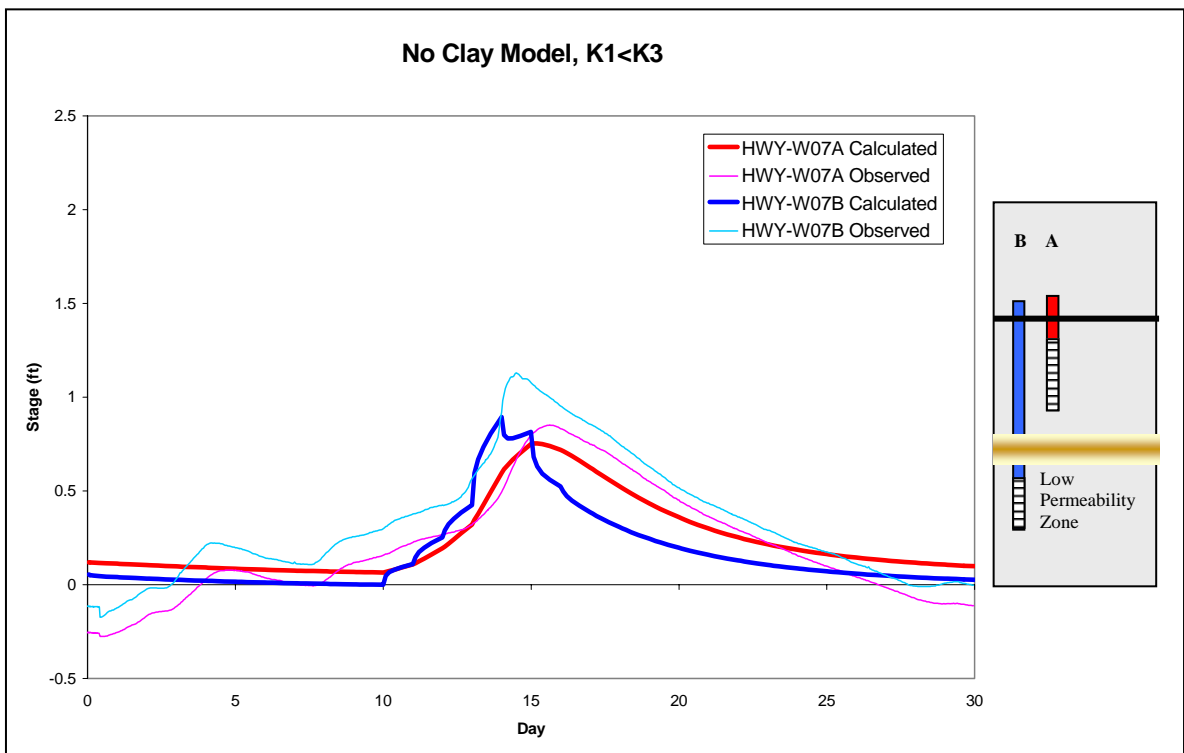


Figure 40. No Clay Layer Model where $K_1 < K_3$ resulted in a moderate upward gradient.

The No Clay Model with $K_1 < K_3$ resulted in a moderate upward gradient (Figure 40). The lower aquifer had a stronger response to the increase in river stage due to the higher permeability sediments. The phreatic aquifer had less of a response due to the lower permeability sediments. This was a symptom of the three-dimensionality of the system. The lower aquifer was transmitting the change the increase in river stage from upstream and up gradient as well as laterally. The increased response in the lower aquifer relative to the decreased response in the phreatic aquifer created an upward gradient response.

There were two No Clay Model scenarios where the hydraulic conductivities of layers 1 and 3 were equal, (1) in which the aquifer was homogeneous and isotropic and (2) in which the aquifer was homogeneous and anisotropic. Under the homogeneous and isotropic conditions there was no upward gradient (Figure 38). Under homogeneous and anisotropic conductions there was a slight upward gradient (Figure 39). It is unclear why the anisotropy resulted in a slight upward gradient.

5.3. River Removed Model

The River Removed Model had the low-permeability layer below the river removed. This model was then run with the hydraulic conductivities of layers 1 and 3 varied. When $K_1 = K_3$, the result was a strong upward gradient (Figure 41). The River Removed Model where $K_1 > K_3$, a moderate upward gradient occurred (Figure 42). When $K_1 < K_3$, a strong upward gradient occurred (Figure 43). The level of response

and amount upward gradient for all three River Removed Models was comparable to the observed data.

In the River Removed Model with $K1=K3$, the lower well responded in steps as seen in Figure 41. This was related to the way river stage was input into the DLM. The river stage was input as a value for each day which resulted in step increases in river elevation. The lower aquifer was highly connected to the river and this connection caused the lower aquifer to mimic the river stage steps. This behavior was seen in other simulations. It was not seen in the phreatic aquifer response due to scaling. The phreatic aquifer response to the change in river stage was less and therefore the steps are not as prominent.

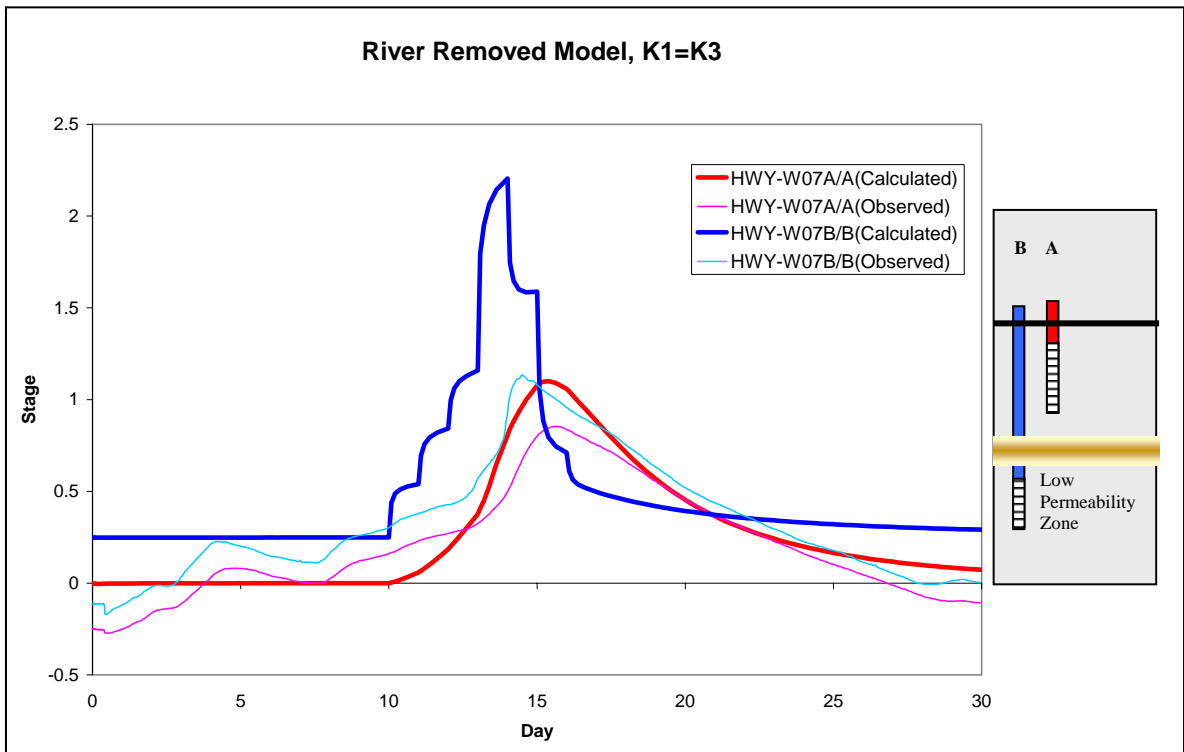


Figure 41. The River Removed Model where $K1=K3$ resulted in a strong upward gradient

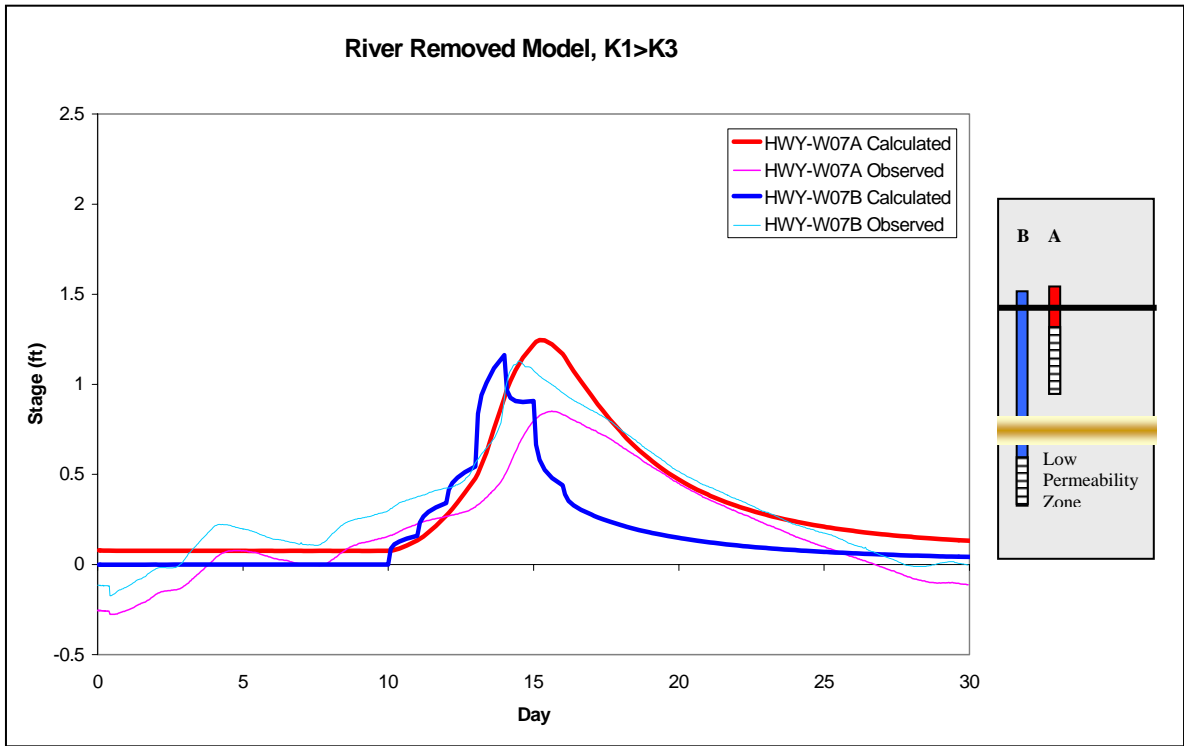


Figure 42. The River Removed Model where $K1 > K3$ resulted in a moderate upward gradient.

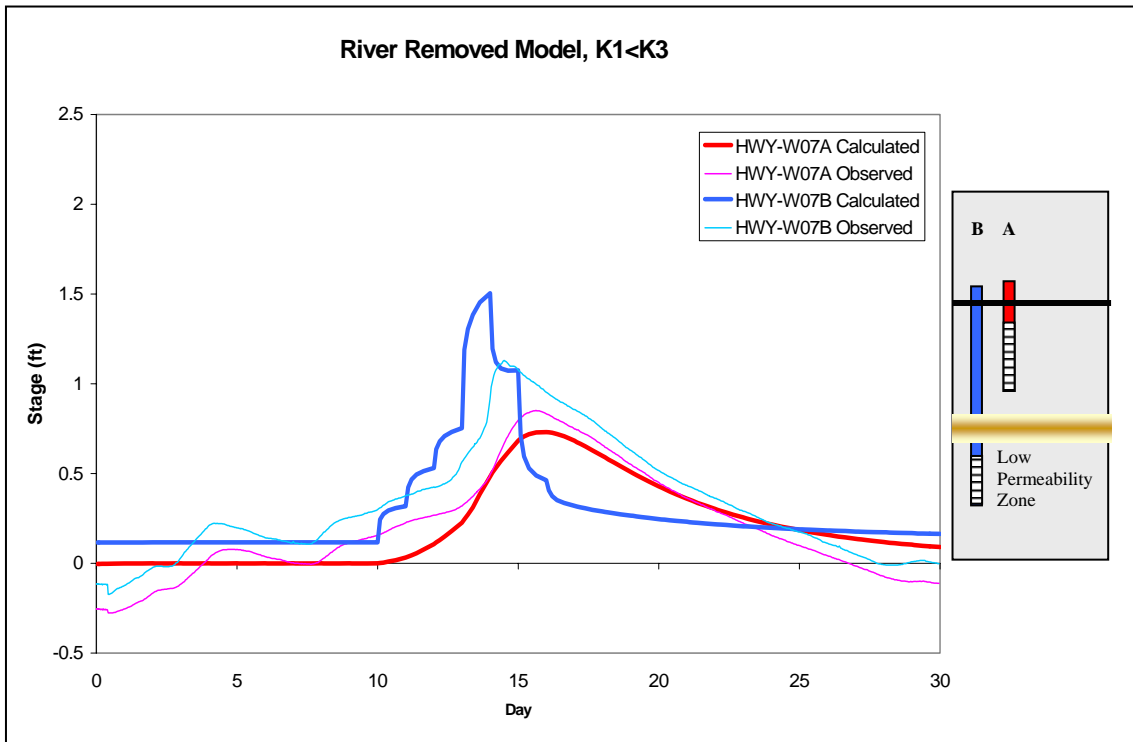


Figure 43. The River Removed Model where $K1 < K3$ resulted in a strong upward gradient.

The River and LFCC Removed Model showed similar results as the River Removed Model. When $K1=K3$, the result was a moderate upward gradient (Figure 44). The River and LFCC Removed Model where $K1>K3$, resulted in a slight upward gradient. When $K1<K3$ a moderate upward gradient occurred (Figure 45). The pattern of response from the River and LFCC Removed Model was similar to the River Removed Model, except that the shallow and intermediate wells response was slightly less. The River and LFCC Removed Model where $K1=K3$ or when $K1<K3$, resulted in a level of response and upward gradient that was comparable to the observed data.

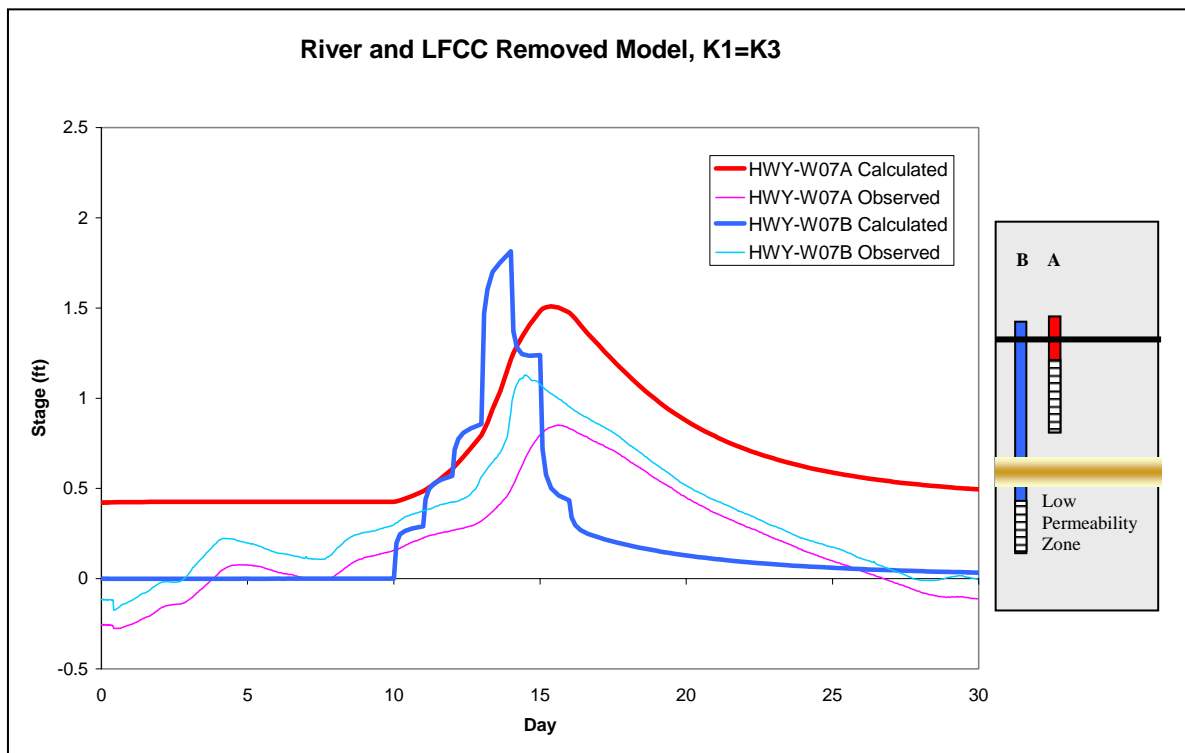


Figure 44. The River and LFCC Removed Model where $K1=K3$ resulted in a Moderate upward gradient.

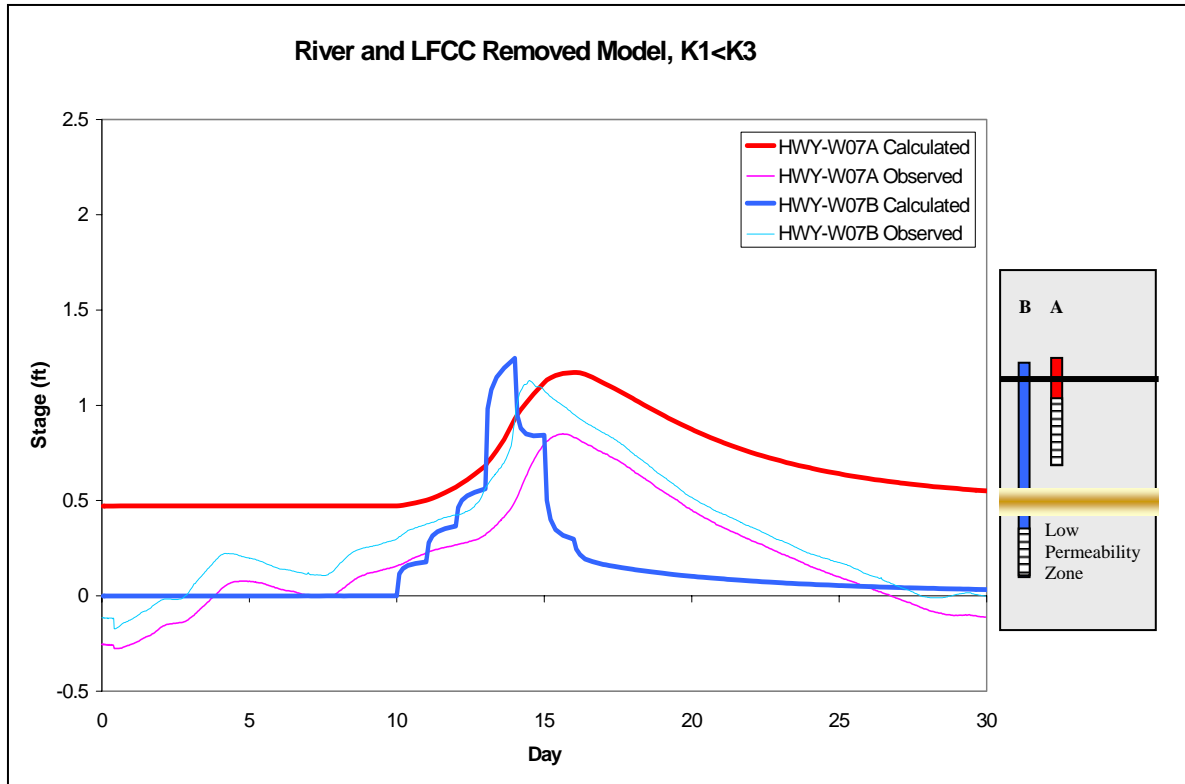


Figure 45. The River and LFCC Removed Model where $K1 < K3$ resulted in a Moderate upward gradient.

5.4. Random Gap Model

Four Random Models were created in which the spatial distribution of the low-permeability layer was varied. Each of these models was run with the hydraulic conductivities of layers 1 and 3 varied producing a total of twelve Random Gap Models. Four Random Gap Models were created where the model layer 2 was removed randomly. These were referred to based on the amount of clay removed: 20% Random Gap Model, 40% Random Gap Model, 60% Random Gap Model, and 80% Random Gap Model (Table 3).

The 20% Random Gap Model had 20% of the cells in model layer 2 changed from a low hydraulic conductivity to a higher hydraulic conductivity. When $K1=K3$, the result is a slight upward gradient (Figure 46). However, the upward gradient was small in magnitude and short in duration and therefore, was considered insignificant. The 20% Random Gap Model run with $K1>K3$ resulted in no upward gradient. The 20% Random Gap Model run with $K1<K3$, also, resulted in no upward gradient (Figure 47). None of the 20% Random Gap Models adequately reproduced the observed aquifer response.

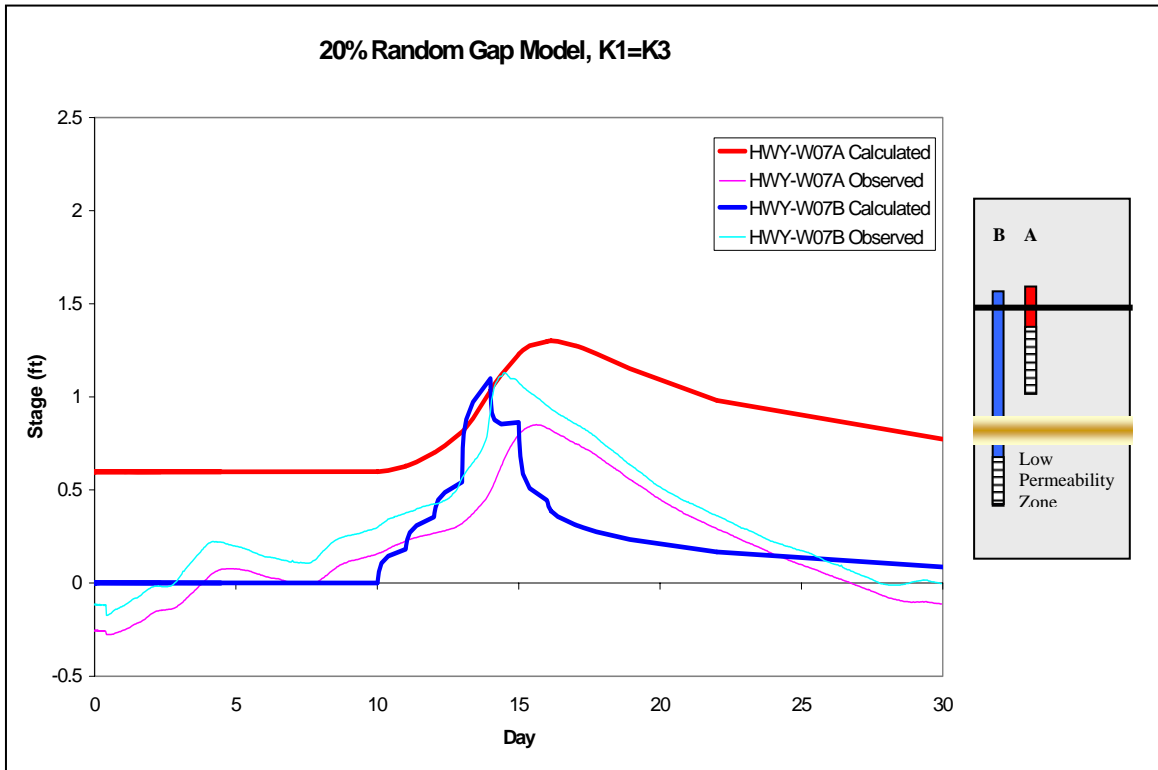


Figure 46. The 20% Ellipse Model where, the $K1=K3$ resulted in a slight upward gradient.

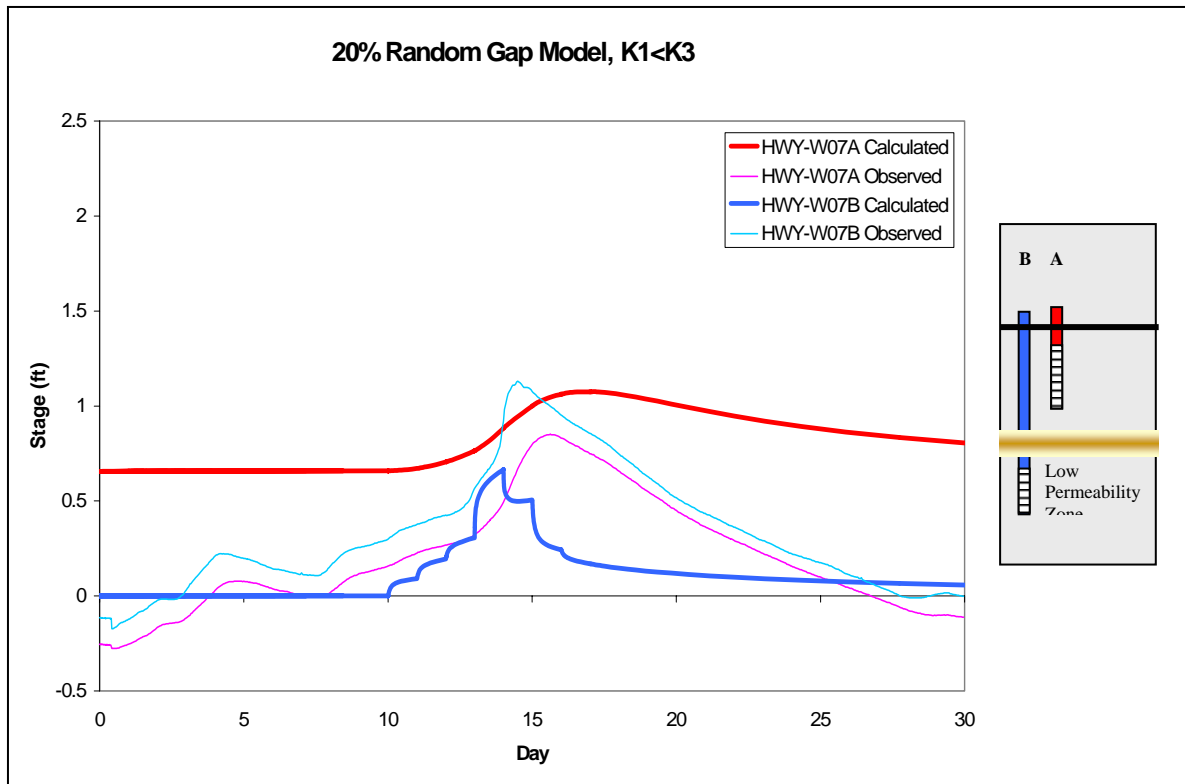


Figure 47. The 20% Ellipse Model, where $K_1 < K_3$ resulted in a no upward gradient.

The 40% Random Gap Model had 40% of the cells in model layer 2 changed from a low hydraulic conductivity to a higher hydraulic conductivity. When $K_1 > K_3$ there was no upward gradient. When $K_1 = K_3$ and when $K_1 < K_3$, a moderate upward gradient occurred (Figure 48 and Figure 49). These two 40% Random Gap Models produced an upward gradient similar to the observed well responses.

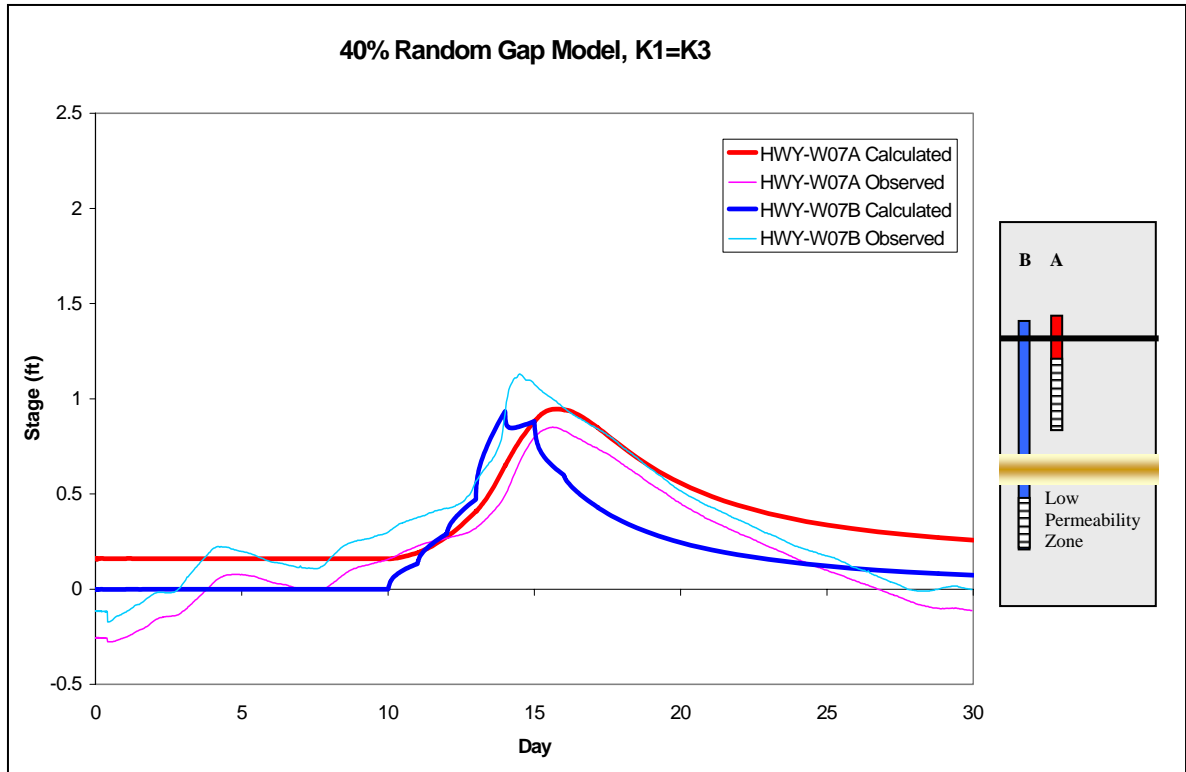


Figure 48. The 40% Ellipse Model, where $K_1=K_3$ resulted in a moderate upward gradient.

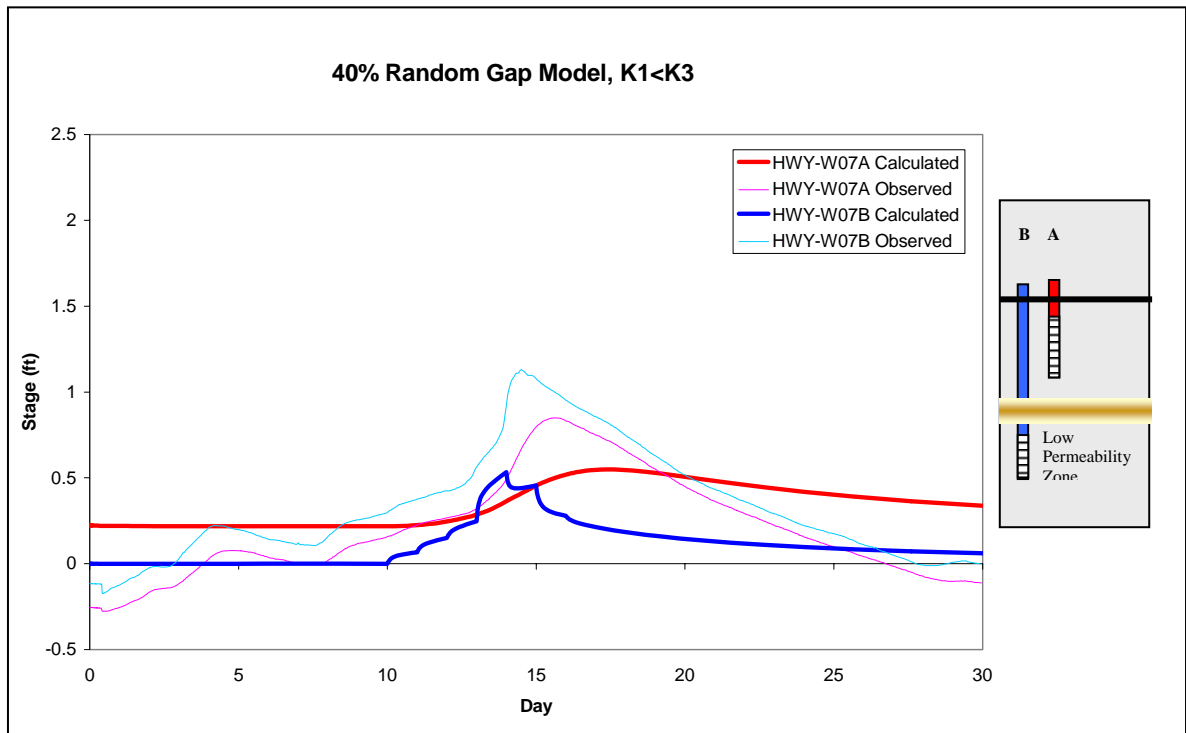


Figure 49. The 40% Ellipse Model, where $K_1 < K_3$ resulted in a moderate upward gradient.

The 60% Random Gap Model had 60% of the cells in model layer 2 changed from a low hydraulic conductivity to a higher hydraulic conductivity. When $K1 > K3$ there was a small upward gradient. When $K1 = K3$ and when $K1 < K3$, a moderate upward gradient occurred (Figure 50 and Figure 51). Both of these models produced a moderate upward gradient similar to the observed well response.

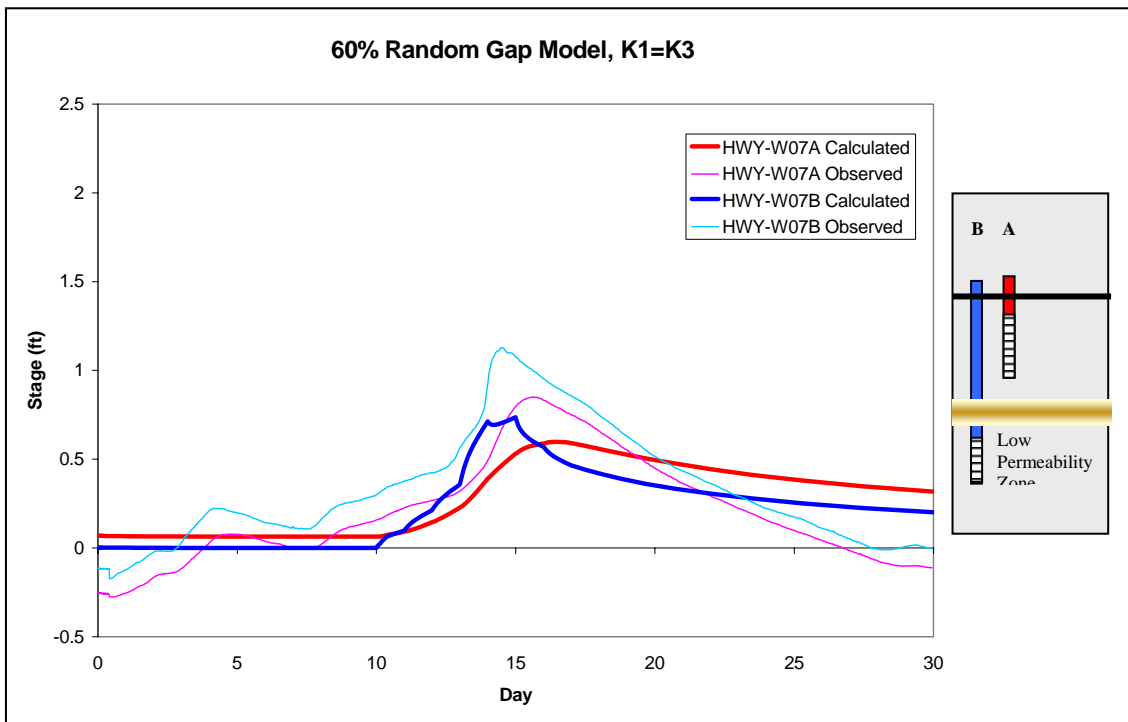


Figure 50. The 60% Ellipse Model, where $K1=K3$ resulted in a moderate upward gradient.

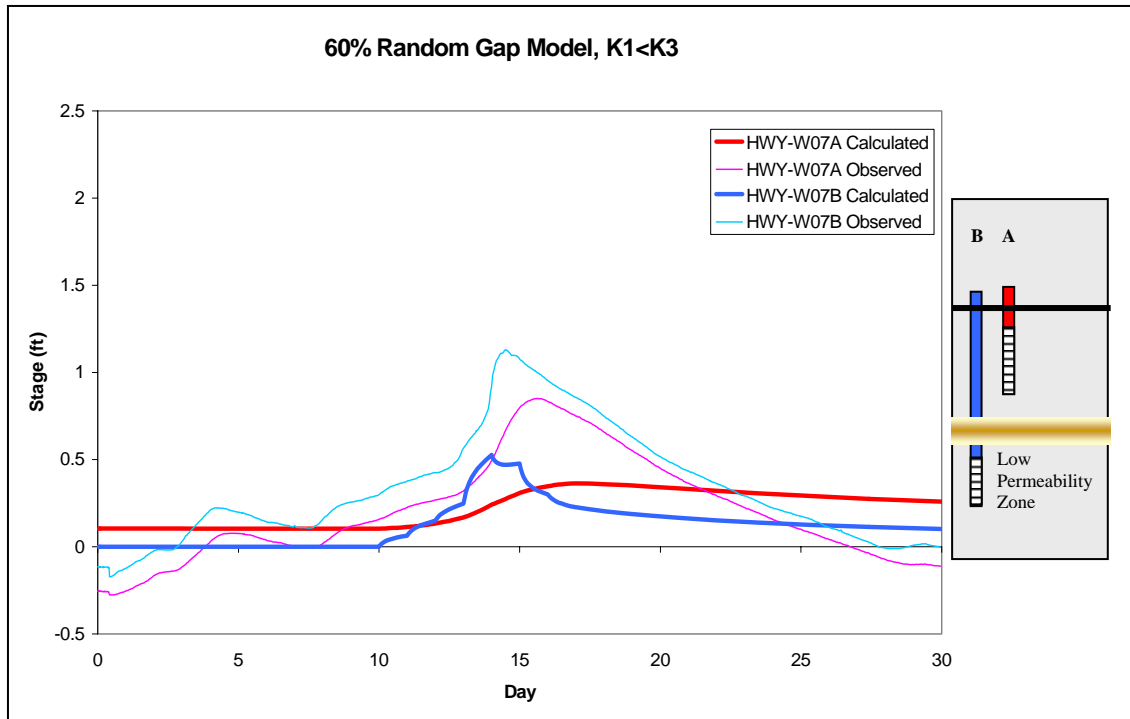


Figure 51. The 60% Ellipse Model, where $K_1 < K_3$ resulted in a moderate upward gradient.

The 80% Random Gap Model had 80% of the cells in model layer 2 changed from a low hydraulic conductivity to a higher hydraulic conductivity. When $K_1 > K_3$ there was a slight upward gradient. When $K_1 = K_3$, a small upward gradient occurred (Figure 52). However, both of these upward gradients were small in magnitude and short in duration, and therefore were considered insignificant. When $K_1 < K_3$, a moderate upward gradient occurred (Figure 53). The 80% Random Gap Model, where the hydraulic conductivity of layer 3 was greater, produced an upward gradient similar to the observed wells response.

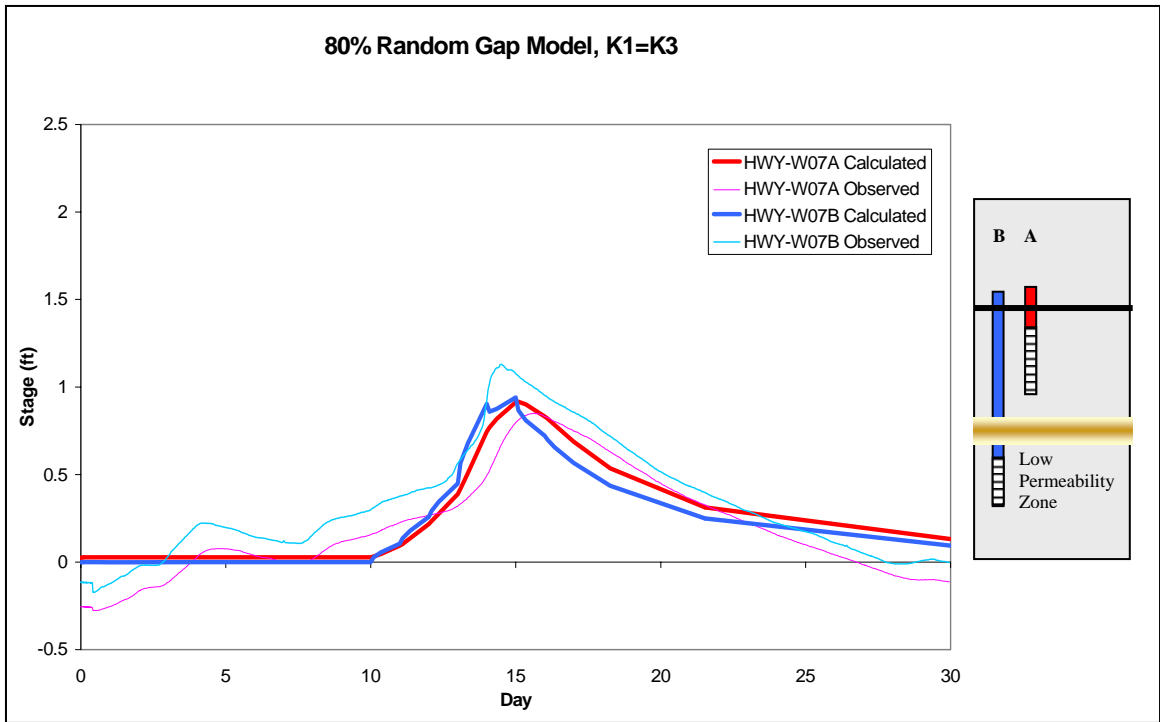


Figure 52. The 80% Ellipse Model, where the $K_1=K_3$ resulted in a small upward gradient.

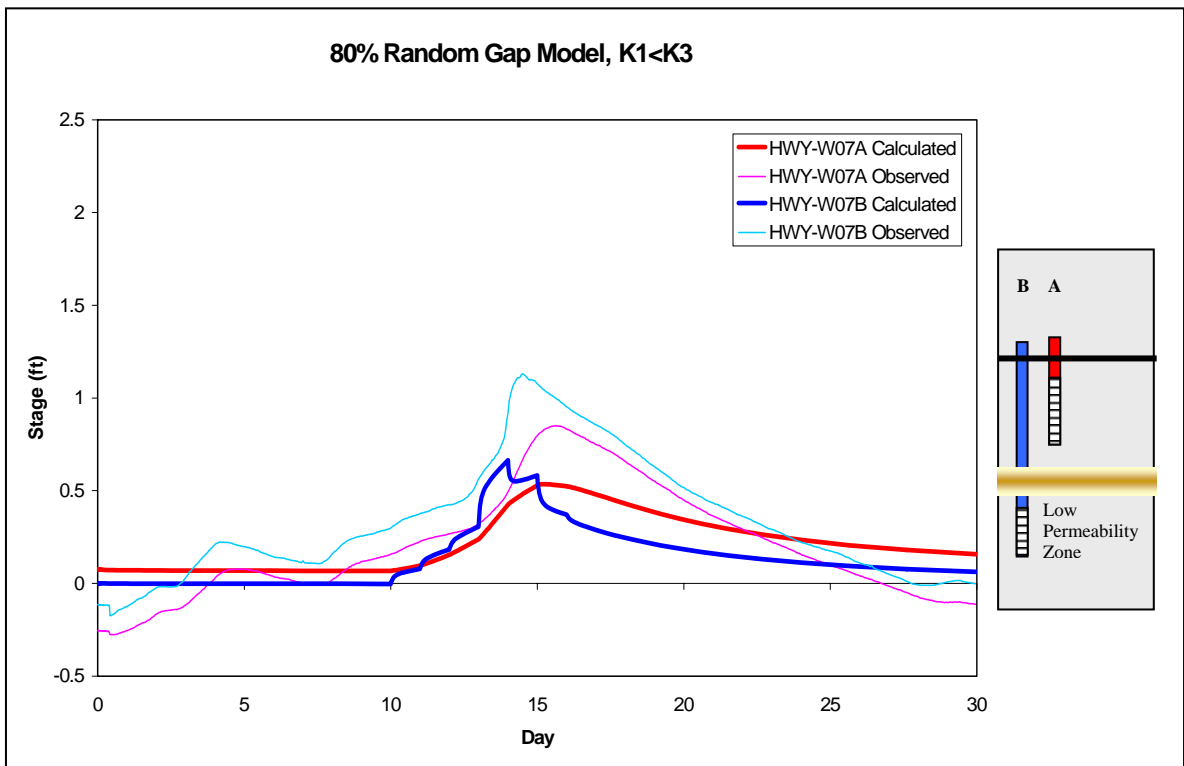


Figure 53. The 80% Ellipse Model, where $K_1 < K_3$ resulted in a moderate upward gradient.

5.5. Model Summary

The geologic scenarios were evaluated on whether an upward gradient occurred between the shallow and intermediate well pair (HWY-W07A and B) during the flood event. Eleven of the twenty-eight model runs produced moderate to strong upward gradients. All scenarios that resulted in a moderate to strong upward gradient were considered to be comparable to the observed gradient response. These are shown in bold in Table 4. None of the Northern Portion Removed Models, in which the low-permeability layer was removed in the northern part of the model domain, resulted in an upward gradient.

Table 4. Summary model results; red bold text indicates models that produced moderate to strong upward gradients at well pair HWY-W07A-7B.

| Model Geology | Model Type | $K_1=K_3$ | $K_1>K_3$ | $K_1<K_3$ | $K_{xy}=K_z$ |
|--------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------|
| Continuous Layer 2 | Basic 4 Layer Model | No Upward Gradient | No Upward Gradient | Slight Upward Gradient | |
| No Clay Layer 2 | No Clay Model | Slight Upward Gradient | Slight Upward Gradient | Moderate Upward Gradient | No Upward Gradient |
| River Geology | River Removed Model | Strong Upward Gradient | Moderate Upward Gradient | Strong Upward Gradient | |
| | River and LFCC Removed Model | Moderate Upward Gradient | Slight Upward Gradient | Moderate Upward Gradient | |
| Ellipse Geology | 20% Random Gap Model | Slight Upward Gradient | No Upward Gradient | No Upward Gradient | |
| | 40% Random Gap Model | Moderate Upward Gradient | No Upward Gradient | Moderate Upward Gradient | |
| | 60% Random Gap Model | Moderate Upward Gradient | Small Upward Gradient | Moderate Upward Gradient | |
| | 80% Random Gap Model | Small Upward Gradient | Slight Upward Gradient | Moderate Upward Gradient | |
| Gap Geology | Northern Portion Removed Model | No Upward Gradient | No Upward Gradient | Slight Upward Gradient | |

6. DISCUSSION

The results from the eleven scenarios that exhibited moderate to strong upward gradients were evaluated to see which conceptualizations were realistic representations of the alluvial aquifer. Aquifer test data and analyses indicated that there was a higher hydraulic conductivity of the leaky-confined aquifer represented by layer 3. Borehole data and grain size analysis showed that the phreatic aquifer and the leaky-confined aquifer had similar sediment types and layering, however deeper sediments appeared to be coarser. These data provide evidence that layers 1 and 3 either have equal hydraulic conductivities ($K_1=K_3$) or that layer 3 has a greater hydraulic conductivity than layer 1 ($K_1<K_3$). There were no data to support the hydraulic conductivity of layer 1 being greater than layer 3 ($K_1>K_3$). Therefore, the River Removed Model, that produced a moderate upward gradient where layer 1 was greater than layer 3, was considered an unrealistic representation of the observed aquifer.

There was no evidence to support the removal of the low-permeability layer beneath the LFCC. The alluvial deposits below the river and LFCC were deposited before the LFCC was constructed. The LFCC is a man-made channel and its channel bottom was constructed above the low-permeability zone; therefore, the River and LFCC Removed Model scenario was considered a unrealistic representation of the

observed data. Removal of the low-permeability layer beneath the LFCC increased the connection between the LFCC and the leaky-confined aquifer and as a result the intermediate well response was less and the shallow well response was greater compared to when the low-permeability layer was only removed below the river (Figure 54). Results from the River Removed Model and the River and LFCC Removed Model showed that the intermediate well responded strongly to a change in river stage when there was no impeding layer between the river and lower aquifer. When there was no impeding layer between the LFCC and the lower aquifer, the LFCC gained from the groundwater producing less response in the well. Thus, the model was sensitive to the connection between the LFCC and the aquifer. When the connection between the aquifer and LFCC increased, groundwater levels decreased.

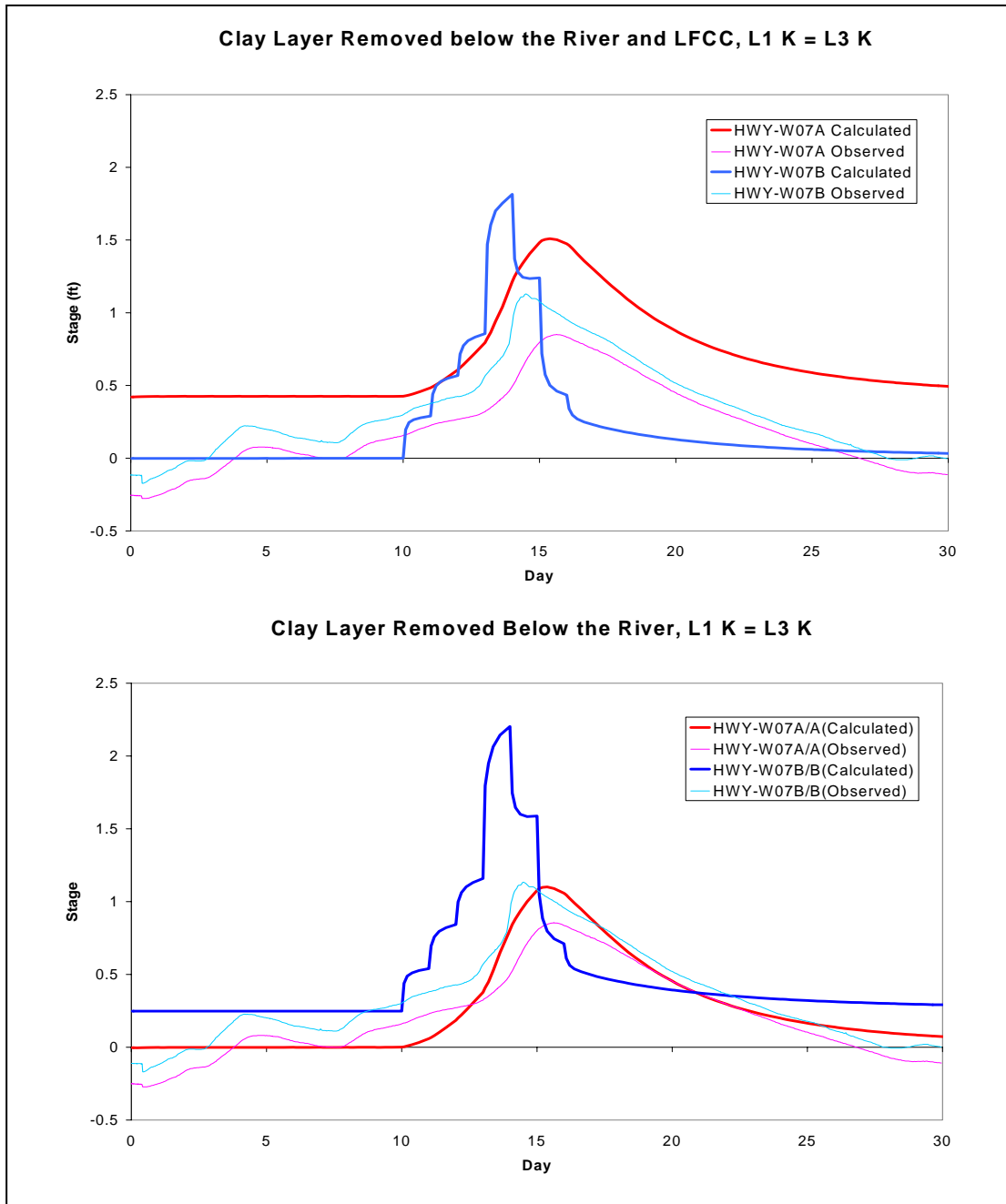


Figure 54. River and LFCC Removed model and River Removed Model result in upward gradients. The River and LFCC Removed model shows a greater response from the shallow well and less of a response from the intermediate well compared to the River Removed Model.

The results from the eight models that were considered realistic representations of the observed aquifer and that resulted in a moderate to strong upward gradient were further evaluated and compared to the observed data. The peak magnitudes of the

intermediate and shallow well responses were compared to the peak magnitudes of the observed well responses. The peak rise was measured for the intermediate and shallow wells for the eight scenarios and for the observation wells. The calculated rise was then subtracted from the observed rise for the shallow and intermediate wells. These eight model results are summarized in Table 5. From the additional criteria the models that best match the observed aquifer were the No Clay Model with $K1 < K3$, and the River Removed Model with $K1 < K3$.

Table 5. Summary of realistic models with results comparable to observed data; red bold text indicates models that best represent the observed aquifer responses.

| Model | Simulated Gradient Response | Simulated vs. Observed Heads | |
|-----------------------------------------------------|-----------------------------|------------------------------|------------------------------|
| | | Shallow Well Difference | Intermediate Well Difference |
| No Clay Model, $K1 < K3$ | Moderate | -0.16 ft | -0.13 ft |
| River Removed Model, $K1 = K3$ | Strong | 0.25 ft | 0.93 ft |
| River Removed Model, $K1 < K3$ | Strong | -0.12 ft | 0.37 ft |
| 40% Random Gap Model, $K1 = K3$ | Moderate | -0.22 ft | -0.21 ft |
| 40% Random Gap Model, $K1 < K3$ | Moderate | -0.52 ft | -0.49 ft |
| 60% Random Gap Model, $K1 = K3$ | Moderate | -0.32 ft | -0.29 ft |
| 60% Random Gap Model, $K1 < K3$ | Moderate | -0.59 ft | -0.50 ft |
| 80% Random Gap Model, $K1 < K3$ | Moderate | 0.38 ft | -0.36 ft |

The calculated model results were not evaluated based on water table elevations or timing. The calculated and observed water table elevations were not compared because the calculated water table elevations are on average 7 ft (2 m) higher than the observed water table elevations. The timing of the calculated response was not compared to the observed well response due to the uncertainty of the flood pulse input into the model. There was no surface water gage that recorded the flood event in the model domain. Therefore, the timing of the flood event was unknown and thus, comparing the response timing would be inaccurate.

The No Clay Model where Layer 3 had a greater hydraulic conductivity than layer 1 ($K_1 < K_3$) resulted in a moderate gradient response with a shallow well peak difference of -0.16 ft (4.88 cm) and an intermediate well peak difference of -0.13 ft (3.66 cm). The No Clay Model with $K_1 < K_3$ produced the closest intermediate well peak to the observed peak. However, the aquifer test data and borehole data showed evidence for clay lenses located 30 to 40 feet below the ground surface, therefore, a model that does not contain any clay was considered an unrealistic representation. In addition, the shallow and intermediate well response were both lower than the observed well response. Therefore, with these additional criteria, the No Clay scenario is not considered a realistic conceptualization of the system.

The River Removed scenario with $K_1 < K_3$ showed a moderate gradient response with a shallow well peak difference of -0.12 ft (3.66 cm) and an intermediate well peak difference of 0.37 ft (11.28 cm). The River Removed Model with $K_1 < K_3$ produced the closest shallow well peak to the observed peak and was considered a realistic layering geology and therefore it was evaluated further.

Although the intermediate well in the River Removed Model with $K_1 < K_3$ produced the best model to the data, it nevertheless over-predicted the observed response on the trailing limb of the hydrograph. In order to explore whether this mismatch could be due to inaccuracy the hydraulic diffusivity parameterization, this model was run with three additional specific storage values for the lower aquifer. The original

model was run with the specific storage equal to 10^{-5} ft^{-1} ($3.05 \times 10^{-6} \text{ m}^{-1}$) for the entire aquifer. The additional models were run with the upper aquifer specific storage equal to 10^{-5} ft^{-1} ($3.05 \times 10^{-6} \text{ m}^{-1}$) and the lower aquifer specific storage equal to 10^{-4} ft^{-1} ($3.05 \times 10^{-5} \text{ m}^{-1}$), 10^{-3} ft^{-1} ($3.05 \times 10^{-4} \text{ m}^{-1}$), and 10^{-2} ft^{-1} ($3.05 \times 10^{-3} \text{ m}^{-1}$).

When the specific storage was equal to 0.0001 ft^{-1} ($3.05 \times 10^{-5} \text{ m}^{-1}$), the calculated intermediate well over-predicted the observed response and closely resembled the original model (Figure 55 and Figure 43). When the specific storage was equal to 0.001 ft^{-1} ($3.05 \times 10^{-4} \text{ m}^{-1}$), the calculated response for the intermediate well is reduced in magnitude and widens providing a better match to the observed response (Figure 56). When the specific storage was equal to 0.01 ft^{-1} ($3.05 \times 10^{-3} \text{ m}^{-1}$), the calculated response for the intermediate well under-predicts the observed response (Figure 57). The River Removed Model with specific storage equal to 0.001 ft^{-1} ($3.05 \times 10^{-4} \text{ m}^{-1}$) provides the best representation of the observed data.

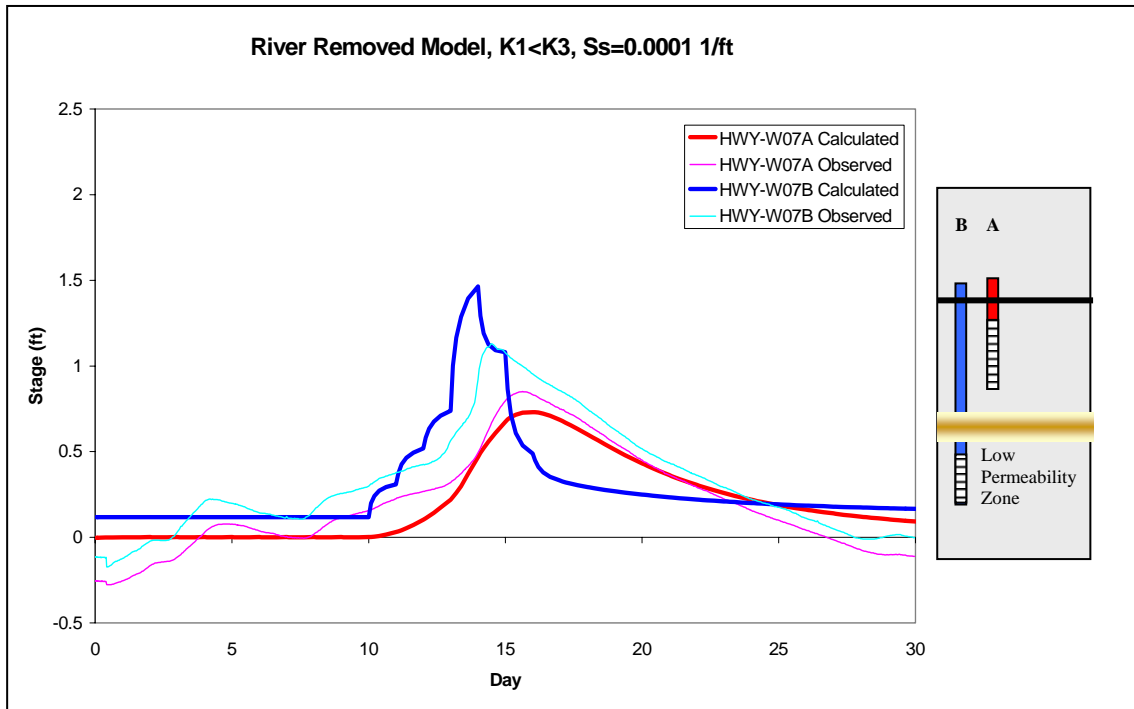


Figure 55. The River Removed Model with $K1 < K3$ and specific storage = 0.0001 ft^{-1} . The calculated intermediate well over predicts the observed response.

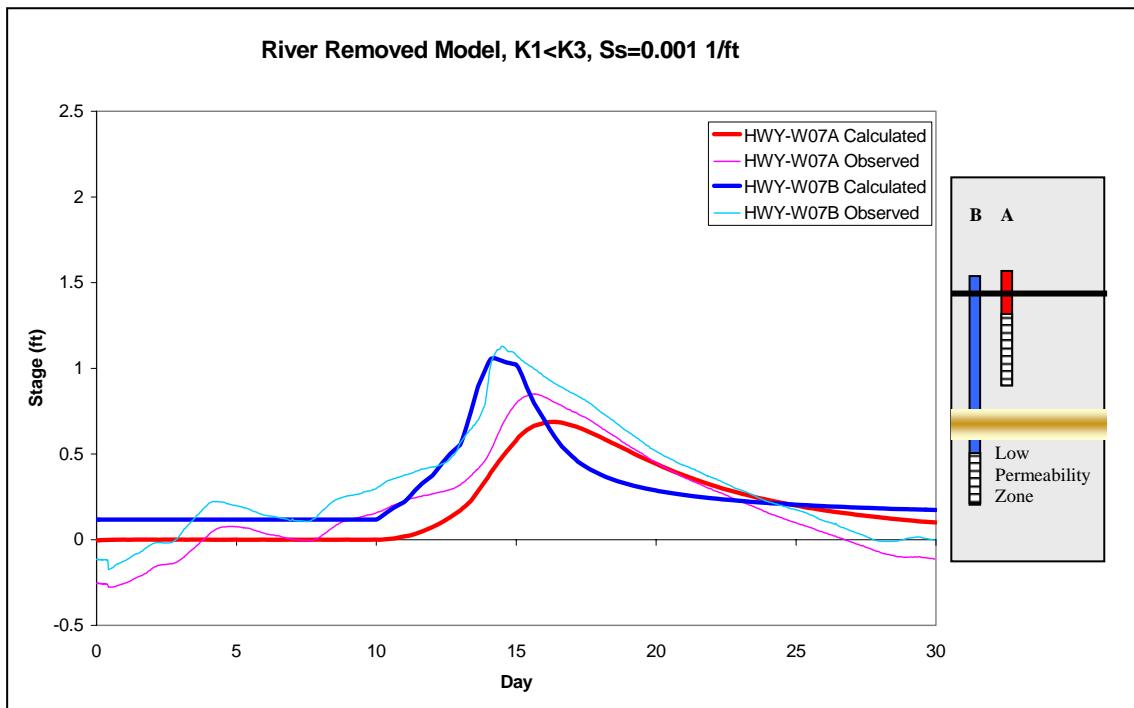


Figure 56. The River Removed Model with $K1 < K3$ and specific storage = 0.001 ft^{-1} . The calculated and observed responses for the intermediate well are a close match.

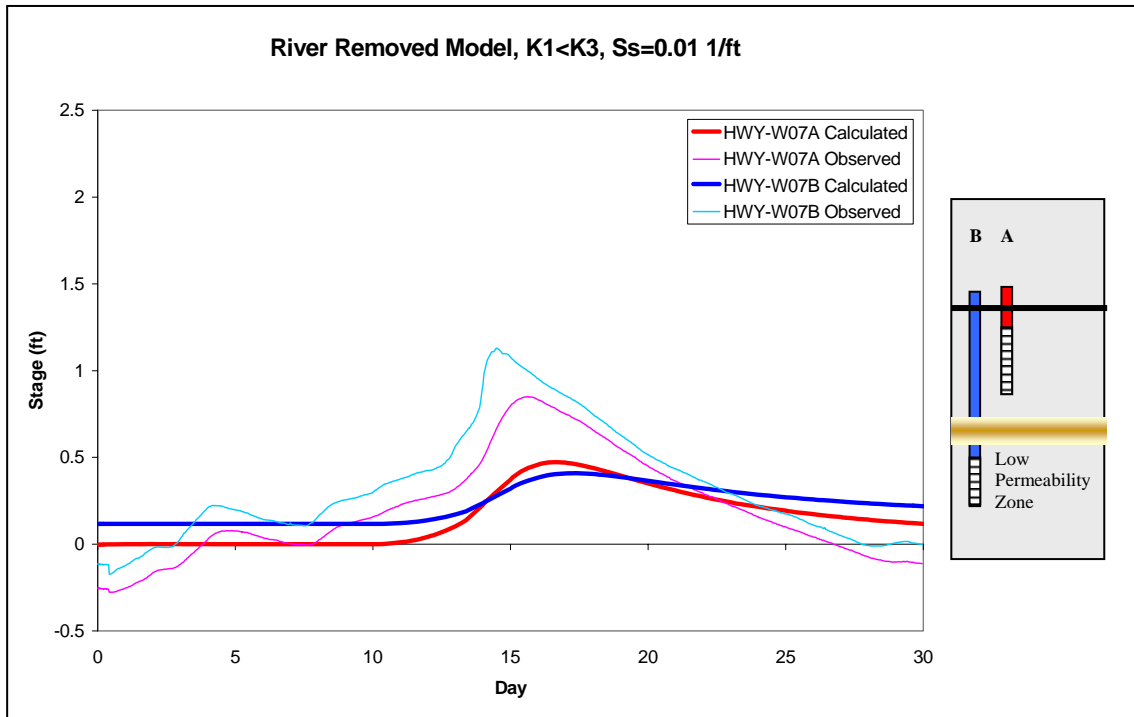


Figure 57. The River Removed Model with $K1 < K3$ and specific storage = 0.01 ft^{-1} . The calculated intermediate well under predicts the observed response.

The three additional model runs with varying specific storage were further evaluated using the peak magnitudes of the intermediate and shallow well responses. The peak magnitude differences for the shallow and intermediate wells were calculated in the same manner previously described and are summarized in Table 6. The River Removed Model with $K1 < K3$ and specific storage equal to 0.001 ft^{-1} shows the best match to the observed intermediate well with a difference of -0.08 ft (-2.44 cm). The specific storage value of 0.001 ft^{-1} corresponds to the values obtained from the aquifer test, described in Section 3.3., which were 0.05 to 0.001 or 0.008 to $1.6 \times 10^{-5} \text{ ft}^{-1}$ (2.4×10^{-4} – $5.2 \times 10^{-6} \text{ m}^{-1}$).

Table 6. Summary of the additional River Removed Models with the specific storage varied. The table shows the calculated results compared to observed data; red bold text indicates the model that best represent the observed aquifer responses.

| Model | Simulated Gradient Response | Simulated vs. Observed Heads | |
|--------------------------------------------------------------|-----------------------------|------------------------------|------------------------------|
| | | Shallow Well Difference | Intermediate Well Difference |
| River Removed Model, $K1 < K3$ | | | |
| Specific Storage = 0.0001 ft^{-1} | Strong | -0.12 ft | 0.32 ft |
| Specific Storage = 0.001 ft^{-1} | Moderate | -0.16 ft | -0.08 ft |
| Specific Storage = 0.01 ft^{-1} | Slight | -0.38 ft | -0.73 ft |

The model results revealed that the actual subsurface geology is realistically represented by the River Geology. The model was a reasonable representation of the observed hydrogeological system and provided a flow path for the flood wave to the lower aquifer. When layer 3 had a greater hydraulic conductivity than layer 1, the intermediate well responded quickly to the change in river stage. The high hydraulic conductivity in the deeper aquifer was a fast flow path for the pressure wave created from the increased river stage. In addition, by increasing the specific storage in the lower aquifer, the calculated response closely matched the observed data. The combination of layer 3 having a higher hydraulic conductivity, a lower specific storage, and a discontinuous low-permeability layer resulted in a moderate upward gradient.

From this study we can conclude the following:

- 1) The Continuous Layer Model could not predict the observed upward gradient
- 2) The Discontinuous Layer Model could predict the observed upward gradient.

- 3) When the hydraulic conductivity of layer 3 was greater than layer 1, the intermediate well showed a greater response, therefore increasing the possibility of an upward gradient.
- 4) An upward gradient occurred without a low-permeability layer when the hydraulic conductivity of layer 3 was greater than layer 1.
- 5) An upward gradient always occurred when the clay layer was removed from under the river.
- 6) The upward gradient response was dependent on the proportion of low-permeability sediment to high -permeability sediment and the spatial distribution of these sediments.

7. RECOMMENDATIONS

The primary concerns for every model are data availability, accuracy and parameter information. The DLM could be improved with additional aquifer parameters, information on the spatial distribution of the low-permeability layer, and data on river stage and groundwater elevation data.

1) Obtain improved hydraulic conductivity estimates for the phreatic aquifer.

Hydrogeologic parameters used in the model were estimated from the CLM and from SSPA's analysis of the Highway 380 transect pump test. The pump test analyses estimated the hydraulic conductivities for the leaky-confined aquifer and the phreatic aquifer. The values for the leaky-confined aquifer were calculated from the measured drawdown. The values for the phreatic aquifer were estimated from simulations as described in Section 3.3. Since the pumping well was not in the phreatic aquifer, a direct calculation could not be made. A better hydraulic conductivity estimate could be calculated by conducting and analyzing a pump test in a shallow well.

2) Obtain additional information on the distribution of clays and low permeability sediments in layer 2 using additional piezometers and geophysical methods. The aquifer's response directly under the Rio Grande and LFCC and the spatial

distribution of the low-permeability layer below the river and the rest of the model domain is unknown. The installation of multi-depth piezometers below the river and drain would provide additional insight into the aquifer's behavior and specifically its response to additional flood events. Bore-hole sediments from the installed piezometers could also be analyzed and used to calculate the river-bed vertical hydraulic conductivity. Sediment analysis would also give insight into the spatial distribution of low-permeability sediments under the river. Additional cores and/or geophysical data would provide insight in the low-permeability layer distribution. This additional information could then be compared to the successful modeled geologies to determine which was the most realistic.

3) Additional river stage and water table elevation data during a flood event would increase our knowledge of the system. The September 2003 flood event destroyed the installed river gages, therefore there was no river stage data in the model domain. The only gage data value was from the USGS San Acacia gage, which is located upstream from the model domain. The San Acacia gage data was interpolated down the river to the model domain. The model could also be improved if multiple well data were used for comparison between the modeled well levels and the observed well levels. At the time of the flood event there was not an even spatial distribution of pressure transducers and the upward gradient aquifer response was only captured at one well location in the model domain.

4) Use hydrologic data from improved instrumentation. Currently, the USGS has installed two surface water gages in the Rio Grande, at the Escondida and Highway 380 transects. These additional gages will help in future modeling efforts. The pressure transducers have been redistributed for better coverage, creating an improved data network.

5) Improve instrumentation for model function. The model could be expanded north and south to include the whole San Acacia Reach and tested using future flood events. The additions would improve the model's ability to predict the observed aquifer response, and the current geologic interpretations and additional scenarios could be tested.

APPENDIX A: LOCATIONS

Well Locations

LOCID = Location Identification

SURVDATE = Survey Date

DDX = Longitude

DDY = Latitude

UTMX = Universal Transverse Mercator X-Coordinate

UTMY = Universal Transverse Mercator Y-Coordinate

MPELEV = Measuring Point Elevation (ft)

GSELEV = Ground Surface Elevation (ft)

| LOCID | SURVDATE | DDX | DDY | UTMX | UTMY | MPELEV | GSELEV |
|----------|------------|------------|----------|--------|---------|---------|---------|
| BRN-E01A | 10/17/2003 | -106.86971 | 34.00303 | 327327 | 3763873 | 4577.41 | 4575.92 |
| BRN-E01B | 10/17/2003 | -106.86971 | 34.00303 | 327327 | 3763873 | 4576.48 | 4575.92 |
| BRN-E01C | 10/17/2003 | -106.86971 | 34.00301 | 327327 | 3763871 | 4577.37 | 4575.91 |
| BRN-E02A | 10/17/2003 | -106.86897 | 34.00328 | 327396 | 3763899 | 4576.58 | 4575.3 |
| BRN-E03A | 10/17/2003 | -106.86621 | 34.00401 | 327652 | 3763976 | 4574.41 | 4573.47 |
| BRN-E03B | 10/17/2003 | -106.86622 | 34.00401 | 327651 | 3763976 | 4574.34 | 4573.47 |
| BRN-E04A | 10/17/2003 | -106.86099 | 34.00371 | 328134 | 3763934 | 4572.39 | 4571.08 |
| BRN-E04B | 10/17/2003 | -106.86099 | 34.0037 | 328134 | 3763932 | 4571.74 | 4571.08 |
| BRN-E05A | 10/17/2003 | -106.86457 | 33.99788 | 327791 | 3763293 | 4573.05 | 4572.1 |
| BRN-E05B | 10/17/2003 | -106.86457 | 33.99788 | 327791 | 3763293 | 4572.98 | 4572.1 |
| BRN-E06A | 10/17/2003 | -106.85887 | 33.99971 | 328322 | 3763486 | 4573.75 | 4572.71 |
| BRN-E06B | 10/17/2003 | -106.85887 | 33.99971 | 328322 | 3763486 | 4573.79 | 4572.71 |
| BRN-W01A | 10/17/2003 | -106.87711 | 34.00013 | 326638 | 3763564 | 4571.99 | 4570.9 |
| BRN-W01B | 10/17/2003 | -106.87711 | 34.00014 | 326638 | 3763565 | 4572.06 | 4570.9 |
| BRN-W02A | 10/17/2003 | -106.87319 | 34.00067 | 327001 | 3763617 | 4571.78 | 4570.95 |
| BRN-W03A | 10/17/2003 | -106.87202 | 34.00067 | 327109 | 3763615 | 4575.09 | 4574.31 |
| BRN-W03B | 10/17/2003 | -106.87202 | 34.00067 | 327109 | 3763615 | 4575.48 | 4574.31 |
| BRN-W04A | 10/17/2003 | -106.87146 | 34.00065 | 327161 | 3763612 | 4572.36 | 4571.22 |

| | | | | | | | |
|-----------|------------|------------|----------|--------|---------|---------|---------|
| BRN-W04B | 10/17/2003 | -106.87147 | 34.00065 | 327160 | 3763612 | 4572.51 | 4571.22 |
| BRN-W05A | 10/17/2003 | -106.87074 | 34.00074 | 327227 | 3763621 | 4576.62 | 4575.89 |
| BRN-W05B | 10/17/2003 | -106.87074 | 34.00074 | 327227 | 3763621 | 4576.24 | 4575.89 |
| ESC-E01A | 10/17/2003 | -106.88639 | 34.12036 | 326026 | 3776913 | 4618.44 | 4617.86 |
| ESC-E01B | 10/17/2003 | -106.88639 | 34.12036 | 326026 | 3776913 | 4618.42 | 4617.86 |
| ESC-E02A | 10/17/2003 | -106.88616 | 34.12037 | 326048 | 3776914 | 4619.17 | 4618.3 |
| ESC-E02B | 10/17/2003 | -106.88616 | 34.12037 | 326048 | 3776914 | 4619.15 | 4618.3 |
| ESC-E03A | 10/17/2003 | -106.88202 | 34.12028 | 326429 | 3776897 | 4611.58 | 4610.79 |
| ESC-E03B | 10/17/2003 | -106.88202 | 34.12028 | 326429 | 3776897 | 4611.47 | 4610.79 |
| ESC-E04A | 10/17/2003 | -106.88634 | 34.12036 | 326031 | 3776913 | 4619.06 | 4618.21 |
| ESC-E04B | 10/17/2003 | -106.88634 | 34.12036 | 326031 | 3776913 | 4618.99 | 4618.21 |
| ESC-E04C | 10/17/2003 | -106.88634 | 34.12036 | 326031 | 3776913 | 4618.91 | 4618.1 |
| ESC-E05EX | 10/17/2003 | -106.88635 | 34.12038 | 326030 | 3776915 | 4619.65 | 4618.93 |
| ESC-E06A | 10/17/2003 | -106.88632 | 34.12031 | 326033 | 3776907 | 4619.48 | 4618.53 |
| ESC-E06B | 10/17/2003 | -106.88632 | 34.12031 | 326033 | 3776907 | 4619.55 | 4618.53 |
| ESC-W01A | 10/17/2003 | -106.89148 | 34.11974 | 325556 | 3776853 | 4617.3 | 4616.32 |
| ESC-W01B | 10/17/2003 | -106.89148 | 34.11974 | 325556 | 3776853 | 4617.2 | 4616.32 |
| ESC-W02A | 10/17/2003 | -106.88998 | 34.12007 | 325695 | 3776887 | 4617.96 | 4616.89 |
| ESC-W03A | 10/17/2003 | -106.88923 | 34.12015 | 325764 | 3776894 | 4616.62 | 4615.45 |
| ESC-W03B | 10/17/2003 | -106.88924 | 34.12015 | 325763 | 3776894 | 4616.58 | 4615.45 |
| ESC-W04A | 10/17/2003 | -106.88876 | 34.12029 | 325808 | 3776909 | 4616.72 | 4615.58 |
| ESC-W04B | 10/17/2003 | -106.88876 | 34.12029 | 325808 | 3776909 | 4616.28 | 4615.58 |
| ESC-W05A | 10/17/2003 | -106.88756 | 34.12041 | 325919 | 3776920 | 4619.97 | 4618.05 |
| ESC-W05B | 10/17/2003 | -106.88756 | 34.12041 | 325919 | 3776920 | 4619.71 | 4618.05 |
| HWY-E01A | 10/17/2003 | -106.85053 | 33.92485 | 328942 | 3755171 | 4554.19 | 4553.67 |
| HWY-E01B | 10/17/2003 | -106.85053 | 33.92485 | 328942 | 3755171 | 4554.03 | 4553.67 |
| HWY-E02A | 10/17/2003 | -106.84978 | 33.92493 | 329012 | 3755178 | 4552.7 | 4552.06 |
| HWY-E03A | 10/17/2003 | -106.84657 | 33.92496 | 329308 | 3755176 | 4551.44 | 4551.11 |
| HWY-E03B | 10/17/2003 | -106.84657 | 33.92496 | 329308 | 3755176 | 4552.04 | 4551.11 |
| HWY-W02A | 10/17/2003 | -106.85761 | 33.92598 | 328290 | 3755308 | 4548.83 | 4548.06 |
| HWY-W02B | 10/17/2003 | -106.85761 | 33.92598 | 328290 | 3755308 | 4548.62 | 4548.06 |
| HWY-W03B | 10/17/2003 | -106.85376 | 33.92473 | 328643 | 3755163 | 4547.78 | 4547.23 |
| HWY-W04A | 10/17/2003 | -106.85306 | 33.92463 | 328708 | 3755151 | 4549.69 | 4549.29 |
| HWY-W04B | 10/17/2003 | -106.85306 | 33.92463 | 328708 | 3755151 | 4549.34 | 4549.29 |
| HWY-W05A | 10/17/2003 | -106.85239 | 33.92482 | 328770 | 3755171 | 4550.33 | 4550.05 |
| HWY-W05B | 10/17/2003 | -106.85239 | 33.92482 | 328770 | 3755171 | 4550.19 | 4550.05 |
| HWY-W06A | 10/17/2003 | -106.85185 | 33.9248 | 328820 | 3755167 | 4550.98 | 4550.05 |
| HWY-W06B | 10/17/2003 | -106.85185 | 33.9248 | 328820 | 3755167 | 4550.89 | 4550.05 |
| HWY-W07A | 10/17/2003 | -106.85207 | 33.9248 | 328800 | 3755168 | 4552.44 | 4551.47 |
| HWY-W07B | 10/17/2003 | -106.85207 | 33.9248 | 328800 | 3755168 | 4552.07 | 4551.47 |
| HWY-W07C | 10/17/2003 | -106.85207 | 33.92481 | 328800 | 3755169 | 4551.81 | 4551.49 |
| HWY-W08EX | 10/17/2003 | -106.85201 | 33.9248 | 328805 | 3755168 | 4552.45 | 4550.53 |
| HWY-W09A | 10/17/2003 | -106.85202 | 33.92479 | 328804 | 3755167 | 4550.65 | 4550.24 |
| HWY-W09B | 10/17/2003 | -106.85202 | 33.92479 | 328804 | 3755167 | 4550.99 | 4550.24 |
| HWY-W10A | 10/17/2003 | -106.85201 | 33.92497 | 328805 | 3755187 | 4552.1 | 4551.43 |
| HWY-W10B | 10/17/2003 | -106.85202 | 33.92496 | 328805 | 3755186 | 4552.24 | 4551.43 |
| HWY-W11A | 10/17/2003 | -106.85147 | 33.92478 | 328855 | 3755165 | 4556.93 | 4555.44 |
| HWY-W11B | 10/17/2003 | -106.85147 | 33.92478 | 328855 | 3755165 | 4556.12 | 4555.44 |
| SAC-E01A | 10/17/2003 | -106.89874 | 34.24556 | 325146 | 3790819 | 4661.53 | 4658.31 |

| | | | | | | | |
|-----------|------------|------------------|------------|--------|---------|---------|---------|
| SAC-E01B | 10/17/2003 | -106.89875 | 34.24556 | 325145 | 3790819 | 4661.16 | 4658.28 |
| SAC-E02A | 10/17/2003 | -106.89777 | 34.24549 | 325235 | 3790809 | 4666.48 | 4663.7 |
| SAC-E03A | 10/17/2003 | -106.89494 | 34.24531 | 325495 | 3790784 | 4667.34 | 4664.57 |
| SAC-E03B | 10/17/2003 | -106.89494 | 34.24531 | 325495 | 3790784 | 4667.3 | 4664.53 |
| SAC-W01A | 5/1/2004 | - 106.9098878 | 34.2484235 | 324129 | 3791351 | 4663.29 | 4662.32 |
| SAC-W01B | 10/17/2003 | -106.90989 | 34.24842 | 324125 | 3791155 | 4663.2 | 4662.37 |
| SAC-W01B | 5/1/2004 | - 106.9098869 | 34.2484229 | 324129 | 3791351 | 4663.17 | 4662.32 |
| SAC-W02A | 10/17/2003 | -106.9044 | 34.24646 | 324626 | 3790928 | 4677.58 | 4677.1 |
| SAC-W02B | 10/17/2003 | -106.9044 | 34.24646 | 324626 | 3790928 | 4677.74 | 4677.1 |
| SAC-W03A | 10/17/2003 | -106.90272 | 34.24564 | 324779 | 3790834 | 4664.18 | 4663.34 |
| SAC-W03B | 10/17/2003 | -106.90273 | 34.24564 | 324779 | 3790834 | 4664.15 | 4663.34 |
| SAC-W04A | 10/17/2003 | -106.90099 | 34.24553 | 324939 | 3790819 | 4662.69 | 4662.36 |
| SAC-W04B | 10/17/2003 | -106.90099 | 34.24553 | 324939 | 3790819 | 4662.36 | 4662.36 |
| SAC-W05A | 10/17/2003 | -106.90048 | 34.24549 | 324985 | 3790814 | 4664.37 | 4663.35 |
| SAC-W05B | 10/17/2003 | -106.90048 | 34.24549 | 324985 | 3790814 | 4664.15 | 4663.35 |
| SAC-W06A | 10/17/2003 | -106.89997 | 34.24543 | 325032 | 3790806 | 4658.3 | 4655.16 |
| SAC-W07A | 10/17/2003 | -106.90428 | 34.2464 | 324637 | 3790921 | 4678.01 | 4677.46 |
| SAC-W07B | 10/17/2003 | -106.90427 | 34.2464 | 324638 | 3790921 | 4678.16 | 4677.46 |
| SAC-W08EX | 10/17/2003 | -106.90427 | 34.24638 | 324638 | 3790919 | 4678.75 | 4677.31 |
| SAC-W09A | 10/17/2003 | -106.90419 | 34.24636 | 324646 | 3790917 | 4678.52 | 4677.87 |
| SAC-W09B | 10/17/2003 | -106.90419 | 34.24636 | 324646 | 3790917 | 4678.61 | 4677.87 |
| SAC-W09C | 10/17/2003 | -106.90419 | 34.24635 | 324646 | 3790916 | 4679.11 | 4677.87 |
| SAC-W10B | 5/1/2004 | - 106.9042158 | 34.2463848 | 324647 | 3791115 | 4679.99 | |
| SBB-E01A | 10/17/2003 | -106.91194 | 33.72136 | 322845 | 3732709 | 4499.56 | 4498.81 |
| SBB-E01B | 10/17/2003 | -106.91194 | 33.72136 | 322845 | 3732709 | 4499.84 | 4498.81 |
| SBB-E02A | 10/17/2003 | -106.91158 | 33.72082 | 322878 | 3732648 | 4499.44 | 4498.26 |
| SBB-E02B | 10/17/2003 | -106.91158 | 33.72082 | 322878 | 3732648 | 4499.67 | 4498.26 |
| SBB-E03A | 10/17/2003 | -106.91032 | 33.71886 | 322990 | 3732429 | 4497.09 | 4495.48 |
| SBB-E03B | 10/17/2003 | -106.91032 | 33.71886 | 322990 | 3732429 | 4496.79 | 4495.48 |
| SBB-W01A | 10/17/2003 | -106.92082 | 33.72554 | 322031 | 3733188 | 4484.8 | 4484.47 |
| SBB-W01B | 10/17/2003 | -106.92082 | 33.72554 | 322031 | 3733188 | 4484.96 | 4484.47 |
| SBB-W02A | 10/17/2003 | -106.91703 | 33.7239 | 322379 | 3732999 | 4488.33 | 4487.96 |
| SBB-W02B | 10/17/2003 | -106.91703 | 33.7239 | 322379 | 3732999 | 4488.43 | 4487.96 |
| SBB-W03A | 10/17/2003 | -106.91515 | 33.72339 | 322552 | 3732939 | 4489.68 | 4488.81 |
| SBB-W03B | 10/17/2003 | -106.91515 | 33.72339 | 322552 | 3732939 | 4489.76 | 4488.81 |
| SBB-W04A | 10/17/2003 | -106.91457 | 33.72332 | 322606 | 3732931 | 4495.08 | 4493.86 |
| SBB-W04B | 10/17/2003 | -106.91457 | 33.72332 | 322606 | 3732931 | 4495.07 | 4493.86 |
| SBB-W05A | 10/17/2003 | -106.91243 | 33.722 | 322801 | 3732781 | 4499.51 | 4498.66 |
| SBB-W06A | 10/17/2003 | -106.91721 | 33.72401 | 322362 | 3733012 | 4488.71 | 4488.1 |
| SBB-W06B | 10/17/2003 | -106.91721 | 33.72401 | 322362 | 3733012 | 4488.55 | 4488.1 |
| SBB-W07B | 10/17/2003 | -106.91709 | 33.72394 | 322373 | 3733004 | 4489 | 4488.19 |
| SBB-W07C | 10/17/2003 | -106.91709 | 33.72394 | 322373 | 3733004 | 4489.93 | 4488.19 |
| SBB-W08EX | 10/17/2003 | -106.91707 | 33.72392 | 322375 | 3733002 | 4489.82 | 4487.9 |
| SFC-W01A | 10/17/2003 | -107.02752 | 33.61727 | 311908 | 3721370 | 4464.06 | 4462.68 |
| SFC-W01B | 10/17/2003 | -107.02752 | 33.61727 | 311908 | 3721370 | 4463.07 | 4462.68 |
| SFC-W02A | 10/17/2003 | -107.02216 | 33.61424 | 312399 | 3721024 | 4458.48 | 4457.58 |

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|------------|------------|--------------|------------|------------|-----------|---------|---------|
| SFC-W02B | 10/17/2003 | -107.02216 | 33.61424 | 312399 | 3721024 | 4458.42 | 4457.58 |
| SFC-W03A | 10/17/2003 | -107.01911 | 33.61311 | 312679 | 3720894 | 4458.72 | 4458.08 |
| SFC-W03B | 10/17/2003 | -107.01911 | 33.61311 | 312679 | 3720894 | 4458.44 | 4458.08 |
| SFC-W04A | 10/17/2003 | -107.01808 | 33.61258 | 312774 | 3720833 | 4457.82 | 4456.64 |
| SFC-W04B | 10/17/2003 | -107.01808 | 33.61258 | 312774 | 3720833 | 4457.92 | 4456.64 |
| SFC-W04C | 10/17/2003 | -107.01806 | 33.61258 | 312775 | 3720833 | 4458.05 | 4456.88 |
| SFC-W05A | 10/17/2003 | -107.0176 | 33.61239 | 312818 | 3720811 | 4458.03 | 4457.17 |
| SFC-W05B | 10/17/2003 | -107.01761 | 33.61239 | 312817 | 3720811 | 4458.37 | 4457.17 |
| SFC-W06A | 10/17/2003 | -107.017 | 33.61204 | 312873 | 3720771 | 4467.78 | 4464.94 |
| SMC-W01A | 10/17/2003 | -107.00248 | 33.68503 | 314377 | 3728839 | 4469.28 | 4468.71 |
| SMC-W01B | 10/17/2003 | -107.00248 | 33.68503 | 314377 | 3728839 | 4469.68 | 4468.71 |
| SMC-W02A | 10/17/2003 | -107.00106 | 33.68201 | 314502 | 3728502 | 4472.49 | 4471.29 |
| SMC-W03A | 10/17/2003 | -107.0003 | 33.6817 | 314572 | 3728466 | 4474.44 | 4473.72 |
| SMC-W03B | 10/17/2003 | -107.0003 | 33.6817 | 314572 | 3728466 | 4474.31 | 4473.72 |
| SMC-W04A | 10/17/2003 | -106.99986 | 33.6814 | 314612 | 3728432 | 4471.49 | 4470.91 |
| SMC-W04A | 5/1/2004 | -106.9998642 | 33.681399 | 314616 | 3728626 | 4471.89 | 4470.68 |
| SMC-W04B | 10/17/2003 | -106.99986 | 33.6814 | 314612 | 3728432 | 4471.62 | 4470.91 |
| SMC-W04B | 5/1/2004 | -106.9998655 | 33.6813996 | 314616 | 3728626 | 4471.69 | 4470.68 |
| SMC-W05A | 10/17/2003 | -106.99785 | 33.67948 | 314794 | 3728215 | 4478.14 | 4476.65 |
| SMC-W05B | 10/17/2003 | -106.99785 | 33.67948 | 314794 | 3728215 | 4478.22 | 4476.65 |
| SMC-W06A | 10/17/2003 | -106.99752 | 33.67924 | 314824 | 3728188 | 4477.48 | 4477.05 |
| SMC-W06B | 10/17/2003 | -106.99752 | 33.67924 | 314824 | 3728188 | 4477.6 | 4477.05 |
| SMC-W07A | 10/17/2003 | -106.99774 | 33.67941 | 314804 | 3728207 | 4478.07 | 4476.63 |
| SMC-W07B | 10/17/2003 | -106.99775 | 33.67941 | 314803 | 3728207 | 4478.27 | 4476.63 |
| SMC-W07C | 10/17/2003 | -106.99776 | 33.6794 | 314802 | 3728206 | 4478.01 | 4476.8 |
| SMC-W08EX | 10/17/2003 | -106.99773 | 33.6794 | 314805 | 3728206 | 4478.42 | 4476.79 |
| SMC-W09A | 10/17/2003 | -106.99771 | 33.67937 | 314807 | 3728203 | 4478.11 | 4476.57 |
| SMC-W09B | 10/17/2003 | -106.99771 | 33.67937 | 314807 | 3728203 | 4478.12 | 4476.57 |
| W-109.49-2 | 10/5/2001 | -106.8875008 | 34.1829329 | 326096.274 | 3783847.4 | 4638.41 | 4637.58 |
| W-109.49-3 | 10/5/2001 | -106.8890802 | 34.1829231 | 325950.721 | 3783849 | 4638.79 | 4637.23 |
| W-109.49-4 | 10/5/2001 | -106.88977 | 34.18312 | 325887.53 | 3783872 | 4644.4 | 4643.3 |
| W-109.49-5 | 10/5/2001 | -106.88928 | 34.1826 | 325931.623 | 3783813.5 | 4638.3 | 4636.94 |
| W-68.72-1 | 10/6/2001 | -106.99219 | 33.68203 | 315368.57 | 3728479.9 | 4479.16 | 4477.53 |
| W-68.72-3 | 10/6/2001 | -106.99475 | 33.68701 | 315141.896 | 3729036.8 | 4472.74 | 4470.91 |
| W-68.72-4 | 10/6/2001 | -106.99522 | 33.68747 | 315099.309 | 3729088.6 | 4472.15 | 4470.45 |
| W-68.72-5 | 10/6/2001 | -106.99479 | 33.68705 | 315138.273 | 3729041.3 | 4471.19 | 4470.15 |
| W-68.72-6 | 10/6/2001 | -106.99481 | 33.68703 | 315136.376 | 3729039.1 | 4471.56 | 4470.24 |
| W-83.98-1 | 10/5/2001 | -106.83467 | 33.87012 | 330343.751 | 3749067.7 | 4539.06 | 4537.94 |
| W-83.98-3 | 10/5/2001 | -106.85129 | 33.87042 | 328806.897 | 3749128.5 | 4534.42 | 4533.04 |
| W-83.98-4 | 10/5/2001 | -106.85371 | 33.87102 | 328584.23 | 3749199.1 | 4534.26 | 4532.91 |

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|-----------|-----------|--------------|------------|------------|-----------|-----------|------------|
| | | | | 3 | | | |
| W-99.59-1 | 10/5/2001 | -106.87431 | 34.06794 | 327077.929 | 3771072 | 4599.2 | 4598.13 |
| W-99.59-3 | 10/5/2001 | -106.87428 | 34.06801 | 327080.84 | 3771079.7 | 4599.84 | 4598.38 |
| W-OMW-3 | 8/12/2002 | -106.9049737 | 34.0729595 | 324107.6 | 3763589.6 | 4613.0567 | 4611.28666 |
| W-OMW-9 | 5/1/2004 | -106.9075086 | 34.0888614 | 324017 | 3773651 | 4656.93 | 4654.59 |
| W-Perini1 | 6/13/2002 | -106.8668641 | 33.935885 | 327627.688 | 3763524.9 | 4549.992 | 4549.207 |

Surface Water Gage Locations

LOCID = Location Identification

UTMX = Universal Transverse Mercator X-Coordinate

UTMY = Universal Transverse Mercator Y-Coordinate

DDX = Longitude

DDY = Latitude

DATBOTM = The date the staff gage was surveyed.

SGREFELEV = Staff Gage Reference Elevation (ft)

SGNO = Staff Gage Number

| LOCID | UTMX | UTMY | DDX | DDY | DATBOTM | SGREFELEV | SGNO |
|----------|----------|---------|----------|----------|----------|-----------|------|
| BRN-SG01 | 327137.2 | 3763600 | -106.872 | 34.00054 | | 4564.47 | 6 |
| BRN-SG01 | 327144 | 3763801 | -106.872 | 34.00059 | 6/1/2004 | 4560.53 | 3 |
| BRN-SG02 | 327528.6 | 3763288 | -106.868 | 33.99785 | | 4576.3 | 6 |
| BRN-SG02 | 327296 | 3763853 | -106.87 | 34.00109 | 5/1/2004 | 4576.57 | 6 |
| BRN-SG03 | 327574 | 3764699 | -106.867 | 34.01052 | | 4578.76 | 6 |
| BRN-SG05 | 326986.4 | 3763889 | -106.873 | 34.00312 | | 4575.62 | 3 |
| ESC-SG01 | 325791.1 | 3776911 | -106.889 | 34.1203 | | 4610.55 | 6 |
| ESC-SG02 | 325949.7 | 3776909 | -106.887 | 34.12031 | | 4614.81 | 6 |
| ESC-SG03 | 326259.2 | 3776931 | -106.884 | 34.12056 | | 4608.16 | 3 |
| HWY-SG01 | 328726.8 | 3755128 | -106.853 | 33.92443 | | 4543.98 | 6 |
| HWY-SG02 | 328888.2 | 3755109 | -106.851 | 33.92428 | | 4554.2 | 6 |
| HWY-SG03 | 328259.5 | 3755317 | -106.858 | 33.92606 | | 4547.53 | 6 |
| NBB-SG01 | 328808.1 | 3749429 | -106.851 | 33.87307 | | 4534.59 | 6 |
| NBB-SG02 | 328947.8 | 3749377 | -106.849 | 33.87262 | | 4540.17 | 6 |
| SAC-SG01 | 324961.6 | 3790821 | -106.901 | 34.24555 | | 4653.72 | 6 |
| SAC-SG01 | 324967 | 3791007 | -106.901 | 34.24546 | 6/1/2004 | 4649.51 | 3 |

| | | | | | | | |
|----------|----------|---------|----------|----------|------------|---------|---|
| SAC-SG02 | 325114.6 | 3790825 | -106.899 | 34.24561 | 10/17/2003 | 4657.63 | 6 |
| SAC-SG02 | 325134 | 3791079 | -106.899 | 34.24614 | 5/1/2004 | 4655.84 | 6 |
| SAC-SG03 | 324089.9 | 3791108 | -106.91 | 34.24799 | | 4659.79 | 6 |
| SBB-SG01 | 322570.2 | 3732915 | -106.915 | 33.72317 | | 4483.17 | 6 |
| SBB-SG02 | 314596.3 | 3728441 | -107 | 33.68148 | | | |
| SFC-SG01 | 312784.2 | 3720806 | -107.018 | 33.61234 | | 4459.53 | 6 |
| SFC-SG02 | 312906.7 | 3720757 | -107.017 | 33.61192 | | 4467.81 | 6 |
| SMC-SG01 | 314596.3 | 3728441 | -107 | 33.68148 | | 4468.51 | 6 |
| SMC-SG02 | 314851.5 | 3728161 | -106.997 | 33.679 | | 4481.4 | 6 |
| SMC-SG02 | 314852 | 3728353 | -106.997 | 33.67898 | 5/1/2004 | 4482.42 | 6 |
| SMC-SG03 | 314936 | 3728111 | -106.996 | 33.67682 | 5/1/2004 | 4471.26 | 6 |

Pressure Transducer Locations

SN = Serial Number

TROLL SN = Mini Troll Serial Number

LOCATION = Mini Troll Location

Cable SN = Cable Serial Number

| NUMBER | TROLL SN | LOCATION | Cable SN | Cable Length | TROLL TYPE |
|--------|--------------|----------|----------|--------------|------------|
| 1 | 10380 | SMC-W01A | 78976 | 25 Ft | Standard |
| 2 | 10410 | SMC-W01B | 78234 | 25 Ft | Standard |
| 3 | 10381 | SMC-W04B | 79157 | 25 Ft | Standard |
| 4 | 9679 | SMC-W07A | 78211 | 25 Ft | Standard |
| 5 | 10483 | SMC-W07B | 78213 | 25 Ft | Standard |
| 6 | 9524 | SMC-W07C | 79003 | 50 Ft | Standard |
| 7 | not recorded | SBB-SG01 | Cut | Cut | Standard |
| 8 | 10312 | SBB-W04B | 78550 | 25 FT | Standard |
| 9 | 9200 | SBB-E01A | 88206 | 25 Ft | PRO |
| 10 | 9799 | SBB-E02A | 78228 | 25 Ft | Standard |
| 11 | 9782 | SBB-E02B | 78245 | 25 Ft | Standard |
| 12 | 10260 | SBB-E03A | 78226 | 25 Ft | Standard |
| 13 | 9150 | SBB-E03B | 88207 | 25 Ft | Standard |
| 14 | 10361 | BRN-W05A | 78253 | 25 FT | Standard |
| 15 | 10383 | BRN-W05B | 78984 | 25 Ft | Standard |
| 16 | 9257 | BRN-SG01 | Cut | Cut | Standard |
| 17 | 9231 | BRN-E01A | 90960 | 25 FT | Standard |
| 18 | 10348 | BRN-E01B | 90959 | 25 FT | Standard |
| 19 | 10390 | BRN-E01C | 79151 | 25 FT | Standard |
| 20 | 9155 | SAC-SG01 | 79166 | Cut | Standard |
| 21 | 10355 | SAC-SG03 | Cut | Cut | Standard |
| 22 | 10214 | SAC-W01B | 98210 | 25 FT | Standard |

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|----|--------------|----------|-------|-------|----------|
| 23 | 10507 | SAC-W09A | 78767 | 50 FT | Standard |
| 24 | 10071 | SAC-W09B | 78766 | 50 FT | Standard |
| 25 | 10196 | SAC-W09C | 78835 | 50 FT | Standard |
| 26 | 9158 | SAC-W04A | 90958 | 25 FT | Standard |
| 27 | 9215 | SAC-W04B | 79153 | 25 FT | Standard |
| 28 | 10352 | SAC-E01A | 78744 | 25 FT | Standard |
| 29 | 10140 | SAC-E01B | 78973 | 25 FT | Standard |
| 30 | 10397 | SAC-E02A | 78972 | 25 FT | Standard |
| 31 | 10408 | SAC-E03A | 79152 | 25 FT | Standard |
| 32 | 10208 | SAC-E03B | 78974 | 25 FT | Standard |
| 33 | 10388 | ESC-W02A | 91860 | 25 FT | Standard |
| 34 | 10402 | ESC-W03A | 91861 | 15 FT | Standard |
| 35 | 10498 | ESC-W04A | 78983 | 25 FT | Standard |
| 36 | 9225 | ESC-SG01 | Cut | Cut | Standard |
| 37 | 9156 | ESC-W05A | 79175 | 25 FT | Standard |
| 38 | 10360 | ESC-W05B | 78214 | 25 FT | PRO |
| 39 | 17189 | ESC-E01A | 78251 | 25 FT | PRO |
| 40 | 10362 | ESC-E04A | 78229 | 25 FT | Standard |
| 41 | 9533 | ESC-E04B | 78247 | 25 FT | Standard |
| 42 | 10411 | ESC-E04C | 78557 | 50 FT | Standard |
| 43 | 9217 | ESC-E02A | 78247 | 25 FT | Standard |
| 44 | not recorded | ESC-SG03 | Cut | Cut | Standard |
| 45 | 10353 | ESC-E03B | 78248 | 25 FT | Standard |
| 46 | 10374 | HWY-W04A | 78975 | 25 FT | Standard |
| 47 | 9243 | HWY-SG01 | Cut | Cut | Standard |
| 48 | 10263 | HWY-W07A | 78252 | 25 FT | Standard |
| 49 | 10252 | HWY-W07B | 78834 | 50 FT | Standard |
| 50 | 10259 | HWY-W07C | 79004 | 50 FT | Standard |
| 51 | 10212 | HWY-W11A | 78246 | 25 FT | Standard |
| 52 | 10403 | HWY-W11B | 78986 | 25 FT | Standard |
| 53 | 9592 | HWY-E01A | 78212 | 25 FT | Standard |
| 54 | 9166 | HWY-E01B | 78212 | 25 FT | Standard |
| 55 | 9237 | HWY-E02A | 78247 | 25 FT | Standard |
| 56 | 9187 | HWY-E03A | 78122 | 25 FT | Standard |
| 57 | 10197 | HWY-E03B | 78832 | 25 FT | Standard |
| 58 | 10358 | SFC-W01A | 79177 | 15 FT | Standard |
| 59 | 9818 | SFC-W02A | 78975 | 25 FT | Standard |
| 60 | 10393 | SFC-W02B | 78982 | 25 FT | Standard |
| 61 | 10548 | SFC-W04A | 79183 | 15 FT | Standard |
| 62 | 10487 | SFC-W04B | 79005 | 50 FT | Standard |
| 63 | 10289 | SFC-W04C | 78770 | 50 FT | Standard |
| 64 | 10315 | SFC-SG01 | 79167 | Cut | Standard |
| 65 | 10303 | SFC-W05A | 78470 | 25 FT | Standard |

APPENDIX B: SEPTEMBER 2003 FLOOD EVENT DATA

San Acacia Transect Data

LOCID = Location Identification

Date and Time = Month/Day/Year Time in Military Time

WATELEV = Measured Water Level Elevation (ft)

DTW = Calculated Depth To Water (ft)

| LOCID | Date and Time | WATELEV | DTW |
|----------|---------------|----------|--------|
| SAC-E01A | 9/1/03 0:00 | 4649.551 | 11.979 |
| SAC-E01A | 9/1/03 1:00 | 4649.617 | 11.913 |
| SAC-E01A | 9/1/03 2:00 | 4649.657 | 11.873 |
| SAC-E01A | 9/1/03 3:00 | 4649.686 | 11.844 |
| SAC-E01A | 9/1/03 4:00 | 4649.705 | 11.825 |
| SAC-E01A | 9/1/03 5:00 | 4649.717 | 11.813 |
| SAC-E01A | 9/1/03 6:00 | 4649.725 | 11.805 |
| SAC-E01A | 9/1/03 7:00 | 4649.731 | 11.799 |
| SAC-E01A | 9/1/03 8:00 | 4649.733 | 11.797 |
| SAC-E01A | 9/1/03 9:00 | 4649.733 | 11.797 |
| SAC-E01A | 9/1/03 10:00 | 4649.727 | 11.803 |
| SAC-E01A | 9/1/03 11:00 | 4649.718 | 11.812 |
| SAC-E01A | 9/1/03 12:00 | 4649.708 | 11.822 |
| SAC-E01A | 9/1/03 13:00 | 4649.694 | 11.836 |
| SAC-E01A | 9/1/03 14:00 | 4649.68 | 11.85 |
| SAC-E01A | 9/1/03 15:00 | 4649.667 | 11.863 |
| SAC-E01A | 9/1/03 16:00 | 4649.654 | 11.876 |
| SAC-E01A | 9/1/03 17:00 | 4649.645 | 11.885 |
| SAC-E01A | 9/1/03 18:00 | 4649.637 | 11.893 |
| SAC-E01A | 9/1/03 19:00 | 4649.64 | 11.89 |
| SAC-E01A | 9/1/03 20:00 | 4649.653 | 11.877 |
| SAC-E01A | 9/1/03 21:00 | 4649.661 | 11.869 |
| SAC-E01A | 9/1/03 22:00 | 4649.678 | 11.852 |
| SAC-E01A | 9/1/03 23:00 | 4649.69 | 11.84 |
| SAC-E01A | 9/2/03 0:00 | 4649.703 | 11.827 |

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|----------|--------------|----------|--------|
| SAC-E01A | 9/2/03 1:00 | 4649.712 | 11.818 |
| SAC-E01A | 9/2/03 2:00 | 4649.72 | 11.81 |
| SAC-E01A | 9/2/03 3:00 | 4649.724 | 11.806 |
| SAC-E01A | 9/2/03 4:00 | 4649.726 | 11.804 |
| SAC-E01A | 9/2/03 5:00 | 4649.73 | 11.8 |
| SAC-E01A | 9/2/03 6:00 | 4649.732 | 11.798 |
| SAC-E01A | 9/2/03 7:00 | 4649.735 | 11.795 |
| SAC-E01A | 9/2/03 8:00 | 4649.739 | 11.791 |
| SAC-E01A | 9/2/03 9:00 | 4649.744 | 11.786 |
| SAC-E01A | 9/2/03 10:00 | 4649.752 | 11.778 |
| SAC-E01A | 9/2/03 11:00 | 4649.756 | 11.774 |
| SAC-E01A | 9/2/03 12:00 | 4649.765 | 11.765 |
| SAC-E01A | 9/2/03 13:00 | 4649.771 | 11.759 |
| SAC-E01A | 9/2/03 14:00 | 4649.777 | 11.753 |
| SAC-E01A | 9/2/03 15:00 | 4649.783 | 11.747 |
| SAC-E01A | 9/2/03 16:00 | 4649.79 | 11.74 |
| SAC-E01A | 9/2/03 17:00 | 4649.796 | 11.734 |
| SAC-E01A | 9/2/03 18:00 | 4649.804 | 11.726 |
| SAC-E01A | 9/2/03 19:00 | 4649.812 | 11.718 |
| SAC-E01A | 9/2/03 20:00 | 4649.821 | 11.709 |
| SAC-E01A | 9/2/03 21:00 | 4649.829 | 11.701 |
| SAC-E01A | 9/2/03 22:00 | 4649.837 | 11.693 |
| SAC-E01A | 9/2/03 23:00 | 4649.846 | 11.684 |
| SAC-E01A | 9/3/03 0:00 | 4649.854 | 11.676 |
| SAC-E01A | 9/3/03 1:00 | 4649.862 | 11.668 |
| SAC-E01A | 9/3/03 2:00 | 4649.87 | 11.66 |
| SAC-E01A | 9/3/03 3:00 | 4649.879 | 11.651 |
| SAC-E01A | 9/3/03 4:00 | 4649.887 | 11.643 |
| SAC-E01A | 9/3/03 5:00 | 4649.895 | 11.635 |
| SAC-E01A | 9/3/03 6:00 | 4649.903 | 11.627 |
| SAC-E01A | 9/3/03 7:00 | 4649.909 | 11.621 |
| SAC-E01A | 9/3/03 8:00 | 4649.916 | 11.614 |
| SAC-E01A | 9/3/03 9:00 | 4649.919 | 11.611 |
| SAC-E01A | 9/3/03 10:00 | 4649.924 | 11.606 |
| SAC-E01A | 9/3/03 11:00 | 4649.928 | 11.602 |
| SAC-E01A | 9/3/03 12:00 | 4649.936 | 11.594 |
| SAC-E01A | 9/3/03 13:00 | 4649.94 | 11.59 |
| SAC-E01A | 9/3/03 14:00 | 4649.944 | 11.586 |
| SAC-E01A | 9/3/03 15:00 | 4649.951 | 11.579 |
| SAC-E01A | 9/3/03 16:00 | 4649.957 | 11.573 |
| SAC-E01A | 9/3/03 17:00 | 4649.963 | 11.567 |
| SAC-E01A | 9/3/03 18:00 | 4649.971 | 11.559 |
| SAC-E01A | 9/3/03 19:00 | 4649.984 | 11.546 |
| SAC-E01A | 9/3/03 20:00 | 4650.003 | 11.527 |
| SAC-E01A | 9/3/03 21:00 | 4650.019 | 11.511 |
| SAC-E01A | 9/3/03 22:00 | 4650.031 | 11.499 |
| SAC-E01A | 9/3/03 23:00 | 4650.042 | 11.488 |
| SAC-E01A | 9/4/03 0:00 | 4650.05 | 11.48 |

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|----------|--------------|----------|--------|
| SAC-E01A | 9/4/03 1:00 | 4650.05 | 11.48 |
| SAC-E01A | 9/4/03 2:00 | 4650.049 | 11.481 |
| SAC-E01A | 9/4/03 3:00 | 4650.048 | 11.482 |
| SAC-E01A | 9/4/03 4:00 | 4650.039 | 11.491 |
| SAC-E01A | 9/4/03 5:00 | 4650.033 | 11.497 |
| SAC-E01A | 9/4/03 6:00 | 4650.026 | 11.504 |
| SAC-E01A | 9/4/03 7:00 | 4650.019 | 11.511 |
| SAC-E01A | 9/4/03 8:00 | 4650.007 | 11.523 |
| SAC-E01A | 9/4/03 9:00 | 4649.996 | 11.534 |
| SAC-E01A | 9/4/03 10:00 | 4649.985 | 11.545 |
| SAC-E01A | 9/4/03 11:00 | 4649.974 | 11.556 |
| SAC-E01A | 9/4/03 12:00 | 4649.963 | 11.567 |
| SAC-E01A | 9/4/03 13:00 | 4649.95 | 11.58 |
| SAC-E01A | 9/4/03 14:00 | 4649.939 | 11.591 |
| SAC-E01A | 9/4/03 15:00 | 4649.94 | 11.59 |
| SAC-E01A | 9/4/03 16:00 | 4649.935 | 11.595 |
| SAC-E01A | 9/4/03 17:00 | 4649.922 | 11.608 |
| SAC-E01A | 9/4/03 18:00 | 4649.914 | 11.616 |
| SAC-E01A | 9/4/03 19:00 | 4649.905 | 11.625 |
| SAC-E01A | 9/4/03 20:00 | 4649.899 | 11.631 |
| SAC-E01A | 9/4/03 21:00 | 4649.888 | 11.642 |
| SAC-E01A | 9/4/03 22:00 | 4649.88 | 11.65 |
| SAC-E01A | 9/4/03 23:00 | 4649.873 | 11.657 |
| SAC-E01A | 9/5/03 0:00 | 4649.863 | 11.667 |
| SAC-E01A | 9/5/03 1:00 | 4649.857 | 11.673 |
| SAC-E01A | 9/5/03 2:00 | 4649.848 | 11.682 |
| SAC-E01A | 9/5/03 3:00 | 4649.84 | 11.69 |
| SAC-E01A | 9/5/03 4:00 | 4649.833 | 11.697 |
| SAC-E01A | 9/5/03 5:00 | 4649.825 | 11.705 |
| SAC-E01A | 9/5/03 6:00 | 4649.815 | 11.715 |
| SAC-E01A | 9/5/03 7:00 | 4649.809 | 11.721 |
| SAC-E01A | 9/5/03 8:00 | 4649.802 | 11.728 |
| SAC-E01A | 9/5/03 9:00 | 4649.794 | 11.736 |
| SAC-E01A | 9/5/03 10:00 | 4649.786 | 11.744 |
| SAC-E01A | 9/5/03 11:00 | 4649.778 | 11.752 |
| SAC-E01A | 9/5/03 12:00 | 4649.769 | 11.761 |
| SAC-E01A | 9/5/03 13:00 | 4649.761 | 11.769 |
| SAC-E01A | 9/5/03 14:00 | 4649.753 | 11.777 |
| SAC-E01A | 9/5/03 15:00 | 4649.745 | 11.785 |
| SAC-E01A | 9/5/03 16:00 | 4649.745 | 11.785 |
| SAC-E01A | 9/5/03 17:00 | 4649.741 | 11.789 |
| SAC-E01A | 9/5/03 18:00 | 4649.736 | 11.794 |
| SAC-E01A | 9/5/03 19:00 | 4649.732 | 11.798 |
| SAC-E01A | 9/5/03 20:00 | 4649.728 | 11.802 |
| SAC-E01A | 9/5/03 21:00 | 4649.722 | 11.808 |
| SAC-E01A | 9/5/03 22:00 | 4649.718 | 11.812 |
| SAC-E01A | 9/5/03 23:00 | 4649.716 | 11.814 |
| SAC-E01A | 9/6/03 0:00 | 4649.71 | 11.82 |

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|----------|--------------|----------|--------|
| SAC-E01A | 9/6/03 1:00 | 4649.708 | 11.822 |
| SAC-E01A | 9/6/03 2:00 | 4649.704 | 11.826 |
| SAC-E01A | 9/6/03 3:00 | 4649.699 | 11.831 |
| SAC-E01A | 9/6/03 4:00 | 4649.697 | 11.833 |
| SAC-E01A | 9/6/03 5:00 | 4649.693 | 11.837 |
| SAC-E01A | 9/6/03 6:00 | 4649.689 | 11.841 |
| SAC-E01A | 9/6/03 7:00 | 4649.687 | 11.843 |
| SAC-E01A | 9/6/03 8:00 | 4649.685 | 11.845 |
| SAC-E01A | 9/6/03 9:00 | 4649.679 | 11.851 |
| SAC-E01A | 9/6/03 10:00 | 4649.675 | 11.855 |
| SAC-E01A | 9/6/03 11:00 | 4649.67 | 11.86 |
| SAC-E01A | 9/6/03 12:00 | 4649.666 | 11.864 |
| SAC-E01A | 9/6/03 13:00 | 4649.662 | 11.868 |
| SAC-E01A | 9/6/03 14:00 | 4649.658 | 11.872 |
| SAC-E01A | 9/6/03 15:00 | 4649.656 | 11.874 |
| SAC-E01A | 9/6/03 16:00 | 4649.655 | 11.875 |
| SAC-E01A | 9/6/03 17:00 | 4649.658 | 11.872 |
| SAC-E01A | 9/6/03 18:00 | 4649.66 | 11.87 |
| SAC-E01A | 9/6/03 19:00 | 4649.658 | 11.872 |
| SAC-E01A | 9/6/03 20:00 | 4649.655 | 11.875 |
| SAC-E01A | 9/6/03 21:00 | 4649.653 | 11.877 |
| SAC-E01A | 9/6/03 22:00 | 4649.653 | 11.877 |
| SAC-E01A | 9/6/03 23:00 | 4649.651 | 11.879 |
| SAC-E01A | 9/7/03 0:00 | 4649.654 | 11.876 |
| SAC-E01A | 9/7/03 1:00 | 4649.66 | 11.87 |
| SAC-E01A | 9/7/03 2:00 | 4649.665 | 11.865 |
| SAC-E01A | 9/7/03 3:00 | 4649.667 | 11.863 |
| SAC-E01A | 9/7/03 4:00 | 4649.671 | 11.859 |
| SAC-E01A | 9/7/03 5:00 | 4649.725 | 11.805 |
| SAC-E01A | 9/7/03 6:00 | 4649.78 | 11.75 |
| SAC-E01A | 9/7/03 7:00 | 4649.807 | 11.723 |
| SAC-E01A | 9/7/03 8:00 | 4649.821 | 11.709 |
| SAC-E01A | 9/7/03 9:00 | 4649.832 | 11.698 |
| SAC-E01A | 9/7/03 10:00 | 4649.84 | 11.69 |
| SAC-E01A | 9/7/03 11:00 | 4649.841 | 11.689 |
| SAC-E01A | 9/7/03 12:00 | 4649.839 | 11.691 |
| SAC-E01A | 9/7/03 13:00 | 4649.839 | 11.691 |
| SAC-E01A | 9/7/03 14:00 | 4649.837 | 11.693 |
| SAC-E01A | 9/7/03 15:00 | 4649.839 | 11.691 |
| SAC-E01A | 9/7/03 16:00 | 4649.842 | 11.688 |
| SAC-E01A | 9/7/03 17:00 | 4649.842 | 11.688 |
| SAC-E01A | 9/7/03 18:00 | 4649.848 | 11.682 |
| SAC-E01A | 9/7/03 19:00 | 4649.848 | 11.682 |
| SAC-E01A | 9/7/03 20:00 | 4649.847 | 11.683 |
| SAC-E01A | 9/7/03 21:00 | 4649.846 | 11.684 |
| SAC-E01A | 9/7/03 22:00 | 4649.844 | 11.686 |
| SAC-E01A | 9/7/03 23:00 | 4649.843 | 11.687 |
| SAC-E01A | 9/8/03 0:00 | 4649.844 | 11.686 |

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|----------|--------------|----------|--------|
| SAC-E01A | 9/8/03 1:00 | 4649.851 | 11.679 |
| SAC-E01A | 9/8/03 2:00 | 4649.862 | 11.668 |
| SAC-E01A | 9/8/03 3:00 | 4649.877 | 11.653 |
| SAC-E01A | 9/8/03 4:00 | 4649.892 | 11.638 |
| SAC-E01A | 9/8/03 5:00 | 4649.904 | 11.626 |
| SAC-E01A | 9/8/03 6:00 | 4649.913 | 11.617 |
| SAC-E01A | 9/8/03 7:00 | 4649.923 | 11.607 |
| SAC-E01A | 9/8/03 8:00 | 4649.922 | 11.608 |
| SAC-E01A | 9/8/03 9:00 | 4649.924 | 11.606 |
| SAC-E01A | 9/8/03 10:00 | 4649.921 | 11.609 |
| SAC-E01A | 9/8/03 11:00 | 4649.916 | 11.614 |
| SAC-E01A | 9/8/03 12:00 | 4649.91 | 11.62 |
| SAC-E01A | 9/8/03 13:00 | 4649.904 | 11.626 |
| SAC-E01A | 9/8/03 14:00 | 4649.895 | 11.635 |
| SAC-E01A | 9/8/03 15:00 | 4649.888 | 11.642 |
| SAC-E01A | 9/8/03 16:00 | 4649.884 | 11.646 |
| SAC-E01A | 9/8/03 17:00 | 4649.883 | 11.647 |
| SAC-E01A | 9/8/03 18:00 | 4649.882 | 11.648 |
| SAC-E01A | 9/8/03 19:00 | 4649.88 | 11.65 |
| SAC-E01A | 9/8/03 20:00 | 4649.883 | 11.647 |
| SAC-E01A | 9/8/03 21:00 | 4649.888 | 11.642 |
| SAC-E01A | 9/8/03 22:00 | 4649.893 | 11.637 |
| SAC-E01A | 9/8/03 23:00 | 4649.9 | 11.63 |
| SAC-E01A | 9/9/03 0:00 | 4649.905 | 11.625 |
| SAC-E01A | 9/9/03 1:00 | 4649.911 | 11.619 |
| SAC-E01A | 9/9/03 2:00 | 4649.92 | 11.61 |
| SAC-E01A | 9/9/03 3:00 | 4649.929 | 11.601 |
| SAC-E01A | 9/9/03 4:00 | 4649.935 | 11.595 |
| SAC-E01A | 9/9/03 5:00 | 4649.942 | 11.588 |
| SAC-E01A | 9/9/03 6:00 | 4649.946 | 11.584 |
| SAC-E01A | 9/9/03 7:00 | 4649.95 | 11.58 |
| SAC-E01A | 9/9/03 8:00 | 4649.954 | 11.576 |
| SAC-E01A | 9/9/03 9:00 | 4649.958 | 11.572 |
| SAC-E01A | 9/9/03 10:00 | 4649.963 | 11.567 |
| SAC-E01A | 9/9/03 11:00 | 4649.969 | 11.561 |
| SAC-E01A | 9/9/03 12:00 | 4649.971 | 11.559 |
| SAC-E01A | 9/9/03 13:00 | 4649.979 | 11.551 |
| SAC-E01A | 9/9/03 14:00 | 4649.985 | 11.545 |
| SAC-E01A | 9/9/03 15:00 | 4649.992 | 11.538 |
| SAC-E01A | 9/9/03 16:00 | 4649.996 | 11.534 |
| SAC-E01A | 9/9/03 17:00 | 4650 | 11.53 |
| SAC-E01A | 9/9/03 18:00 | 4650.004 | 11.526 |
| SAC-E01A | 9/9/03 19:00 | 4650.008 | 11.522 |
| SAC-E01A | 9/9/03 20:00 | 4650.007 | 11.523 |
| SAC-E01A | 9/9/03 21:00 | 4650.008 | 11.522 |
| SAC-E01A | 9/9/03 22:00 | 4650.007 | 11.523 |
| SAC-E01A | 9/9/03 23:00 | 4650.007 | 11.523 |
| SAC-E01A | 9/10/03 0:00 | 4650.006 | 11.524 |

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|----------|---------------|----------|--------|
| SAC-E01A | 9/10/03 1:00 | 4650.004 | 11.526 |
| SAC-E01A | 9/10/03 2:00 | 4650.003 | 11.527 |
| SAC-E01A | 9/10/03 3:00 | 4650.001 | 11.529 |
| SAC-E01A | 9/10/03 4:00 | 4649.998 | 11.532 |
| SAC-E01A | 9/10/03 5:00 | 4649.996 | 11.534 |
| SAC-E01A | 9/10/03 6:00 | 4649.993 | 11.537 |
| SAC-E01A | 9/10/03 7:00 | 4649.991 | 11.539 |
| SAC-E01A | 9/10/03 8:00 | 4649.989 | 11.541 |
| SAC-E01A | 9/10/03 9:00 | 4649.984 | 11.546 |
| SAC-E01A | 9/10/03 10:00 | 4649.98 | 11.55 |
| SAC-E01A | 9/10/03 11:00 | 4649.977 | 11.553 |
| SAC-E01A | 9/10/03 12:00 | 4649.968 | 11.562 |
| SAC-E01A | 9/10/03 13:00 | 4649.964 | 11.566 |
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| SAC-E01A | 9/10/03 17:00 | 4649.949 | 11.581 |
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| SAC-E01A | 9/10/03 19:00 | 4649.949 | 11.581 |
| SAC-E01A | 9/10/03 20:00 | 4649.958 | 11.572 |
| SAC-E01A | 9/10/03 21:00 | 4650.036 | 11.494 |
| SAC-E01A | 9/10/03 22:00 | 4650.049 | 11.481 |
| SAC-E01A | 9/10/03 23:00 | 4650.062 | 11.468 |
| SAC-E01A | 9/11/03 0:00 | 4650.068 | 11.462 |
| SAC-E01A | 9/11/03 1:00 | 4650.072 | 11.458 |
| SAC-E01A | 9/11/03 2:00 | 4650.076 | 11.454 |
| SAC-E01A | 9/11/03 3:00 | 4650.081 | 11.449 |
| SAC-E01A | 9/11/03 4:00 | 4650.087 | 11.443 |
| SAC-E01A | 9/11/03 5:00 | 4650.093 | 11.437 |
| SAC-E01A | 9/11/03 6:00 | 4650.095 | 11.435 |
| SAC-E01A | 9/11/03 7:00 | 4650.097 | 11.433 |
| SAC-E01A | 9/11/03 8:00 | 4650.096 | 11.434 |
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| SAC-E01A | 9/11/03 10:00 | 4650.095 | 11.435 |
| SAC-E01A | 9/11/03 11:00 | 4650.096 | 11.434 |
| SAC-E01A | 9/11/03 12:00 | 4650.101 | 11.429 |
| SAC-E01A | 9/11/03 13:00 | 4650.106 | 11.424 |
| SAC-E01A | 9/11/03 14:00 | 4650.118 | 11.412 |
| SAC-E01A | 9/11/03 15:00 | 4650.137 | 11.393 |
| SAC-E01A | 9/11/03 16:00 | 4650.156 | 11.374 |
| SAC-E01A | 9/11/03 17:00 | 4650.178 | 11.352 |
| SAC-E01A | 9/11/03 18:00 | 4650.203 | 11.327 |
| SAC-E01A | 9/11/03 19:00 | 4650.23 | 11.3 |
| SAC-E01A | 9/11/03 20:00 | 4650.255 | 11.275 |
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| SAC-E01A | 9/11/03 23:00 | 4650.317 | 11.213 |
| SAC-E01A | 9/12/03 0:00 | 4650.338 | 11.192 |

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| SAC-E01A | 9/12/03 1:00 | 4650.36 | 11.17 |
| SAC-E01A | 9/12/03 2:00 | 4650.379 | 11.151 |
| SAC-E01A | 9/12/03 3:00 | 4650.397 | 11.133 |
| SAC-E01A | 9/12/03 4:00 | 4650.414 | 11.116 |
| SAC-E01A | 9/12/03 5:00 | 4650.428 | 11.102 |
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| SAC-E01A | 9/12/03 7:00 | 4650.455 | 11.075 |
| SAC-E01A | 9/12/03 8:00 | 4650.467 | 11.063 |
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| SAC-E01A | 9/12/03 10:00 | 4650.489 | 11.041 |
| SAC-E01A | 9/12/03 11:00 | 4650.501 | 11.029 |
| SAC-E01A | 9/12/03 12:00 | 4650.514 | 11.016 |
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| SAC-E01A | 9/12/03 20:00 | 4650.654 | 10.876 |
| SAC-E01A | 9/12/03 21:00 | 4650.671 | 10.859 |
| SAC-E01A | 9/12/03 22:00 | 4650.689 | 10.841 |
| SAC-E01A | 9/12/03 23:00 | 4650.703 | 10.827 |
| SAC-E01A | 9/13/03 0:00 | 4650.72 | 10.81 |
| SAC-E01A | 9/13/03 1:00 | 4650.735 | 10.795 |
| SAC-E01A | 9/13/03 2:00 | 4650.751 | 10.779 |
| SAC-E01A | 9/13/03 3:00 | 4650.765 | 10.765 |
| SAC-E01A | 9/13/03 4:00 | 4650.78 | 10.75 |
| SAC-E01A | 9/13/03 5:00 | 4650.792 | 10.738 |
| SAC-E01A | 9/13/03 6:00 | 4650.805 | 10.725 |
| SAC-E01A | 9/13/03 7:00 | 4650.817 | 10.713 |
| SAC-E01A | 9/13/03 8:00 | 4650.827 | 10.703 |
| SAC-E01A | 9/13/03 9:00 | 4650.835 | 10.695 |
| SAC-E01A | 9/13/03 10:00 | 4650.845 | 10.685 |
| SAC-E01A | 9/13/03 11:00 | 4650.855 | 10.675 |
| SAC-E01A | 9/13/03 12:00 | 4650.866 | 10.664 |
| SAC-E01A | 9/13/03 13:00 | 4650.874 | 10.656 |
| SAC-E01A | 9/13/03 14:00 | 4650.884 | 10.646 |
| SAC-E01A | 9/13/03 15:00 | 4650.894 | 10.636 |
| SAC-E01A | 9/13/03 16:00 | 4650.905 | 10.625 |
| SAC-E01A | 9/13/03 17:00 | 4650.915 | 10.615 |
| SAC-E01A | 9/13/03 18:00 | 4650.921 | 10.609 |
| SAC-E01A | 9/13/03 19:00 | 4650.929 | 10.601 |
| SAC-E01A | 9/13/03 20:00 | 4650.944 | 10.586 |
| SAC-E01A | 9/13/03 21:00 | 4650.954 | 10.576 |
| SAC-E01A | 9/13/03 22:00 | 4650.962 | 10.568 |
| SAC-E01A | 9/13/03 23:00 | 4650.968 | 10.562 |
| SAC-E01A | 9/14/03 0:00 | 4650.975 | 10.555 |

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| SAC-E01A | 9/14/03 1:00 | 4650.983 | 10.547 |
| SAC-E01A | 9/14/03 2:00 | 4650.991 | 10.539 |
| SAC-E01A | 9/14/03 3:00 | 4650.999 | 10.531 |
| SAC-E01A | 9/14/03 4:00 | 4651.01 | 10.52 |
| SAC-E01A | 9/14/03 5:00 | 4651.026 | 10.504 |
| SAC-E01A | 9/14/03 6:00 | 4651.053 | 10.477 |
| SAC-E01A | 9/14/03 7:00 | 4651.09 | 10.44 |
| SAC-E01A | 9/14/03 8:00 | 4651.133 | 10.397 |
| SAC-E01A | 9/14/03 9:00 | 4651.189 | 10.341 |
| SAC-E01A | 9/14/03 10:00 | 4651.222 | 10.308 |
| SAC-E01A | 9/14/03 11:00 | 4651.261 | 10.269 |
| SAC-E01A | 9/14/03 12:00 | 4651.3 | 10.23 |
| SAC-E01A | 9/14/03 13:00 | 4651.345 | 10.185 |
| SAC-E01A | 9/14/03 14:00 | 4651.38 | 10.15 |
| SAC-E01A | 9/14/03 15:00 | 4651.415 | 10.115 |
| SAC-E01A | 9/14/03 16:00 | 4651.448 | 10.082 |
| SAC-E01A | 9/14/03 17:00 | 4651.474 | 10.056 |
| SAC-E01A | 9/14/03 18:00 | 4651.501 | 10.029 |
| SAC-E01A | 9/14/03 19:00 | 4651.524 | 10.006 |
| SAC-E01A | 9/14/03 20:00 | 4651.54 | 9.99 |
| SAC-E01A | 9/14/03 21:00 | 4651.555 | 9.975 |
| SAC-E01A | 9/14/03 22:00 | 4651.569 | 9.961 |
| SAC-E01A | 9/14/03 23:00 | 4651.579 | 9.951 |
| SAC-E01A | 9/15/03 0:00 | 4651.587 | 9.943 |
| SAC-E01A | 9/15/03 1:00 | 4651.591 | 9.939 |
| SAC-E01A | 9/15/03 2:00 | 4651.591 | 9.939 |
| SAC-E01A | 9/15/03 3:00 | 4651.589 | 9.941 |
| SAC-E01A | 9/15/03 4:00 | 4651.587 | 9.943 |
| SAC-E01A | 9/15/03 5:00 | 4651.578 | 9.952 |
| SAC-E01A | 9/15/03 6:00 | 4651.57 | 9.96 |
| SAC-E01A | 9/15/03 7:00 | 4651.554 | 9.976 |
| SAC-E01A | 9/15/03 8:00 | 4651.534 | 9.996 |
| SAC-E01A | 9/15/03 9:00 | 4651.509 | 10.021 |
| SAC-E01A | 9/15/03 10:00 | 4651.478 | 10.052 |
| SAC-E01A | 9/15/03 11:00 | 4651.446 | 10.084 |
| SAC-E01A | 9/15/03 12:00 | 4651.405 | 10.125 |
| SAC-E01A | 9/15/03 13:00 | 4651.372 | 10.158 |
| SAC-E01A | 9/15/03 14:00 | 4651.333 | 10.197 |
| SAC-E01A | 9/15/03 15:00 | 4651.287 | 10.243 |
| SAC-E01A | 9/15/03 16:00 | 4651.257 | 10.273 |
| SAC-E01A | 9/15/03 17:00 | 4651.234 | 10.296 |
| SAC-E01A | 9/15/03 18:00 | 4651.208 | 10.322 |
| SAC-E01A | 9/15/03 19:00 | 4651.187 | 10.343 |
| SAC-E01A | 9/15/03 20:00 | 4651.168 | 10.362 |
| SAC-E01A | 9/15/03 21:00 | 4651.152 | 10.378 |
| SAC-E01A | 9/15/03 22:00 | 4651.135 | 10.395 |
| SAC-E01A | 9/15/03 23:00 | 4651.118 | 10.412 |
| SAC-E01A | 9/16/03 0:00 | 4651.102 | 10.428 |

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| SAC-E01A | 9/16/03 1:00 | 4651.087 | 10.443 |
| SAC-E01A | 9/16/03 2:00 | 4651.071 | 10.459 |
| SAC-E01A | 9/16/03 3:00 | 4651.058 | 10.472 |
| SAC-E01A | 9/16/03 4:00 | 4651.044 | 10.486 |
| SAC-E01A | 9/16/03 5:00 | 4651.034 | 10.496 |
| SAC-E01A | 9/16/03 6:00 | 4651.023 | 10.507 |
| SAC-E01A | 9/16/03 7:00 | 4651.007 | 10.523 |
| SAC-E01A | 9/16/03 8:00 | 4650.978 | 10.552 |
| SAC-E01A | 9/16/03 9:00 | 4650.954 | 10.576 |
| SAC-E01A | 9/16/03 10:00 | 4650.935 | 10.595 |
| SAC-E01A | 9/16/03 11:00 | 4650.917 | 10.613 |
| SAC-E01A | 9/16/03 12:00 | 4650.9 | 10.63 |
| SAC-E01A | 9/16/03 13:00 | 4650.888 | 10.642 |
| SAC-E01A | 9/16/03 14:00 | 4650.882 | 10.648 |
| SAC-E01A | 9/16/03 15:00 | 4650.874 | 10.656 |
| SAC-E01A | 9/16/03 16:00 | 4650.867 | 10.663 |
| SAC-E01A | 9/16/03 17:00 | 4650.863 | 10.667 |
| SAC-E01A | 9/16/03 18:00 | 4650.857 | 10.673 |
| SAC-E01A | 9/16/03 19:00 | 4650.851 | 10.679 |
| SAC-E01A | 9/16/03 20:00 | 4650.845 | 10.685 |
| SAC-E01A | 9/16/03 21:00 | 4650.84 | 10.69 |
| SAC-E01A | 9/16/03 22:00 | 4650.834 | 10.696 |
| SAC-E01A | 9/16/03 23:00 | 4650.828 | 10.702 |
| SAC-E01A | 9/17/03 0:00 | 4650.82 | 10.71 |
| SAC-E01A | 9/17/03 1:00 | 4650.813 | 10.717 |
| SAC-E01A | 9/17/03 2:00 | 4650.807 | 10.723 |
| SAC-E01A | 9/17/03 3:00 | 4650.801 | 10.729 |
| SAC-E01A | 9/17/03 4:00 | 4650.795 | 10.735 |
| SAC-E01A | 9/17/03 5:00 | 4650.787 | 10.743 |
| SAC-E01A | 9/17/03 6:00 | 4650.78 | 10.75 |
| SAC-E01A | 9/17/03 7:00 | 4650.774 | 10.756 |
| SAC-E01A | 9/17/03 8:00 | 4650.752 | 10.778 |
| SAC-E01A | 9/17/03 9:00 | 4650.733 | 10.797 |
| SAC-E01A | 9/17/03 10:00 | 4650.725 | 10.805 |
| SAC-E01A | 9/17/03 11:00 | 4650.715 | 10.815 |
| SAC-E01A | 9/17/03 12:00 | 4650.707 | 10.823 |
| SAC-E01A | 9/17/03 13:00 | 4650.696 | 10.834 |
| SAC-E01A | 9/17/03 14:00 | 4650.686 | 10.844 |
| SAC-E01A | 9/17/03 15:00 | 4650.678 | 10.852 |
| SAC-E01A | 9/17/03 16:00 | 4650.67 | 10.86 |
| SAC-E01A | 9/17/03 17:00 | 4650.662 | 10.868 |
| SAC-E01A | 9/17/03 18:00 | 4650.655 | 10.875 |
| SAC-E01A | 9/17/03 19:00 | 4650.649 | 10.881 |
| SAC-E01A | 9/17/03 20:00 | 4650.645 | 10.885 |
| SAC-E01A | 9/17/03 21:00 | 4650.639 | 10.891 |
| SAC-E01A | 9/17/03 22:00 | 4650.637 | 10.893 |
| SAC-E01A | 9/17/03 23:00 | 4650.631 | 10.899 |
| SAC-E01A | 9/18/03 0:00 | 4650.627 | 10.903 |

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| SAC-E01A | 9/18/03 1:00 | 4650.618 | 10.912 |
| SAC-E01A | 9/18/03 2:00 | 4650.608 | 10.922 |
| SAC-E01A | 9/18/03 3:00 | 4650.598 | 10.932 |
| SAC-E01A | 9/18/03 4:00 | 4650.587 | 10.943 |
| SAC-E01A | 9/18/03 5:00 | 4650.575 | 10.955 |
| SAC-E01A | 9/18/03 6:00 | 4650.564 | 10.966 |
| SAC-E01A | 9/18/03 7:00 | 4650.554 | 10.976 |
| SAC-E01A | 9/18/03 8:00 | 4650.542 | 10.988 |
| SAC-E01A | 9/18/03 9:00 | 4650.53 | 11 |
| SAC-E01A | 9/18/03 10:00 | 4650.518 | 11.012 |
| SAC-E01A | 9/18/03 11:00 | 4650.505 | 11.025 |
| SAC-E01A | 9/18/03 12:00 | 4650.495 | 11.035 |
| SAC-E01A | 9/18/03 13:00 | 4650.485 | 11.045 |
| SAC-E01A | 9/18/03 14:00 | 4650.475 | 11.055 |
| SAC-E01A | 9/18/03 15:00 | 4650.464 | 11.066 |
| SAC-E01A | 9/18/03 16:00 | 4650.454 | 11.076 |
| SAC-E01A | 9/18/03 17:00 | 4650.446 | 11.084 |
| SAC-E01A | 9/18/03 18:00 | 4650.442 | 11.088 |
| SAC-E01A | 9/18/03 19:00 | 4650.436 | 11.094 |
| SAC-E01A | 9/18/03 20:00 | 4650.431 | 11.099 |
| SAC-E01A | 9/18/03 21:00 | 4650.425 | 11.105 |
| SAC-E01A | 9/18/03 22:00 | 4650.421 | 11.109 |
| SAC-E01A | 9/18/03 23:00 | 4650.415 | 11.115 |
| SAC-E01A | 9/19/03 0:00 | 4650.413 | 11.117 |
| SAC-E01A | 9/19/03 1:00 | 4650.405 | 11.125 |
| SAC-E01A | 9/19/03 2:00 | 4650.401 | 11.129 |
| SAC-E01A | 9/19/03 3:00 | 4650.397 | 11.133 |
| SAC-E01A | 9/19/03 4:00 | 4650.39 | 11.14 |
| SAC-E01A | 9/19/03 5:00 | 4650.386 | 11.144 |
| SAC-E01A | 9/19/03 6:00 | 4650.38 | 11.15 |
| SAC-E01A | 9/19/03 7:00 | 4650.376 | 11.154 |
| SAC-E01A | 9/19/03 8:00 | 4650.372 | 11.158 |
| SAC-E01A | 9/19/03 9:00 | 4650.364 | 11.166 |
| SAC-E01A | 9/19/03 10:00 | 4650.36 | 11.17 |
| SAC-E01A | 9/19/03 11:00 | 4650.353 | 11.177 |
| SAC-E01A | 9/19/03 12:00 | 4650.349 | 11.181 |
| SAC-E01A | 9/19/03 13:00 | 4650.345 | 11.185 |
| SAC-E01A | 9/19/03 14:00 | 4650.341 | 11.189 |
| SAC-E01A | 9/19/03 15:00 | 4650.337 | 11.193 |
| SAC-E01A | 9/19/03 16:00 | 4650.331 | 11.199 |
| SAC-E01A | 9/19/03 17:00 | 4650.327 | 11.203 |
| SAC-E01A | 9/19/03 18:00 | 4650.323 | 11.207 |
| SAC-E01A | 9/19/03 19:00 | 4650.319 | 11.211 |
| SAC-E01A | 9/19/03 20:00 | 4650.312 | 11.218 |
| SAC-E01A | 9/19/03 21:00 | 4650.31 | 11.22 |
| SAC-E01A | 9/19/03 22:00 | 4650.302 | 11.228 |
| SAC-E01A | 9/19/03 23:00 | 4650.298 | 11.232 |
| SAC-E01A | 9/20/03 0:00 | 4650.294 | 11.236 |

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| SAC-E01A | 9/20/03 1:00 | 4650.287 | 11.243 |
| SAC-E01A | 9/20/03 2:00 | 4650.283 | 11.247 |
| SAC-E01A | 9/20/03 3:00 | 4650.279 | 11.251 |
| SAC-E01A | 9/20/03 4:00 | 4650.275 | 11.255 |
| SAC-E01A | 9/20/03 5:00 | 4650.269 | 11.261 |
| SAC-E01A | 9/20/03 6:00 | 4650.267 | 11.263 |
| SAC-E01A | 9/20/03 7:00 | 4650.261 | 11.269 |
| SAC-E01A | 9/20/03 8:00 | 4650.257 | 11.273 |
| SAC-E01A | 9/20/03 9:00 | 4650.248 | 11.282 |
| SAC-E01A | 9/20/03 10:00 | 4650.242 | 11.288 |
| SAC-E01A | 9/20/03 11:00 | 4650.24 | 11.29 |
| SAC-E01A | 9/20/03 12:00 | 4650.232 | 11.298 |
| SAC-E01A | 9/20/03 13:00 | 4650.233 | 11.297 |
| SAC-E01A | 9/20/03 14:00 | 4650.235 | 11.295 |
| SAC-E01A | 9/20/03 15:00 | 4650.234 | 11.296 |
| SAC-E01A | 9/20/03 16:00 | 4650.228 | 11.302 |
| SAC-E01A | 9/20/03 17:00 | 4650.224 | 11.306 |
| SAC-E01A | 9/20/03 18:00 | 4650.22 | 11.31 |
| SAC-E01A | 9/20/03 19:00 | 4650.218 | 11.312 |
| SAC-E01A | 9/20/03 20:00 | 4650.214 | 11.316 |
| SAC-E01A | 9/20/03 21:00 | 4650.211 | 11.319 |
| SAC-E01A | 9/20/03 22:00 | 4650.207 | 11.323 |
| SAC-E01A | 9/20/03 23:00 | 4650.205 | 11.325 |
| SAC-E01A | 9/21/03 0:00 | 4650.203 | 11.327 |
| SAC-E01A | 9/21/03 1:00 | 4650.201 | 11.329 |
| SAC-E01A | 9/21/03 2:00 | 4650.197 | 11.333 |
| SAC-E01A | 9/21/03 3:00 | 4650.195 | 11.335 |
| SAC-E01A | 9/21/03 4:00 | 4650.193 | 11.337 |
| SAC-E01A | 9/21/03 5:00 | 4650.189 | 11.341 |
| SAC-E01A | 9/21/03 6:00 | 4650.185 | 11.345 |
| SAC-E01A | 9/21/03 7:00 | 4650.178 | 11.352 |
| SAC-E01A | 9/21/03 8:00 | 4650.172 | 11.358 |
| SAC-E01A | 9/21/03 9:00 | 4650.166 | 11.364 |
| SAC-E01A | 9/21/03 10:00 | 4650.162 | 11.368 |
| SAC-E01A | 9/21/03 11:00 | 4650.156 | 11.374 |
| SAC-E01A | 9/21/03 12:00 | 4650.15 | 11.38 |
| SAC-E01A | 9/21/03 13:00 | 4650.142 | 11.388 |
| SAC-E01A | 9/21/03 14:00 | 4650.137 | 11.393 |
| SAC-E01A | 9/21/03 15:00 | 4650.129 | 11.401 |
| SAC-E01A | 9/21/03 16:00 | 4650.123 | 11.407 |
| SAC-E01A | 9/21/03 17:00 | 4650.117 | 11.413 |
| SAC-E01A | 9/21/03 18:00 | 4650.113 | 11.417 |
| SAC-E01A | 9/21/03 19:00 | 4650.111 | 11.419 |
| SAC-E01A | 9/21/03 20:00 | 4650.109 | 11.421 |
| SAC-E01A | 9/21/03 21:00 | 4650.105 | 11.425 |
| SAC-E01A | 9/21/03 22:00 | 4650.103 | 11.427 |
| SAC-E01A | 9/21/03 23:00 | 4650.101 | 11.429 |
| SAC-E01A | 9/22/03 0:00 | 4650.099 | 11.431 |

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| SAC-E01A | 9/22/03 1:00 | 4650.094 | 11.436 |
| SAC-E01A | 9/22/03 2:00 | 4650.092 | 11.438 |
| SAC-E01A | 9/22/03 3:00 | 4650.09 | 11.44 |
| SAC-E01A | 9/22/03 4:00 | 4650.088 | 11.442 |
| SAC-E01A | 9/22/03 5:00 | 4650.084 | 11.446 |
| SAC-E01A | 9/22/03 6:00 | 4650.08 | 11.45 |
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| SAC-E01A | 9/22/03 16:00 | 4650.041 | 11.489 |
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| SAC-E01A | 9/22/03 23:00 | 4650.029 | 11.501 |
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| SAC-E01A | 9/23/03 3:00 | 4650.025 | 11.505 |
| SAC-E01A | 9/23/03 4:00 | 4650.023 | 11.507 |
| SAC-E01A | 9/23/03 5:00 | 4650.023 | 11.507 |
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| SAC-E01A | 9/23/03 11:00 | 4650.006 | 11.524 |
| SAC-E01A | 9/23/03 12:00 | 4650.002 | 11.528 |
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| SAC-E01A | 9/24/03 0:00 | 4649.978 | 11.552 |

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| SAC-E01A | 9/24/03 1:00 | 4649.978 | 11.552 |
| SAC-E01A | 9/24/03 2:00 | 4649.978 | 11.552 |
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| SAC-E01A | 9/24/03 4:00 | 4649.976 | 11.554 |
| SAC-E01A | 9/24/03 5:00 | 4649.976 | 11.554 |
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| SAC-E01A | 9/24/03 8:00 | 4649.974 | 11.556 |
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| SAC-E01A | 9/24/03 11:00 | 4649.963 | 11.567 |
| SAC-E01A | 9/24/03 12:00 | 4649.959 | 11.571 |
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| SAC-E01A | 9/24/03 23:00 | 4649.939 | 11.591 |
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| SAC-E01A | 9/25/03 2:00 | 4649.937 | 11.593 |
| SAC-E01A | 9/25/03 3:00 | 4649.937 | 11.593 |
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| SAC-E01A | 9/25/03 5:00 | 4649.937 | 11.593 |
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| SAC-E01A | 9/25/03 19:00 | 4649.909 | 11.621 |
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| SAC-E01A | 9/26/03 0:00 | 4649.911 | 11.619 |

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| SAC-E01A | 9/26/03 1:00 | 4649.911 | 11.619 |
| SAC-E01A | 9/26/03 2:00 | 4649.912 | 11.618 |
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| SAC-E01A | 9/26/03 5:00 | 4649.914 | 11.616 |
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| SAC-E01A | 9/26/03 11:00 | 4649.9 | 11.63 |
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| SAC-E01A | 9/26/03 14:00 | 4649.889 | 11.641 |
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| SAC-E01A | 9/27/03 2:00 | 4649.889 | 11.641 |
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| SAC-E01A | 9/27/03 9:00 | 4649.883 | 11.647 |
| SAC-E01A | 9/27/03 10:00 | 4649.88 | 11.65 |
| SAC-E01A | 9/27/03 11:00 | 4649.875 | 11.655 |
| SAC-E01A | 9/27/03 12:00 | 4649.873 | 11.657 |
| SAC-E01A | 9/27/03 13:00 | 4649.871 | 11.659 |
| SAC-E01A | 9/27/03 14:00 | 4649.869 | 11.661 |
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| SAC-E01A | 9/27/03 17:00 | 4649.863 | 11.667 |
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| SAC-E01A | 9/27/03 20:00 | 4649.865 | 11.665 |
| SAC-E01A | 9/27/03 21:00 | 4649.867 | 11.663 |
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| SAC-E01A | 9/27/03 23:00 | 4649.871 | 11.659 |
| SAC-E01A | 9/28/03 0:00 | 4649.874 | 11.656 |

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| SAC-E01A | 9/28/03 1:00 | 4649.874 | 11.656 |
| SAC-E01A | 9/28/03 2:00 | 4649.874 | 11.656 |
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| SAC-E01A | 9/28/03 5:00 | 4649.876 | 11.654 |
| SAC-E01A | 9/28/03 6:00 | 4649.876 | 11.654 |
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| SAC-E01A | 9/28/03 8:00 | 4649.875 | 11.655 |
| SAC-E01A | 9/28/03 9:00 | 4649.871 | 11.659 |
| SAC-E01A | 9/28/03 10:00 | 4649.864 | 11.666 |
| SAC-E01A | 9/28/03 11:00 | 4649.862 | 11.668 |
| SAC-E01A | 9/28/03 12:00 | 4649.857 | 11.673 |
| SAC-E01A | 9/28/03 13:00 | 4649.857 | 11.673 |
| SAC-E01A | 9/28/03 14:00 | 4649.853 | 11.677 |
| SAC-E01A | 9/28/03 15:00 | 4649.851 | 11.679 |
| SAC-E01A | 9/28/03 16:00 | 4649.849 | 11.681 |
| SAC-E01A | 9/28/03 17:00 | 4649.847 | 11.683 |
| SAC-E01A | 9/28/03 18:00 | 4649.85 | 11.68 |
| SAC-E01A | 9/28/03 19:00 | 4649.853 | 11.677 |
| SAC-E01A | 9/28/03 20:00 | 4649.851 | 11.679 |
| SAC-E01A | 9/28/03 21:00 | 4649.853 | 11.677 |
| SAC-E01A | 9/28/03 22:00 | 4649.851 | 11.679 |
| SAC-E01A | 9/28/03 23:00 | 4649.855 | 11.675 |
| SAC-E01A | 9/29/03 0:00 | 4649.857 | 11.673 |
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| SAC-E01A | 9/29/03 2:00 | 4649.86 | 11.67 |
| SAC-E01A | 9/29/03 3:00 | 4649.86 | 11.67 |
| SAC-E01A | 9/29/03 4:00 | 4649.862 | 11.668 |
| SAC-E01A | 9/29/03 5:00 | 4649.862 | 11.668 |
| SAC-E01A | 9/29/03 6:00 | 4649.862 | 11.668 |
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| SAC-E01A | 9/29/03 10:00 | 4649.852 | 11.678 |
| SAC-E01A | 9/29/03 11:00 | 4649.847 | 11.683 |
| SAC-E01A | 9/29/03 12:00 | 4649.843 | 11.687 |
| SAC-E01A | 9/29/03 13:00 | 4649.841 | 11.689 |
| SAC-E01A | 9/29/03 14:00 | 4649.837 | 11.693 |
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| SAC-E01A | 9/29/03 17:00 | 4649.833 | 11.697 |
| SAC-E01A | 9/29/03 18:00 | 4649.834 | 11.696 |
| SAC-E01A | 9/29/03 19:00 | 4649.834 | 11.696 |
| SAC-E01A | 9/29/03 20:00 | 4649.837 | 11.693 |
| SAC-E01A | 9/29/03 21:00 | 4649.837 | 11.693 |
| SAC-E01A | 9/29/03 22:00 | 4649.842 | 11.688 |
| SAC-E01A | 9/29/03 23:00 | 4649.844 | 11.686 |
| SAC-E01A | 9/30/03 0:00 | 4649.844 | 11.686 |

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| SAC-E01A | 9/30/03 1:00 | 4649.848 | 11.682 |
| SAC-E01A | 9/30/03 2:00 | 4649.85 | 11.68 |
| SAC-E01A | 9/30/03 3:00 | 4649.852 | 11.678 |
| SAC-E01A | 9/30/03 4:00 | 4649.854 | 11.676 |
| SAC-E01A | 9/30/03 5:00 | 4649.854 | 11.676 |
| SAC-E01A | 9/30/03 6:00 | 4649.856 | 11.674 |
| SAC-E01A | 9/30/03 7:00 | 4649.856 | 11.674 |
| SAC-E01A | 9/30/03 8:00 | 4649.854 | 11.676 |
| SAC-E01A | 9/30/03 9:00 | 4649.851 | 11.679 |
| SAC-E01A | 9/30/03 10:00 | 4649.844 | 11.686 |
| SAC-E01A | 9/30/03 11:00 | 4649.837 | 11.693 |
| SAC-E01A | 9/30/03 12:00 | 4649.831 | 11.699 |
| SAC-E01A | 9/30/03 13:00 | 4649.829 | 11.701 |
| SAC-E01A | 9/30/03 14:00 | 4649.825 | 11.705 |
| SAC-E01A | 9/30/03 15:00 | 4649.823 | 11.707 |
| SAC-E01A | 9/30/03 16:00 | 4649.823 | 11.707 |
| SAC-E01A | 9/30/03 17:00 | 4649.821 | 11.709 |
| SAC-E01A | 9/30/03 18:00 | 4649.824 | 11.706 |
| SAC-E01A | 9/30/03 19:00 | 4649.825 | 11.705 |
| SAC-E01A | 9/30/03 20:00 | 4649.827 | 11.703 |
| SAC-E01A | 9/30/03 21:00 | 4649.827 | 11.703 |
| SAC-E01A | 9/30/03 22:00 | 4649.829 | 11.701 |
| SAC-E01A | 9/30/03 23:00 | 4649.832 | 11.698 |

| LOCID | Date and Time | WATELEV | DTW |
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| SAC-E01B | 9/1/03 2:00 | 4649.728 | 11.432 |
| SAC-E01B | 9/1/03 3:00 | 4649.721 | 11.439 |
| SAC-E01B | 9/1/03 4:00 | 4649.709 | 11.451 |
| SAC-E01B | 9/1/03 5:00 | 4649.697 | 11.463 |
| SAC-E01B | 9/1/03 6:00 | 4649.688 | 11.472 |
| SAC-E01B | 9/1/03 7:00 | 4649.68 | 11.48 |
| SAC-E01B | 9/1/03 8:00 | 4649.67 | 11.49 |
| SAC-E01B | 9/1/03 9:00 | 4649.676 | 11.484 |
| SAC-E01B | 9/1/03 10:00 | 4649.646 | 11.514 |
| SAC-E01B | 9/1/03 11:00 | 4649.629 | 11.531 |
| SAC-E01B | 9/1/03 12:00 | 4649.613 | 11.547 |
| SAC-E01B | 9/1/03 13:00 | 4649.592 | 11.568 |
| SAC-E01B | 9/1/03 14:00 | 4649.576 | 11.584 |
| SAC-E01B | 9/1/03 15:00 | 4649.561 | 11.599 |
| SAC-E01B | 9/1/03 16:00 | 4649.551 | 11.609 |
| SAC-E01B | 9/1/03 17:00 | 4649.541 | 11.619 |
| SAC-E01B | 9/1/03 18:00 | 4649.537 | 11.623 |
| SAC-E01B | 9/1/03 19:00 | 4649.557 | 11.603 |
| SAC-E01B | 9/1/03 20:00 | 4649.576 | 11.584 |
| SAC-E01B | 9/1/03 21:00 | 4649.59 | 11.57 |
| SAC-E01B | 9/1/03 22:00 | 4649.609 | 11.551 |
| SAC-E01B | 9/1/03 23:00 | 4649.623 | 11.537 |

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| SAC-E01B | 9/2/03 0:00 | 4649.637 | 11.523 |
| SAC-E01B | 9/2/03 1:00 | 4649.642 | 11.518 |
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| SAC-E01B | 9/2/03 3:00 | 4649.648 | 11.512 |
| SAC-E01B | 9/2/03 4:00 | 4649.65 | 11.51 |
| SAC-E01B | 9/2/03 5:00 | 4649.65 | 11.51 |
| SAC-E01B | 9/2/03 6:00 | 4649.654 | 11.506 |
| SAC-E01B | 9/2/03 7:00 | 4649.664 | 11.496 |
| SAC-E01B | 9/2/03 8:00 | 4649.673 | 11.487 |
| SAC-E01B | 9/2/03 9:00 | 4649.685 | 11.475 |
| SAC-E01B | 9/2/03 10:00 | 4649.697 | 11.463 |
| SAC-E01B | 9/2/03 11:00 | 4649.699 | 11.461 |
| SAC-E01B | 9/2/03 12:00 | 4649.707 | 11.453 |
| SAC-E01B | 9/2/03 13:00 | 4649.72 | 11.44 |
| SAC-E01B | 9/2/03 14:00 | 4649.72 | 11.44 |
| SAC-E01B | 9/2/03 15:00 | 4649.726 | 11.434 |
| SAC-E01B | 9/2/03 16:00 | 4649.728 | 11.432 |
| SAC-E01B | 9/2/03 17:00 | 4649.736 | 11.424 |
| SAC-E01B | 9/2/03 18:00 | 4649.749 | 11.411 |
| SAC-E01B | 9/2/03 19:00 | 4649.761 | 11.399 |
| SAC-E01B | 9/2/03 20:00 | 4649.771 | 11.389 |
| SAC-E01B | 9/2/03 21:00 | 4649.779 | 11.381 |
| SAC-E01B | 9/2/03 22:00 | 4649.79 | 11.37 |
| SAC-E01B | 9/2/03 23:00 | 4649.796 | 11.364 |
| SAC-E01B | 9/3/03 0:00 | 4649.804 | 11.356 |
| SAC-E01B | 9/3/03 1:00 | 4649.812 | 11.348 |
| SAC-E01B | 9/3/03 2:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/3/03 3:00 | 4649.825 | 11.335 |
| SAC-E01B | 9/3/03 4:00 | 4649.839 | 11.321 |
| SAC-E01B | 9/3/03 5:00 | 4649.847 | 11.313 |
| SAC-E01B | 9/3/03 6:00 | 4649.856 | 11.304 |
| SAC-E01B | 9/3/03 7:00 | 4649.856 | 11.304 |
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| SAC-E01B | 9/3/03 9:00 | 4649.866 | 11.294 |
| SAC-E01B | 9/3/03 10:00 | 4649.87 | 11.29 |
| SAC-E01B | 9/3/03 11:00 | 4649.872 | 11.288 |
| SAC-E01B | 9/3/03 12:00 | 4649.874 | 11.286 |
| SAC-E01B | 9/3/03 13:00 | 4649.88 | 11.28 |
| SAC-E01B | 9/3/03 14:00 | 4649.882 | 11.278 |
| SAC-E01B | 9/3/03 15:00 | 4649.888 | 11.272 |
| SAC-E01B | 9/3/03 16:00 | 4649.897 | 11.263 |
| SAC-E01B | 9/3/03 17:00 | 4649.907 | 11.253 |
| SAC-E01B | 9/3/03 18:00 | 4649.921 | 11.239 |
| SAC-E01B | 9/3/03 19:00 | 4649.952 | 11.208 |
| SAC-E01B | 9/3/03 20:00 | 4649.983 | 11.177 |
| SAC-E01B | 9/3/03 21:00 | 4650.002 | 11.158 |
| SAC-E01B | 9/3/03 22:00 | 4650.01 | 11.15 |
| SAC-E01B | 9/3/03 23:00 | 4650.008 | 11.152 |
| SAC-E01B | 9/4/03 0:00 | 4650 | 11.16 |

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| SAC-E01B | 9/4/03 1:00 | 4649.993 | 11.167 |
| SAC-E01B | 9/4/03 2:00 | 4649.979 | 11.181 |
| SAC-E01B | 9/4/03 3:00 | 4649.965 | 11.195 |
| SAC-E01B | 9/4/03 4:00 | 4649.954 | 11.206 |
| SAC-E01B | 9/4/03 5:00 | 4649.942 | 11.218 |
| SAC-E01B | 9/4/03 6:00 | 4649.934 | 11.226 |
| SAC-E01B | 9/4/03 7:00 | 4649.924 | 11.236 |
| SAC-E01B | 9/4/03 8:00 | 4649.915 | 11.245 |
| SAC-E01B | 9/4/03 9:00 | 4649.897 | 11.263 |
| SAC-E01B | 9/4/03 10:00 | 4649.887 | 11.273 |
| SAC-E01B | 9/4/03 11:00 | 4649.874 | 11.286 |
| SAC-E01B | 9/4/03 12:00 | 4649.862 | 11.298 |
| SAC-E01B | 9/4/03 13:00 | 4649.848 | 11.312 |
| SAC-E01B | 9/4/03 14:00 | 4649.839 | 11.321 |
| SAC-E01B | 9/4/03 15:00 | 4649.86 | 11.3 |
| SAC-E01B | 9/4/03 16:00 | 4649.831 | 11.329 |
| SAC-E01B | 9/4/03 17:00 | 4649.815 | 11.345 |
| SAC-E01B | 9/4/03 18:00 | 4649.811 | 11.349 |
| SAC-E01B | 9/4/03 19:00 | 4649.8 | 11.36 |
| SAC-E01B | 9/4/03 20:00 | 4649.79 | 11.37 |
| SAC-E01B | 9/4/03 21:00 | 4649.782 | 11.378 |
| SAC-E01B | 9/4/03 22:00 | 4649.77 | 11.39 |
| SAC-E01B | 9/4/03 23:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/5/03 0:00 | 4649.753 | 11.407 |
| SAC-E01B | 9/5/03 1:00 | 4649.743 | 11.417 |
| SAC-E01B | 9/5/03 2:00 | 4649.733 | 11.427 |
| SAC-E01B | 9/5/03 3:00 | 4649.724 | 11.436 |
| SAC-E01B | 9/5/03 4:00 | 4649.716 | 11.444 |
| SAC-E01B | 9/5/03 5:00 | 4649.708 | 11.452 |
| SAC-E01B | 9/5/03 6:00 | 4649.7 | 11.46 |
| SAC-E01B | 9/5/03 7:00 | 4649.694 | 11.466 |
| SAC-E01B | 9/5/03 8:00 | 4649.687 | 11.473 |
| SAC-E01B | 9/5/03 9:00 | 4649.679 | 11.481 |
| SAC-E01B | 9/5/03 10:00 | 4649.669 | 11.491 |
| SAC-E01B | 9/5/03 11:00 | 4649.661 | 11.499 |
| SAC-E01B | 9/5/03 12:00 | 4649.65 | 11.51 |
| SAC-E01B | 9/5/03 13:00 | 4649.64 | 11.52 |
| SAC-E01B | 9/5/03 14:00 | 4649.632 | 11.528 |
| SAC-E01B | 9/5/03 15:00 | 4649.626 | 11.534 |
| SAC-E01B | 9/5/03 16:00 | 4649.636 | 11.524 |
| SAC-E01B | 9/5/03 17:00 | 4649.63 | 11.53 |
| SAC-E01B | 9/5/03 18:00 | 4649.619 | 11.541 |
| SAC-E01B | 9/5/03 19:00 | 4649.621 | 11.539 |
| SAC-E01B | 9/5/03 20:00 | 4649.613 | 11.547 |
| SAC-E01B | 9/5/03 21:00 | 4649.609 | 11.551 |
| SAC-E01B | 9/5/03 22:00 | 4649.607 | 11.553 |
| SAC-E01B | 9/5/03 23:00 | 4649.603 | 11.557 |
| SAC-E01B | 9/6/03 0:00 | 4649.597 | 11.563 |
| SAC-E01B | 9/6/03 1:00 | 4649.595 | 11.565 |

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| SAC-E01B | 9/6/03 2:00 | 4649.592 | 11.568 |
| SAC-E01B | 9/6/03 3:00 | 4649.588 | 11.572 |
| SAC-E01B | 9/6/03 4:00 | 4649.586 | 11.574 |
| SAC-E01B | 9/6/03 5:00 | 4649.584 | 11.576 |
| SAC-E01B | 9/6/03 6:00 | 4649.578 | 11.582 |
| SAC-E01B | 9/6/03 7:00 | 4649.578 | 11.582 |
| SAC-E01B | 9/6/03 8:00 | 4649.578 | 11.582 |
| SAC-E01B | 9/6/03 9:00 | 4649.57 | 11.59 |
| SAC-E01B | 9/6/03 10:00 | 4649.563 | 11.597 |
| SAC-E01B | 9/6/03 11:00 | 4649.559 | 11.601 |
| SAC-E01B | 9/6/03 12:00 | 4649.553 | 11.607 |
| SAC-E01B | 9/6/03 13:00 | 4649.549 | 11.611 |
| SAC-E01B | 9/6/03 14:00 | 4649.547 | 11.613 |
| SAC-E01B | 9/6/03 15:00 | 4649.547 | 11.613 |
| SAC-E01B | 9/6/03 16:00 | 4649.549 | 11.611 |
| SAC-E01B | 9/6/03 17:00 | 4649.559 | 11.601 |
| SAC-E01B | 9/6/03 18:00 | 4649.563 | 11.597 |
| SAC-E01B | 9/6/03 19:00 | 4649.559 | 11.601 |
| SAC-E01B | 9/6/03 20:00 | 4649.555 | 11.605 |
| SAC-E01B | 9/6/03 21:00 | 4649.551 | 11.609 |
| SAC-E01B | 9/6/03 22:00 | 4649.551 | 11.609 |
| SAC-E01B | 9/6/03 23:00 | 4649.547 | 11.613 |
| SAC-E01B | 9/7/03 0:00 | 4649.557 | 11.603 |
| SAC-E01B | 9/7/03 1:00 | 4649.567 | 11.593 |
| SAC-E01B | 9/7/03 2:00 | 4649.571 | 11.589 |
| SAC-E01B | 9/7/03 3:00 | 4649.575 | 11.585 |
| SAC-E01B | 9/7/03 4:00 | 4649.581 | 11.579 |
| SAC-E01B | 9/7/03 5:00 | 4649.725 | 11.435 |
| SAC-E01B | 9/7/03 6:00 | 4649.766 | 11.394 |
| SAC-E01B | 9/7/03 7:00 | 4649.772 | 11.388 |
| SAC-E01B | 9/7/03 8:00 | 4649.774 | 11.386 |
| SAC-E01B | 9/7/03 9:00 | 4649.774 | 11.386 |
| SAC-E01B | 9/7/03 10:00 | 4649.772 | 11.388 |
| SAC-E01B | 9/7/03 11:00 | 4649.764 | 11.396 |
| SAC-E01B | 9/7/03 12:00 | 4649.754 | 11.406 |
| SAC-E01B | 9/7/03 13:00 | 4649.754 | 11.406 |
| SAC-E01B | 9/7/03 14:00 | 4649.752 | 11.408 |
| SAC-E01B | 9/7/03 15:00 | 4649.752 | 11.408 |
| SAC-E01B | 9/7/03 16:00 | 4649.756 | 11.404 |
| SAC-E01B | 9/7/03 17:00 | 4649.762 | 11.398 |
| SAC-E01B | 9/7/03 18:00 | 4649.767 | 11.393 |
| SAC-E01B | 9/7/03 19:00 | 4649.764 | 11.396 |
| SAC-E01B | 9/7/03 20:00 | 4649.758 | 11.402 |
| SAC-E01B | 9/7/03 21:00 | 4649.756 | 11.404 |
| SAC-E01B | 9/7/03 22:00 | 4649.754 | 11.406 |
| SAC-E01B | 9/7/03 23:00 | 4649.752 | 11.408 |
| SAC-E01B | 9/8/03 0:00 | 4649.758 | 11.402 |
| SAC-E01B | 9/8/03 1:00 | 4649.777 | 11.383 |
| SAC-E01B | 9/8/03 2:00 | 4649.799 | 11.361 |

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| SAC-E01B | 9/8/03 3:00 | 4649.824 | 11.336 |
| SAC-E01B | 9/8/03 4:00 | 4649.847 | 11.313 |
| SAC-E01B | 9/8/03 5:00 | 4649.857 | 11.303 |
| SAC-E01B | 9/8/03 6:00 | 4649.859 | 11.301 |
| SAC-E01B | 9/8/03 7:00 | 4649.865 | 11.295 |
| SAC-E01B | 9/8/03 8:00 | 4649.853 | 11.307 |
| SAC-E01B | 9/8/03 9:00 | 4649.843 | 11.317 |
| SAC-E01B | 9/8/03 10:00 | 4649.837 | 11.323 |
| SAC-E01B | 9/8/03 11:00 | 4649.828 | 11.332 |
| SAC-E01B | 9/8/03 12:00 | 4649.816 | 11.344 |
| SAC-E01B | 9/8/03 13:00 | 4649.806 | 11.354 |
| SAC-E01B | 9/8/03 14:00 | 4649.8 | 11.36 |
| SAC-E01B | 9/8/03 15:00 | 4649.787 | 11.373 |
| SAC-E01B | 9/8/03 16:00 | 4649.787 | 11.373 |
| SAC-E01B | 9/8/03 17:00 | 4649.789 | 11.371 |
| SAC-E01B | 9/8/03 18:00 | 4649.789 | 11.371 |
| SAC-E01B | 9/8/03 19:00 | 4649.791 | 11.369 |
| SAC-E01B | 9/8/03 20:00 | 4649.796 | 11.364 |
| SAC-E01B | 9/8/03 21:00 | 4649.802 | 11.358 |
| SAC-E01B | 9/8/03 22:00 | 4649.806 | 11.354 |
| SAC-E01B | 9/8/03 23:00 | 4649.816 | 11.344 |
| SAC-E01B | 9/9/03 0:00 | 4649.822 | 11.338 |
| SAC-E01B | 9/9/03 1:00 | 4649.832 | 11.328 |
| SAC-E01B | 9/9/03 2:00 | 4649.845 | 11.315 |
| SAC-E01B | 9/9/03 3:00 | 4649.863 | 11.297 |
| SAC-E01B | 9/9/03 4:00 | 4649.867 | 11.293 |
| SAC-E01B | 9/9/03 5:00 | 4649.871 | 11.289 |
| SAC-E01B | 9/9/03 6:00 | 4649.874 | 11.286 |
| SAC-E01B | 9/9/03 7:00 | 4649.876 | 11.284 |
| SAC-E01B | 9/9/03 8:00 | 4649.88 | 11.28 |
| SAC-E01B | 9/9/03 9:00 | 4649.888 | 11.272 |
| SAC-E01B | 9/9/03 10:00 | 4649.894 | 11.266 |
| SAC-E01B | 9/9/03 11:00 | 4649.898 | 11.262 |
| SAC-E01B | 9/9/03 12:00 | 4649.903 | 11.257 |
| SAC-E01B | 9/9/03 13:00 | 4649.911 | 11.249 |
| SAC-E01B | 9/9/03 14:00 | 4649.919 | 11.241 |
| SAC-E01B | 9/9/03 15:00 | 4649.927 | 11.233 |
| SAC-E01B | 9/9/03 16:00 | 4649.927 | 11.233 |
| SAC-E01B | 9/9/03 17:00 | 4649.931 | 11.229 |
| SAC-E01B | 9/9/03 18:00 | 4649.931 | 11.229 |
| SAC-E01B | 9/9/03 19:00 | 4649.931 | 11.229 |
| SAC-E01B | 9/9/03 20:00 | 4649.929 | 11.231 |
| SAC-E01B | 9/9/03 21:00 | 4649.921 | 11.239 |
| SAC-E01B | 9/9/03 22:00 | 4649.919 | 11.241 |
| SAC-E01B | 9/9/03 23:00 | 4649.919 | 11.241 |
| SAC-E01B | 9/10/03 0:00 | 4649.915 | 11.245 |
| SAC-E01B | 9/10/03 1:00 | 4649.913 | 11.247 |
| SAC-E01B | 9/10/03 2:00 | 4649.911 | 11.249 |
| SAC-E01B | 9/10/03 3:00 | 4649.907 | 11.253 |

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| SAC-E01B | 9/10/03 4:00 | 4649.905 | 11.255 |
| SAC-E01B | 9/10/03 5:00 | 4649.901 | 11.259 |
| SAC-E01B | 9/10/03 6:00 | 4649.898 | 11.262 |
| SAC-E01B | 9/10/03 7:00 | 4649.895 | 11.265 |
| SAC-E01B | 9/10/03 8:00 | 4649.895 | 11.265 |
| SAC-E01B | 9/10/03 9:00 | 4649.89 | 11.27 |
| SAC-E01B | 9/10/03 10:00 | 4649.884 | 11.276 |
| SAC-E01B | 9/10/03 11:00 | 4649.878 | 11.282 |
| SAC-E01B | 9/10/03 12:00 | 4649.868 | 11.292 |
| SAC-E01B | 9/10/03 13:00 | 4649.862 | 11.298 |
| SAC-E01B | 9/10/03 14:00 | 4649.858 | 11.302 |
| SAC-E01B | 9/10/03 15:00 | 4649.853 | 11.307 |
| SAC-E01B | 9/10/03 16:00 | 4649.856 | 11.304 |
| SAC-E01B | 9/10/03 17:00 | 4649.856 | 11.304 |
| SAC-E01B | 9/10/03 18:00 | 4649.856 | 11.304 |
| SAC-E01B | 9/10/03 19:00 | 4649.86 | 11.3 |
| SAC-E01B | 9/10/03 20:00 | 4649.878 | 11.282 |
| SAC-E01B | 9/10/03 21:00 | 4650.081 | 11.079 |
| SAC-E01B | 9/10/03 22:00 | 4650.026 | 11.134 |
| SAC-E01B | 9/10/03 23:00 | 4650.026 | 11.134 |
| SAC-E01B | 9/11/03 0:00 | 4650.018 | 11.142 |
| SAC-E01B | 9/11/03 1:00 | 4650.01 | 11.15 |
| SAC-E01B | 9/11/03 2:00 | 4650.014 | 11.146 |
| SAC-E01B | 9/11/03 3:00 | 4650.02 | 11.14 |
| SAC-E01B | 9/11/03 4:00 | 4650.032 | 11.128 |
| SAC-E01B | 9/11/03 5:00 | 4650.032 | 11.128 |
| SAC-E01B | 9/11/03 6:00 | 4650.032 | 11.128 |
| SAC-E01B | 9/11/03 7:00 | 4650.026 | 11.134 |
| SAC-E01B | 9/11/03 8:00 | 4650.018 | 11.142 |
| SAC-E01B | 9/11/03 9:00 | 4650.01 | 11.15 |
| SAC-E01B | 9/11/03 10:00 | 4650.01 | 11.15 |
| SAC-E01B | 9/11/03 11:00 | 4650.018 | 11.142 |
| SAC-E01B | 9/11/03 12:00 | 4650.028 | 11.132 |
| SAC-E01B | 9/11/03 13:00 | 4650.046 | 11.114 |
| SAC-E01B | 9/11/03 14:00 | 4650.081 | 11.079 |
| SAC-E01B | 9/11/03 15:00 | 4650.119 | 11.041 |
| SAC-E01B | 9/11/03 16:00 | 4650.147 | 11.013 |
| SAC-E01B | 9/11/03 17:00 | 4650.18 | 10.98 |
| SAC-E01B | 9/11/03 18:00 | 4650.217 | 10.943 |
| SAC-E01B | 9/11/03 19:00 | 4650.254 | 10.906 |
| SAC-E01B | 9/11/03 20:00 | 4650.271 | 10.889 |
| SAC-E01B | 9/11/03 21:00 | 4650.291 | 10.869 |
| SAC-E01B | 9/11/03 22:00 | 4650.312 | 10.848 |
| SAC-E01B | 9/11/03 23:00 | 4650.33 | 10.83 |
| SAC-E01B | 9/12/03 0:00 | 4650.359 | 10.801 |
| SAC-E01B | 9/12/03 1:00 | 4650.379 | 10.781 |
| SAC-E01B | 9/12/03 2:00 | 4650.394 | 10.766 |
| SAC-E01B | 9/12/03 3:00 | 4650.406 | 10.754 |
| SAC-E01B | 9/12/03 4:00 | 4650.424 | 10.736 |

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| SAC-E01B | 9/12/03 5:00 | 4650.435 | 10.725 |
| SAC-E01B | 9/12/03 6:00 | 4650.445 | 10.715 |
| SAC-E01B | 9/12/03 7:00 | 4650.456 | 10.704 |
| SAC-E01B | 9/12/03 8:00 | 4650.466 | 10.694 |
| SAC-E01B | 9/12/03 9:00 | 4650.476 | 10.684 |
| SAC-E01B | 9/12/03 10:00 | 4650.488 | 10.672 |
| SAC-E01B | 9/12/03 11:00 | 4650.499 | 10.661 |
| SAC-E01B | 9/12/03 12:00 | 4650.515 | 10.645 |
| SAC-E01B | 9/12/03 13:00 | 4650.532 | 10.628 |
| SAC-E01B | 9/12/03 14:00 | 4650.548 | 10.612 |
| SAC-E01B | 9/12/03 15:00 | 4650.566 | 10.594 |
| SAC-E01B | 9/12/03 16:00 | 4650.607 | 10.553 |
| SAC-E01B | 9/12/03 17:00 | 4650.624 | 10.536 |
| SAC-E01B | 9/12/03 18:00 | 4650.64 | 10.52 |
| SAC-E01B | 9/12/03 19:00 | 4650.659 | 10.501 |
| SAC-E01B | 9/12/03 20:00 | 4650.679 | 10.481 |
| SAC-E01B | 9/12/03 21:00 | 4650.696 | 10.464 |
| SAC-E01B | 9/12/03 22:00 | 4650.712 | 10.448 |
| SAC-E01B | 9/12/03 23:00 | 4650.727 | 10.433 |
| SAC-E01B | 9/13/03 0:00 | 4650.739 | 10.421 |
| SAC-E01B | 9/13/03 1:00 | 4650.755 | 10.405 |
| SAC-E01B | 9/13/03 2:00 | 4650.77 | 10.39 |
| SAC-E01B | 9/13/03 3:00 | 4650.782 | 10.378 |
| SAC-E01B | 9/13/03 4:00 | 4650.794 | 10.366 |
| SAC-E01B | 9/13/03 5:00 | 4650.807 | 10.353 |
| SAC-E01B | 9/13/03 6:00 | 4650.817 | 10.343 |
| SAC-E01B | 9/13/03 7:00 | 4650.827 | 10.333 |
| SAC-E01B | 9/13/03 8:00 | 4650.835 | 10.325 |
| SAC-E01B | 9/13/03 9:00 | 4650.842 | 10.318 |
| SAC-E01B | 9/13/03 10:00 | 4650.848 | 10.312 |
| SAC-E01B | 9/13/03 11:00 | 4650.854 | 10.306 |
| SAC-E01B | 9/13/03 12:00 | 4650.866 | 10.294 |
| SAC-E01B | 9/13/03 13:00 | 4650.874 | 10.286 |
| SAC-E01B | 9/13/03 14:00 | 4650.879 | 10.281 |
| SAC-E01B | 9/13/03 15:00 | 4650.889 | 10.271 |
| SAC-E01B | 9/13/03 16:00 | 4650.901 | 10.259 |
| SAC-E01B | 9/13/03 17:00 | 4650.911 | 10.249 |
| SAC-E01B | 9/13/03 18:00 | 4650.916 | 10.244 |
| SAC-E01B | 9/13/03 19:00 | 4650.928 | 10.232 |
| SAC-E01B | 9/13/03 20:00 | 4650.936 | 10.224 |
| SAC-E01B | 9/13/03 21:00 | 4650.946 | 10.214 |
| SAC-E01B | 9/13/03 22:00 | 4650.949 | 10.211 |
| SAC-E01B | 9/13/03 23:00 | 4650.953 | 10.207 |
| SAC-E01B | 9/14/03 0:00 | 4650.959 | 10.201 |
| SAC-E01B | 9/14/03 1:00 | 4650.967 | 10.193 |
| SAC-E01B | 9/14/03 2:00 | 4650.975 | 10.185 |
| SAC-E01B | 9/14/03 3:00 | 4650.983 | 10.177 |
| SAC-E01B | 9/14/03 4:00 | 4651.002 | 10.158 |
| SAC-E01B | 9/14/03 5:00 | 4651.039 | 10.121 |

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| SAC-E01B | 9/14/03 6:00 | 4651.098 | 10.062 |
| SAC-E01B | 9/14/03 7:00 | 4651.174 | 9.986 |
| SAC-E01B | 9/14/03 8:00 | 4651.254 | 9.906 |
| SAC-E01B | 9/14/03 9:00 | 4651.359 | 9.801 |
| SAC-E01B | 9/14/03 10:00 | 4651.363 | 9.797 |
| SAC-E01B | 9/14/03 11:00 | 4651.404 | 9.756 |
| SAC-E01B | 9/14/03 12:00 | 4651.445 | 9.715 |
| SAC-E01B | 9/14/03 13:00 | 4651.517 | 9.643 |
| SAC-E01B | 9/14/03 14:00 | 4651.538 | 9.622 |
| SAC-E01B | 9/14/03 15:00 | 4651.562 | 9.598 |
| SAC-E01B | 9/14/03 16:00 | 4651.595 | 9.565 |
| SAC-E01B | 9/14/03 17:00 | 4651.608 | 9.552 |
| SAC-E01B | 9/14/03 18:00 | 4651.618 | 9.542 |
| SAC-E01B | 9/14/03 19:00 | 4651.63 | 9.53 |
| SAC-E01B | 9/14/03 20:00 | 4651.626 | 9.534 |
| SAC-E01B | 9/14/03 21:00 | 4651.63 | 9.53 |
| SAC-E01B | 9/14/03 22:00 | 4651.628 | 9.532 |
| SAC-E01B | 9/14/03 23:00 | 4651.628 | 9.532 |
| SAC-E01B | 9/15/03 0:00 | 4651.624 | 9.536 |
| SAC-E01B | 9/15/03 1:00 | 4651.608 | 9.552 |
| SAC-E01B | 9/15/03 2:00 | 4651.589 | 9.571 |
| SAC-E01B | 9/15/03 3:00 | 4651.581 | 9.579 |
| SAC-E01B | 9/15/03 4:00 | 4651.571 | 9.589 |
| SAC-E01B | 9/15/03 5:00 | 4651.55 | 9.61 |
| SAC-E01B | 9/15/03 6:00 | 4651.532 | 9.628 |
| SAC-E01B | 9/15/03 7:00 | 4651.505 | 9.655 |
| SAC-E01B | 9/15/03 8:00 | 4651.472 | 9.688 |
| SAC-E01B | 9/15/03 9:00 | 4651.435 | 9.725 |
| SAC-E01B | 9/15/03 10:00 | 4651.396 | 9.764 |
| SAC-E01B | 9/15/03 11:00 | 4651.347 | 9.813 |
| SAC-E01B | 9/15/03 12:00 | 4651.293 | 9.867 |
| SAC-E01B | 9/15/03 13:00 | 4651.248 | 9.912 |
| SAC-E01B | 9/15/03 14:00 | 4651.189 | 9.971 |
| SAC-E01B | 9/15/03 15:00 | 4651.123 | 10.037 |
| SAC-E01B | 9/15/03 16:00 | 4651.108 | 10.052 |
| SAC-E01B | 9/15/03 17:00 | 4651.088 | 10.072 |
| SAC-E01B | 9/15/03 18:00 | 4651.053 | 10.107 |
| SAC-E01B | 9/15/03 19:00 | 4651.039 | 10.121 |
| SAC-E01B | 9/15/03 20:00 | 4651.02 | 10.14 |
| SAC-E01B | 9/15/03 21:00 | 4651.006 | 10.154 |
| SAC-E01B | 9/15/03 22:00 | 4650.989 | 10.171 |
| SAC-E01B | 9/15/03 23:00 | 4650.973 | 10.187 |
| SAC-E01B | 9/16/03 0:00 | 4650.954 | 10.206 |
| SAC-E01B | 9/16/03 1:00 | 4650.94 | 10.22 |
| SAC-E01B | 9/16/03 2:00 | 4650.925 | 10.235 |
| SAC-E01B | 9/16/03 3:00 | 4650.913 | 10.247 |
| SAC-E01B | 9/16/03 4:00 | 4650.903 | 10.257 |
| SAC-E01B | 9/16/03 5:00 | 4650.894 | 10.266 |
| SAC-E01B | 9/16/03 6:00 | 4650.888 | 10.272 |

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| SAC-E01B | 9/16/03 7:00 | 4650.857 | 10.303 |
| SAC-E01B | 9/16/03 8:00 | 4650.801 | 10.359 |
| SAC-E01B | 9/16/03 9:00 | 4650.777 | 10.383 |
| SAC-E01B | 9/16/03 10:00 | 4650.762 | 10.398 |
| SAC-E01B | 9/16/03 11:00 | 4650.746 | 10.414 |
| SAC-E01B | 9/16/03 12:00 | 4650.737 | 10.423 |
| SAC-E01B | 9/16/03 13:00 | 4650.739 | 10.421 |
| SAC-E01B | 9/16/03 14:00 | 4650.743 | 10.417 |
| SAC-E01B | 9/16/03 15:00 | 4650.745 | 10.415 |
| SAC-E01B | 9/16/03 16:00 | 4650.741 | 10.419 |
| SAC-E01B | 9/16/03 17:00 | 4650.74 | 10.42 |
| SAC-E01B | 9/16/03 18:00 | 4650.736 | 10.424 |
| SAC-E01B | 9/16/03 19:00 | 4650.73 | 10.43 |
| SAC-E01B | 9/16/03 20:00 | 4650.726 | 10.434 |
| SAC-E01B | 9/16/03 21:00 | 4650.721 | 10.439 |
| SAC-E01B | 9/16/03 22:00 | 4650.711 | 10.449 |
| SAC-E01B | 9/16/03 23:00 | 4650.701 | 10.459 |
| SAC-E01B | 9/17/03 0:00 | 4650.695 | 10.465 |
| SAC-E01B | 9/17/03 1:00 | 4650.684 | 10.476 |
| SAC-E01B | 9/17/03 2:00 | 4650.682 | 10.478 |
| SAC-E01B | 9/17/03 3:00 | 4650.676 | 10.484 |
| SAC-E01B | 9/17/03 4:00 | 4650.67 | 10.49 |
| SAC-E01B | 9/17/03 5:00 | 4650.663 | 10.497 |
| SAC-E01B | 9/17/03 6:00 | 4650.655 | 10.505 |
| SAC-E01B | 9/17/03 7:00 | 4650.649 | 10.511 |
| SAC-E01B | 9/17/03 8:00 | 4650.587 | 10.573 |
| SAC-E01B | 9/17/03 9:00 | 4650.575 | 10.585 |
| SAC-E01B | 9/17/03 10:00 | 4650.583 | 10.577 |
| SAC-E01B | 9/17/03 11:00 | 4650.577 | 10.583 |
| SAC-E01B | 9/17/03 12:00 | 4650.568 | 10.592 |
| SAC-E01B | 9/17/03 13:00 | 4650.558 | 10.602 |
| SAC-E01B | 9/17/03 14:00 | 4650.548 | 10.612 |
| SAC-E01B | 9/17/03 15:00 | 4650.535 | 10.625 |
| SAC-E01B | 9/17/03 16:00 | 4650.533 | 10.627 |
| SAC-E01B | 9/17/03 17:00 | 4650.533 | 10.627 |
| SAC-E01B | 9/17/03 18:00 | 4650.529 | 10.631 |
| SAC-E01B | 9/17/03 19:00 | 4650.522 | 10.638 |
| SAC-E01B | 9/17/03 20:00 | 4650.522 | 10.638 |
| SAC-E01B | 9/17/03 21:00 | 4650.516 | 10.644 |
| SAC-E01B | 9/17/03 22:00 | 4650.516 | 10.644 |
| SAC-E01B | 9/17/03 23:00 | 4650.51 | 10.65 |
| SAC-E01B | 9/18/03 0:00 | 4650.5 | 10.66 |
| SAC-E01B | 9/18/03 1:00 | 4650.487 | 10.673 |
| SAC-E01B | 9/18/03 2:00 | 4650.473 | 10.687 |
| SAC-E01B | 9/18/03 3:00 | 4650.454 | 10.706 |
| SAC-E01B | 9/18/03 4:00 | 4650.44 | 10.72 |
| SAC-E01B | 9/18/03 5:00 | 4650.429 | 10.731 |
| SAC-E01B | 9/18/03 6:00 | 4650.417 | 10.743 |
| SAC-E01B | 9/18/03 7:00 | 4650.407 | 10.753 |

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| SAC-E01B | 9/18/03 8:00 | 4650.394 | 10.766 |
| SAC-E01B | 9/18/03 9:00 | 4650.378 | 10.782 |
| SAC-E01B | 9/18/03 10:00 | 4650.367 | 10.793 |
| SAC-E01B | 9/18/03 11:00 | 4650.353 | 10.807 |
| SAC-E01B | 9/18/03 12:00 | 4650.345 | 10.815 |
| SAC-E01B | 9/18/03 13:00 | 4650.332 | 10.828 |
| SAC-E01B | 9/18/03 14:00 | 4650.326 | 10.834 |
| SAC-E01B | 9/18/03 15:00 | 4650.316 | 10.844 |
| SAC-E01B | 9/18/03 16:00 | 4650.309 | 10.851 |
| SAC-E01B | 9/18/03 17:00 | 4650.307 | 10.853 |
| SAC-E01B | 9/18/03 18:00 | 4650.305 | 10.855 |
| SAC-E01B | 9/18/03 19:00 | 4650.305 | 10.855 |
| SAC-E01B | 9/18/03 20:00 | 4650.303 | 10.857 |
| SAC-E01B | 9/18/03 21:00 | 4650.301 | 10.859 |
| SAC-E01B | 9/18/03 22:00 | 4650.295 | 10.865 |
| SAC-E01B | 9/18/03 23:00 | 4650.295 | 10.865 |
| SAC-E01B | 9/19/03 0:00 | 4650.286 | 10.874 |
| SAC-E01B | 9/19/03 1:00 | 4650.28 | 10.88 |
| SAC-E01B | 9/19/03 2:00 | 4650.276 | 10.884 |
| SAC-E01B | 9/19/03 3:00 | 4650.272 | 10.888 |
| SAC-E01B | 9/19/03 4:00 | 4650.268 | 10.892 |
| SAC-E01B | 9/19/03 5:00 | 4650.261 | 10.899 |
| SAC-E01B | 9/19/03 6:00 | 4650.259 | 10.901 |
| SAC-E01B | 9/19/03 7:00 | 4650.255 | 10.905 |
| SAC-E01B | 9/19/03 8:00 | 4650.251 | 10.909 |
| SAC-E01B | 9/19/03 9:00 | 4650.245 | 10.915 |
| SAC-E01B | 9/19/03 10:00 | 4650.239 | 10.921 |
| SAC-E01B | 9/19/03 11:00 | 4650.234 | 10.926 |
| SAC-E01B | 9/19/03 12:00 | 4650.228 | 10.932 |
| SAC-E01B | 9/19/03 13:00 | 4650.226 | 10.934 |
| SAC-E01B | 9/19/03 14:00 | 4650.22 | 10.94 |
| SAC-E01B | 9/19/03 15:00 | 4650.216 | 10.944 |
| SAC-E01B | 9/19/03 16:00 | 4650.21 | 10.95 |
| SAC-E01B | 9/19/03 17:00 | 4650.208 | 10.952 |
| SAC-E01B | 9/19/03 18:00 | 4650.201 | 10.959 |
| SAC-E01B | 9/19/03 19:00 | 4650.201 | 10.959 |
| SAC-E01B | 9/19/03 20:00 | 4650.193 | 10.967 |
| SAC-E01B | 9/19/03 21:00 | 4650.187 | 10.973 |
| SAC-E01B | 9/19/03 22:00 | 4650.181 | 10.979 |
| SAC-E01B | 9/19/03 23:00 | 4650.175 | 10.985 |
| SAC-E01B | 9/20/03 0:00 | 4650.166 | 10.994 |
| SAC-E01B | 9/20/03 1:00 | 4650.164 | 10.996 |
| SAC-E01B | 9/20/03 2:00 | 4650.158 | 11.002 |
| SAC-E01B | 9/20/03 3:00 | 4650.156 | 11.004 |
| SAC-E01B | 9/20/03 4:00 | 4650.154 | 11.006 |
| SAC-E01B | 9/20/03 5:00 | 4650.15 | 11.01 |
| SAC-E01B | 9/20/03 6:00 | 4650.146 | 11.014 |
| SAC-E01B | 9/20/03 7:00 | 4650.142 | 11.018 |
| SAC-E01B | 9/20/03 8:00 | 4650.137 | 11.023 |

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| SAC-E01B | 9/20/03 9:00 | 4650.129 | 11.031 |
| SAC-E01B | 9/20/03 10:00 | 4650.121 | 11.039 |
| SAC-E01B | 9/20/03 11:00 | 4650.113 | 11.047 |
| SAC-E01B | 9/20/03 12:00 | 4650.109 | 11.051 |
| SAC-E01B | 9/20/03 13:00 | 4650.13 | 11.03 |
| SAC-E01B | 9/20/03 14:00 | 4650.133 | 11.027 |
| SAC-E01B | 9/20/03 15:00 | 4650.127 | 11.033 |
| SAC-E01B | 9/20/03 16:00 | 4650.113 | 11.047 |
| SAC-E01B | 9/20/03 17:00 | 4650.109 | 11.051 |
| SAC-E01B | 9/20/03 18:00 | 4650.107 | 11.053 |
| SAC-E01B | 9/20/03 19:00 | 4650.103 | 11.057 |
| SAC-E01B | 9/20/03 20:00 | 4650.098 | 11.062 |
| SAC-E01B | 9/20/03 21:00 | 4650.096 | 11.064 |
| SAC-E01B | 9/20/03 22:00 | 4650.096 | 11.064 |
| SAC-E01B | 9/20/03 23:00 | 4650.094 | 11.066 |
| SAC-E01B | 9/21/03 0:00 | 4650.09 | 11.07 |
| SAC-E01B | 9/21/03 1:00 | 4650.09 | 11.07 |
| SAC-E01B | 9/21/03 2:00 | 4650.086 | 11.074 |
| SAC-E01B | 9/21/03 3:00 | 4650.086 | 11.074 |
| SAC-E01B | 9/21/03 4:00 | 4650.078 | 11.082 |
| SAC-E01B | 9/21/03 5:00 | 4650.074 | 11.086 |
| SAC-E01B | 9/21/03 6:00 | 4650.07 | 11.09 |
| SAC-E01B | 9/21/03 7:00 | 4650.062 | 11.098 |
| SAC-E01B | 9/21/03 8:00 | 4650.055 | 11.105 |
| SAC-E01B | 9/21/03 9:00 | 4650.047 | 11.113 |
| SAC-E01B | 9/21/03 10:00 | 4650.039 | 11.121 |
| SAC-E01B | 9/21/03 11:00 | 4650.031 | 11.129 |
| SAC-E01B | 9/21/03 12:00 | 4650.023 | 11.137 |
| SAC-E01B | 9/21/03 13:00 | 4650.016 | 11.144 |
| SAC-E01B | 9/21/03 14:00 | 4650.01 | 11.15 |
| SAC-E01B | 9/21/03 15:00 | 4650.002 | 11.158 |
| SAC-E01B | 9/21/03 16:00 | 4649.998 | 11.162 |
| SAC-E01B | 9/21/03 17:00 | 4649.994 | 11.166 |
| SAC-E01B | 9/21/03 18:00 | 4649.994 | 11.166 |
| SAC-E01B | 9/21/03 19:00 | 4649.994 | 11.166 |
| SAC-E01B | 9/21/03 20:00 | 4649.992 | 11.168 |
| SAC-E01B | 9/21/03 21:00 | 4649.99 | 11.17 |
| SAC-E01B | 9/21/03 22:00 | 4649.988 | 11.172 |
| SAC-E01B | 9/21/03 23:00 | 4649.986 | 11.174 |
| SAC-E01B | 9/22/03 0:00 | 4649.988 | 11.172 |
| SAC-E01B | 9/22/03 1:00 | 4649.981 | 11.179 |
| SAC-E01B | 9/22/03 2:00 | 4649.981 | 11.179 |
| SAC-E01B | 9/22/03 3:00 | 4649.977 | 11.183 |
| SAC-E01B | 9/22/03 4:00 | 4649.977 | 11.183 |
| SAC-E01B | 9/22/03 5:00 | 4649.971 | 11.189 |
| SAC-E01B | 9/22/03 6:00 | 4649.971 | 11.189 |
| SAC-E01B | 9/22/03 7:00 | 4649.969 | 11.191 |
| SAC-E01B | 9/22/03 8:00 | 4649.965 | 11.195 |
| SAC-E01B | 9/22/03 9:00 | 4649.959 | 11.201 |

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| SAC-E01B | 9/22/03 10:00 | 4649.951 | 11.209 |
| SAC-E01B | 9/22/03 11:00 | 4649.947 | 11.213 |
| SAC-E01B | 9/22/03 12:00 | 4649.94 | 11.22 |
| SAC-E01B | 9/22/03 13:00 | 4649.938 | 11.222 |
| SAC-E01B | 9/22/03 14:00 | 4649.932 | 11.228 |
| SAC-E01B | 9/22/03 15:00 | 4649.928 | 11.232 |
| SAC-E01B | 9/22/03 16:00 | 4649.926 | 11.234 |
| SAC-E01B | 9/22/03 17:00 | 4649.926 | 11.234 |
| SAC-E01B | 9/22/03 18:00 | 4649.926 | 11.234 |
| SAC-E01B | 9/22/03 19:00 | 4649.926 | 11.234 |
| SAC-E01B | 9/22/03 20:00 | 4649.926 | 11.234 |
| SAC-E01B | 9/22/03 21:00 | 4649.926 | 11.234 |
| SAC-E01B | 9/22/03 22:00 | 4649.924 | 11.236 |
| SAC-E01B | 9/22/03 23:00 | 4649.924 | 11.236 |
| SAC-E01B | 9/23/03 0:00 | 4649.924 | 11.236 |
| SAC-E01B | 9/23/03 1:00 | 4649.922 | 11.238 |
| SAC-E01B | 9/23/03 2:00 | 4649.922 | 11.238 |
| SAC-E01B | 9/23/03 3:00 | 4649.92 | 11.24 |
| SAC-E01B | 9/23/03 4:00 | 4649.92 | 11.24 |
| SAC-E01B | 9/23/03 5:00 | 4649.918 | 11.242 |
| SAC-E01B | 9/23/03 6:00 | 4649.92 | 11.24 |
| SAC-E01B | 9/23/03 7:00 | 4649.916 | 11.244 |
| SAC-E01B | 9/23/03 8:00 | 4649.914 | 11.246 |
| SAC-E01B | 9/23/03 9:00 | 4649.91 | 11.25 |
| SAC-E01B | 9/23/03 10:00 | 4649.901 | 11.259 |
| SAC-E01B | 9/23/03 11:00 | 4649.895 | 11.265 |
| SAC-E01B | 9/23/03 12:00 | 4649.889 | 11.271 |
| SAC-E01B | 9/23/03 13:00 | 4649.887 | 11.273 |
| SAC-E01B | 9/23/03 14:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/23/03 15:00 | 4649.879 | 11.281 |
| SAC-E01B | 9/23/03 16:00 | 4649.877 | 11.283 |
| SAC-E01B | 9/23/03 17:00 | 4649.877 | 11.283 |
| SAC-E01B | 9/23/03 18:00 | 4649.877 | 11.283 |
| SAC-E01B | 9/23/03 19:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/23/03 20:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/23/03 21:00 | 4649.883 | 11.277 |
| SAC-E01B | 9/23/03 22:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/23/03 23:00 | 4649.879 | 11.281 |
| SAC-E01B | 9/24/03 0:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/24/03 1:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/24/03 2:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/24/03 3:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/24/03 4:00 | 4649.879 | 11.281 |
| SAC-E01B | 9/24/03 5:00 | 4649.881 | 11.279 |
| SAC-E01B | 9/24/03 6:00 | 4649.879 | 11.281 |
| SAC-E01B | 9/24/03 7:00 | 4649.877 | 11.283 |
| SAC-E01B | 9/24/03 8:00 | 4649.873 | 11.287 |
| SAC-E01B | 9/24/03 9:00 | 4649.871 | 11.289 |
| SAC-E01B | 9/24/03 10:00 | 4649.865 | 11.295 |

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| SAC-E01B | 9/24/03 11:00 | 4649.861 | 11.299 |
| SAC-E01B | 9/24/03 12:00 | 4649.856 | 11.304 |
| SAC-E01B | 9/24/03 13:00 | 4649.855 | 11.305 |
| SAC-E01B | 9/24/03 14:00 | 4649.848 | 11.312 |
| SAC-E01B | 9/24/03 15:00 | 4649.844 | 11.316 |
| SAC-E01B | 9/24/03 16:00 | 4649.844 | 11.316 |
| SAC-E01B | 9/24/03 17:00 | 4649.844 | 11.316 |
| SAC-E01B | 9/24/03 18:00 | 4649.844 | 11.316 |
| SAC-E01B | 9/24/03 19:00 | 4649.84 | 11.32 |
| SAC-E01B | 9/24/03 20:00 | 4649.84 | 11.32 |
| SAC-E01B | 9/24/03 21:00 | 4649.84 | 11.32 |
| SAC-E01B | 9/24/03 22:00 | 4649.84 | 11.32 |
| SAC-E01B | 9/24/03 23:00 | 4649.838 | 11.322 |
| SAC-E01B | 9/25/03 0:00 | 4649.84 | 11.32 |
| SAC-E01B | 9/25/03 1:00 | 4649.839 | 11.321 |
| SAC-E01B | 9/25/03 2:00 | 4649.838 | 11.322 |
| SAC-E01B | 9/25/03 3:00 | 4649.839 | 11.321 |
| SAC-E01B | 9/25/03 4:00 | 4649.839 | 11.321 |
| SAC-E01B | 9/25/03 5:00 | 4649.836 | 11.324 |
| SAC-E01B | 9/25/03 6:00 | 4649.836 | 11.324 |
| SAC-E01B | 9/25/03 7:00 | 4649.834 | 11.326 |
| SAC-E01B | 9/25/03 8:00 | 4649.83 | 11.33 |
| SAC-E01B | 9/25/03 9:00 | 4649.83 | 11.33 |
| SAC-E01B | 9/25/03 10:00 | 4649.822 | 11.338 |
| SAC-E01B | 9/25/03 11:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/25/03 12:00 | 4649.816 | 11.344 |
| SAC-E01B | 9/25/03 13:00 | 4649.812 | 11.348 |
| SAC-E01B | 9/25/03 14:00 | 4649.814 | 11.346 |
| SAC-E01B | 9/25/03 15:00 | 4649.806 | 11.354 |
| SAC-E01B | 9/25/03 16:00 | 4649.806 | 11.354 |
| SAC-E01B | 9/25/03 17:00 | 4649.806 | 11.354 |
| SAC-E01B | 9/25/03 18:00 | 4649.808 | 11.352 |
| SAC-E01B | 9/25/03 19:00 | 4649.81 | 11.35 |
| SAC-E01B | 9/25/03 20:00 | 4649.812 | 11.348 |
| SAC-E01B | 9/25/03 21:00 | 4649.81 | 11.35 |
| SAC-E01B | 9/25/03 22:00 | 4649.812 | 11.348 |
| SAC-E01B | 9/25/03 23:00 | 4649.814 | 11.346 |
| SAC-E01B | 9/26/03 0:00 | 4649.816 | 11.344 |
| SAC-E01B | 9/26/03 1:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/26/03 2:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/26/03 3:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/26/03 4:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/26/03 5:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/26/03 6:00 | 4649.82 | 11.34 |
| SAC-E01B | 9/26/03 7:00 | 4649.818 | 11.342 |
| SAC-E01B | 9/26/03 8:00 | 4649.814 | 11.346 |
| SAC-E01B | 9/26/03 9:00 | 4649.81 | 11.35 |
| SAC-E01B | 9/26/03 10:00 | 4649.804 | 11.356 |
| SAC-E01B | 9/26/03 11:00 | 4649.765 | 11.395 |

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| SAC-E01B | 9/26/03 12:00 | 4649.761 | 11.399 |
| SAC-E01B | 9/26/03 13:00 | 4649.757 | 11.403 |
| SAC-E01B | 9/26/03 14:00 | 4649.75 | 11.41 |
| SAC-E01B | 9/26/03 15:00 | 4649.75 | 11.41 |
| SAC-E01B | 9/26/03 16:00 | 4649.748 | 11.412 |
| SAC-E01B | 9/26/03 17:00 | 4649.746 | 11.414 |
| SAC-E01B | 9/26/03 18:00 | 4649.75 | 11.41 |
| SAC-E01B | 9/26/03 19:00 | 4649.755 | 11.405 |
| SAC-E01B | 9/26/03 20:00 | 4649.757 | 11.403 |
| SAC-E01B | 9/26/03 21:00 | 4649.759 | 11.401 |
| SAC-E01B | 9/26/03 22:00 | 4649.761 | 11.399 |
| SAC-E01B | 9/26/03 23:00 | 4649.761 | 11.399 |
| SAC-E01B | 9/27/03 0:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/27/03 1:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/27/03 2:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/27/03 3:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/27/03 4:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/27/03 5:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/27/03 6:00 | 4649.765 | 11.395 |
| SAC-E01B | 9/27/03 7:00 | 4649.763 | 11.397 |
| SAC-E01B | 9/27/03 8:00 | 4649.761 | 11.399 |
| SAC-E01B | 9/27/03 9:00 | 4649.755 | 11.405 |
| SAC-E01B | 9/27/03 10:00 | 4649.751 | 11.409 |
| SAC-E01B | 9/27/03 11:00 | 4649.743 | 11.417 |
| SAC-E01B | 9/27/03 12:00 | 4649.74 | 11.42 |
| SAC-E01B | 9/27/03 13:00 | 4649.738 | 11.422 |
| SAC-E01B | 9/27/03 14:00 | 4649.735 | 11.425 |
| SAC-E01B | 9/27/03 15:00 | 4649.73 | 11.43 |
| SAC-E01B | 9/27/03 16:00 | 4649.73 | 11.43 |
| SAC-E01B | 9/27/03 17:00 | 4649.735 | 11.425 |
| SAC-E01B | 9/27/03 18:00 | 4649.735 | 11.425 |
| SAC-E01B | 9/27/03 19:00 | 4649.737 | 11.423 |
| SAC-E01B | 9/27/03 20:00 | 4649.741 | 11.419 |
| SAC-E01B | 9/27/03 21:00 | 4649.743 | 11.417 |
| SAC-E01B | 9/27/03 22:00 | 4649.747 | 11.413 |
| SAC-E01B | 9/27/03 23:00 | 4649.747 | 11.413 |
| SAC-E01B | 9/28/03 0:00 | 4649.749 | 11.411 |
| SAC-E01B | 9/28/03 1:00 | 4649.749 | 11.411 |
| SAC-E01B | 9/28/03 2:00 | 4649.751 | 11.409 |
| SAC-E01B | 9/28/03 3:00 | 4649.751 | 11.409 |
| SAC-E01B | 9/28/03 4:00 | 4649.753 | 11.407 |
| SAC-E01B | 9/28/03 5:00 | 4649.757 | 11.403 |
| SAC-E01B | 9/28/03 6:00 | 4649.753 | 11.407 |
| SAC-E01B | 9/28/03 7:00 | 4649.753 | 11.407 |
| SAC-E01B | 9/28/03 8:00 | 4649.751 | 11.409 |
| SAC-E01B | 9/28/03 9:00 | 4649.745 | 11.415 |
| SAC-E01B | 9/28/03 10:00 | 4649.739 | 11.421 |
| SAC-E01B | 9/28/03 11:00 | 4649.731 | 11.429 |
| SAC-E01B | 9/28/03 12:00 | 4649.729 | 11.431 |

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| SAC-E01B | 9/28/03 13:00 | 4649.722 | 11.438 |
| SAC-E01B | 9/28/03 14:00 | 4649.72 | 11.44 |
| SAC-E01B | 9/28/03 15:00 | 4649.718 | 11.442 |
| SAC-E01B | 9/28/03 16:00 | 4649.716 | 11.444 |
| SAC-E01B | 9/28/03 17:00 | 4649.718 | 11.442 |
| SAC-E01B | 9/28/03 18:00 | 4649.725 | 11.435 |
| SAC-E01B | 9/28/03 19:00 | 4649.722 | 11.438 |
| SAC-E01B | 9/28/03 20:00 | 4649.727 | 11.433 |
| SAC-E01B | 9/28/03 21:00 | 4649.731 | 11.429 |
| SAC-E01B | 9/28/03 22:00 | 4649.733 | 11.427 |
| SAC-E01B | 9/28/03 23:00 | 4649.733 | 11.427 |
| SAC-E01B | 9/29/03 0:00 | 4649.731 | 11.429 |
| SAC-E01B | 9/29/03 1:00 | 4649.735 | 11.425 |
| SAC-E01B | 9/29/03 2:00 | 4649.737 | 11.423 |
| SAC-E01B | 9/29/03 3:00 | 4649.739 | 11.421 |
| SAC-E01B | 9/29/03 4:00 | 4649.741 | 11.419 |
| SAC-E01B | 9/29/03 5:00 | 4649.739 | 11.421 |
| SAC-E01B | 9/29/03 6:00 | 4649.741 | 11.419 |
| SAC-E01B | 9/29/03 7:00 | 4649.741 | 11.419 |
| SAC-E01B | 9/29/03 8:00 | 4649.739 | 11.421 |
| SAC-E01B | 9/29/03 9:00 | 4649.733 | 11.427 |
| SAC-E01B | 9/29/03 10:00 | 4649.727 | 11.433 |
| SAC-E01B | 9/29/03 11:00 | 4649.719 | 11.441 |
| SAC-E01B | 9/29/03 12:00 | 4649.715 | 11.445 |
| SAC-E01B | 9/29/03 13:00 | 4649.71 | 11.45 |
| SAC-E01B | 9/29/03 14:00 | 4649.706 | 11.454 |
| SAC-E01B | 9/29/03 15:00 | 4649.704 | 11.456 |
| SAC-E01B | 9/29/03 16:00 | 4649.702 | 11.458 |
| SAC-E01B | 9/29/03 17:00 | 4649.704 | 11.456 |
| SAC-E01B | 9/29/03 18:00 | 4649.708 | 11.452 |
| SAC-E01B | 9/29/03 19:00 | 4649.712 | 11.448 |
| SAC-E01B | 9/29/03 20:00 | 4649.717 | 11.443 |
| SAC-E01B | 9/29/03 21:00 | 4649.719 | 11.441 |
| SAC-E01B | 9/29/03 22:00 | 4649.719 | 11.441 |
| SAC-E01B | 9/29/03 23:00 | 4649.723 | 11.437 |
| SAC-E01B | 9/30/03 0:00 | 4649.727 | 11.433 |
| SAC-E01B | 9/30/03 1:00 | 4649.727 | 11.433 |
| SAC-E01B | 9/30/03 2:00 | 4649.731 | 11.429 |
| SAC-E01B | 9/30/03 3:00 | 4649.731 | 11.429 |
| SAC-E01B | 9/30/03 4:00 | 4649.731 | 11.429 |
| SAC-E01B | 9/30/03 5:00 | 4649.733 | 11.427 |
| SAC-E01B | 9/30/03 6:00 | 4649.735 | 11.425 |
| SAC-E01B | 9/30/03 7:00 | 4649.735 | 11.425 |
| SAC-E01B | 9/30/03 8:00 | 4649.733 | 11.427 |
| SAC-E01B | 9/30/03 9:00 | 4649.727 | 11.433 |
| SAC-E01B | 9/30/03 10:00 | 4649.719 | 11.441 |
| SAC-E01B | 9/30/03 11:00 | 4649.711 | 11.449 |
| SAC-E01B | 9/30/03 12:00 | 4649.702 | 11.458 |
| SAC-E01B | 9/30/03 13:00 | 4649.698 | 11.462 |

| | | | |
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| SAC-E01B | 9/30/03 14:00 | 4649.694 | 11.466 |
| SAC-E01B | 9/30/03 15:00 | 4649.692 | 11.468 |
| SAC-E01B | 9/30/03 16:00 | 4649.69 | 11.47 |
| SAC-E01B | 9/30/03 17:00 | 4649.694 | 11.466 |
| SAC-E01B | 9/30/03 18:00 | 4649.698 | 11.462 |
| SAC-E01B | 9/30/03 19:00 | 4649.701 | 11.459 |
| SAC-E01B | 9/30/03 20:00 | 4649.707 | 11.453 |
| SAC-E01B | 9/30/03 21:00 | 4649.709 | 11.451 |
| SAC-E01B | 9/30/03 22:00 | 4649.709 | 11.451 |
| SAC-E01B | 9/30/03 23:00 | 4649.711 | 11.449 |

| LOCID | Date and Time | WATELEV | DTW |
|----------|---------------|----------|--------|
| SAC-E03A | 9/1/03 0:00 | 4649.371 | 17.969 |
| SAC-E03A | 9/1/03 1:00 | 4649.373 | 17.967 |
| SAC-E03A | 9/1/03 2:00 | 4649.375 | 17.965 |
| SAC-E03A | 9/1/03 3:00 | 4649.377 | 17.963 |
| SAC-E03A | 9/1/03 4:00 | 4649.379 | 17.961 |
| SAC-E03A | 9/1/03 5:00 | 4649.383 | 17.957 |
| SAC-E03A | 9/1/03 6:00 | 4649.387 | 17.953 |
| SAC-E03A | 9/1/03 7:00 | 4649.391 | 17.949 |
| SAC-E03A | 9/1/03 8:00 | 4649.393 | 17.947 |
| SAC-E03A | 9/1/03 9:00 | 4649.391 | 17.949 |
| SAC-E03A | 9/1/03 10:00 | 4649.391 | 17.949 |
| SAC-E03A | 9/1/03 11:00 | 4649.391 | 17.949 |
| SAC-E03A | 9/1/03 12:00 | 4649.389 | 17.951 |
| SAC-E03A | 9/1/03 13:00 | 4649.385 | 17.955 |
| SAC-E03A | 9/1/03 14:00 | 4649.383 | 17.957 |
| SAC-E03A | 9/1/03 15:00 | 4649.381 | 17.959 |
| SAC-E03A | 9/1/03 16:00 | 4649.379 | 17.961 |
| SAC-E03A | 9/1/03 17:00 | 4649.379 | 17.961 |
| SAC-E03A | 9/1/03 18:00 | 4649.379 | 17.961 |
| SAC-E03A | 9/1/03 19:00 | 4649.383 | 17.957 |
| SAC-E03A | 9/1/03 20:00 | 4649.385 | 17.955 |
| SAC-E03A | 9/1/03 21:00 | 4649.389 | 17.951 |
| SAC-E03A | 9/1/03 22:00 | 4649.393 | 17.947 |
| SAC-E03A | 9/1/03 23:00 | 4649.395 | 17.945 |
| SAC-E03A | 9/2/03 0:00 | 4649.399 | 17.941 |
| SAC-E03A | 9/2/03 1:00 | 4649.405 | 17.935 |
| SAC-E03A | 9/2/03 2:00 | 4649.407 | 17.933 |
| SAC-E03A | 9/2/03 3:00 | 4649.41 | 17.93 |
| SAC-E03A | 9/2/03 4:00 | 4649.414 | 17.926 |
| SAC-E03A | 9/2/03 5:00 | 4649.418 | 17.922 |
| SAC-E03A | 9/2/03 6:00 | 4649.422 | 17.918 |
| SAC-E03A | 9/2/03 7:00 | 4649.426 | 17.914 |
| SAC-E03A | 9/2/03 8:00 | 4649.428 | 17.912 |
| SAC-E03A | 9/2/03 9:00 | 4649.426 | 17.914 |
| SAC-E03A | 9/2/03 10:00 | 4649.426 | 17.914 |
| SAC-E03A | 9/2/03 11:00 | 4649.424 | 17.916 |

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| SAC-E03A | 9/2/03 12:00 | 4649.422 | 17.918 |
| SAC-E03A | 9/2/03 13:00 | 4649.418 | 17.922 |
| SAC-E03A | 9/2/03 14:00 | 4649.414 | 17.926 |
| SAC-E03A | 9/2/03 15:00 | 4649.41 | 17.93 |
| SAC-E03A | 9/2/03 16:00 | 4649.408 | 17.932 |
| SAC-E03A | 9/2/03 17:00 | 4649.408 | 17.932 |
| SAC-E03A | 9/2/03 18:00 | 4649.408 | 17.932 |
| SAC-E03A | 9/2/03 19:00 | 4649.41 | 17.93 |
| SAC-E03A | 9/2/03 20:00 | 4649.414 | 17.926 |
| SAC-E03A | 9/2/03 21:00 | 4649.418 | 17.922 |
| SAC-E03A | 9/2/03 22:00 | 4649.424 | 17.916 |
| SAC-E03A | 9/2/03 23:00 | 4649.428 | 17.912 |
| SAC-E03A | 9/3/03 0:00 | 4649.432 | 17.908 |
| SAC-E03A | 9/3/03 1:00 | 4649.436 | 17.904 |
| SAC-E03A | 9/3/03 2:00 | 4649.442 | 17.898 |
| SAC-E03A | 9/3/03 3:00 | 4649.446 | 17.894 |
| SAC-E03A | 9/3/03 4:00 | 4649.45 | 17.89 |
| SAC-E03A | 9/3/03 5:00 | 4649.455 | 17.885 |
| SAC-E03A | 9/3/03 6:00 | 4649.459 | 17.881 |
| SAC-E03A | 9/3/03 7:00 | 4649.465 | 17.875 |
| SAC-E03A | 9/3/03 8:00 | 4649.467 | 17.873 |
| SAC-E03A | 9/3/03 9:00 | 4649.467 | 17.873 |
| SAC-E03A | 9/3/03 10:00 | 4649.465 | 17.875 |
| SAC-E03A | 9/3/03 11:00 | 4649.465 | 17.875 |
| SAC-E03A | 9/3/03 12:00 | 4649.463 | 17.877 |
| SAC-E03A | 9/3/03 13:00 | 4649.463 | 17.877 |
| SAC-E03A | 9/3/03 14:00 | 4649.459 | 17.881 |
| SAC-E03A | 9/3/03 15:00 | 4649.457 | 17.883 |
| SAC-E03A | 9/3/03 16:00 | 4649.457 | 17.883 |
| SAC-E03A | 9/3/03 17:00 | 4649.455 | 17.885 |
| SAC-E03A | 9/3/03 18:00 | 4649.457 | 17.883 |
| SAC-E03A | 9/3/03 19:00 | 4649.461 | 17.879 |
| SAC-E03A | 9/3/03 20:00 | 4649.465 | 17.875 |
| SAC-E03A | 9/3/03 21:00 | 4649.469 | 17.871 |
| SAC-E03A | 9/3/03 22:00 | 4649.473 | 17.867 |
| SAC-E03A | 9/3/03 23:00 | 4649.477 | 17.863 |
| SAC-E03A | 9/4/03 0:00 | 4649.481 | 17.859 |
| SAC-E03A | 9/4/03 1:00 | 4649.484 | 17.856 |
| SAC-E03A | 9/4/03 2:00 | 4649.49 | 17.85 |
| SAC-E03A | 9/4/03 3:00 | 4649.494 | 17.846 |
| SAC-E03A | 9/4/03 4:00 | 4649.498 | 17.842 |
| SAC-E03A | 9/4/03 5:00 | 4649.502 | 17.838 |
| SAC-E03A | 9/4/03 6:00 | 4649.506 | 17.834 |
| SAC-E03A | 9/4/03 7:00 | 4649.51 | 17.83 |
| SAC-E03A | 9/4/03 8:00 | 4649.512 | 17.828 |
| SAC-E03A | 9/4/03 9:00 | 4649.512 | 17.828 |
| SAC-E03A | 9/4/03 10:00 | 4649.514 | 17.826 |
| SAC-E03A | 9/4/03 11:00 | 4649.512 | 17.828 |

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| SAC-E03A | 9/4/03 12:00 | 4649.511 | 17.829 |
| SAC-E03A | 9/4/03 13:00 | 4649.51 | 17.83 |
| SAC-E03A | 9/4/03 14:00 | 4649.508 | 17.832 |
| SAC-E03A | 9/4/03 15:00 | 4649.506 | 17.834 |
| SAC-E03A | 9/4/03 16:00 | 4649.504 | 17.836 |
| SAC-E03A | 9/4/03 17:00 | 4649.506 | 17.834 |
| SAC-E03A | 9/4/03 18:00 | 4649.508 | 17.832 |
| SAC-E03A | 9/4/03 19:00 | 4649.511 | 17.829 |
| SAC-E03A | 9/4/03 20:00 | 4649.513 | 17.827 |
| SAC-E03A | 9/4/03 21:00 | 4649.518 | 17.822 |
| SAC-E03A | 9/4/03 22:00 | 4649.519 | 17.821 |
| SAC-E03A | 9/4/03 23:00 | 4649.522 | 17.818 |
| SAC-E03A | 9/5/03 0:00 | 4649.525 | 17.815 |
| SAC-E03A | 9/5/03 1:00 | 4649.527 | 17.813 |
| SAC-E03A | 9/5/03 2:00 | 4649.529 | 17.811 |
| SAC-E03A | 9/5/03 3:00 | 4649.533 | 17.807 |
| SAC-E03A | 9/5/03 4:00 | 4649.537 | 17.803 |
| SAC-E03A | 9/5/03 5:00 | 4649.539 | 17.801 |
| SAC-E03A | 9/5/03 6:00 | 4649.541 | 17.799 |
| SAC-E03A | 9/5/03 7:00 | 4649.543 | 17.797 |
| SAC-E03A | 9/5/03 8:00 | 4649.545 | 17.795 |
| SAC-E03A | 9/5/03 9:00 | 4649.545 | 17.795 |
| SAC-E03A | 9/5/03 10:00 | 4649.543 | 17.797 |
| SAC-E03A | 9/5/03 11:00 | 4649.541 | 17.799 |
| SAC-E03A | 9/5/03 12:00 | 4649.539 | 17.801 |
| SAC-E03A | 9/5/03 13:00 | 4649.537 | 17.803 |
| SAC-E03A | 9/5/03 14:00 | 4649.533 | 17.807 |
| SAC-E03A | 9/5/03 15:00 | 4649.531 | 17.809 |
| SAC-E03A | 9/5/03 16:00 | 4649.531 | 17.809 |
| SAC-E03A | 9/5/03 17:00 | 4649.531 | 17.809 |
| SAC-E03A | 9/5/03 18:00 | 4649.531 | 17.809 |
| SAC-E03A | 9/5/03 19:00 | 4649.533 | 17.807 |
| SAC-E03A | 9/5/03 20:00 | 4649.535 | 17.805 |
| SAC-E03A | 9/5/03 21:00 | 4649.535 | 17.805 |
| SAC-E03A | 9/5/03 22:00 | 4649.535 | 17.805 |
| SAC-E03A | 9/5/03 23:00 | 4649.539 | 17.801 |
| SAC-E03A | 9/6/03 0:00 | 4649.539 | 17.801 |
| SAC-E03A | 9/6/03 1:00 | 4649.542 | 17.798 |
| SAC-E03A | 9/6/03 2:00 | 4649.542 | 17.798 |
| SAC-E03A | 9/6/03 3:00 | 4649.544 | 17.796 |
| SAC-E03A | 9/6/03 4:00 | 4649.547 | 17.793 |
| SAC-E03A | 9/6/03 5:00 | 4649.549 | 17.791 |
| SAC-E03A | 9/6/03 6:00 | 4649.549 | 17.791 |
| SAC-E03A | 9/6/03 7:00 | 4649.55 | 17.79 |
| SAC-E03A | 9/6/03 8:00 | 4649.553 | 17.787 |
| SAC-E03A | 9/6/03 9:00 | 4649.55 | 17.79 |
| SAC-E03A | 9/6/03 10:00 | 4649.548 | 17.792 |
| SAC-E03A | 9/6/03 11:00 | 4649.546 | 17.794 |

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| SAC-E03A | 9/6/03 12:00 | 4649.542 | 17.798 |
| SAC-E03A | 9/6/03 13:00 | 4649.537 | 17.803 |
| SAC-E03A | 9/6/03 14:00 | 4649.535 | 17.805 |
| SAC-E03A | 9/6/03 15:00 | 4649.532 | 17.808 |
| SAC-E03A | 9/6/03 16:00 | 4649.533 | 17.807 |
| SAC-E03A | 9/6/03 17:00 | 4649.533 | 17.807 |
| SAC-E03A | 9/6/03 18:00 | 4649.533 | 17.807 |
| SAC-E03A | 9/6/03 19:00 | 4649.535 | 17.805 |
| SAC-E03A | 9/6/03 20:00 | 4649.537 | 17.803 |
| SAC-E03A | 9/6/03 21:00 | 4649.537 | 17.803 |
| SAC-E03A | 9/6/03 22:00 | 4649.539 | 17.801 |
| SAC-E03A | 9/6/03 23:00 | 4649.54 | 17.8 |
| SAC-E03A | 9/7/03 0:00 | 4649.542 | 17.798 |
| SAC-E03A | 9/7/03 1:00 | 4649.544 | 17.796 |
| SAC-E03A | 9/7/03 2:00 | 4649.546 | 17.794 |
| SAC-E03A | 9/7/03 3:00 | 4649.548 | 17.792 |
| SAC-E03A | 9/7/03 4:00 | 4649.548 | 17.792 |
| SAC-E03A | 9/7/03 5:00 | 4649.552 | 17.788 |
| SAC-E03A | 9/7/03 6:00 | 4649.552 | 17.788 |
| SAC-E03A | 9/7/03 7:00 | 4649.554 | 17.786 |
| SAC-E03A | 9/7/03 8:00 | 4649.554 | 17.786 |
| SAC-E03A | 9/7/03 9:00 | 4649.554 | 17.786 |
| SAC-E03A | 9/7/03 10:00 | 4649.554 | 17.786 |
| SAC-E03A | 9/7/03 11:00 | 4649.552 | 17.788 |
| SAC-E03A | 9/7/03 12:00 | 4649.55 | 17.79 |
| SAC-E03A | 9/7/03 13:00 | 4649.548 | 17.792 |
| SAC-E03A | 9/7/03 14:00 | 4649.544 | 17.796 |
| SAC-E03A | 9/7/03 15:00 | 4649.542 | 17.798 |
| SAC-E03A | 9/7/03 16:00 | 4649.54 | 17.8 |
| SAC-E03A | 9/7/03 17:00 | 4649.538 | 17.802 |
| SAC-E03A | 9/7/03 18:00 | 4649.538 | 17.802 |
| SAC-E03A | 9/7/03 19:00 | 4649.54 | 17.8 |
| SAC-E03A | 9/7/03 20:00 | 4649.542 | 17.798 |
| SAC-E03A | 9/7/03 21:00 | 4649.544 | 17.796 |
| SAC-E03A | 9/7/03 22:00 | 4649.546 | 17.794 |
| SAC-E03A | 9/7/03 23:00 | 4649.55 | 17.79 |
| SAC-E03A | 9/8/03 0:00 | 4649.552 | 17.788 |
| SAC-E03A | 9/8/03 1:00 | 4649.554 | 17.786 |
| SAC-E03A | 9/8/03 2:00 | 4649.558 | 17.782 |
| SAC-E03A | 9/8/03 3:00 | 4649.56 | 17.78 |
| SAC-E03A | 9/8/03 4:00 | 4649.562 | 17.778 |
| SAC-E03A | 9/8/03 5:00 | 4649.566 | 17.774 |
| SAC-E03A | 9/8/03 6:00 | 4649.568 | 17.772 |
| SAC-E03A | 9/8/03 7:00 | 4649.57 | 17.77 |
| SAC-E03A | 9/8/03 8:00 | 4649.57 | 17.77 |
| SAC-E03A | 9/8/03 9:00 | 4649.57 | 17.77 |
| SAC-E03A | 9/8/03 10:00 | 4649.568 | 17.772 |
| SAC-E03A | 9/8/03 11:00 | 4649.568 | 17.772 |

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| SAC-E03A | 9/8/03 12:00 | 4649.566 | 17.774 |
| SAC-E03A | 9/8/03 13:00 | 4649.564 | 17.776 |
| SAC-E03A | 9/8/03 14:00 | 4649.559 | 17.781 |
| SAC-E03A | 9/8/03 15:00 | 4649.557 | 17.783 |
| SAC-E03A | 9/8/03 16:00 | 4649.558 | 17.782 |
| SAC-E03A | 9/8/03 17:00 | 4649.558 | 17.782 |
| SAC-E03A | 9/8/03 18:00 | 4649.56 | 17.78 |
| SAC-E03A | 9/8/03 19:00 | 4649.562 | 17.778 |
| SAC-E03A | 9/8/03 20:00 | 4649.562 | 17.778 |
| SAC-E03A | 9/8/03 21:00 | 4649.566 | 17.774 |
| SAC-E03A | 9/8/03 22:00 | 4649.568 | 17.772 |
| SAC-E03A | 9/8/03 23:00 | 4649.57 | 17.77 |
| SAC-E03A | 9/9/03 0:00 | 4649.571 | 17.769 |
| SAC-E03A | 9/9/03 1:00 | 4649.575 | 17.765 |
| SAC-E03A | 9/9/03 2:00 | 4649.577 | 17.763 |
| SAC-E03A | 9/9/03 3:00 | 4649.579 | 17.761 |
| SAC-E03A | 9/9/03 4:00 | 4649.581 | 17.759 |
| SAC-E03A | 9/9/03 5:00 | 4649.583 | 17.757 |
| SAC-E03A | 9/9/03 6:00 | 4649.583 | 17.757 |
| SAC-E03A | 9/9/03 7:00 | 4649.585 | 17.755 |
| SAC-E03A | 9/9/03 8:00 | 4649.587 | 17.753 |
| SAC-E03A | 9/9/03 9:00 | 4649.587 | 17.753 |
| SAC-E03A | 9/9/03 10:00 | 4649.587 | 17.753 |
| SAC-E03A | 9/9/03 11:00 | 4649.585 | 17.755 |
| SAC-E03A | 9/9/03 12:00 | 4649.585 | 17.755 |
| SAC-E03A | 9/9/03 13:00 | 4649.583 | 17.757 |
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| SAC-E03A | 9/9/03 16:00 | 4649.583 | 17.757 |
| SAC-E03A | 9/9/03 17:00 | 4649.585 | 17.755 |
| SAC-E03A | 9/9/03 18:00 | 4649.585 | 17.755 |
| SAC-E03A | 9/9/03 19:00 | 4649.587 | 17.753 |
| SAC-E03A | 9/9/03 20:00 | 4649.589 | 17.751 |
| SAC-E03A | 9/9/03 21:00 | 4649.591 | 17.749 |
| SAC-E03A | 9/9/03 22:00 | 4649.591 | 17.749 |
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| SAC-E03A | 9/10/03 1:00 | 4649.599 | 17.741 |
| SAC-E03A | 9/10/03 2:00 | 4649.6 | 17.74 |
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| SAC-E03A | 9/10/03 4:00 | 4649.606 | 17.734 |
| SAC-E03A | 9/10/03 5:00 | 4649.606 | 17.734 |
| SAC-E03A | 9/10/03 6:00 | 4649.61 | 17.73 |
| SAC-E03A | 9/10/03 7:00 | 4649.612 | 17.728 |
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| SAC-E03A | 9/10/03 9:00 | 4649.614 | 17.726 |
| SAC-E03A | 9/10/03 10:00 | 4649.612 | 17.728 |
| SAC-E03A | 9/10/03 11:00 | 4649.614 | 17.726 |

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| SAC-E03A | 9/10/03 12:00 | 4649.614 | 17.726 |
| SAC-E03A | 9/10/03 13:00 | 4649.614 | 17.726 |
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| SAC-E03A | 9/10/03 17:00 | 4649.616 | 17.724 |
| SAC-E03A | 9/10/03 18:00 | 4649.618 | 17.722 |
| SAC-E03A | 9/10/03 19:00 | 4649.62 | 17.72 |
| SAC-E03A | 9/10/03 20:00 | 4649.622 | 17.718 |
| SAC-E03A | 9/10/03 21:00 | 4649.624 | 17.716 |
| SAC-E03A | 9/10/03 22:00 | 4649.626 | 17.714 |
| SAC-E03A | 9/10/03 23:00 | 4649.63 | 17.71 |
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| SAC-E03A | 9/11/03 4:00 | 4649.64 | 17.7 |
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| SAC-E03A | 9/11/03 7:00 | 4649.645 | 17.695 |
| SAC-E03A | 9/11/03 8:00 | 4649.649 | 17.691 |
| SAC-E03A | 9/11/03 9:00 | 4649.649 | 17.691 |
| SAC-E03A | 9/11/03 10:00 | 4649.651 | 17.689 |
| SAC-E03A | 9/11/03 11:00 | 4649.653 | 17.687 |
| SAC-E03A | 9/11/03 12:00 | 4649.653 | 17.687 |
| SAC-E03A | 9/11/03 13:00 | 4649.653 | 17.687 |
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| SAC-E03A | 9/11/03 17:00 | 4649.653 | 17.687 |
| SAC-E03A | 9/11/03 18:00 | 4649.655 | 17.685 |
| SAC-E03A | 9/11/03 19:00 | 4649.657 | 17.683 |
| SAC-E03A | 9/11/03 20:00 | 4649.659 | 17.681 |
| SAC-E03A | 9/11/03 21:00 | 4649.663 | 17.677 |
| SAC-E03A | 9/11/03 22:00 | 4649.665 | 17.675 |
| SAC-E03A | 9/11/03 23:00 | 4649.665 | 17.675 |
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| SAC-E03A | 9/12/03 1:00 | 4649.671 | 17.669 |
| SAC-E03A | 9/12/03 2:00 | 4649.672 | 17.668 |
| SAC-E03A | 9/12/03 3:00 | 4649.676 | 17.664 |
| SAC-E03A | 9/12/03 4:00 | 4649.676 | 17.664 |
| SAC-E03A | 9/12/03 5:00 | 4649.68 | 17.66 |
| SAC-E03A | 9/12/03 6:00 | 4649.685 | 17.655 |
| SAC-E03A | 9/12/03 7:00 | 4649.686 | 17.654 |
| SAC-E03A | 9/12/03 8:00 | 4649.686 | 17.654 |
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| SAC-E03A | 9/12/03 10:00 | 4649.686 | 17.654 |
| SAC-E03A | 9/12/03 11:00 | 4649.688 | 17.652 |

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| SAC-E03A | 9/12/03 12:00 | 4649.688 | 17.652 |
| SAC-E03A | 9/12/03 13:00 | 4649.688 | 17.652 |
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| SAC-E03A | 9/12/03 15:00 | 4649.686 | 17.654 |
| SAC-E03A | 9/12/03 16:00 | 4649.686 | 17.654 |
| SAC-E03A | 9/12/03 17:00 | 4649.686 | 17.654 |
| SAC-E03A | 9/12/03 18:00 | 4649.69 | 17.65 |
| SAC-E03A | 9/12/03 19:00 | 4649.694 | 17.646 |
| SAC-E03A | 9/12/03 20:00 | 4649.696 | 17.644 |
| SAC-E03A | 9/12/03 21:00 | 4649.7 | 17.64 |
| SAC-E03A | 9/12/03 22:00 | 4649.702 | 17.638 |
| SAC-E03A | 9/12/03 23:00 | 4649.704 | 17.636 |
| SAC-E03A | 9/13/03 0:00 | 4649.706 | 17.634 |
| SAC-E03A | 9/13/03 1:00 | 4649.71 | 17.63 |
| SAC-E03A | 9/13/03 2:00 | 4649.715 | 17.625 |
| SAC-E03A | 9/13/03 3:00 | 4649.715 | 17.625 |
| SAC-E03A | 9/13/03 4:00 | 4649.717 | 17.623 |
| SAC-E03A | 9/13/03 5:00 | 4649.719 | 17.621 |
| SAC-E03A | 9/13/03 6:00 | 4649.723 | 17.617 |
| SAC-E03A | 9/13/03 7:00 | 4649.725 | 17.615 |
| SAC-E03A | 9/13/03 8:00 | 4649.727 | 17.613 |
| SAC-E03A | 9/13/03 9:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/13/03 10:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/13/03 11:00 | 4649.731 | 17.609 |
| SAC-E03A | 9/13/03 12:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/13/03 13:00 | 4649.731 | 17.609 |
| SAC-E03A | 9/13/03 14:00 | 4649.733 | 17.607 |
| SAC-E03A | 9/13/03 15:00 | 4649.731 | 17.609 |
| SAC-E03A | 9/13/03 16:00 | 4649.731 | 17.609 |
| SAC-E03A | 9/13/03 17:00 | 4649.733 | 17.607 |
| SAC-E03A | 9/13/03 18:00 | 4649.735 | 17.605 |
| SAC-E03A | 9/13/03 19:00 | 4649.741 | 17.599 |
| SAC-E03A | 9/13/03 20:00 | 4649.743 | 17.597 |
| SAC-E03A | 9/13/03 21:00 | 4649.745 | 17.595 |
| SAC-E03A | 9/13/03 22:00 | 4649.746 | 17.594 |
| SAC-E03A | 9/13/03 23:00 | 4649.751 | 17.589 |
| SAC-E03A | 9/14/03 0:00 | 4649.755 | 17.585 |
| SAC-E03A | 9/14/03 1:00 | 4649.758 | 17.582 |
| SAC-E03A | 9/14/03 2:00 | 4649.76 | 17.58 |
| SAC-E03A | 9/14/03 3:00 | 4649.764 | 17.576 |
| SAC-E03A | 9/14/03 4:00 | 4649.766 | 17.574 |
| SAC-E03A | 9/14/03 5:00 | 4649.77 | 17.57 |
| SAC-E03A | 9/14/03 6:00 | 4649.774 | 17.566 |
| SAC-E03A | 9/14/03 7:00 | 4649.778 | 17.562 |
| SAC-E03A | 9/14/03 8:00 | 4649.778 | 17.562 |
| SAC-E03A | 9/14/03 9:00 | 4649.78 | 17.56 |
| SAC-E03A | 9/14/03 10:00 | 4649.782 | 17.558 |
| SAC-E03A | 9/14/03 11:00 | 4649.784 | 17.556 |

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| SAC-E03A | 9/14/03 12:00 | 4649.786 | 17.554 |
| SAC-E03A | 9/14/03 13:00 | 4649.786 | 17.554 |
| SAC-E03A | 9/14/03 14:00 | 4649.787 | 17.553 |
| SAC-E03A | 9/14/03 15:00 | 4649.789 | 17.551 |
| SAC-E03A | 9/14/03 16:00 | 4649.791 | 17.549 |
| SAC-E03A | 9/14/03 17:00 | 4649.791 | 17.549 |
| SAC-E03A | 9/14/03 18:00 | 4649.797 | 17.543 |
| SAC-E03A | 9/14/03 19:00 | 4649.801 | 17.539 |
| SAC-E03A | 9/14/03 20:00 | 4649.805 | 17.535 |
| SAC-E03A | 9/14/03 21:00 | 4649.807 | 17.533 |
| SAC-E03A | 9/14/03 22:00 | 4649.811 | 17.529 |
| SAC-E03A | 9/14/03 23:00 | 4649.815 | 17.525 |
| SAC-E03A | 9/15/03 0:00 | 4649.819 | 17.521 |
| SAC-E03A | 9/15/03 1:00 | 4649.823 | 17.517 |
| SAC-E03A | 9/15/03 2:00 | 4649.827 | 17.513 |
| SAC-E03A | 9/15/03 3:00 | 4649.83 | 17.51 |
| SAC-E03A | 9/15/03 4:00 | 4649.834 | 17.506 |
| SAC-E03A | 9/15/03 5:00 | 4649.838 | 17.502 |
| SAC-E03A | 9/15/03 6:00 | 4649.842 | 17.498 |
| SAC-E03A | 9/15/03 7:00 | 4649.846 | 17.494 |
| SAC-E03A | 9/15/03 8:00 | 4649.848 | 17.492 |
| SAC-E03A | 9/15/03 9:00 | 4649.852 | 17.488 |
| SAC-E03A | 9/15/03 10:00 | 4649.854 | 17.486 |
| SAC-E03A | 9/15/03 11:00 | 4649.856 | 17.484 |
| SAC-E03A | 9/15/03 12:00 | 4649.86 | 17.48 |
| SAC-E03A | 9/15/03 13:00 | 4649.862 | 17.478 |
| SAC-E03A | 9/15/03 14:00 | 4649.862 | 17.478 |
| SAC-E03A | 9/15/03 15:00 | 4649.866 | 17.474 |
| SAC-E03A | 9/15/03 16:00 | 4649.868 | 17.472 |
| SAC-E03A | 9/15/03 17:00 | 4649.872 | 17.468 |
| SAC-E03A | 9/15/03 18:00 | 4649.875 | 17.465 |
| SAC-E03A | 9/15/03 19:00 | 4649.879 | 17.461 |
| SAC-E03A | 9/15/03 20:00 | 4649.881 | 17.459 |
| SAC-E03A | 9/15/03 21:00 | 4649.885 | 17.455 |
| SAC-E03A | 9/15/03 22:00 | 4649.889 | 17.451 |
| SAC-E03A | 9/15/03 23:00 | 4649.893 | 17.447 |
| SAC-E03A | 9/16/03 0:00 | 4649.897 | 17.443 |
| SAC-E03A | 9/16/03 1:00 | 4649.901 | 17.439 |
| SAC-E03A | 9/16/03 2:00 | 4649.907 | 17.433 |
| SAC-E03A | 9/16/03 3:00 | 4649.909 | 17.431 |
| SAC-E03A | 9/16/03 4:00 | 4649.913 | 17.427 |
| SAC-E03A | 9/16/03 5:00 | 4649.916 | 17.424 |
| SAC-E03A | 9/16/03 6:00 | 4649.92 | 17.42 |
| SAC-E03A | 9/16/03 7:00 | 4649.922 | 17.418 |
| SAC-E03A | 9/16/03 8:00 | 4649.924 | 17.416 |
| SAC-E03A | 9/16/03 9:00 | 4649.926 | 17.414 |
| SAC-E03A | 9/16/03 10:00 | 4649.928 | 17.412 |
| SAC-E03A | 9/16/03 11:00 | 4649.93 | 17.41 |

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| SAC-E03A | 9/16/03 12:00 | 4649.934 | 17.406 |
| SAC-E03A | 9/16/03 13:00 | 4649.932 | 17.408 |
| SAC-E03A | 9/16/03 14:00 | 4649.934 | 17.406 |
| SAC-E03A | 9/16/03 15:00 | 4649.936 | 17.404 |
| SAC-E03A | 9/16/03 16:00 | 4649.936 | 17.404 |
| SAC-E03A | 9/16/03 17:00 | 4649.94 | 17.4 |
| SAC-E03A | 9/16/03 18:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/16/03 19:00 | 4649.945 | 17.395 |
| SAC-E03A | 9/16/03 20:00 | 4649.947 | 17.393 |
| SAC-E03A | 9/16/03 21:00 | 4649.949 | 17.391 |
| SAC-E03A | 9/16/03 22:00 | 4649.951 | 17.389 |
| SAC-E03A | 9/16/03 23:00 | 4649.955 | 17.385 |
| SAC-E03A | 9/17/03 0:00 | 4649.957 | 17.383 |
| SAC-E03A | 9/17/03 1:00 | 4649.961 | 17.379 |
| SAC-E03A | 9/17/03 2:00 | 4649.963 | 17.377 |
| SAC-E03A | 9/17/03 3:00 | 4649.965 | 17.375 |
| SAC-E03A | 9/17/03 4:00 | 4649.967 | 17.373 |
| SAC-E03A | 9/17/03 5:00 | 4649.971 | 17.369 |
| SAC-E03A | 9/17/03 6:00 | 4649.973 | 17.367 |
| SAC-E03A | 9/17/03 7:00 | 4649.975 | 17.365 |
| SAC-E03A | 9/17/03 8:00 | 4649.977 | 17.363 |
| SAC-E03A | 9/17/03 9:00 | 4649.974 | 17.366 |
| SAC-E03A | 9/17/03 10:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/17/03 11:00 | 4649.978 | 17.362 |
| SAC-E03A | 9/17/03 12:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/17/03 13:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/17/03 14:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/17/03 15:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/17/03 16:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/17/03 17:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/17/03 18:00 | 4649.978 | 17.362 |
| SAC-E03A | 9/17/03 19:00 | 4649.98 | 17.36 |
| SAC-E03A | 9/17/03 20:00 | 4649.98 | 17.36 |
| SAC-E03A | 9/17/03 21:00 | 4649.982 | 17.358 |
| SAC-E03A | 9/17/03 22:00 | 4649.984 | 17.356 |
| SAC-E03A | 9/17/03 23:00 | 4649.986 | 17.354 |
| SAC-E03A | 9/18/03 0:00 | 4649.988 | 17.352 |
| SAC-E03A | 9/18/03 1:00 | 4649.988 | 17.352 |
| SAC-E03A | 9/18/03 2:00 | 4649.99 | 17.35 |
| SAC-E03A | 9/18/03 3:00 | 4649.992 | 17.348 |
| SAC-E03A | 9/18/03 4:00 | 4649.992 | 17.348 |
| SAC-E03A | 9/18/03 5:00 | 4649.994 | 17.346 |
| SAC-E03A | 9/18/03 6:00 | 4649.996 | 17.344 |
| SAC-E03A | 9/18/03 7:00 | 4649.998 | 17.342 |
| SAC-E03A | 9/18/03 8:00 | 4649.996 | 17.344 |
| SAC-E03A | 9/18/03 9:00 | 4649.996 | 17.344 |
| SAC-E03A | 9/18/03 10:00 | 4649.996 | 17.344 |
| SAC-E03A | 9/18/03 11:00 | 4649.994 | 17.346 |

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| SAC-E03A | 9/18/03 12:00 | 4649.992 | 17.348 |
| SAC-E03A | 9/18/03 13:00 | 4649.99 | 17.35 |
| SAC-E03A | 9/18/03 14:00 | 4649.988 | 17.352 |
| SAC-E03A | 9/18/03 15:00 | 4649.986 | 17.354 |
| SAC-E03A | 9/18/03 16:00 | 4649.984 | 17.356 |
| SAC-E03A | 9/18/03 17:00 | 4649.982 | 17.358 |
| SAC-E03A | 9/18/03 18:00 | 4649.982 | 17.358 |
| SAC-E03A | 9/18/03 19:00 | 4649.984 | 17.356 |
| SAC-E03A | 9/18/03 20:00 | 4649.984 | 17.356 |
| SAC-E03A | 9/18/03 21:00 | 4649.986 | 17.354 |
| SAC-E03A | 9/18/03 22:00 | 4649.988 | 17.352 |
| SAC-E03A | 9/18/03 23:00 | 4649.99 | 17.35 |
| SAC-E03A | 9/19/03 0:00 | 4649.991 | 17.349 |
| SAC-E03A | 9/19/03 1:00 | 4649.992 | 17.348 |
| SAC-E03A | 9/19/03 2:00 | 4649.992 | 17.348 |
| SAC-E03A | 9/19/03 3:00 | 4649.993 | 17.347 |
| SAC-E03A | 9/19/03 4:00 | 4649.995 | 17.345 |
| SAC-E03A | 9/19/03 5:00 | 4649.996 | 17.344 |
| SAC-E03A | 9/19/03 6:00 | 4649.995 | 17.345 |
| SAC-E03A | 9/19/03 7:00 | 4649.997 | 17.343 |
| SAC-E03A | 9/19/03 8:00 | 4649.995 | 17.345 |
| SAC-E03A | 9/19/03 9:00 | 4649.997 | 17.343 |
| SAC-E03A | 9/19/03 10:00 | 4649.991 | 17.349 |
| SAC-E03A | 9/19/03 11:00 | 4649.991 | 17.349 |
| SAC-E03A | 9/19/03 12:00 | 4649.988 | 17.352 |
| SAC-E03A | 9/19/03 13:00 | 4649.986 | 17.354 |
| SAC-E03A | 9/19/03 14:00 | 4649.982 | 17.358 |
| SAC-E03A | 9/19/03 15:00 | 4649.978 | 17.362 |
| SAC-E03A | 9/19/03 16:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/19/03 17:00 | 4649.972 | 17.368 |
| SAC-E03A | 9/19/03 18:00 | 4649.974 | 17.366 |
| SAC-E03A | 9/19/03 19:00 | 4649.974 | 17.366 |
| SAC-E03A | 9/19/03 20:00 | 4649.974 | 17.366 |
| SAC-E03A | 9/19/03 21:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/19/03 22:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/19/03 23:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/20/03 0:00 | 4649.978 | 17.362 |
| SAC-E03A | 9/20/03 1:00 | 4649.98 | 17.36 |
| SAC-E03A | 9/20/03 2:00 | 4649.982 | 17.358 |
| SAC-E03A | 9/20/03 3:00 | 4649.982 | 17.358 |
| SAC-E03A | 9/20/03 4:00 | 4649.983 | 17.357 |
| SAC-E03A | 9/20/03 5:00 | 4649.984 | 17.356 |
| SAC-E03A | 9/20/03 6:00 | 4649.985 | 17.355 |
| SAC-E03A | 9/20/03 7:00 | 4649.985 | 17.355 |
| SAC-E03A | 9/20/03 8:00 | 4649.983 | 17.357 |
| SAC-E03A | 9/20/03 9:00 | 4649.981 | 17.359 |
| SAC-E03A | 9/20/03 10:00 | 4649.977 | 17.363 |
| SAC-E03A | 9/20/03 11:00 | 4649.974 | 17.366 |

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| SAC-E03A | 9/20/03 12:00 | 4649.969 | 17.371 |
| SAC-E03A | 9/20/03 13:00 | 4649.967 | 17.373 |
| SAC-E03A | 9/20/03 14:00 | 4649.97 | 17.37 |
| SAC-E03A | 9/20/03 15:00 | 4649.97 | 17.37 |
| SAC-E03A | 9/20/03 16:00 | 4649.97 | 17.37 |
| SAC-E03A | 9/20/03 17:00 | 4649.968 | 17.372 |
| SAC-E03A | 9/20/03 18:00 | 4649.97 | 17.37 |
| SAC-E03A | 9/20/03 19:00 | 4649.97 | 17.37 |
| SAC-E03A | 9/20/03 20:00 | 4649.97 | 17.37 |
| SAC-E03A | 9/20/03 21:00 | 4649.972 | 17.368 |
| SAC-E03A | 9/20/03 22:00 | 4649.974 | 17.366 |
| SAC-E03A | 9/20/03 23:00 | 4649.974 | 17.366 |
| SAC-E03A | 9/21/03 0:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/21/03 1:00 | 4649.976 | 17.364 |
| SAC-E03A | 9/21/03 2:00 | 4649.979 | 17.361 |
| SAC-E03A | 9/21/03 3:00 | 4649.977 | 17.363 |
| SAC-E03A | 9/21/03 4:00 | 4649.979 | 17.361 |
| SAC-E03A | 9/21/03 5:00 | 4649.979 | 17.361 |
| SAC-E03A | 9/21/03 6:00 | 4649.979 | 17.361 |
| SAC-E03A | 9/21/03 7:00 | 4649.977 | 17.363 |
| SAC-E03A | 9/21/03 8:00 | 4649.977 | 17.363 |
| SAC-E03A | 9/21/03 9:00 | 4649.973 | 17.367 |
| SAC-E03A | 9/21/03 10:00 | 4649.971 | 17.369 |
| SAC-E03A | 9/21/03 11:00 | 4649.967 | 17.373 |
| SAC-E03A | 9/21/03 12:00 | 4649.961 | 17.379 |
| SAC-E03A | 9/21/03 13:00 | 4649.957 | 17.383 |
| SAC-E03A | 9/21/03 14:00 | 4649.953 | 17.387 |
| SAC-E03A | 9/21/03 15:00 | 4649.948 | 17.392 |
| SAC-E03A | 9/21/03 16:00 | 4649.943 | 17.397 |
| SAC-E03A | 9/21/03 17:00 | 4649.939 | 17.401 |
| SAC-E03A | 9/21/03 18:00 | 4649.938 | 17.402 |
| SAC-E03A | 9/21/03 19:00 | 4649.938 | 17.402 |
| SAC-E03A | 9/21/03 20:00 | 4649.938 | 17.402 |
| SAC-E03A | 9/21/03 21:00 | 4649.938 | 17.402 |
| SAC-E03A | 9/21/03 22:00 | 4649.94 | 17.4 |
| SAC-E03A | 9/21/03 23:00 | 4649.94 | 17.4 |
| SAC-E03A | 9/22/03 0:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/22/03 1:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/22/03 2:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/22/03 3:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/22/03 4:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/22/03 5:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/22/03 6:00 | 4649.944 | 17.396 |
| SAC-E03A | 9/22/03 7:00 | 4649.944 | 17.396 |
| SAC-E03A | 9/22/03 8:00 | 4649.942 | 17.398 |
| SAC-E03A | 9/22/03 9:00 | 4649.94 | 17.4 |
| SAC-E03A | 9/22/03 10:00 | 4649.936 | 17.404 |
| SAC-E03A | 9/22/03 11:00 | 4649.932 | 17.408 |

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| SAC-E03A | 9/22/03 12:00 | 4649.928 | 17.412 |
| SAC-E03A | 9/22/03 13:00 | 4649.924 | 17.416 |
| SAC-E03A | 9/22/03 14:00 | 4649.918 | 17.422 |
| SAC-E03A | 9/22/03 15:00 | 4649.914 | 17.426 |
| SAC-E03A | 9/22/03 16:00 | 4649.91 | 17.43 |
| SAC-E03A | 9/22/03 17:00 | 4649.906 | 17.434 |
| SAC-E03A | 9/22/03 18:00 | 4649.906 | 17.434 |
| SAC-E03A | 9/22/03 19:00 | 4649.906 | 17.434 |
| SAC-E03A | 9/22/03 20:00 | 4649.906 | 17.434 |
| SAC-E03A | 9/22/03 21:00 | 4649.905 | 17.435 |
| SAC-E03A | 9/22/03 22:00 | 4649.907 | 17.433 |
| SAC-E03A | 9/22/03 23:00 | 4649.907 | 17.433 |
| SAC-E03A | 9/23/03 0:00 | 4649.907 | 17.433 |
| SAC-E03A | 9/23/03 1:00 | 4649.907 | 17.433 |
| SAC-E03A | 9/23/03 2:00 | 4649.907 | 17.433 |
| SAC-E03A | 9/23/03 3:00 | 4649.91 | 17.43 |
| SAC-E03A | 9/23/03 4:00 | 4649.908 | 17.432 |
| SAC-E03A | 9/23/03 5:00 | 4649.908 | 17.432 |
| SAC-E03A | 9/23/03 6:00 | 4649.908 | 17.432 |
| SAC-E03A | 9/23/03 7:00 | 4649.908 | 17.432 |
| SAC-E03A | 9/23/03 8:00 | 4649.908 | 17.432 |
| SAC-E03A | 9/23/03 9:00 | 4649.904 | 17.436 |
| SAC-E03A | 9/23/03 10:00 | 4649.9 | 17.44 |
| SAC-E03A | 9/23/03 11:00 | 4649.895 | 17.445 |
| SAC-E03A | 9/23/03 12:00 | 4649.89 | 17.45 |
| SAC-E03A | 9/23/03 13:00 | 4649.886 | 17.454 |
| SAC-E03A | 9/23/03 14:00 | 4649.881 | 17.459 |
| SAC-E03A | 9/23/03 15:00 | 4649.876 | 17.464 |
| SAC-E03A | 9/23/03 16:00 | 4649.873 | 17.467 |
| SAC-E03A | 9/23/03 17:00 | 4649.869 | 17.471 |
| SAC-E03A | 9/23/03 18:00 | 4649.867 | 17.473 |
| SAC-E03A | 9/23/03 19:00 | 4649.867 | 17.473 |
| SAC-E03A | 9/23/03 20:00 | 4649.869 | 17.471 |
| SAC-E03A | 9/23/03 21:00 | 4649.869 | 17.471 |
| SAC-E03A | 9/23/03 22:00 | 4649.867 | 17.473 |
| SAC-E03A | 9/23/03 23:00 | 4649.873 | 17.467 |
| SAC-E03A | 9/24/03 0:00 | 4649.871 | 17.469 |
| SAC-E03A | 9/24/03 1:00 | 4649.869 | 17.471 |
| SAC-E03A | 9/24/03 2:00 | 4649.871 | 17.469 |
| SAC-E03A | 9/24/03 3:00 | 4649.871 | 17.469 |
| SAC-E03A | 9/24/03 4:00 | 4649.873 | 17.467 |
| SAC-E03A | 9/24/03 5:00 | 4649.873 | 17.467 |
| SAC-E03A | 9/24/03 6:00 | 4649.873 | 17.467 |
| SAC-E03A | 9/24/03 7:00 | 4649.875 | 17.465 |
| SAC-E03A | 9/24/03 8:00 | 4649.873 | 17.467 |
| SAC-E03A | 9/24/03 9:00 | 4649.871 | 17.469 |
| SAC-E03A | 9/24/03 10:00 | 4649.867 | 17.473 |
| SAC-E03A | 9/24/03 11:00 | 4649.863 | 17.477 |

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| SAC-E03A | 9/24/03 12:00 | 4649.857 | 17.483 |
| SAC-E03A | 9/24/03 13:00 | 4649.853 | 17.487 |
| SAC-E03A | 9/24/03 14:00 | 4649.849 | 17.491 |
| SAC-E03A | 9/24/03 15:00 | 4649.845 | 17.495 |
| SAC-E03A | 9/24/03 16:00 | 4649.841 | 17.499 |
| SAC-E03A | 9/24/03 17:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/24/03 18:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/24/03 19:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/24/03 20:00 | 4649.845 | 17.495 |
| SAC-E03A | 9/24/03 21:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/24/03 22:00 | 4649.838 | 17.502 |
| SAC-E03A | 9/24/03 23:00 | 4649.838 | 17.502 |
| SAC-E03A | 9/25/03 0:00 | 4649.838 | 17.502 |
| SAC-E03A | 9/25/03 1:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/25/03 2:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/25/03 3:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/25/03 4:00 | 4649.841 | 17.499 |
| SAC-E03A | 9/25/03 5:00 | 4649.843 | 17.497 |
| SAC-E03A | 9/25/03 6:00 | 4649.843 | 17.497 |
| SAC-E03A | 9/25/03 7:00 | 4649.841 | 17.499 |
| SAC-E03A | 9/25/03 8:00 | 4649.839 | 17.501 |
| SAC-E03A | 9/25/03 9:00 | 4649.836 | 17.504 |
| SAC-E03A | 9/25/03 10:00 | 4649.833 | 17.507 |
| SAC-E03A | 9/25/03 11:00 | 4649.831 | 17.509 |
| SAC-E03A | 9/25/03 12:00 | 4649.827 | 17.513 |
| SAC-E03A | 9/25/03 13:00 | 4649.824 | 17.516 |
| SAC-E03A | 9/25/03 14:00 | 4649.82 | 17.52 |
| SAC-E03A | 9/25/03 15:00 | 4649.816 | 17.524 |
| SAC-E03A | 9/25/03 16:00 | 4649.814 | 17.526 |
| SAC-E03A | 9/25/03 17:00 | 4649.81 | 17.53 |
| SAC-E03A | 9/25/03 18:00 | 4649.81 | 17.53 |
| SAC-E03A | 9/25/03 19:00 | 4649.81 | 17.53 |
| SAC-E03A | 9/25/03 20:00 | 4649.81 | 17.53 |
| SAC-E03A | 9/25/03 21:00 | 4649.812 | 17.528 |
| SAC-E03A | 9/25/03 22:00 | 4649.812 | 17.528 |
| SAC-E03A | 9/25/03 23:00 | 4649.814 | 17.526 |
| SAC-E03A | 9/26/03 0:00 | 4649.814 | 17.526 |
| SAC-E03A | 9/26/03 1:00 | 4649.816 | 17.524 |
| SAC-E03A | 9/26/03 2:00 | 4649.816 | 17.524 |
| SAC-E03A | 9/26/03 3:00 | 4649.818 | 17.522 |
| SAC-E03A | 9/26/03 4:00 | 4649.82 | 17.52 |
| SAC-E03A | 9/26/03 5:00 | 4649.82 | 17.52 |
| SAC-E03A | 9/26/03 6:00 | 4649.822 | 17.518 |
| SAC-E03A | 9/26/03 7:00 | 4649.822 | 17.518 |
| SAC-E03A | 9/26/03 8:00 | 4649.82 | 17.52 |
| SAC-E03A | 9/26/03 9:00 | 4649.818 | 17.522 |
| SAC-E03A | 9/26/03 10:00 | 4649.814 | 17.526 |
| SAC-E03A | 9/26/03 11:00 | 4649.804 | 17.536 |

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| SAC-E03A | 9/26/03 12:00 | 4649.8 | 17.54 |
| SAC-E03A | 9/26/03 13:00 | 4649.796 | 17.544 |
| SAC-E03A | 9/26/03 14:00 | 4649.792 | 17.548 |
| SAC-E03A | 9/26/03 15:00 | 4649.788 | 17.552 |
| SAC-E03A | 9/26/03 16:00 | 4649.784 | 17.556 |
| SAC-E03A | 9/26/03 17:00 | 4649.782 | 17.558 |
| SAC-E03A | 9/26/03 18:00 | 4649.782 | 17.558 |
| SAC-E03A | 9/26/03 19:00 | 4649.782 | 17.558 |
| SAC-E03A | 9/26/03 20:00 | 4649.783 | 17.557 |
| SAC-E03A | 9/26/03 21:00 | 4649.784 | 17.556 |
| SAC-E03A | 9/26/03 22:00 | 4649.783 | 17.557 |
| SAC-E03A | 9/26/03 23:00 | 4649.784 | 17.556 |
| SAC-E03A | 9/27/03 0:00 | 4649.784 | 17.556 |
| SAC-E03A | 9/27/03 1:00 | 4649.786 | 17.554 |
| SAC-E03A | 9/27/03 2:00 | 4649.788 | 17.552 |
| SAC-E03A | 9/27/03 3:00 | 4649.788 | 17.552 |
| SAC-E03A | 9/27/03 4:00 | 4649.79 | 17.55 |
| SAC-E03A | 9/27/03 5:00 | 4649.79 | 17.55 |
| SAC-E03A | 9/27/03 6:00 | 4649.79 | 17.55 |
| SAC-E03A | 9/27/03 7:00 | 4649.79 | 17.55 |
| SAC-E03A | 9/27/03 8:00 | 4649.788 | 17.552 |
| SAC-E03A | 9/27/03 9:00 | 4649.786 | 17.554 |
| SAC-E03A | 9/27/03 10:00 | 4649.782 | 17.558 |
| SAC-E03A | 9/27/03 11:00 | 4649.78 | 17.56 |
| SAC-E03A | 9/27/03 12:00 | 4649.776 | 17.564 |
| SAC-E03A | 9/27/03 13:00 | 4649.772 | 17.568 |
| SAC-E03A | 9/27/03 14:00 | 4649.768 | 17.572 |
| SAC-E03A | 9/27/03 15:00 | 4649.766 | 17.574 |
| SAC-E03A | 9/27/03 16:00 | 4649.766 | 17.574 |
| SAC-E03A | 9/27/03 17:00 | 4649.762 | 17.578 |
| SAC-E03A | 9/27/03 18:00 | 4649.762 | 17.578 |
| SAC-E03A | 9/27/03 19:00 | 4649.763 | 17.577 |
| SAC-E03A | 9/27/03 20:00 | 4649.763 | 17.577 |
| SAC-E03A | 9/27/03 21:00 | 4649.765 | 17.575 |
| SAC-E03A | 9/27/03 22:00 | 4649.765 | 17.575 |
| SAC-E03A | 9/27/03 23:00 | 4649.767 | 17.573 |
| SAC-E03A | 9/28/03 0:00 | 4649.767 | 17.573 |
| SAC-E03A | 9/28/03 1:00 | 4649.769 | 17.571 |
| SAC-E03A | 9/28/03 2:00 | 4649.769 | 17.571 |
| SAC-E03A | 9/28/03 3:00 | 4649.771 | 17.569 |
| SAC-E03A | 9/28/03 4:00 | 4649.772 | 17.568 |
| SAC-E03A | 9/28/03 5:00 | 4649.772 | 17.568 |
| SAC-E03A | 9/28/03 6:00 | 4649.774 | 17.566 |
| SAC-E03A | 9/28/03 7:00 | 4649.774 | 17.566 |
| SAC-E03A | 9/28/03 8:00 | 4649.772 | 17.568 |
| SAC-E03A | 9/28/03 9:00 | 4649.769 | 17.571 |
| SAC-E03A | 9/28/03 10:00 | 4649.767 | 17.573 |
| SAC-E03A | 9/28/03 11:00 | 4649.762 | 17.578 |

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| SAC-E03A | 9/28/03 12:00 | 4649.76 | 17.58 |
| SAC-E03A | 9/28/03 13:00 | 4649.757 | 17.583 |
| SAC-E03A | 9/28/03 14:00 | 4649.753 | 17.587 |
| SAC-E03A | 9/28/03 15:00 | 4649.751 | 17.589 |
| SAC-E03A | 9/28/03 16:00 | 4649.748 | 17.592 |
| SAC-E03A | 9/28/03 17:00 | 4649.746 | 17.594 |
| SAC-E03A | 9/28/03 18:00 | 4649.747 | 17.593 |
| SAC-E03A | 9/28/03 19:00 | 4649.747 | 17.593 |
| SAC-E03A | 9/28/03 20:00 | 4649.747 | 17.593 |
| SAC-E03A | 9/28/03 21:00 | 4649.747 | 17.593 |
| SAC-E03A | 9/28/03 22:00 | 4649.747 | 17.593 |
| SAC-E03A | 9/28/03 23:00 | 4649.749 | 17.591 |
| SAC-E03A | 9/29/03 0:00 | 4649.749 | 17.591 |
| SAC-E03A | 9/29/03 1:00 | 4649.749 | 17.591 |
| SAC-E03A | 9/29/03 2:00 | 4649.751 | 17.589 |
| SAC-E03A | 9/29/03 3:00 | 4649.753 | 17.587 |
| SAC-E03A | 9/29/03 4:00 | 4649.755 | 17.585 |
| SAC-E03A | 9/29/03 5:00 | 4649.755 | 17.585 |
| SAC-E03A | 9/29/03 6:00 | 4649.755 | 17.585 |
| SAC-E03A | 9/29/03 7:00 | 4649.757 | 17.583 |
| SAC-E03A | 9/29/03 8:00 | 4649.755 | 17.585 |
| SAC-E03A | 9/29/03 9:00 | 4649.753 | 17.587 |
| SAC-E03A | 9/29/03 10:00 | 4649.747 | 17.593 |
| SAC-E03A | 9/29/03 11:00 | 4649.745 | 17.595 |
| SAC-E03A | 9/29/03 12:00 | 4649.743 | 17.597 |
| SAC-E03A | 9/29/03 13:00 | 4649.739 | 17.601 |
| SAC-E03A | 9/29/03 14:00 | 4649.735 | 17.605 |
| SAC-E03A | 9/29/03 15:00 | 4649.733 | 17.607 |
| SAC-E03A | 9/29/03 16:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/29/03 17:00 | 4649.727 | 17.613 |
| SAC-E03A | 9/29/03 18:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/29/03 19:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/29/03 20:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/29/03 21:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/29/03 22:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/29/03 23:00 | 4649.729 | 17.611 |
| SAC-E03A | 9/30/03 0:00 | 4649.731 | 17.609 |
| SAC-E03A | 9/30/03 1:00 | 4649.733 | 17.607 |
| SAC-E03A | 9/30/03 2:00 | 4649.733 | 17.607 |
| SAC-E03A | 9/30/03 3:00 | 4649.735 | 17.605 |
| SAC-E03A | 9/30/03 4:00 | 4649.735 | 17.605 |
| SAC-E03A | 9/30/03 5:00 | 4649.737 | 17.603 |
| SAC-E03A | 9/30/03 6:00 | 4649.737 | 17.603 |
| SAC-E03A | 9/30/03 7:00 | 4649.741 | 17.599 |
| SAC-E03A | 9/30/03 8:00 | 4649.739 | 17.601 |
| SAC-E03A | 9/30/03 9:00 | 4649.735 | 17.605 |
| SAC-E03A | 9/30/03 10:00 | 4649.731 | 17.609 |
| SAC-E03A | 9/30/03 11:00 | 4649.727 | 17.613 |

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| SAC-E03A | 9/30/03 12:00 | 4649.723 | 17.617 |
| SAC-E03A | 9/30/03 13:00 | 4649.721 | 17.619 |
| SAC-E03A | 9/30/03 14:00 | 4649.719 | 17.621 |
| SAC-E03A | 9/30/03 15:00 | 4649.715 | 17.625 |
| SAC-E03A | 9/30/03 16:00 | 4649.713 | 17.627 |
| SAC-E03A | 9/30/03 17:00 | 4649.711 | 17.629 |
| SAC-E03A | 9/30/03 18:00 | 4649.713 | 17.627 |
| SAC-E03A | 9/30/03 19:00 | 4649.713 | 17.627 |
| SAC-E03A | 9/30/03 20:00 | 4649.713 | 17.627 |
| SAC-E03A | 9/30/03 21:00 | 4649.711 | 17.629 |
| SAC-E03A | 9/30/03 22:00 | 4649.713 | 17.627 |
| SAC-E03A | 9/30/03 23:00 | 4649.713 | 17.627 |

| LOCID | Date and Time | WATELEV | DTW |
|----------|---------------|----------|--------|
| SAC-E03B | 9/1/03 0:00 | 4649.356 | 17.944 |
| SAC-E03B | 9/1/03 1:00 | 4649.36 | 17.94 |
| SAC-E03B | 9/1/03 2:00 | 4649.366 | 17.934 |
| SAC-E03B | 9/1/03 3:00 | 4649.37 | 17.93 |
| SAC-E03B | 9/1/03 4:00 | 4649.377 | 17.923 |
| SAC-E03B | 9/1/03 5:00 | 4649.381 | 17.919 |
| SAC-E03B | 9/1/03 6:00 | 4649.387 | 17.913 |
| SAC-E03B | 9/1/03 7:00 | 4649.393 | 17.907 |
| SAC-E03B | 9/1/03 8:00 | 4649.395 | 17.905 |
| SAC-E03B | 9/1/03 9:00 | 4649.395 | 17.905 |
| SAC-E03B | 9/1/03 10:00 | 4649.395 | 17.905 |
| SAC-E03B | 9/1/03 11:00 | 4649.395 | 17.905 |
| SAC-E03B | 9/1/03 12:00 | 4649.391 | 17.909 |
| SAC-E03B | 9/1/03 13:00 | 4649.389 | 17.911 |
| SAC-E03B | 9/1/03 14:00 | 4649.387 | 17.913 |
| SAC-E03B | 9/1/03 15:00 | 4649.385 | 17.915 |
| SAC-E03B | 9/1/03 16:00 | 4649.385 | 17.915 |
| SAC-E03B | 9/1/03 17:00 | 4649.383 | 17.917 |
| SAC-E03B | 9/1/03 18:00 | 4649.383 | 17.917 |
| SAC-E03B | 9/1/03 19:00 | 4649.387 | 17.913 |
| SAC-E03B | 9/1/03 20:00 | 4649.391 | 17.909 |
| SAC-E03B | 9/1/03 21:00 | 4649.395 | 17.905 |
| SAC-E03B | 9/1/03 22:00 | 4649.395 | 17.905 |
| SAC-E03B | 9/1/03 23:00 | 4649.402 | 17.898 |
| SAC-E03B | 9/2/03 0:00 | 4649.406 | 17.894 |
| SAC-E03B | 9/2/03 1:00 | 4649.41 | 17.89 |
| SAC-E03B | 9/2/03 2:00 | 4649.414 | 17.886 |
| SAC-E03B | 9/2/03 3:00 | 4649.418 | 17.882 |
| SAC-E03B | 9/2/03 4:00 | 4649.423 | 17.877 |
| SAC-E03B | 9/2/03 5:00 | 4649.427 | 17.873 |
| SAC-E03B | 9/2/03 6:00 | 4649.431 | 17.869 |
| SAC-E03B | 9/2/03 7:00 | 4649.435 | 17.865 |
| SAC-E03B | 9/2/03 8:00 | 4649.437 | 17.863 |
| SAC-E03B | 9/2/03 9:00 | 4649.435 | 17.865 |
| SAC-E03B | 9/2/03 10:00 | 4649.435 | 17.865 |

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| SAC-E03B | 9/2/03 11:00 | 4649.431 | 17.869 |
| SAC-E03B | 9/2/03 12:00 | 4649.429 | 17.871 |
| SAC-E03B | 9/2/03 13:00 | 4649.427 | 17.873 |
| SAC-E03B | 9/2/03 14:00 | 4649.423 | 17.877 |
| SAC-E03B | 9/2/03 15:00 | 4649.42 | 17.88 |
| SAC-E03B | 9/2/03 16:00 | 4649.418 | 17.882 |
| SAC-E03B | 9/2/03 17:00 | 4649.418 | 17.882 |
| SAC-E03B | 9/2/03 18:00 | 4649.418 | 17.882 |
| SAC-E03B | 9/2/03 19:00 | 4649.422 | 17.878 |
| SAC-E03B | 9/2/03 20:00 | 4649.427 | 17.873 |
| SAC-E03B | 9/2/03 21:00 | 4649.431 | 17.869 |
| SAC-E03B | 9/2/03 22:00 | 4649.437 | 17.863 |
| SAC-E03B | 9/2/03 23:00 | 4649.441 | 17.859 |
| SAC-E03B | 9/3/03 0:00 | 4649.445 | 17.855 |
| SAC-E03B | 9/3/03 1:00 | 4649.452 | 17.848 |
| SAC-E03B | 9/3/03 2:00 | 4649.458 | 17.842 |
| SAC-E03B | 9/3/03 3:00 | 4649.462 | 17.838 |
| SAC-E03B | 9/3/03 4:00 | 4649.466 | 17.834 |
| SAC-E03B | 9/3/03 5:00 | 4649.47 | 17.83 |
| SAC-E03B | 9/3/03 6:00 | 4649.475 | 17.825 |
| SAC-E03B | 9/3/03 7:00 | 4649.481 | 17.819 |
| SAC-E03B | 9/3/03 8:00 | 4649.483 | 17.817 |
| SAC-E03B | 9/3/03 9:00 | 4649.485 | 17.815 |
| SAC-E03B | 9/3/03 10:00 | 4649.483 | 17.817 |
| SAC-E03B | 9/3/03 11:00 | 4649.483 | 17.817 |
| SAC-E03B | 9/3/03 12:00 | 4649.481 | 17.819 |
| SAC-E03B | 9/3/03 13:00 | 4649.479 | 17.821 |
| SAC-E03B | 9/3/03 14:00 | 4649.477 | 17.823 |
| SAC-E03B | 9/3/03 15:00 | 4649.477 | 17.823 |
| SAC-E03B | 9/3/03 16:00 | 4649.472 | 17.828 |
| SAC-E03B | 9/3/03 17:00 | 4649.475 | 17.825 |
| SAC-E03B | 9/3/03 18:00 | 4649.477 | 17.823 |
| SAC-E03B | 9/3/03 19:00 | 4649.481 | 17.819 |
| SAC-E03B | 9/3/03 20:00 | 4649.483 | 17.817 |
| SAC-E03B | 9/3/03 21:00 | 4649.489 | 17.811 |
| SAC-E03B | 9/3/03 22:00 | 4649.493 | 17.807 |
| SAC-E03B | 9/3/03 23:00 | 4649.497 | 17.803 |
| SAC-E03B | 9/4/03 0:00 | 4649.504 | 17.796 |
| SAC-E03B | 9/4/03 1:00 | 4649.508 | 17.792 |
| SAC-E03B | 9/4/03 2:00 | 4649.514 | 17.786 |
| SAC-E03B | 9/4/03 3:00 | 4649.518 | 17.782 |
| SAC-E03B | 9/4/03 4:00 | 4649.523 | 17.777 |
| SAC-E03B | 9/4/03 5:00 | 4649.526 | 17.774 |
| SAC-E03B | 9/4/03 6:00 | 4649.531 | 17.769 |
| SAC-E03B | 9/4/03 7:00 | 4649.533 | 17.767 |
| SAC-E03B | 9/4/03 8:00 | 4649.537 | 17.763 |
| SAC-E03B | 9/4/03 9:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/4/03 10:00 | 4649.537 | 17.763 |
| SAC-E03B | 9/4/03 11:00 | 4649.533 | 17.767 |

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| SAC-E03B | 9/4/03 12:00 | 4649.533 | 17.767 |
| SAC-E03B | 9/4/03 13:00 | 4649.531 | 17.769 |
| SAC-E03B | 9/4/03 14:00 | 4649.526 | 17.774 |
| SAC-E03B | 9/4/03 15:00 | 4649.526 | 17.774 |
| SAC-E03B | 9/4/03 16:00 | 4649.522 | 17.778 |
| SAC-E03B | 9/4/03 17:00 | 4649.522 | 17.778 |
| SAC-E03B | 9/4/03 18:00 | 4649.524 | 17.776 |
| SAC-E03B | 9/4/03 19:00 | 4649.526 | 17.774 |
| SAC-E03B | 9/4/03 20:00 | 4649.531 | 17.769 |
| SAC-E03B | 9/4/03 21:00 | 4649.533 | 17.767 |
| SAC-E03B | 9/4/03 22:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/4/03 23:00 | 4649.537 | 17.763 |
| SAC-E03B | 9/5/03 0:00 | 4649.541 | 17.759 |
| SAC-E03B | 9/5/03 1:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/5/03 2:00 | 4649.547 | 17.753 |
| SAC-E03B | 9/5/03 3:00 | 4649.549 | 17.751 |
| SAC-E03B | 9/5/03 4:00 | 4649.552 | 17.748 |
| SAC-E03B | 9/5/03 5:00 | 4649.554 | 17.746 |
| SAC-E03B | 9/5/03 6:00 | 4649.556 | 17.744 |
| SAC-E03B | 9/5/03 7:00 | 4649.556 | 17.744 |
| SAC-E03B | 9/5/03 8:00 | 4649.558 | 17.742 |
| SAC-E03B | 9/5/03 9:00 | 4649.556 | 17.744 |
| SAC-E03B | 9/5/03 10:00 | 4649.556 | 17.744 |
| SAC-E03B | 9/5/03 11:00 | 4649.552 | 17.748 |
| SAC-E03B | 9/5/03 12:00 | 4649.547 | 17.753 |
| SAC-E03B | 9/5/03 13:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/5/03 14:00 | 4649.539 | 17.761 |
| SAC-E03B | 9/5/03 15:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/5/03 16:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/5/03 17:00 | 4649.533 | 17.767 |
| SAC-E03B | 9/5/03 18:00 | 4649.533 | 17.767 |
| SAC-E03B | 9/5/03 19:00 | 4649.537 | 17.763 |
| SAC-E03B | 9/5/03 20:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/5/03 21:00 | 4649.537 | 17.763 |
| SAC-E03B | 9/5/03 22:00 | 4649.539 | 17.761 |
| SAC-E03B | 9/5/03 23:00 | 4649.541 | 17.759 |
| SAC-E03B | 9/6/03 0:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/6/03 1:00 | 4649.545 | 17.755 |
| SAC-E03B | 9/6/03 2:00 | 4649.545 | 17.755 |
| SAC-E03B | 9/6/03 3:00 | 4649.547 | 17.753 |
| SAC-E03B | 9/6/03 4:00 | 4649.549 | 17.751 |
| SAC-E03B | 9/6/03 5:00 | 4649.549 | 17.751 |
| SAC-E03B | 9/6/03 6:00 | 4649.552 | 17.748 |
| SAC-E03B | 9/6/03 7:00 | 4649.551 | 17.749 |
| SAC-E03B | 9/6/03 8:00 | 4649.551 | 17.749 |
| SAC-E03B | 9/6/03 9:00 | 4649.549 | 17.751 |
| SAC-E03B | 9/6/03 10:00 | 4649.547 | 17.753 |
| SAC-E03B | 9/6/03 11:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/6/03 12:00 | 4649.539 | 17.761 |

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| SAC-E03B | 9/6/03 13:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/6/03 14:00 | 4649.53 | 17.77 |
| SAC-E03B | 9/6/03 15:00 | 4649.526 | 17.774 |
| SAC-E03B | 9/6/03 16:00 | 4649.526 | 17.774 |
| SAC-E03B | 9/6/03 17:00 | 4649.526 | 17.774 |
| SAC-E03B | 9/6/03 18:00 | 4649.53 | 17.77 |
| SAC-E03B | 9/6/03 19:00 | 4649.53 | 17.77 |
| SAC-E03B | 9/6/03 20:00 | 4649.53 | 17.77 |
| SAC-E03B | 9/6/03 21:00 | 4649.533 | 17.767 |
| SAC-E03B | 9/6/03 22:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/6/03 23:00 | 4649.535 | 17.765 |
| SAC-E03B | 9/7/03 0:00 | 4649.539 | 17.761 |
| SAC-E03B | 9/7/03 1:00 | 4649.539 | 17.761 |
| SAC-E03B | 9/7/03 2:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/7/03 3:00 | 4649.545 | 17.755 |
| SAC-E03B | 9/7/03 4:00 | 4649.545 | 17.755 |
| SAC-E03B | 9/7/03 5:00 | 4649.547 | 17.753 |
| SAC-E03B | 9/7/03 6:00 | 4649.549 | 17.751 |
| SAC-E03B | 9/7/03 7:00 | 4649.551 | 17.749 |
| SAC-E03B | 9/7/03 8:00 | 4649.553 | 17.747 |
| SAC-E03B | 9/7/03 9:00 | 4649.555 | 17.745 |
| SAC-E03B | 9/7/03 10:00 | 4649.555 | 17.745 |
| SAC-E03B | 9/7/03 11:00 | 4649.555 | 17.745 |
| SAC-E03B | 9/7/03 12:00 | 4649.553 | 17.747 |
| SAC-E03B | 9/7/03 13:00 | 4649.551 | 17.749 |
| SAC-E03B | 9/7/03 14:00 | 4649.547 | 17.753 |
| SAC-E03B | 9/7/03 15:00 | 4649.545 | 17.755 |
| SAC-E03B | 9/7/03 16:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/7/03 17:00 | 4649.541 | 17.759 |
| SAC-E03B | 9/7/03 18:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/7/03 19:00 | 4649.543 | 17.757 |
| SAC-E03B | 9/7/03 20:00 | 4649.547 | 17.753 |
| SAC-E03B | 9/7/03 21:00 | 4649.549 | 17.751 |
| SAC-E03B | 9/7/03 22:00 | 4649.551 | 17.749 |
| SAC-E03B | 9/7/03 23:00 | 4649.555 | 17.745 |
| SAC-E03B | 9/8/03 0:00 | 4649.558 | 17.742 |
| SAC-E03B | 9/8/03 1:00 | 4649.562 | 17.738 |
| SAC-E03B | 9/8/03 2:00 | 4649.566 | 17.734 |
| SAC-E03B | 9/8/03 3:00 | 4649.57 | 17.73 |
| SAC-E03B | 9/8/03 4:00 | 4649.572 | 17.728 |
| SAC-E03B | 9/8/03 5:00 | 4649.574 | 17.726 |
| SAC-E03B | 9/8/03 6:00 | 4649.578 | 17.722 |
| SAC-E03B | 9/8/03 7:00 | 4649.581 | 17.719 |
| SAC-E03B | 9/8/03 8:00 | 4649.583 | 17.717 |
| SAC-E03B | 9/8/03 9:00 | 4649.581 | 17.719 |
| SAC-E03B | 9/8/03 10:00 | 4649.578 | 17.722 |
| SAC-E03B | 9/8/03 11:00 | 4649.578 | 17.722 |
| SAC-E03B | 9/8/03 12:00 | 4649.576 | 17.724 |
| SAC-E03B | 9/8/03 13:00 | 4649.574 | 17.726 |

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| SAC-E03B | 9/8/03 14:00 | 4649.57 | 17.73 |
| SAC-E03B | 9/8/03 15:00 | 4649.568 | 17.732 |
| SAC-E03B | 9/8/03 16:00 | 4649.566 | 17.734 |
| SAC-E03B | 9/8/03 17:00 | 4649.568 | 17.732 |
| SAC-E03B | 9/8/03 18:00 | 4649.57 | 17.73 |
| SAC-E03B | 9/8/03 19:00 | 4649.57 | 17.73 |
| SAC-E03B | 9/8/03 20:00 | 4649.572 | 17.728 |
| SAC-E03B | 9/8/03 21:00 | 4649.574 | 17.726 |
| SAC-E03B | 9/8/03 22:00 | 4649.576 | 17.724 |
| SAC-E03B | 9/8/03 23:00 | 4649.58 | 17.72 |
| SAC-E03B | 9/9/03 0:00 | 4649.582 | 17.718 |
| SAC-E03B | 9/9/03 1:00 | 4649.584 | 17.716 |
| SAC-E03B | 9/9/03 2:00 | 4649.589 | 17.711 |
| SAC-E03B | 9/9/03 3:00 | 4649.591 | 17.709 |
| SAC-E03B | 9/9/03 4:00 | 4649.595 | 17.705 |
| SAC-E03B | 9/9/03 5:00 | 4649.595 | 17.705 |
| SAC-E03B | 9/9/03 6:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 7:00 | 4649.599 | 17.701 |
| SAC-E03B | 9/9/03 8:00 | 4649.599 | 17.701 |
| SAC-E03B | 9/9/03 9:00 | 4649.599 | 17.701 |
| SAC-E03B | 9/9/03 10:00 | 4649.599 | 17.701 |
| SAC-E03B | 9/9/03 11:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 12:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 13:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 14:00 | 4649.595 | 17.705 |
| SAC-E03B | 9/9/03 15:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 16:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 17:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 18:00 | 4649.597 | 17.703 |
| SAC-E03B | 9/9/03 19:00 | 4649.599 | 17.701 |
| SAC-E03B | 9/9/03 20:00 | 4649.601 | 17.699 |
| SAC-E03B | 9/9/03 21:00 | 4649.603 | 17.697 |
| SAC-E03B | 9/9/03 22:00 | 4649.605 | 17.695 |
| SAC-E03B | 9/9/03 23:00 | 4649.609 | 17.691 |
| SAC-E03B | 9/10/03 0:00 | 4649.612 | 17.688 |
| SAC-E03B | 9/10/03 1:00 | 4649.613 | 17.687 |
| SAC-E03B | 9/10/03 2:00 | 4649.616 | 17.684 |
| SAC-E03B | 9/10/03 3:00 | 4649.62 | 17.68 |
| SAC-E03B | 9/10/03 4:00 | 4649.622 | 17.678 |
| SAC-E03B | 9/10/03 5:00 | 4649.622 | 17.678 |
| SAC-E03B | 9/10/03 6:00 | 4649.624 | 17.676 |
| SAC-E03B | 9/10/03 7:00 | 4649.626 | 17.674 |
| SAC-E03B | 9/10/03 8:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 9:00 | 4649.63 | 17.67 |
| SAC-E03B | 9/10/03 10:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 11:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 12:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 13:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 14:00 | 4649.626 | 17.674 |

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| SAC-E03B | 9/10/03 15:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 16:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 17:00 | 4649.628 | 17.672 |
| SAC-E03B | 9/10/03 18:00 | 4649.632 | 17.668 |
| SAC-E03B | 9/10/03 19:00 | 4649.632 | 17.668 |
| SAC-E03B | 9/10/03 20:00 | 4649.636 | 17.664 |
| SAC-E03B | 9/10/03 21:00 | 4649.638 | 17.662 |
| SAC-E03B | 9/10/03 22:00 | 4649.638 | 17.662 |
| SAC-E03B | 9/10/03 23:00 | 4649.643 | 17.657 |
| SAC-E03B | 9/11/03 0:00 | 4649.645 | 17.655 |
| SAC-E03B | 9/11/03 1:00 | 4649.649 | 17.651 |
| SAC-E03B | 9/11/03 2:00 | 4649.653 | 17.647 |
| SAC-E03B | 9/11/03 3:00 | 4649.653 | 17.647 |
| SAC-E03B | 9/11/03 4:00 | 4649.655 | 17.645 |
| SAC-E03B | 9/11/03 5:00 | 4649.659 | 17.641 |
| SAC-E03B | 9/11/03 6:00 | 4649.661 | 17.639 |
| SAC-E03B | 9/11/03 7:00 | 4649.664 | 17.636 |
| SAC-E03B | 9/11/03 8:00 | 4649.666 | 17.634 |
| SAC-E03B | 9/11/03 9:00 | 4649.668 | 17.632 |
| SAC-E03B | 9/11/03 10:00 | 4649.668 | 17.632 |
| SAC-E03B | 9/11/03 11:00 | 4649.67 | 17.63 |
| SAC-E03B | 9/11/03 12:00 | 4649.672 | 17.628 |
| SAC-E03B | 9/11/03 13:00 | 4649.67 | 17.63 |
| SAC-E03B | 9/11/03 14:00 | 4649.67 | 17.63 |
| SAC-E03B | 9/11/03 15:00 | 4649.67 | 17.63 |
| SAC-E03B | 9/11/03 16:00 | 4649.67 | 17.63 |
| SAC-E03B | 9/11/03 17:00 | 4649.67 | 17.63 |
| SAC-E03B | 9/11/03 18:00 | 4649.672 | 17.628 |
| SAC-E03B | 9/11/03 19:00 | 4649.674 | 17.626 |
| SAC-E03B | 9/11/03 20:00 | 4649.676 | 17.624 |
| SAC-E03B | 9/11/03 21:00 | 4649.68 | 17.62 |
| SAC-E03B | 9/11/03 22:00 | 4649.684 | 17.616 |
| SAC-E03B | 9/11/03 23:00 | 4649.686 | 17.614 |
| SAC-E03B | 9/12/03 0:00 | 4649.691 | 17.609 |
| SAC-E03B | 9/12/03 1:00 | 4649.695 | 17.605 |
| SAC-E03B | 9/12/03 2:00 | 4649.697 | 17.603 |
| SAC-E03B | 9/12/03 3:00 | 4649.701 | 17.599 |
| SAC-E03B | 9/12/03 4:00 | 4649.703 | 17.597 |
| SAC-E03B | 9/12/03 5:00 | 4649.705 | 17.595 |
| SAC-E03B | 9/12/03 6:00 | 4649.709 | 17.591 |
| SAC-E03B | 9/12/03 7:00 | 4649.712 | 17.588 |
| SAC-E03B | 9/12/03 8:00 | 4649.713 | 17.587 |
| SAC-E03B | 9/12/03 9:00 | 4649.713 | 17.587 |
| SAC-E03B | 9/12/03 10:00 | 4649.714 | 17.586 |
| SAC-E03B | 9/12/03 11:00 | 4649.713 | 17.587 |
| SAC-E03B | 9/12/03 12:00 | 4649.715 | 17.585 |
| SAC-E03B | 9/12/03 13:00 | 4649.715 | 17.585 |
| SAC-E03B | 9/12/03 14:00 | 4649.715 | 17.585 |
| SAC-E03B | 9/12/03 15:00 | 4649.715 | 17.585 |

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| SAC-E03B | 9/12/03 16:00 | 4649.715 | 17.585 |
| SAC-E03B | 9/12/03 17:00 | 4649.718 | 17.582 |
| SAC-E03B | 9/12/03 18:00 | 4649.72 | 17.58 |
| SAC-E03B | 9/12/03 19:00 | 4649.724 | 17.576 |
| SAC-E03B | 9/12/03 20:00 | 4649.728 | 17.572 |
| SAC-E03B | 9/12/03 21:00 | 4649.732 | 17.568 |
| SAC-E03B | 9/12/03 22:00 | 4649.734 | 17.566 |
| SAC-E03B | 9/12/03 23:00 | 4649.738 | 17.562 |
| SAC-E03B | 9/13/03 0:00 | 4649.743 | 17.557 |
| SAC-E03B | 9/13/03 1:00 | 4649.747 | 17.553 |
| SAC-E03B | 9/13/03 2:00 | 4649.751 | 17.549 |
| SAC-E03B | 9/13/03 3:00 | 4649.753 | 17.547 |
| SAC-E03B | 9/13/03 4:00 | 4649.757 | 17.543 |
| SAC-E03B | 9/13/03 5:00 | 4649.761 | 17.539 |
| SAC-E03B | 9/13/03 6:00 | 4649.766 | 17.534 |
| SAC-E03B | 9/13/03 7:00 | 4649.768 | 17.532 |
| SAC-E03B | 9/13/03 8:00 | 4649.77 | 17.53 |
| SAC-E03B | 9/13/03 9:00 | 4649.768 | 17.532 |
| SAC-E03B | 9/13/03 10:00 | 4649.77 | 17.53 |
| SAC-E03B | 9/13/03 11:00 | 4649.772 | 17.528 |
| SAC-E03B | 9/13/03 12:00 | 4649.772 | 17.528 |
| SAC-E03B | 9/13/03 13:00 | 4649.774 | 17.526 |
| SAC-E03B | 9/13/03 14:00 | 4649.774 | 17.526 |
| SAC-E03B | 9/13/03 15:00 | 4649.774 | 17.526 |
| SAC-E03B | 9/13/03 16:00 | 4649.774 | 17.526 |
| SAC-E03B | 9/13/03 17:00 | 4649.778 | 17.522 |
| SAC-E03B | 9/13/03 18:00 | 4649.78 | 17.52 |
| SAC-E03B | 9/13/03 19:00 | 4649.786 | 17.514 |
| SAC-E03B | 9/13/03 20:00 | 4649.786 | 17.514 |
| SAC-E03B | 9/13/03 21:00 | 4649.79 | 17.51 |
| SAC-E03B | 9/13/03 22:00 | 4649.795 | 17.505 |
| SAC-E03B | 9/13/03 23:00 | 4649.799 | 17.501 |
| SAC-E03B | 9/14/03 0:00 | 4649.801 | 17.499 |
| SAC-E03B | 9/14/03 1:00 | 4649.805 | 17.495 |
| SAC-E03B | 9/14/03 2:00 | 4649.811 | 17.489 |
| SAC-E03B | 9/14/03 3:00 | 4649.815 | 17.485 |
| SAC-E03B | 9/14/03 4:00 | 4649.82 | 17.48 |
| SAC-E03B | 9/14/03 5:00 | 4649.824 | 17.476 |
| SAC-E03B | 9/14/03 6:00 | 4649.828 | 17.472 |
| SAC-E03B | 9/14/03 7:00 | 4649.832 | 17.468 |
| SAC-E03B | 9/14/03 8:00 | 4649.836 | 17.464 |
| SAC-E03B | 9/14/03 9:00 | 4649.836 | 17.464 |
| SAC-E03B | 9/14/03 10:00 | 4649.838 | 17.462 |
| SAC-E03B | 9/14/03 11:00 | 4649.84 | 17.46 |
| SAC-E03B | 9/14/03 12:00 | 4649.845 | 17.455 |
| SAC-E03B | 9/14/03 13:00 | 4649.845 | 17.455 |
| SAC-E03B | 9/14/03 14:00 | 4649.849 | 17.451 |
| SAC-E03B | 9/14/03 15:00 | 4649.851 | 17.449 |
| SAC-E03B | 9/14/03 16:00 | 4649.853 | 17.447 |

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| SAC-E03B | 9/14/03 17:00 | 4649.855 | 17.445 |
| SAC-E03B | 9/14/03 18:00 | 4649.861 | 17.439 |
| SAC-E03B | 9/14/03 19:00 | 4649.865 | 17.435 |
| SAC-E03B | 9/14/03 20:00 | 4649.872 | 17.428 |
| SAC-E03B | 9/14/03 21:00 | 4649.876 | 17.424 |
| SAC-E03B | 9/14/03 22:00 | 4649.88 | 17.42 |
| SAC-E03B | 9/14/03 23:00 | 4649.886 | 17.414 |
| SAC-E03B | 9/15/03 0:00 | 4649.891 | 17.409 |
| SAC-E03B | 9/15/03 1:00 | 4649.897 | 17.403 |
| SAC-E03B | 9/15/03 2:00 | 4649.901 | 17.399 |
| SAC-E03B | 9/15/03 3:00 | 4649.907 | 17.393 |
| SAC-E03B | 9/15/03 4:00 | 4649.911 | 17.389 |
| SAC-E03B | 9/15/03 5:00 | 4649.918 | 17.382 |
| SAC-E03B | 9/15/03 6:00 | 4649.922 | 17.378 |
| SAC-E03B | 9/15/03 7:00 | 4649.926 | 17.374 |
| SAC-E03B | 9/15/03 8:00 | 4649.93 | 17.37 |
| SAC-E03B | 9/15/03 9:00 | 4649.932 | 17.368 |
| SAC-E03B | 9/15/03 10:00 | 4649.936 | 17.364 |
| SAC-E03B | 9/15/03 11:00 | 4649.938 | 17.362 |
| SAC-E03B | 9/15/03 12:00 | 4649.94 | 17.36 |
| SAC-E03B | 9/15/03 13:00 | 4649.942 | 17.358 |
| SAC-E03B | 9/15/03 14:00 | 4649.945 | 17.355 |
| SAC-E03B | 9/15/03 15:00 | 4649.947 | 17.353 |
| SAC-E03B | 9/15/03 16:00 | 4649.949 | 17.351 |
| SAC-E03B | 9/15/03 17:00 | 4649.951 | 17.349 |
| SAC-E03B | 9/15/03 18:00 | 4649.957 | 17.343 |
| SAC-E03B | 9/15/03 19:00 | 4649.959 | 17.341 |
| SAC-E03B | 9/15/03 20:00 | 4649.965 | 17.335 |
| SAC-E03B | 9/15/03 21:00 | 4649.968 | 17.332 |
| SAC-E03B | 9/15/03 22:00 | 4649.972 | 17.328 |
| SAC-E03B | 9/15/03 23:00 | 4649.976 | 17.324 |
| SAC-E03B | 9/16/03 0:00 | 4649.978 | 17.322 |
| SAC-E03B | 9/16/03 1:00 | 4649.982 | 17.318 |
| SAC-E03B | 9/16/03 2:00 | 4649.986 | 17.314 |
| SAC-E03B | 9/16/03 3:00 | 4649.99 | 17.31 |
| SAC-E03B | 9/16/03 4:00 | 4649.993 | 17.307 |
| SAC-E03B | 9/16/03 5:00 | 4649.997 | 17.303 |
| SAC-E03B | 9/16/03 6:00 | 4650.001 | 17.299 |
| SAC-E03B | 9/16/03 7:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/16/03 8:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/16/03 9:00 | 4650.005 | 17.295 |
| SAC-E03B | 9/16/03 10:00 | 4650.005 | 17.295 |
| SAC-E03B | 9/16/03 11:00 | 4650.007 | 17.293 |
| SAC-E03B | 9/16/03 12:00 | 4650.005 | 17.295 |
| SAC-E03B | 9/16/03 13:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/16/03 14:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/16/03 15:00 | 4650.005 | 17.295 |
| SAC-E03B | 9/16/03 16:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/16/03 17:00 | 4650.005 | 17.295 |

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| SAC-E03B | 9/16/03 18:00 | 4650.007 | 17.293 |
| SAC-E03B | 9/16/03 19:00 | 4650.011 | 17.289 |
| SAC-E03B | 9/16/03 20:00 | 4650.011 | 17.289 |
| SAC-E03B | 9/16/03 21:00 | 4650.015 | 17.285 |
| SAC-E03B | 9/16/03 22:00 | 4650.017 | 17.283 |
| SAC-E03B | 9/16/03 23:00 | 4650.02 | 17.28 |
| SAC-E03B | 9/17/03 0:00 | 4650.022 | 17.278 |
| SAC-E03B | 9/17/03 1:00 | 4650.024 | 17.276 |
| SAC-E03B | 9/17/03 2:00 | 4650.026 | 17.274 |
| SAC-E03B | 9/17/03 3:00 | 4650.028 | 17.272 |
| SAC-E03B | 9/17/03 4:00 | 4650.03 | 17.27 |
| SAC-E03B | 9/17/03 5:00 | 4650.032 | 17.268 |
| SAC-E03B | 9/17/03 6:00 | 4650.034 | 17.266 |
| SAC-E03B | 9/17/03 7:00 | 4650.036 | 17.264 |
| SAC-E03B | 9/17/03 8:00 | 4650.036 | 17.264 |
| SAC-E03B | 9/17/03 9:00 | 4650.034 | 17.266 |
| SAC-E03B | 9/17/03 10:00 | 4650.034 | 17.266 |
| SAC-E03B | 9/17/03 11:00 | 4650.034 | 17.266 |
| SAC-E03B | 9/17/03 12:00 | 4650.03 | 17.27 |
| SAC-E03B | 9/17/03 13:00 | 4650.026 | 17.274 |
| SAC-E03B | 9/17/03 14:00 | 4650.026 | 17.274 |
| SAC-E03B | 9/17/03 15:00 | 4650.022 | 17.278 |
| SAC-E03B | 9/17/03 16:00 | 4650.019 | 17.281 |
| SAC-E03B | 9/17/03 17:00 | 4650.017 | 17.283 |
| SAC-E03B | 9/17/03 18:00 | 4650.019 | 17.281 |
| SAC-E03B | 9/17/03 19:00 | 4650.019 | 17.281 |
| SAC-E03B | 9/17/03 20:00 | 4650.022 | 17.278 |
| SAC-E03B | 9/17/03 21:00 | 4650.024 | 17.276 |
| SAC-E03B | 9/17/03 22:00 | 4650.026 | 17.274 |
| SAC-E03B | 9/17/03 23:00 | 4650.026 | 17.274 |
| SAC-E03B | 9/18/03 0:00 | 4650.03 | 17.27 |
| SAC-E03B | 9/18/03 1:00 | 4650.03 | 17.27 |
| SAC-E03B | 9/18/03 2:00 | 4650.032 | 17.268 |
| SAC-E03B | 9/18/03 3:00 | 4650.032 | 17.268 |
| SAC-E03B | 9/18/03 4:00 | 4650.034 | 17.266 |
| SAC-E03B | 9/18/03 5:00 | 4650.032 | 17.268 |
| SAC-E03B | 9/18/03 6:00 | 4650.034 | 17.266 |
| SAC-E03B | 9/18/03 7:00 | 4650.036 | 17.264 |
| SAC-E03B | 9/18/03 8:00 | 4650.032 | 17.268 |
| SAC-E03B | 9/18/03 9:00 | 4650.03 | 17.27 |
| SAC-E03B | 9/18/03 10:00 | 4650.028 | 17.272 |
| SAC-E03B | 9/18/03 11:00 | 4650.023 | 17.277 |
| SAC-E03B | 9/18/03 12:00 | 4650.019 | 17.281 |
| SAC-E03B | 9/18/03 13:00 | 4650.017 | 17.283 |
| SAC-E03B | 9/18/03 14:00 | 4650.013 | 17.287 |
| SAC-E03B | 9/18/03 15:00 | 4650.009 | 17.291 |
| SAC-E03B | 9/18/03 16:00 | 4650.005 | 17.295 |
| SAC-E03B | 9/18/03 17:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/18/03 18:00 | 4650.003 | 17.297 |

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| SAC-E03B | 9/18/03 19:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/18/03 20:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/18/03 21:00 | 4650.005 | 17.295 |
| SAC-E03B | 9/18/03 22:00 | 4650.005 | 17.295 |
| SAC-E03B | 9/18/03 23:00 | 4650.007 | 17.293 |
| SAC-E03B | 9/19/03 0:00 | 4650.009 | 17.291 |
| SAC-E03B | 9/19/03 1:00 | 4650.009 | 17.291 |
| SAC-E03B | 9/19/03 2:00 | 4650.009 | 17.291 |
| SAC-E03B | 9/19/03 3:00 | 4650.011 | 17.289 |
| SAC-E03B | 9/19/03 4:00 | 4650.011 | 17.289 |
| SAC-E03B | 9/19/03 5:00 | 4650.013 | 17.287 |
| SAC-E03B | 9/19/03 6:00 | 4650.013 | 17.287 |
| SAC-E03B | 9/19/03 7:00 | 4650.013 | 17.287 |
| SAC-E03B | 9/19/03 8:00 | 4650.013 | 17.287 |
| SAC-E03B | 9/19/03 9:00 | 4650.011 | 17.289 |
| SAC-E03B | 9/19/03 10:00 | 4650.007 | 17.293 |
| SAC-E03B | 9/19/03 11:00 | 4650.004 | 17.296 |
| SAC-E03B | 9/19/03 12:00 | 4650.003 | 17.297 |
| SAC-E03B | 9/19/03 13:00 | 4649.998 | 17.302 |
| SAC-E03B | 9/19/03 14:00 | 4649.996 | 17.304 |
| SAC-E03B | 9/19/03 15:00 | 4649.992 | 17.308 |
| SAC-E03B | 9/19/03 16:00 | 4649.986 | 17.314 |
| SAC-E03B | 9/19/03 17:00 | 4649.984 | 17.316 |
| SAC-E03B | 9/19/03 18:00 | 4649.984 | 17.316 |
| SAC-E03B | 9/19/03 19:00 | 4649.981 | 17.319 |
| SAC-E03B | 9/19/03 20:00 | 4649.984 | 17.316 |
| SAC-E03B | 9/19/03 21:00 | 4649.984 | 17.316 |
| SAC-E03B | 9/19/03 22:00 | 4649.984 | 17.316 |
| SAC-E03B | 9/19/03 23:00 | 4649.986 | 17.314 |
| SAC-E03B | 9/20/03 0:00 | 4649.986 | 17.314 |
| SAC-E03B | 9/20/03 1:00 | 4649.988 | 17.312 |
| SAC-E03B | 9/20/03 2:00 | 4649.988 | 17.312 |
| SAC-E03B | 9/20/03 3:00 | 4649.99 | 17.31 |
| SAC-E03B | 9/20/03 4:00 | 4649.988 | 17.312 |
| SAC-E03B | 9/20/03 5:00 | 4649.99 | 17.31 |
| SAC-E03B | 9/20/03 6:00 | 4649.99 | 17.31 |
| SAC-E03B | 9/20/03 7:00 | 4649.99 | 17.31 |
| SAC-E03B | 9/20/03 8:00 | 4649.988 | 17.312 |
| SAC-E03B | 9/20/03 9:00 | 4649.984 | 17.316 |
| SAC-E03B | 9/20/03 10:00 | 4649.981 | 17.319 |
| SAC-E03B | 9/20/03 11:00 | 4649.977 | 17.323 |
| SAC-E03B | 9/20/03 12:00 | 4649.973 | 17.327 |
| SAC-E03B | 9/20/03 13:00 | 4649.973 | 17.327 |
| SAC-E03B | 9/20/03 14:00 | 4649.973 | 17.327 |
| SAC-E03B | 9/20/03 15:00 | 4649.975 | 17.325 |
| SAC-E03B | 9/20/03 16:00 | 4649.973 | 17.327 |
| SAC-E03B | 9/20/03 17:00 | 4649.971 | 17.329 |
| SAC-E03B | 9/20/03 18:00 | 4649.971 | 17.329 |
| SAC-E03B | 9/20/03 19:00 | 4649.971 | 17.329 |

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| SAC-E03B | 9/20/03 20:00 | 4649.971 | 17.329 |
| SAC-E03B | 9/20/03 21:00 | 4649.973 | 17.327 |
| SAC-E03B | 9/20/03 22:00 | 4649.973 | 17.327 |
| SAC-E03B | 9/20/03 23:00 | 4649.975 | 17.325 |
| SAC-E03B | 9/21/03 0:00 | 4649.975 | 17.325 |
| SAC-E03B | 9/21/03 1:00 | 4649.977 | 17.323 |
| SAC-E03B | 9/21/03 2:00 | 4649.977 | 17.323 |
| SAC-E03B | 9/21/03 3:00 | 4649.977 | 17.323 |
| SAC-E03B | 9/21/03 4:00 | 4649.979 | 17.321 |
| SAC-E03B | 9/21/03 5:00 | 4649.979 | 17.321 |
| SAC-E03B | 9/21/03 6:00 | 4649.977 | 17.323 |
| SAC-E03B | 9/21/03 7:00 | 4649.977 | 17.323 |
| SAC-E03B | 9/21/03 8:00 | 4649.975 | 17.325 |
| SAC-E03B | 9/21/03 9:00 | 4649.971 | 17.329 |
| SAC-E03B | 9/21/03 10:00 | 4649.969 | 17.331 |
| SAC-E03B | 9/21/03 11:00 | 4649.965 | 17.335 |
| SAC-E03B | 9/21/03 12:00 | 4649.96 | 17.34 |
| SAC-E03B | 9/21/03 13:00 | 4649.954 | 17.346 |
| SAC-E03B | 9/21/03 14:00 | 4649.95 | 17.35 |
| SAC-E03B | 9/21/03 15:00 | 4649.944 | 17.356 |
| SAC-E03B | 9/21/03 16:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/21/03 17:00 | 4649.935 | 17.365 |
| SAC-E03B | 9/21/03 18:00 | 4649.933 | 17.367 |
| SAC-E03B | 9/21/03 19:00 | 4649.933 | 17.367 |
| SAC-E03B | 9/21/03 20:00 | 4649.933 | 17.367 |
| SAC-E03B | 9/21/03 21:00 | 4649.935 | 17.365 |
| SAC-E03B | 9/21/03 22:00 | 4649.933 | 17.367 |
| SAC-E03B | 9/21/03 23:00 | 4649.935 | 17.365 |
| SAC-E03B | 9/22/03 0:00 | 4649.935 | 17.365 |
| SAC-E03B | 9/22/03 1:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/22/03 2:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/22/03 3:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/22/03 4:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/22/03 5:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/22/03 6:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/22/03 7:00 | 4649.937 | 17.363 |
| SAC-E03B | 9/22/03 8:00 | 4649.935 | 17.365 |
| SAC-E03B | 9/22/03 9:00 | 4649.933 | 17.367 |
| SAC-E03B | 9/22/03 10:00 | 4649.929 | 17.371 |
| SAC-E03B | 9/22/03 11:00 | 4649.925 | 17.375 |
| SAC-E03B | 9/22/03 12:00 | 4649.921 | 17.379 |
| SAC-E03B | 9/22/03 13:00 | 4649.917 | 17.383 |
| SAC-E03B | 9/22/03 14:00 | 4649.91 | 17.39 |
| SAC-E03B | 9/22/03 15:00 | 4649.904 | 17.396 |
| SAC-E03B | 9/22/03 16:00 | 4649.902 | 17.398 |
| SAC-E03B | 9/22/03 17:00 | 4649.898 | 17.402 |
| SAC-E03B | 9/22/03 18:00 | 4649.898 | 17.402 |
| SAC-E03B | 9/22/03 19:00 | 4649.898 | 17.402 |
| SAC-E03B | 9/22/03 20:00 | 4649.898 | 17.402 |

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| SAC-E03B | 9/22/03 21:00 | 4649.896 | 17.404 |
| SAC-E03B | 9/22/03 22:00 | 4649.898 | 17.402 |
| SAC-E03B | 9/22/03 23:00 | 4649.898 | 17.402 |
| SAC-E03B | 9/23/03 0:00 | 4649.9 | 17.4 |
| SAC-E03B | 9/23/03 1:00 | 4649.9 | 17.4 |
| SAC-E03B | 9/23/03 2:00 | 4649.9 | 17.4 |
| SAC-E03B | 9/23/03 3:00 | 4649.9 | 17.4 |
| SAC-E03B | 9/23/03 4:00 | 4649.9 | 17.4 |
| SAC-E03B | 9/23/03 5:00 | 4649.9 | 17.4 |
| SAC-E03B | 9/23/03 6:00 | 4649.9 | 17.4 |
| SAC-E03B | 9/23/03 7:00 | 4649.902 | 17.398 |
| SAC-E03B | 9/23/03 8:00 | 4649.898 | 17.402 |
| SAC-E03B | 9/23/03 9:00 | 4649.895 | 17.405 |
| SAC-E03B | 9/23/03 10:00 | 4649.891 | 17.409 |
| SAC-E03B | 9/23/03 11:00 | 4649.885 | 17.415 |
| SAC-E03B | 9/23/03 12:00 | 4649.883 | 17.417 |
| SAC-E03B | 9/23/03 13:00 | 4649.877 | 17.423 |
| SAC-E03B | 9/23/03 14:00 | 4649.872 | 17.428 |
| SAC-E03B | 9/23/03 15:00 | 4649.866 | 17.434 |
| SAC-E03B | 9/23/03 16:00 | 4649.864 | 17.436 |
| SAC-E03B | 9/23/03 17:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/23/03 18:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/23/03 19:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/23/03 20:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/23/03 21:00 | 4649.858 | 17.442 |
| SAC-E03B | 9/23/03 22:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/23/03 23:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/24/03 0:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/24/03 1:00 | 4649.862 | 17.438 |
| SAC-E03B | 9/24/03 2:00 | 4649.862 | 17.438 |
| SAC-E03B | 9/24/03 3:00 | 4649.864 | 17.436 |
| SAC-E03B | 9/24/03 4:00 | 4649.864 | 17.436 |
| SAC-E03B | 9/24/03 5:00 | 4649.864 | 17.436 |
| SAC-E03B | 9/24/03 6:00 | 4649.864 | 17.436 |
| SAC-E03B | 9/24/03 7:00 | 4649.864 | 17.436 |
| SAC-E03B | 9/24/03 8:00 | 4649.862 | 17.438 |
| SAC-E03B | 9/24/03 9:00 | 4649.86 | 17.44 |
| SAC-E03B | 9/24/03 10:00 | 4649.856 | 17.444 |
| SAC-E03B | 9/24/03 11:00 | 4649.852 | 17.448 |
| SAC-E03B | 9/24/03 12:00 | 4649.847 | 17.453 |
| SAC-E03B | 9/24/03 13:00 | 4649.845 | 17.455 |
| SAC-E03B | 9/24/03 14:00 | 4649.839 | 17.461 |
| SAC-E03B | 9/24/03 15:00 | 4649.835 | 17.465 |
| SAC-E03B | 9/24/03 16:00 | 4649.833 | 17.467 |
| SAC-E03B | 9/24/03 17:00 | 4649.829 | 17.471 |
| SAC-E03B | 9/24/03 18:00 | 4649.828 | 17.472 |
| SAC-E03B | 9/24/03 19:00 | 4649.828 | 17.472 |
| SAC-E03B | 9/24/03 20:00 | 4649.828 | 17.472 |
| SAC-E03B | 9/24/03 21:00 | 4649.828 | 17.472 |

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| SAC-E03B | 9/24/03 22:00 | 4649.829 | 17.471 |
| SAC-E03B | 9/24/03 23:00 | 4649.828 | 17.472 |
| SAC-E03B | 9/25/03 0:00 | 4649.829 | 17.471 |
| SAC-E03B | 9/25/03 1:00 | 4649.831 | 17.469 |
| SAC-E03B | 9/25/03 2:00 | 4649.833 | 17.467 |
| SAC-E03B | 9/25/03 3:00 | 4649.833 | 17.467 |
| SAC-E03B | 9/25/03 4:00 | 4649.835 | 17.465 |
| SAC-E03B | 9/25/03 5:00 | 4649.833 | 17.467 |
| SAC-E03B | 9/25/03 6:00 | 4649.835 | 17.465 |
| SAC-E03B | 9/25/03 7:00 | 4649.833 | 17.467 |
| SAC-E03B | 9/25/03 8:00 | 4649.831 | 17.469 |
| SAC-E03B | 9/25/03 9:00 | 4649.826 | 17.474 |
| SAC-E03B | 9/25/03 10:00 | 4649.824 | 17.476 |
| SAC-E03B | 9/25/03 11:00 | 4649.82 | 17.48 |
| SAC-E03B | 9/25/03 12:00 | 4649.818 | 17.482 |
| SAC-E03B | 9/25/03 13:00 | 4649.814 | 17.486 |
| SAC-E03B | 9/25/03 14:00 | 4649.814 | 17.486 |
| SAC-E03B | 9/25/03 15:00 | 4649.808 | 17.492 |
| SAC-E03B | 9/25/03 16:00 | 4649.805 | 17.495 |
| SAC-E03B | 9/25/03 17:00 | 4649.801 | 17.499 |
| SAC-E03B | 9/25/03 18:00 | 4649.801 | 17.499 |
| SAC-E03B | 9/25/03 19:00 | 4649.801 | 17.499 |
| SAC-E03B | 9/25/03 20:00 | 4649.801 | 17.499 |
| SAC-E03B | 9/25/03 21:00 | 4649.803 | 17.497 |
| SAC-E03B | 9/25/03 22:00 | 4649.803 | 17.497 |
| SAC-E03B | 9/25/03 23:00 | 4649.805 | 17.495 |
| SAC-E03B | 9/26/03 0:00 | 4649.805 | 17.495 |
| SAC-E03B | 9/26/03 1:00 | 4649.808 | 17.492 |
| SAC-E03B | 9/26/03 2:00 | 4649.81 | 17.49 |
| SAC-E03B | 9/26/03 3:00 | 4649.812 | 17.488 |
| SAC-E03B | 9/26/03 4:00 | 4649.812 | 17.488 |
| SAC-E03B | 9/26/03 5:00 | 4649.814 | 17.486 |
| SAC-E03B | 9/26/03 6:00 | 4649.814 | 17.486 |
| SAC-E03B | 9/26/03 7:00 | 4649.814 | 17.486 |
| SAC-E03B | 9/26/03 8:00 | 4649.812 | 17.488 |
| SAC-E03B | 9/26/03 9:00 | 4649.81 | 17.49 |
| SAC-E03B | 9/26/03 10:00 | 4649.805 | 17.495 |
| SAC-E03B | 9/26/03 11:00 | 4649.77 | 17.53 |
| SAC-E03B | 9/26/03 12:00 | 4649.764 | 17.536 |
| SAC-E03B | 9/26/03 13:00 | 4649.761 | 17.539 |
| SAC-E03B | 9/26/03 14:00 | 4649.755 | 17.545 |
| SAC-E03B | 9/26/03 15:00 | 4649.751 | 17.549 |
| SAC-E03B | 9/26/03 16:00 | 4649.749 | 17.551 |
| SAC-E03B | 9/26/03 17:00 | 4649.747 | 17.553 |
| SAC-E03B | 9/26/03 18:00 | 4649.747 | 17.553 |
| SAC-E03B | 9/26/03 19:00 | 4649.747 | 17.553 |
| SAC-E03B | 9/26/03 20:00 | 4649.745 | 17.555 |
| SAC-E03B | 9/26/03 21:00 | 4649.747 | 17.553 |
| SAC-E03B | 9/26/03 22:00 | 4649.749 | 17.551 |

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| SAC-E03B | 9/26/03 23:00 | 4649.749 | 17.551 |
| SAC-E03B | 9/27/03 0:00 | 4649.749 | 17.551 |
| SAC-E03B | 9/27/03 1:00 | 4649.751 | 17.549 |
| SAC-E03B | 9/27/03 2:00 | 4649.751 | 17.549 |
| SAC-E03B | 9/27/03 3:00 | 4649.753 | 17.547 |
| SAC-E03B | 9/27/03 4:00 | 4649.753 | 17.547 |
| SAC-E03B | 9/27/03 5:00 | 4649.755 | 17.545 |
| SAC-E03B | 9/27/03 6:00 | 4649.755 | 17.545 |
| SAC-E03B | 9/27/03 7:00 | 4649.755 | 17.545 |
| SAC-E03B | 9/27/03 8:00 | 4649.753 | 17.547 |
| SAC-E03B | 9/27/03 9:00 | 4649.749 | 17.551 |
| SAC-E03B | 9/27/03 10:00 | 4649.745 | 17.555 |
| SAC-E03B | 9/27/03 11:00 | 4649.741 | 17.559 |
| SAC-E03B | 9/27/03 12:00 | 4649.738 | 17.562 |
| SAC-E03B | 9/27/03 13:00 | 4649.734 | 17.566 |
| SAC-E03B | 9/27/03 14:00 | 4649.732 | 17.568 |
| SAC-E03B | 9/27/03 15:00 | 4649.73 | 17.57 |
| SAC-E03B | 9/27/03 16:00 | 4649.726 | 17.574 |
| SAC-E03B | 9/27/03 17:00 | 4649.724 | 17.576 |
| SAC-E03B | 9/27/03 18:00 | 4649.726 | 17.574 |
| SAC-E03B | 9/27/03 19:00 | 4649.726 | 17.574 |
| SAC-E03B | 9/27/03 20:00 | 4649.726 | 17.574 |
| SAC-E03B | 9/27/03 21:00 | 4649.726 | 17.574 |
| SAC-E03B | 9/27/03 22:00 | 4649.728 | 17.572 |
| SAC-E03B | 9/27/03 23:00 | 4649.728 | 17.572 |
| SAC-E03B | 9/28/03 0:00 | 4649.73 | 17.57 |
| SAC-E03B | 9/28/03 1:00 | 4649.732 | 17.568 |
| SAC-E03B | 9/28/03 2:00 | 4649.734 | 17.566 |
| SAC-E03B | 9/28/03 3:00 | 4649.734 | 17.566 |
| SAC-E03B | 9/28/03 4:00 | 4649.736 | 17.564 |
| SAC-E03B | 9/28/03 5:00 | 4649.736 | 17.564 |
| SAC-E03B | 9/28/03 6:00 | 4649.736 | 17.564 |
| SAC-E03B | 9/28/03 7:00 | 4649.736 | 17.564 |
| SAC-E03B | 9/28/03 8:00 | 4649.736 | 17.564 |
| SAC-E03B | 9/28/03 9:00 | 4649.732 | 17.568 |
| SAC-E03B | 9/28/03 10:00 | 4649.728 | 17.572 |
| SAC-E03B | 9/28/03 11:00 | 4649.726 | 17.574 |
| SAC-E03B | 9/28/03 12:00 | 4649.724 | 17.576 |
| SAC-E03B | 9/28/03 13:00 | 4649.717 | 17.583 |
| SAC-E03B | 9/28/03 14:00 | 4649.715 | 17.585 |
| SAC-E03B | 9/28/03 15:00 | 4649.717 | 17.583 |
| SAC-E03B | 9/28/03 16:00 | 4649.711 | 17.589 |
| SAC-E03B | 9/28/03 17:00 | 4649.709 | 17.591 |
| SAC-E03B | 9/28/03 18:00 | 4649.709 | 17.591 |
| SAC-E03B | 9/28/03 19:00 | 4649.709 | 17.591 |
| SAC-E03B | 9/28/03 20:00 | 4649.709 | 17.591 |
| SAC-E03B | 9/28/03 21:00 | 4649.709 | 17.591 |
| SAC-E03B | 9/28/03 22:00 | 4649.709 | 17.591 |
| SAC-E03B | 9/28/03 23:00 | 4649.709 | 17.591 |

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| SAC-E03B | 9/29/03 0:00 | 4649.711 | 17.589 |
| SAC-E03B | 9/29/03 1:00 | 4649.713 | 17.587 |
| SAC-E03B | 9/29/03 2:00 | 4649.713 | 17.587 |
| SAC-E03B | 9/29/03 3:00 | 4649.715 | 17.585 |
| SAC-E03B | 9/29/03 4:00 | 4649.717 | 17.583 |
| SAC-E03B | 9/29/03 5:00 | 4649.719 | 17.581 |
| SAC-E03B | 9/29/03 6:00 | 4649.719 | 17.581 |
| SAC-E03B | 9/29/03 7:00 | 4649.719 | 17.581 |
| SAC-E03B | 9/29/03 8:00 | 4649.717 | 17.583 |
| SAC-E03B | 9/29/03 9:00 | 4649.715 | 17.585 |
| SAC-E03B | 9/29/03 10:00 | 4649.711 | 17.589 |
| SAC-E03B | 9/29/03 11:00 | 4649.707 | 17.593 |
| SAC-E03B | 9/29/03 12:00 | 4649.705 | 17.595 |
| SAC-E03B | 9/29/03 13:00 | 4649.701 | 17.599 |
| SAC-E03B | 9/29/03 14:00 | 4649.697 | 17.603 |
| SAC-E03B | 9/29/03 15:00 | 4649.694 | 17.606 |
| SAC-E03B | 9/29/03 16:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/29/03 17:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/29/03 18:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/29/03 19:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/29/03 20:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/29/03 21:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/29/03 22:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/29/03 23:00 | 4649.692 | 17.608 |
| SAC-E03B | 9/30/03 0:00 | 4649.694 | 17.606 |
| SAC-E03B | 9/30/03 1:00 | 4649.696 | 17.604 |
| SAC-E03B | 9/30/03 2:00 | 4649.698 | 17.602 |
| SAC-E03B | 9/30/03 3:00 | 4649.698 | 17.602 |
| SAC-E03B | 9/30/03 4:00 | 4649.698 | 17.602 |
| SAC-E03B | 9/30/03 5:00 | 4649.7 | 17.6 |
| SAC-E03B | 9/30/03 6:00 | 4649.701 | 17.599 |
| SAC-E03B | 9/30/03 7:00 | 4649.705 | 17.595 |
| SAC-E03B | 9/30/03 8:00 | 4649.7 | 17.6 |
| SAC-E03B | 9/30/03 9:00 | 4649.696 | 17.604 |
| SAC-E03B | 9/30/03 10:00 | 4649.694 | 17.606 |
| SAC-E03B | 9/30/03 11:00 | 4649.69 | 17.61 |
| SAC-E03B | 9/30/03 12:00 | 4649.686 | 17.614 |
| SAC-E03B | 9/30/03 13:00 | 4649.684 | 17.616 |
| SAC-E03B | 9/30/03 14:00 | 4649.68 | 17.62 |
| SAC-E03B | 9/30/03 15:00 | 4649.675 | 17.625 |
| SAC-E03B | 9/30/03 16:00 | 4649.673 | 17.627 |
| SAC-E03B | 9/30/03 17:00 | 4649.673 | 17.627 |
| SAC-E03B | 9/30/03 18:00 | 4649.673 | 17.627 |
| SAC-E03B | 9/30/03 19:00 | 4649.673 | 17.627 |
| SAC-E03B | 9/30/03 20:00 | 4649.675 | 17.625 |
| SAC-E03B | 9/30/03 21:00 | 4649.675 | 17.625 |
| SAC-E03B | 9/30/03 22:00 | 4649.675 | 17.625 |
| SAC-E03B | 9/30/03 23:00 | 4649.675 | 17.625 |

| LOCID | Date and Time | WATELEV | DTW |
|----------|---------------|----------|--------|
| SAC-E02A | 9/1/03 0:00 | 4649.415 | 17.065 |
| SAC-E02A | 9/1/03 1:00 | 4649.436 | 17.044 |
| SAC-E02A | 9/1/03 2:00 | 4649.457 | 17.023 |
| SAC-E02A | 9/1/03 3:00 | 4649.476 | 17.004 |
| SAC-E02A | 9/1/03 4:00 | 4649.493 | 16.987 |
| SAC-E02A | 9/1/03 5:00 | 4649.508 | 16.972 |
| SAC-E02A | 9/1/03 6:00 | 4649.521 | 16.959 |
| SAC-E02A | 9/1/03 7:00 | 4649.534 | 16.946 |
| SAC-E02A | 9/1/03 8:00 | 4649.544 | 16.936 |
| SAC-E02A | 9/1/03 9:00 | 4649.553 | 16.927 |
| SAC-E02A | 9/1/03 10:00 | 4649.559 | 16.921 |
| SAC-E02A | 9/1/03 11:00 | 4649.568 | 16.912 |
| SAC-E02A | 9/1/03 12:00 | 4649.572 | 16.908 |
| SAC-E02A | 9/1/03 13:00 | 4649.576 | 16.904 |
| SAC-E02A | 9/1/03 14:00 | 4649.582 | 16.898 |
| SAC-E02A | 9/1/03 15:00 | 4649.582 | 16.898 |
| SAC-E02A | 9/1/03 16:00 | 4649.584 | 16.896 |
| SAC-E02A | 9/1/03 17:00 | 4649.584 | 16.896 |
| SAC-E02A | 9/1/03 18:00 | 4649.584 | 16.896 |
| SAC-E02A | 9/1/03 19:00 | 4649.584 | 16.896 |
| SAC-E02A | 9/1/03 20:00 | 4649.584 | 16.896 |
| SAC-E02A | 9/1/03 21:00 | 4649.591 | 16.889 |
| SAC-E02A | 9/1/03 22:00 | 4649.587 | 16.893 |
| SAC-E02A | 9/1/03 23:00 | 4649.591 | 16.889 |
| SAC-E02A | 9/2/03 0:00 | 4649.593 | 16.887 |
| SAC-E02A | 9/2/03 1:00 | 4649.597 | 16.883 |
| SAC-E02A | 9/2/03 2:00 | 4649.599 | 16.881 |
| SAC-E02A | 9/2/03 3:00 | 4649.604 | 16.876 |
| SAC-E02A | 9/2/03 4:00 | 4649.608 | 16.872 |
| SAC-E02A | 9/2/03 5:00 | 4649.612 | 16.868 |
| SAC-E02A | 9/2/03 6:00 | 4649.616 | 16.864 |
| SAC-E02A | 9/2/03 7:00 | 4649.618 | 16.862 |
| SAC-E02A | 9/2/03 8:00 | 4649.621 | 16.859 |
| SAC-E02A | 9/2/03 9:00 | 4649.625 | 16.855 |
| SAC-E02A | 9/2/03 10:00 | 4649.627 | 16.853 |
| SAC-E02A | 9/2/03 11:00 | 4649.633 | 16.847 |
| SAC-E02A | 9/2/03 12:00 | 4649.635 | 16.845 |
| SAC-E02A | 9/2/03 13:00 | 4649.642 | 16.838 |
| SAC-E02A | 9/2/03 14:00 | 4649.646 | 16.834 |
| SAC-E02A | 9/2/03 15:00 | 4649.65 | 16.83 |
| SAC-E02A | 9/2/03 16:00 | 4649.655 | 16.825 |
| SAC-E02A | 9/2/03 17:00 | 4649.659 | 16.821 |
| SAC-E02A | 9/2/03 18:00 | 4649.665 | 16.815 |
| SAC-E02A | 9/2/03 19:00 | 4649.669 | 16.811 |
| SAC-E02A | 9/2/03 20:00 | 4649.674 | 16.806 |
| SAC-E02A | 9/2/03 21:00 | 4649.678 | 16.802 |

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| SAC-E02A | 9/2/03 22:00 | 4649.682 | 16.798 |
| SAC-E02A | 9/2/03 23:00 | 4649.689 | 16.791 |
| SAC-E02A | 9/3/03 0:00 | 4649.693 | 16.787 |
| SAC-E02A | 9/3/03 1:00 | 4649.699 | 16.781 |
| SAC-E02A | 9/3/03 2:00 | 4649.706 | 16.774 |
| SAC-E02A | 9/3/03 3:00 | 4649.71 | 16.77 |
| SAC-E02A | 9/3/03 4:00 | 4649.714 | 16.766 |
| SAC-E02A | 9/3/03 5:00 | 4649.72 | 16.76 |
| SAC-E02A | 9/3/03 6:00 | 4649.727 | 16.753 |
| SAC-E02A | 9/3/03 7:00 | 4649.729 | 16.751 |
| SAC-E02A | 9/3/03 8:00 | 4649.735 | 16.745 |
| SAC-E02A | 9/3/03 9:00 | 4649.74 | 16.74 |
| SAC-E02A | 9/3/03 10:00 | 4649.744 | 16.736 |
| SAC-E02A | 9/3/03 11:00 | 4649.75 | 16.73 |
| SAC-E02A | 9/3/03 12:00 | 4649.757 | 16.723 |
| SAC-E02A | 9/3/03 13:00 | 4649.761 | 16.719 |
| SAC-E02A | 9/3/03 14:00 | 4649.767 | 16.713 |
| SAC-E02A | 9/3/03 15:00 | 4649.771 | 16.709 |
| SAC-E02A | 9/3/03 16:00 | 4649.776 | 16.704 |
| SAC-E02A | 9/3/03 17:00 | 4649.782 | 16.698 |
| SAC-E02A | 9/3/03 18:00 | 4649.786 | 16.694 |
| SAC-E02A | 9/3/03 19:00 | 4649.793 | 16.687 |
| SAC-E02A | 9/3/03 20:00 | 4649.797 | 16.683 |
| SAC-E02A | 9/3/03 21:00 | 4649.803 | 16.677 |
| SAC-E02A | 9/3/03 22:00 | 4649.808 | 16.672 |
| SAC-E02A | 9/3/03 23:00 | 4649.814 | 16.666 |
| SAC-E02A | 9/4/03 0:00 | 4649.82 | 16.66 |
| SAC-E02A | 9/4/03 1:00 | 4649.825 | 16.655 |
| SAC-E02A | 9/4/03 2:00 | 4649.831 | 16.649 |
| SAC-E02A | 9/4/03 3:00 | 4649.835 | 16.645 |
| SAC-E02A | 9/4/03 4:00 | 4649.839 | 16.641 |
| SAC-E02A | 9/4/03 5:00 | 4649.844 | 16.636 |
| SAC-E02A | 9/4/03 6:00 | 4649.848 | 16.632 |
| SAC-E02A | 9/4/03 7:00 | 4649.85 | 16.63 |
| SAC-E02A | 9/4/03 8:00 | 4649.852 | 16.628 |
| SAC-E02A | 9/4/03 9:00 | 4649.854 | 16.626 |
| SAC-E02A | 9/4/03 10:00 | 4649.854 | 16.626 |
| SAC-E02A | 9/4/03 11:00 | 4649.856 | 16.624 |
| SAC-E02A | 9/4/03 12:00 | 4649.856 | 16.624 |
| SAC-E02A | 9/4/03 13:00 | 4649.856 | 16.624 |
| SAC-E02A | 9/4/03 14:00 | 4649.856 | 16.624 |
| SAC-E02A | 9/4/03 15:00 | 4649.856 | 16.624 |
| SAC-E02A | 9/4/03 16:00 | 4649.852 | 16.628 |
| SAC-E02A | 9/4/03 17:00 | 4649.852 | 16.628 |
| SAC-E02A | 9/4/03 18:00 | 4649.85 | 16.63 |
| SAC-E02A | 9/4/03 19:00 | 4649.845 | 16.635 |
| SAC-E02A | 9/4/03 20:00 | 4649.843 | 16.637 |

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| SAC-E02A | 9/4/03 21:00 | 4649.839 | 16.641 |
| SAC-E02A | 9/4/03 22:00 | 4649.833 | 16.647 |
| SAC-E02A | 9/4/03 23:00 | 4649.83 | 16.65 |
| SAC-E02A | 9/5/03 0:00 | 4649.828 | 16.652 |
| SAC-E02A | 9/5/03 1:00 | 4649.824 | 16.656 |
| SAC-E02A | 9/5/03 2:00 | 4649.822 | 16.658 |
| SAC-E02A | 9/5/03 3:00 | 4649.82 | 16.66 |
| SAC-E02A | 9/5/03 4:00 | 4649.815 | 16.665 |
| SAC-E02A | 9/5/03 5:00 | 4649.811 | 16.669 |
| SAC-E02A | 9/5/03 6:00 | 4649.805 | 16.675 |
| SAC-E02A | 9/5/03 7:00 | 4649.8 | 16.68 |
| SAC-E02A | 9/5/03 8:00 | 4649.796 | 16.684 |
| SAC-E02A | 9/5/03 9:00 | 4649.79 | 16.69 |
| SAC-E02A | 9/5/03 10:00 | 4649.786 | 16.694 |
| SAC-E02A | 9/5/03 11:00 | 4649.781 | 16.699 |
| SAC-E02A | 9/5/03 12:00 | 4649.777 | 16.703 |
| SAC-E02A | 9/5/03 13:00 | 4649.773 | 16.707 |
| SAC-E02A | 9/5/03 14:00 | 4649.769 | 16.711 |
| SAC-E02A | 9/5/03 15:00 | 4649.764 | 16.716 |
| SAC-E02A | 9/5/03 16:00 | 4649.758 | 16.722 |
| SAC-E02A | 9/5/03 17:00 | 4649.752 | 16.728 |
| SAC-E02A | 9/5/03 18:00 | 4649.749 | 16.731 |
| SAC-E02A | 9/5/03 19:00 | 4649.745 | 16.735 |
| SAC-E02A | 9/5/03 20:00 | 4649.739 | 16.741 |
| SAC-E02A | 9/5/03 21:00 | 4649.735 | 16.745 |
| SAC-E02A | 9/5/03 22:00 | 4649.73 | 16.75 |
| SAC-E02A | 9/5/03 23:00 | 4649.73 | 16.75 |
| SAC-E02A | 9/6/03 0:00 | 4649.726 | 16.754 |
| SAC-E02A | 9/6/03 1:00 | 4649.724 | 16.756 |
| SAC-E02A | 9/6/03 2:00 | 4649.72 | 16.76 |
| SAC-E02A | 9/6/03 3:00 | 4649.717 | 16.763 |
| SAC-E02A | 9/6/03 4:00 | 4649.715 | 16.765 |
| SAC-E02A | 9/6/03 5:00 | 4649.711 | 16.769 |
| SAC-E02A | 9/6/03 6:00 | 4649.709 | 16.771 |
| SAC-E02A | 9/6/03 7:00 | 4649.707 | 16.773 |
| SAC-E02A | 9/6/03 8:00 | 4649.7 | 16.78 |
| SAC-E02A | 9/6/03 9:00 | 4649.698 | 16.782 |
| SAC-E02A | 9/6/03 10:00 | 4649.696 | 16.784 |
| SAC-E02A | 9/6/03 11:00 | 4649.694 | 16.786 |
| SAC-E02A | 9/6/03 12:00 | 4649.692 | 16.788 |
| SAC-E02A | 9/6/03 13:00 | 4649.688 | 16.792 |
| SAC-E02A | 9/6/03 14:00 | 4649.686 | 16.794 |
| SAC-E02A | 9/6/03 15:00 | 4649.681 | 16.799 |
| SAC-E02A | 9/6/03 16:00 | 4649.679 | 16.801 |
| SAC-E02A | 9/6/03 17:00 | 4649.677 | 16.803 |
| SAC-E02A | 9/6/03 18:00 | 4649.677 | 16.803 |
| SAC-E02A | 9/6/03 19:00 | 4649.675 | 16.805 |

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| SAC-E02A | 9/6/03 20:00 | 4649.673 | 16.807 |
| SAC-E02A | 9/6/03 21:00 | 4649.671 | 16.809 |
| SAC-E02A | 9/6/03 22:00 | 4649.671 | 16.809 |
| SAC-E02A | 9/6/03 23:00 | 4649.669 | 16.811 |
| SAC-E02A | 9/7/03 0:00 | 4649.666 | 16.814 |
| SAC-E02A | 9/7/03 1:00 | 4649.664 | 16.816 |
| SAC-E02A | 9/7/03 2:00 | 4649.664 | 16.816 |
| SAC-E02A | 9/7/03 3:00 | 4649.666 | 16.814 |
| SAC-E02A | 9/7/03 4:00 | 4649.666 | 16.814 |
| SAC-E02A | 9/7/03 5:00 | 4649.669 | 16.811 |
| SAC-E02A | 9/7/03 6:00 | 4649.679 | 16.801 |
| SAC-E02A | 9/7/03 7:00 | 4649.692 | 16.788 |
| SAC-E02A | 9/7/03 8:00 | 4649.703 | 16.777 |
| SAC-E02A | 9/7/03 9:00 | 4649.711 | 16.769 |
| SAC-E02A | 9/7/03 10:00 | 4649.722 | 16.758 |
| SAC-E02A | 9/7/03 11:00 | 4649.73 | 16.75 |
| SAC-E02A | 9/7/03 12:00 | 4649.737 | 16.743 |
| SAC-E02A | 9/7/03 13:00 | 4649.743 | 16.737 |
| SAC-E02A | 9/7/03 14:00 | 4649.745 | 16.735 |
| SAC-E02A | 9/7/03 15:00 | 4649.751 | 16.729 |
| SAC-E02A | 9/7/03 16:00 | 4649.758 | 16.722 |
| SAC-E02A | 9/7/03 17:00 | 4649.756 | 16.724 |
| SAC-E02A | 9/7/03 18:00 | 4649.76 | 16.72 |
| SAC-E02A | 9/7/03 19:00 | 4649.762 | 16.718 |
| SAC-E02A | 9/7/03 20:00 | 4649.764 | 16.716 |
| SAC-E02A | 9/7/03 21:00 | 4649.766 | 16.714 |
| SAC-E02A | 9/7/03 22:00 | 4649.771 | 16.709 |
| SAC-E02A | 9/7/03 23:00 | 4649.773 | 16.707 |
| SAC-E02A | 9/8/03 0:00 | 4649.775 | 16.705 |
| SAC-E02A | 9/8/03 1:00 | 4649.777 | 16.703 |
| SAC-E02A | 9/8/03 2:00 | 4649.777 | 16.703 |
| SAC-E02A | 9/8/03 3:00 | 4649.783 | 16.697 |
| SAC-E02A | 9/8/03 4:00 | 4649.787 | 16.693 |
| SAC-E02A | 9/8/03 5:00 | 4649.792 | 16.688 |
| SAC-E02A | 9/8/03 6:00 | 4649.796 | 16.684 |
| SAC-E02A | 9/8/03 7:00 | 4649.8 | 16.68 |
| SAC-E02A | 9/8/03 8:00 | 4649.805 | 16.675 |
| SAC-E02A | 9/8/03 9:00 | 4649.809 | 16.671 |
| SAC-E02A | 9/8/03 10:00 | 4649.813 | 16.667 |
| SAC-E02A | 9/8/03 11:00 | 4649.817 | 16.663 |
| SAC-E02A | 9/8/03 12:00 | 4649.821 | 16.659 |
| SAC-E02A | 9/8/03 13:00 | 4649.823 | 16.657 |
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| SAC-E02A | 9/8/03 16:00 | 4649.828 | 16.652 |
| SAC-E02A | 9/8/03 17:00 | 4649.828 | 16.652 |
| SAC-E02A | 9/8/03 18:00 | 4649.828 | 16.652 |

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| SAC-E02A | 9/8/03 19:00 | 4649.828 | 16.652 |
| SAC-E02A | 9/8/03 20:00 | 4649.828 | 16.652 |
| SAC-E02A | 9/8/03 21:00 | 4649.828 | 16.652 |
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| SAC-E02A | 9/8/03 23:00 | 4649.83 | 16.65 |
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| SAC-E02A | 9/9/03 1:00 | 4649.834 | 16.646 |
| SAC-E02A | 9/9/03 2:00 | 4649.836 | 16.644 |
| SAC-E02A | 9/9/03 3:00 | 4649.84 | 16.64 |
| SAC-E02A | 9/9/03 4:00 | 4649.843 | 16.637 |
| SAC-E02A | 9/9/03 5:00 | 4649.845 | 16.635 |
| SAC-E02A | 9/9/03 6:00 | 4649.849 | 16.631 |
| SAC-E02A | 9/9/03 7:00 | 4649.851 | 16.629 |
| SAC-E02A | 9/9/03 8:00 | 4649.853 | 16.627 |
| SAC-E02A | 9/9/03 9:00 | 4649.855 | 16.625 |
| SAC-E02A | 9/9/03 10:00 | 4649.857 | 16.623 |
| SAC-E02A | 9/9/03 11:00 | 4649.86 | 16.62 |
| SAC-E02A | 9/9/03 12:00 | 4649.864 | 16.616 |
| SAC-E02A | 9/9/03 13:00 | 4649.866 | 16.614 |
| SAC-E02A | 9/9/03 14:00 | 4649.868 | 16.612 |
| SAC-E02A | 9/9/03 15:00 | 4649.872 | 16.608 |
| SAC-E02A | 9/9/03 16:00 | 4649.874 | 16.606 |
| SAC-E02A | 9/9/03 17:00 | 4649.877 | 16.603 |
| SAC-E02A | 9/9/03 18:00 | 4649.879 | 16.601 |
| SAC-E02A | 9/9/03 19:00 | 4649.881 | 16.599 |
| SAC-E02A | 9/9/03 20:00 | 4649.883 | 16.597 |
| SAC-E02A | 9/9/03 21:00 | 4649.887 | 16.593 |
| SAC-E02A | 9/9/03 22:00 | 4649.887 | 16.593 |
| SAC-E02A | 9/9/03 23:00 | 4649.889 | 16.591 |
| SAC-E02A | 9/10/03 0:00 | 4649.894 | 16.586 |
| SAC-E02A | 9/10/03 1:00 | 4649.895 | 16.585 |
| SAC-E02A | 9/10/03 2:00 | 4649.898 | 16.582 |
| SAC-E02A | 9/10/03 3:00 | 4649.9 | 16.58 |
| SAC-E02A | 9/10/03 4:00 | 4649.9 | 16.58 |
| SAC-E02A | 9/10/03 5:00 | 4649.902 | 16.578 |
| SAC-E02A | 9/10/03 6:00 | 4649.902 | 16.578 |
| SAC-E02A | 9/10/03 7:00 | 4649.904 | 16.576 |
| SAC-E02A | 9/10/03 8:00 | 4649.904 | 16.576 |
| SAC-E02A | 9/10/03 9:00 | 4649.906 | 16.574 |
| SAC-E02A | 9/10/03 10:00 | 4649.904 | 16.576 |
| SAC-E02A | 9/10/03 11:00 | 4649.906 | 16.574 |
| SAC-E02A | 9/10/03 12:00 | 4649.906 | 16.574 |
| SAC-E02A | 9/10/03 13:00 | 4649.908 | 16.572 |
| SAC-E02A | 9/10/03 14:00 | 4649.906 | 16.574 |
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| SAC-E02A | 9/10/03 16:00 | 4649.906 | 16.574 |
| SAC-E02A | 9/10/03 17:00 | 4649.906 | 16.574 |

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| SAC-E02A | 9/10/03 18:00 | 4649.906 | 16.574 |
| SAC-E02A | 9/10/03 19:00 | 4649.904 | 16.576 |
| SAC-E02A | 9/10/03 20:00 | 4649.902 | 16.578 |
| SAC-E02A | 9/10/03 21:00 | 4649.908 | 16.572 |
| SAC-E02A | 9/10/03 22:00 | 4649.912 | 16.568 |
| SAC-E02A | 9/10/03 23:00 | 4649.915 | 16.565 |
| SAC-E02A | 9/11/03 0:00 | 4649.917 | 16.563 |
| SAC-E02A | 9/11/03 1:00 | 4649.919 | 16.561 |
| SAC-E02A | 9/11/03 2:00 | 4649.925 | 16.555 |
| SAC-E02A | 9/11/03 3:00 | 4649.927 | 16.553 |
| SAC-E02A | 9/11/03 4:00 | 4649.929 | 16.551 |
| SAC-E02A | 9/11/03 5:00 | 4649.934 | 16.546 |
| SAC-E02A | 9/11/03 6:00 | 4649.938 | 16.542 |
| SAC-E02A | 9/11/03 7:00 | 4649.938 | 16.542 |
| SAC-E02A | 9/11/03 8:00 | 4649.942 | 16.538 |
| SAC-E02A | 9/11/03 9:00 | 4649.944 | 16.536 |
| SAC-E02A | 9/11/03 10:00 | 4649.949 | 16.531 |
| SAC-E02A | 9/11/03 11:00 | 4649.951 | 16.529 |
| SAC-E02A | 9/11/03 12:00 | 4649.955 | 16.525 |
| SAC-E02A | 9/11/03 13:00 | 4649.957 | 16.523 |
| SAC-E02A | 9/11/03 14:00 | 4649.961 | 16.519 |
| SAC-E02A | 9/11/03 15:00 | 4649.966 | 16.514 |
| SAC-E02A | 9/11/03 16:00 | 4649.97 | 16.51 |
| SAC-E02A | 9/11/03 17:00 | 4649.974 | 16.506 |
| SAC-E02A | 9/11/03 18:00 | 4649.978 | 16.502 |
| SAC-E02A | 9/11/03 19:00 | 4649.985 | 16.495 |
| SAC-E02A | 9/11/03 20:00 | 4649.991 | 16.489 |
| SAC-E02A | 9/11/03 21:00 | 4649.995 | 16.485 |
| SAC-E02A | 9/11/03 22:00 | 4650.002 | 16.478 |
| SAC-E02A | 9/11/03 23:00 | 4650.008 | 16.472 |
| SAC-E02A | 9/12/03 0:00 | 4650.017 | 16.463 |
| SAC-E02A | 9/12/03 1:00 | 4650.023 | 16.457 |
| SAC-E02A | 9/12/03 2:00 | 4650.029 | 16.451 |
| SAC-E02A | 9/12/03 3:00 | 4650.038 | 16.442 |
| SAC-E02A | 9/12/03 4:00 | 4650.044 | 16.436 |
| SAC-E02A | 9/12/03 5:00 | 4650.053 | 16.427 |
| SAC-E02A | 9/12/03 6:00 | 4650.059 | 16.421 |
| SAC-E02A | 9/12/03 7:00 | 4650.068 | 16.412 |
| SAC-E02A | 9/12/03 8:00 | 4650.074 | 16.406 |
| SAC-E02A | 9/12/03 9:00 | 4650.082 | 16.398 |
| SAC-E02A | 9/12/03 10:00 | 4650.089 | 16.391 |
| SAC-E02A | 9/12/03 11:00 | 4650.095 | 16.385 |
| SAC-E02A | 9/12/03 12:00 | 4650.104 | 16.376 |
| SAC-E02A | 9/12/03 13:00 | 4650.112 | 16.368 |
| SAC-E02A | 9/12/03 14:00 | 4650.119 | 16.361 |
| SAC-E02A | 9/12/03 15:00 | 4650.125 | 16.355 |
| SAC-E02A | 9/12/03 16:00 | 4650.133 | 16.347 |

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| SAC-E02A | 9/12/03 17:00 | 4650.142 | 16.338 |
| SAC-E02A | 9/12/03 18:00 | 4650.15 | 16.33 |
| SAC-E02A | 9/12/03 19:00 | 4650.159 | 16.321 |
| SAC-E02A | 9/12/03 20:00 | 4650.167 | 16.313 |
| SAC-E02A | 9/12/03 21:00 | 4650.176 | 16.304 |
| SAC-E02A | 9/12/03 22:00 | 4650.184 | 16.296 |
| SAC-E02A | 9/12/03 23:00 | 4650.191 | 16.289 |
| SAC-E02A | 9/13/03 0:00 | 4650.201 | 16.279 |
| SAC-E02A | 9/13/03 1:00 | 4650.21 | 16.27 |
| SAC-E02A | 9/13/03 2:00 | 4650.218 | 16.262 |
| SAC-E02A | 9/13/03 3:00 | 4650.229 | 16.251 |
| SAC-E02A | 9/13/03 4:00 | 4650.235 | 16.245 |
| SAC-E02A | 9/13/03 5:00 | 4650.244 | 16.236 |
| SAC-E02A | 9/13/03 6:00 | 4650.252 | 16.228 |
| SAC-E02A | 9/13/03 7:00 | 4650.261 | 16.219 |
| SAC-E02A | 9/13/03 8:00 | 4650.267 | 16.213 |
| SAC-E02A | 9/13/03 9:00 | 4650.276 | 16.204 |
| SAC-E02A | 9/13/03 10:00 | 4650.284 | 16.196 |
| SAC-E02A | 9/13/03 11:00 | 4650.293 | 16.187 |
| SAC-E02A | 9/13/03 12:00 | 4650.299 | 16.181 |
| SAC-E02A | 9/13/03 13:00 | 4650.31 | 16.17 |
| SAC-E02A | 9/13/03 14:00 | 4650.318 | 16.162 |
| SAC-E02A | 9/13/03 15:00 | 4650.325 | 16.155 |
| SAC-E02A | 9/13/03 16:00 | 4650.333 | 16.147 |
| SAC-E02A | 9/13/03 17:00 | 4650.342 | 16.138 |
| SAC-E02A | 9/13/03 18:00 | 4650.348 | 16.132 |
| SAC-E02A | 9/13/03 19:00 | 4650.359 | 16.121 |
| SAC-E02A | 9/13/03 20:00 | 4650.367 | 16.113 |
| SAC-E02A | 9/13/03 21:00 | 4650.374 | 16.106 |
| SAC-E02A | 9/13/03 22:00 | 4650.38 | 16.1 |
| SAC-E02A | 9/13/03 23:00 | 4650.388 | 16.092 |
| SAC-E02A | 9/14/03 0:00 | 4650.395 | 16.085 |
| SAC-E02A | 9/14/03 1:00 | 4650.403 | 16.077 |
| SAC-E02A | 9/14/03 2:00 | 4650.412 | 16.068 |
| SAC-E02A | 9/14/03 3:00 | 4650.42 | 16.06 |
| SAC-E02A | 9/14/03 4:00 | 4650.427 | 16.053 |
| SAC-E02A | 9/14/03 5:00 | 4650.435 | 16.045 |
| SAC-E02A | 9/14/03 6:00 | 4650.446 | 16.034 |
| SAC-E02A | 9/14/03 7:00 | 4650.454 | 16.026 |
| SAC-E02A | 9/14/03 8:00 | 4650.463 | 16.017 |
| SAC-E02A | 9/14/03 9:00 | 4650.473 | 16.007 |
| SAC-E02A | 9/14/03 10:00 | 4650.486 | 15.994 |
| SAC-E02A | 9/14/03 11:00 | 4650.499 | 15.981 |
| SAC-E02A | 9/14/03 12:00 | 4650.51 | 15.97 |
| SAC-E02A | 9/14/03 13:00 | 4650.524 | 15.956 |
| SAC-E02A | 9/14/03 14:00 | 4650.539 | 15.941 |
| SAC-E02A | 9/14/03 15:00 | 4650.552 | 15.928 |

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| SAC-E02A | 9/14/03 16:00 | 4650.567 | 15.913 |
| SAC-E02A | 9/14/03 17:00 | 4650.58 | 15.9 |
| SAC-E02A | 9/14/03 18:00 | 4650.595 | 15.885 |
| SAC-E02A | 9/14/03 19:00 | 4650.61 | 15.87 |
| SAC-E02A | 9/14/03 20:00 | 4650.622 | 15.858 |
| SAC-E02A | 9/14/03 21:00 | 4650.637 | 15.843 |
| SAC-E02A | 9/14/03 22:00 | 4650.652 | 15.828 |
| SAC-E02A | 9/14/03 23:00 | 4650.667 | 15.813 |
| SAC-E02A | 9/15/03 0:00 | 4650.682 | 15.798 |
| SAC-E02A | 9/15/03 1:00 | 4650.692 | 15.788 |
| SAC-E02A | 9/15/03 2:00 | 4650.705 | 15.775 |
| SAC-E02A | 9/15/03 3:00 | 4650.718 | 15.762 |
| SAC-E02A | 9/15/03 4:00 | 4650.728 | 15.752 |
| SAC-E02A | 9/15/03 5:00 | 4650.741 | 15.739 |
| SAC-E02A | 9/15/03 6:00 | 4650.754 | 15.726 |
| SAC-E02A | 9/15/03 7:00 | 4650.76 | 15.72 |
| SAC-E02A | 9/15/03 8:00 | 4650.769 | 15.711 |
| SAC-E02A | 9/15/03 9:00 | 4650.779 | 15.701 |
| SAC-E02A | 9/15/03 10:00 | 4650.786 | 15.694 |
| SAC-E02A | 9/15/03 11:00 | 4650.794 | 15.686 |
| SAC-E02A | 9/15/03 12:00 | 4650.798 | 15.682 |
| SAC-E02A | 9/15/03 13:00 | 4650.805 | 15.675 |
| SAC-E02A | 9/15/03 14:00 | 4650.807 | 15.673 |
| SAC-E02A | 9/15/03 15:00 | 4650.809 | 15.671 |
| SAC-E02A | 9/15/03 16:00 | 4650.809 | 15.671 |
| SAC-E02A | 9/15/03 17:00 | 4650.811 | 15.669 |
| SAC-E02A | 9/15/03 18:00 | 4650.807 | 15.673 |
| SAC-E02A | 9/15/03 19:00 | 4650.804 | 15.676 |
| SAC-E02A | 9/15/03 20:00 | 4650.8 | 15.68 |
| SAC-E02A | 9/15/03 21:00 | 4650.796 | 15.684 |
| SAC-E02A | 9/15/03 22:00 | 4650.791 | 15.689 |
| SAC-E02A | 9/15/03 23:00 | 4650.787 | 15.693 |
| SAC-E02A | 9/16/03 0:00 | 4650.783 | 15.697 |
| SAC-E02A | 9/16/03 1:00 | 4650.779 | 15.701 |
| SAC-E02A | 9/16/03 2:00 | 4650.774 | 15.706 |
| SAC-E02A | 9/16/03 3:00 | 4650.77 | 15.71 |
| SAC-E02A | 9/16/03 4:00 | 4650.766 | 15.714 |
| SAC-E02A | 9/16/03 5:00 | 4650.76 | 15.72 |
| SAC-E02A | 9/16/03 6:00 | 4650.757 | 15.723 |
| SAC-E02A | 9/16/03 7:00 | 4650.751 | 15.729 |
| SAC-E02A | 9/16/03 8:00 | 4650.743 | 15.737 |
| SAC-E02A | 9/16/03 9:00 | 4650.736 | 15.744 |
| SAC-E02A | 9/16/03 10:00 | 4650.732 | 15.748 |
| SAC-E02A | 9/16/03 11:00 | 4650.725 | 15.755 |
| SAC-E02A | 9/16/03 12:00 | 4650.719 | 15.761 |
| SAC-E02A | 9/16/03 13:00 | 4650.71 | 15.77 |
| SAC-E02A | 9/16/03 14:00 | 4650.706 | 15.774 |

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| SAC-E02A | 9/16/03 15:00 | 4650.7 | 15.78 |
| SAC-E02A | 9/16/03 16:00 | 4650.693 | 15.787 |
| SAC-E02A | 9/16/03 17:00 | 4650.689 | 15.791 |
| SAC-E02A | 9/16/03 18:00 | 4650.683 | 15.797 |
| SAC-E02A | 9/16/03 19:00 | 4650.679 | 15.801 |
| SAC-E02A | 9/16/03 20:00 | 4650.672 | 15.808 |
| SAC-E02A | 9/16/03 21:00 | 4650.668 | 15.812 |
| SAC-E02A | 9/16/03 22:00 | 4650.666 | 15.814 |
| SAC-E02A | 9/16/03 23:00 | 4650.662 | 15.818 |
| SAC-E02A | 9/17/03 0:00 | 4650.659 | 15.821 |
| SAC-E02A | 9/17/03 1:00 | 4650.655 | 15.825 |
| SAC-E02A | 9/17/03 2:00 | 4650.651 | 15.829 |
| SAC-E02A | 9/17/03 3:00 | 4650.649 | 15.831 |
| SAC-E02A | 9/17/03 4:00 | 4650.647 | 15.833 |
| SAC-E02A | 9/17/03 5:00 | 4650.64 | 15.84 |
| SAC-E02A | 9/17/03 6:00 | 4650.638 | 15.842 |
| SAC-E02A | 9/17/03 7:00 | 4650.634 | 15.846 |
| SAC-E02A | 9/17/03 8:00 | 4650.63 | 15.85 |
| SAC-E02A | 9/17/03 9:00 | 4650.626 | 15.854 |
| SAC-E02A | 9/17/03 10:00 | 4650.619 | 15.861 |
| SAC-E02A | 9/17/03 11:00 | 4650.615 | 15.865 |
| SAC-E02A | 9/17/03 12:00 | 4650.61 | 15.87 |
| SAC-E02A | 9/17/03 13:00 | 4650.606 | 15.874 |
| SAC-E02A | 9/17/03 14:00 | 4650.602 | 15.878 |
| SAC-E02A | 9/17/03 15:00 | 4650.596 | 15.884 |
| SAC-E02A | 9/17/03 16:00 | 4650.589 | 15.891 |
| SAC-E02A | 9/17/03 17:00 | 4650.585 | 15.895 |
| SAC-E02A | 9/17/03 18:00 | 4650.579 | 15.901 |
| SAC-E02A | 9/17/03 19:00 | 4650.572 | 15.908 |
| SAC-E02A | 9/17/03 20:00 | 4650.566 | 15.914 |
| SAC-E02A | 9/17/03 21:00 | 4650.559 | 15.921 |
| SAC-E02A | 9/17/03 22:00 | 4650.557 | 15.923 |
| SAC-E02A | 9/17/03 23:00 | 4650.551 | 15.929 |
| SAC-E02A | 9/18/03 0:00 | 4650.549 | 15.931 |
| SAC-E02A | 9/18/03 1:00 | 4650.547 | 15.933 |
| SAC-E02A | 9/18/03 2:00 | 4650.542 | 15.938 |
| SAC-E02A | 9/18/03 3:00 | 4650.536 | 15.944 |
| SAC-E02A | 9/18/03 4:00 | 4650.53 | 15.95 |
| SAC-E02A | 9/18/03 5:00 | 4650.525 | 15.955 |
| SAC-E02A | 9/18/03 6:00 | 4650.519 | 15.961 |
| SAC-E02A | 9/18/03 7:00 | 4650.515 | 15.965 |
| SAC-E02A | 9/18/03 8:00 | 4650.508 | 15.972 |
| SAC-E02A | 9/18/03 9:00 | 4650.504 | 15.976 |
| SAC-E02A | 9/18/03 10:00 | 4650.498 | 15.982 |
| SAC-E02A | 9/18/03 11:00 | 4650.493 | 15.987 |
| SAC-E02A | 9/18/03 12:00 | 4650.487 | 15.993 |
| SAC-E02A | 9/18/03 13:00 | 4650.485 | 15.995 |

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| SAC-E02A | 9/18/03 14:00 | 4650.478 | 16.002 |
| SAC-E02A | 9/18/03 15:00 | 4650.47 | 16.01 |
| SAC-E02A | 9/18/03 16:00 | 4650.468 | 16.012 |
| SAC-E02A | 9/18/03 17:00 | 4650.459 | 16.021 |
| SAC-E02A | 9/18/03 18:00 | 4650.453 | 16.027 |
| SAC-E02A | 9/18/03 19:00 | 4650.448 | 16.032 |
| SAC-E02A | 9/18/03 20:00 | 4650.44 | 16.04 |
| SAC-E02A | 9/18/03 21:00 | 4650.438 | 16.042 |
| SAC-E02A | 9/18/03 22:00 | 4650.431 | 16.049 |
| SAC-E02A | 9/18/03 23:00 | 4650.429 | 16.051 |
| SAC-E02A | 9/19/03 0:00 | 4650.423 | 16.057 |
| SAC-E02A | 9/19/03 1:00 | 4650.419 | 16.061 |
| SAC-E02A | 9/19/03 2:00 | 4650.414 | 16.066 |
| SAC-E02A | 9/19/03 3:00 | 4650.41 | 16.07 |
| SAC-E02A | 9/19/03 4:00 | 4650.406 | 16.074 |
| SAC-E02A | 9/19/03 5:00 | 4650.404 | 16.076 |
| SAC-E02A | 9/19/03 6:00 | 4650.4 | 16.08 |
| SAC-E02A | 9/19/03 7:00 | 4650.395 | 16.085 |
| SAC-E02A | 9/19/03 8:00 | 4650.389 | 16.091 |
| SAC-E02A | 9/19/03 9:00 | 4650.387 | 16.093 |
| SAC-E02A | 9/19/03 10:00 | 4650.383 | 16.097 |
| SAC-E02A | 9/19/03 11:00 | 4650.38 | 16.1 |
| SAC-E02A | 9/19/03 12:00 | 4650.378 | 16.102 |
| SAC-E02A | 9/19/03 13:00 | 4650.374 | 16.106 |
| SAC-E02A | 9/19/03 14:00 | 4650.374 | 16.106 |
| SAC-E02A | 9/19/03 15:00 | 4650.368 | 16.112 |
| SAC-E02A | 9/19/03 16:00 | 4650.365 | 16.115 |
| SAC-E02A | 9/19/03 17:00 | 4650.361 | 16.119 |
| SAC-E02A | 9/19/03 18:00 | 4650.359 | 16.121 |
| SAC-E02A | 9/19/03 19:00 | 4650.355 | 16.125 |
| SAC-E02A | 9/19/03 20:00 | 4650.351 | 16.129 |
| SAC-E02A | 9/19/03 21:00 | 4650.346 | 16.134 |
| SAC-E02A | 9/19/03 22:00 | 4650.342 | 16.138 |
| SAC-E02A | 9/19/03 23:00 | 4650.338 | 16.142 |
| SAC-E02A | 9/20/03 0:00 | 4650.334 | 16.146 |
| SAC-E02A | 9/20/03 1:00 | 4650.331 | 16.149 |
| SAC-E02A | 9/20/03 2:00 | 4650.329 | 16.151 |
| SAC-E02A | 9/20/03 3:00 | 4650.325 | 16.155 |
| SAC-E02A | 9/20/03 4:00 | 4650.319 | 16.161 |
| SAC-E02A | 9/20/03 5:00 | 4650.317 | 16.163 |
| SAC-E02A | 9/20/03 6:00 | 4650.314 | 16.166 |
| SAC-E02A | 9/20/03 7:00 | 4650.31 | 16.17 |
| SAC-E02A | 9/20/03 8:00 | 4650.306 | 16.174 |
| SAC-E02A | 9/20/03 9:00 | 4650.302 | 16.178 |
| SAC-E02A | 9/20/03 10:00 | 4650.297 | 16.183 |
| SAC-E02A | 9/20/03 11:00 | 4650.295 | 16.185 |
| SAC-E02A | 9/20/03 12:00 | 4650.295 | 16.185 |

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| SAC-E02A | 9/20/03 13:00 | 4650.289 | 16.191 |
| SAC-E02A | 9/20/03 14:00 | 4650.287 | 16.193 |
| SAC-E02A | 9/20/03 15:00 | 4650.284 | 16.196 |
| SAC-E02A | 9/20/03 16:00 | 4650.276 | 16.204 |
| SAC-E02A | 9/20/03 17:00 | 4650.276 | 16.204 |
| SAC-E02A | 9/20/03 18:00 | 4650.274 | 16.206 |
| SAC-E02A | 9/20/03 19:00 | 4650.27 | 16.21 |
| SAC-E02A | 9/20/03 20:00 | 4650.267 | 16.213 |
| SAC-E02A | 9/20/03 21:00 | 4650.263 | 16.217 |
| SAC-E02A | 9/20/03 22:00 | 4650.261 | 16.219 |
| SAC-E02A | 9/20/03 23:00 | 4650.257 | 16.223 |
| SAC-E02A | 9/21/03 0:00 | 4650.257 | 16.223 |
| SAC-E02A | 9/21/03 1:00 | 4650.25 | 16.23 |
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| SAC-E02A | 9/21/03 3:00 | 4650.246 | 16.234 |
| SAC-E02A | 9/21/03 4:00 | 4650.244 | 16.236 |
| SAC-E02A | 9/21/03 5:00 | 4650.24 | 16.24 |
| SAC-E02A | 9/21/03 6:00 | 4650.238 | 16.242 |
| SAC-E02A | 9/21/03 7:00 | 4650.231 | 16.249 |
| SAC-E02A | 9/21/03 8:00 | 4650.229 | 16.251 |
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| SAC-E02A | 9/21/03 10:00 | 4650.223 | 16.257 |
| SAC-E02A | 9/21/03 11:00 | 4650.221 | 16.259 |
| SAC-E02A | 9/21/03 12:00 | 4650.216 | 16.264 |
| SAC-E02A | 9/21/03 13:00 | 4650.214 | 16.266 |
| SAC-E02A | 9/21/03 14:00 | 4650.212 | 16.268 |
| SAC-E02A | 9/21/03 15:00 | 4650.206 | 16.274 |
| SAC-E02A | 9/21/03 16:00 | 4650.203 | 16.277 |
| SAC-E02A | 9/21/03 17:00 | 4650.199 | 16.281 |
| SAC-E02A | 9/21/03 18:00 | 4650.195 | 16.285 |
| SAC-E02A | 9/21/03 19:00 | 4650.193 | 16.287 |
| SAC-E02A | 9/21/03 20:00 | 4650.191 | 16.289 |
| SAC-E02A | 9/21/03 21:00 | 4650.186 | 16.294 |
| SAC-E02A | 9/21/03 22:00 | 4650.182 | 16.298 |
| SAC-E02A | 9/21/03 23:00 | 4650.18 | 16.3 |
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| SAC-E02A | 9/22/03 1:00 | 4650.172 | 16.308 |
| SAC-E02A | 9/22/03 2:00 | 4650.169 | 16.311 |
| SAC-E02A | 9/22/03 3:00 | 4650.167 | 16.313 |
| SAC-E02A | 9/22/03 4:00 | 4650.163 | 16.317 |
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| SAC-E02A | 9/22/03 6:00 | 4650.157 | 16.323 |
| SAC-E02A | 9/22/03 7:00 | 4650.152 | 16.328 |
| SAC-E02A | 9/22/03 8:00 | 4650.148 | 16.332 |
| SAC-E02A | 9/22/03 9:00 | 4650.146 | 16.334 |
| SAC-E02A | 9/22/03 10:00 | 4650.144 | 16.336 |
| SAC-E02A | 9/22/03 11:00 | 4650.14 | 16.34 |

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| SAC-E02A | 9/22/03 12:00 | 4650.135 | 16.345 |
| SAC-E02A | 9/22/03 13:00 | 4650.133 | 16.347 |
| SAC-E02A | 9/22/03 14:00 | 4650.131 | 16.349 |
| SAC-E02A | 9/22/03 15:00 | 4650.127 | 16.353 |
| SAC-E02A | 9/22/03 16:00 | 4650.125 | 16.355 |
| SAC-E02A | 9/22/03 17:00 | 4650.123 | 16.357 |
| SAC-E02A | 9/22/03 18:00 | 4650.118 | 16.362 |
| SAC-E02A | 9/22/03 19:00 | 4650.116 | 16.364 |
| SAC-E02A | 9/22/03 20:00 | 4650.114 | 16.366 |
| SAC-E02A | 9/22/03 21:00 | 4650.11 | 16.37 |
| SAC-E02A | 9/22/03 22:00 | 4650.108 | 16.372 |
| SAC-E02A | 9/22/03 23:00 | 4650.106 | 16.374 |
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| SAC-E02A | 9/23/03 2:00 | 4650.097 | 16.383 |
| SAC-E02A | 9/23/03 3:00 | 4650.097 | 16.383 |
| SAC-E02A | 9/23/03 4:00 | 4650.093 | 16.387 |
| SAC-E02A | 9/23/03 5:00 | 4650.091 | 16.389 |
| SAC-E02A | 9/23/03 6:00 | 4650.089 | 16.391 |
| SAC-E02A | 9/23/03 7:00 | 4650.086 | 16.394 |
| SAC-E02A | 9/23/03 8:00 | 4650.082 | 16.398 |
| SAC-E02A | 9/23/03 9:00 | 4650.08 | 16.4 |
| SAC-E02A | 9/23/03 10:00 | 4650.078 | 16.402 |
| SAC-E02A | 9/23/03 11:00 | 4650.076 | 16.404 |
| SAC-E02A | 9/23/03 12:00 | 4650.076 | 16.404 |
| SAC-E02A | 9/23/03 13:00 | 4650.071 | 16.409 |
| SAC-E02A | 9/23/03 14:00 | 4650.069 | 16.411 |
| SAC-E02A | 9/23/03 15:00 | 4650.067 | 16.413 |
| SAC-E02A | 9/23/03 16:00 | 4650.065 | 16.415 |
| SAC-E02A | 9/23/03 17:00 | 4650.061 | 16.419 |
| SAC-E02A | 9/23/03 18:00 | 4650.061 | 16.419 |
| SAC-E02A | 9/23/03 19:00 | 4650.056 | 16.424 |
| SAC-E02A | 9/23/03 20:00 | 4650.054 | 16.426 |
| SAC-E02A | 9/23/03 21:00 | 4650.052 | 16.428 |
| SAC-E02A | 9/23/03 22:00 | 4650.05 | 16.43 |
| SAC-E02A | 9/23/03 23:00 | 4650.048 | 16.432 |
| SAC-E02A | 9/24/03 0:00 | 4650.046 | 16.434 |
| SAC-E02A | 9/24/03 1:00 | 4650.044 | 16.436 |
| SAC-E02A | 9/24/03 2:00 | 4650.044 | 16.436 |
| SAC-E02A | 9/24/03 3:00 | 4650.039 | 16.441 |
| SAC-E02A | 9/24/03 4:00 | 4650.037 | 16.443 |
| SAC-E02A | 9/24/03 5:00 | 4650.035 | 16.445 |
| SAC-E02A | 9/24/03 6:00 | 4650.033 | 16.447 |
| SAC-E02A | 9/24/03 7:00 | 4650.031 | 16.449 |
| SAC-E02A | 9/24/03 8:00 | 4650.029 | 16.451 |
| SAC-E02A | 9/24/03 9:00 | 4650.027 | 16.453 |
| SAC-E02A | 9/24/03 10:00 | 4650.025 | 16.455 |

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| SAC-E02A | 9/24/03 11:00 | 4650.022 | 16.458 |
| SAC-E02A | 9/24/03 12:00 | 4650.02 | 16.46 |
| SAC-E02A | 9/24/03 13:00 | 4650.02 | 16.46 |
| SAC-E02A | 9/24/03 14:00 | 4650.016 | 16.464 |
| SAC-E02A | 9/24/03 15:00 | 4650.016 | 16.464 |
| SAC-E02A | 9/24/03 16:00 | 4650.014 | 16.466 |
| SAC-E02A | 9/24/03 17:00 | 4650.012 | 16.468 |
| SAC-E02A | 9/24/03 18:00 | 4650.009 | 16.471 |
| SAC-E02A | 9/24/03 19:00 | 4650.008 | 16.472 |
| SAC-E02A | 9/24/03 20:00 | 4649.999 | 16.481 |
| SAC-E02A | 9/24/03 21:00 | 4650.003 | 16.477 |
| SAC-E02A | 9/24/03 22:00 | 4650.001 | 16.479 |
| SAC-E02A | 9/24/03 23:00 | 4649.999 | 16.481 |
| SAC-E02A | 9/25/03 0:00 | 4649.999 | 16.481 |
| SAC-E02A | 9/25/03 1:00 | 4649.995 | 16.485 |
| SAC-E02A | 9/25/03 2:00 | 4649.995 | 16.485 |
| SAC-E02A | 9/25/03 3:00 | 4649.992 | 16.488 |
| SAC-E02A | 9/25/03 4:00 | 4649.99 | 16.49 |
| SAC-E02A | 9/25/03 5:00 | 4649.99 | 16.49 |
| SAC-E02A | 9/25/03 6:00 | 4649.986 | 16.494 |
| SAC-E02A | 9/25/03 7:00 | 4649.986 | 16.494 |
| SAC-E02A | 9/25/03 8:00 | 4649.984 | 16.496 |
| SAC-E02A | 9/25/03 9:00 | 4649.982 | 16.498 |
| SAC-E02A | 9/25/03 10:00 | 4649.982 | 16.498 |
| SAC-E02A | 9/25/03 11:00 | 4649.98 | 16.5 |
| SAC-E02A | 9/25/03 12:00 | 4649.978 | 16.502 |
| SAC-E02A | 9/25/03 13:00 | 4649.978 | 16.502 |
| SAC-E02A | 9/25/03 14:00 | 4649.975 | 16.505 |
| SAC-E02A | 9/25/03 15:00 | 4649.973 | 16.507 |
| SAC-E02A | 9/25/03 16:00 | 4649.973 | 16.507 |
| SAC-E02A | 9/25/03 17:00 | 4649.969 | 16.511 |
| SAC-E02A | 9/25/03 18:00 | 4649.969 | 16.511 |
| SAC-E02A | 9/25/03 19:00 | 4649.967 | 16.513 |
| SAC-E02A | 9/25/03 20:00 | 4649.965 | 16.515 |
| SAC-E02A | 9/25/03 21:00 | 4649.965 | 16.515 |
| SAC-E02A | 9/25/03 22:00 | 4649.965 | 16.515 |
| SAC-E02A | 9/25/03 23:00 | 4649.963 | 16.517 |
| SAC-E02A | 9/26/03 0:00 | 4649.961 | 16.519 |
| SAC-E02A | 9/26/03 1:00 | 4649.961 | 16.519 |
| SAC-E02A | 9/26/03 2:00 | 4649.958 | 16.522 |
| SAC-E02A | 9/26/03 3:00 | 4649.958 | 16.522 |
| SAC-E02A | 9/26/03 4:00 | 4649.958 | 16.522 |
| SAC-E02A | 9/26/03 5:00 | 4649.956 | 16.524 |
| SAC-E02A | 9/26/03 6:00 | 4649.954 | 16.526 |
| SAC-E02A | 9/26/03 7:00 | 4649.952 | 16.528 |
| SAC-E02A | 9/26/03 8:00 | 4649.952 | 16.528 |
| SAC-E02A | 9/26/03 9:00 | 4649.95 | 16.53 |

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| SAC-E02A | 9/26/03 10:00 | 4649.95 | 16.53 |
| SAC-E02A | 9/26/03 11:00 | 4649.95 | 16.53 |
| SAC-E02A | 9/26/03 12:00 | 4649.95 | 16.53 |
| SAC-E02A | 9/26/03 13:00 | 4649.945 | 16.535 |
| SAC-E02A | 9/26/03 14:00 | 4649.945 | 16.535 |
| SAC-E02A | 9/26/03 15:00 | 4649.943 | 16.537 |
| SAC-E02A | 9/26/03 16:00 | 4649.943 | 16.537 |
| SAC-E02A | 9/26/03 17:00 | 4649.941 | 16.539 |
| SAC-E02A | 9/26/03 18:00 | 4649.939 | 16.541 |
| SAC-E02A | 9/26/03 19:00 | 4649.939 | 16.541 |
| SAC-E02A | 9/26/03 20:00 | 4649.939 | 16.541 |
| SAC-E02A | 9/26/03 21:00 | 4649.937 | 16.543 |
| SAC-E02A | 9/26/03 22:00 | 4649.935 | 16.545 |
| SAC-E02A | 9/26/03 23:00 | 4649.933 | 16.547 |
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| SAC-E02A | 9/27/03 1:00 | 4649.933 | 16.547 |
| SAC-E02A | 9/27/03 2:00 | 4649.933 | 16.547 |
| SAC-E02A | 9/27/03 3:00 | 4649.931 | 16.549 |
| SAC-E02A | 9/27/03 4:00 | 4649.931 | 16.549 |
| SAC-E02A | 9/27/03 5:00 | 4649.928 | 16.552 |
| SAC-E02A | 9/27/03 6:00 | 4649.928 | 16.552 |
| SAC-E02A | 9/27/03 7:00 | 4649.924 | 16.556 |
| SAC-E02A | 9/27/03 8:00 | 4649.922 | 16.558 |
| SAC-E02A | 9/27/03 9:00 | 4649.92 | 16.56 |
| SAC-E02A | 9/27/03 10:00 | 4649.92 | 16.56 |
| SAC-E02A | 9/27/03 11:00 | 4649.918 | 16.562 |
| SAC-E02A | 9/27/03 12:00 | 4649.92 | 16.56 |
| SAC-E02A | 9/27/03 13:00 | 4649.918 | 16.562 |
| SAC-E02A | 9/27/03 14:00 | 4649.918 | 16.562 |
| SAC-E02A | 9/27/03 15:00 | 4649.913 | 16.567 |
| SAC-E02A | 9/27/03 16:00 | 4649.913 | 16.567 |
| SAC-E02A | 9/27/03 17:00 | 4649.913 | 16.567 |
| SAC-E02A | 9/27/03 18:00 | 4649.913 | 16.567 |
| SAC-E02A | 9/27/03 19:00 | 4649.913 | 16.567 |
| SAC-E02A | 9/27/03 20:00 | 4649.911 | 16.569 |
| SAC-E02A | 9/27/03 21:00 | 4649.911 | 16.569 |
| SAC-E02A | 9/27/03 22:00 | 4649.909 | 16.571 |
| SAC-E02A | 9/27/03 23:00 | 4649.909 | 16.571 |
| SAC-E02A | 9/28/03 0:00 | 4649.909 | 16.571 |
| SAC-E02A | 9/28/03 1:00 | 4649.907 | 16.573 |
| SAC-E02A | 9/28/03 2:00 | 4649.907 | 16.573 |
| SAC-E02A | 9/28/03 3:00 | 4649.905 | 16.575 |
| SAC-E02A | 9/28/03 4:00 | 4649.905 | 16.575 |
| SAC-E02A | 9/28/03 5:00 | 4649.905 | 16.575 |
| SAC-E02A | 9/28/03 6:00 | 4649.905 | 16.575 |
| SAC-E02A | 9/28/03 7:00 | 4649.903 | 16.577 |
| SAC-E02A | 9/28/03 8:00 | 4649.901 | 16.579 |

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| SAC-E02A | 9/28/03 9:00 | 4649.899 | 16.581 |
| SAC-E02A | 9/28/03 10:00 | 4649.901 | 16.579 |
| SAC-E02A | 9/28/03 11:00 | 4649.899 | 16.581 |
| SAC-E02A | 9/28/03 12:00 | 4649.899 | 16.581 |
| SAC-E02A | 9/28/03 13:00 | 4649.899 | 16.581 |
| SAC-E02A | 9/28/03 14:00 | 4649.896 | 16.584 |
| SAC-E02A | 9/28/03 15:00 | 4649.894 | 16.586 |
| SAC-E02A | 9/28/03 16:00 | 4649.896 | 16.584 |
| SAC-E02A | 9/28/03 17:00 | 4649.894 | 16.586 |
| SAC-E02A | 9/28/03 18:00 | 4649.894 | 16.586 |
| SAC-E02A | 9/28/03 19:00 | 4649.892 | 16.588 |
| SAC-E02A | 9/28/03 20:00 | 4649.892 | 16.588 |
| SAC-E02A | 9/28/03 21:00 | 4649.89 | 16.59 |
| SAC-E02A | 9/28/03 22:00 | 4649.89 | 16.59 |
| SAC-E02A | 9/28/03 23:00 | 4649.89 | 16.59 |
| SAC-E02A | 9/29/03 0:00 | 4649.888 | 16.592 |
| SAC-E02A | 9/29/03 1:00 | 4649.888 | 16.592 |
| SAC-E02A | 9/29/03 2:00 | 4649.888 | 16.592 |
| SAC-E02A | 9/29/03 3:00 | 4649.886 | 16.594 |
| SAC-E02A | 9/29/03 4:00 | 4649.888 | 16.592 |
| SAC-E02A | 9/29/03 5:00 | 4649.886 | 16.594 |
| SAC-E02A | 9/29/03 6:00 | 4649.886 | 16.594 |
| SAC-E02A | 9/29/03 7:00 | 4649.883 | 16.597 |
| SAC-E02A | 9/29/03 8:00 | 4649.883 | 16.597 |
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| SAC-E02A | 9/29/03 11:00 | 4649.881 | 16.599 |
| SAC-E02A | 9/29/03 12:00 | 4649.881 | 16.599 |
| SAC-E02A | 9/29/03 13:00 | 4649.881 | 16.599 |
| SAC-E02A | 9/29/03 14:00 | 4649.879 | 16.601 |
| SAC-E02A | 9/29/03 15:00 | 4649.879 | 16.601 |
| SAC-E02A | 9/29/03 16:00 | 4649.877 | 16.603 |
| SAC-E02A | 9/29/03 17:00 | 4649.877 | 16.603 |
| SAC-E02A | 9/29/03 18:00 | 4649.875 | 16.605 |
| SAC-E02A | 9/29/03 19:00 | 4649.877 | 16.603 |
| SAC-E02A | 9/29/03 20:00 | 4649.875 | 16.605 |
| SAC-E02A | 9/29/03 21:00 | 4649.873 | 16.607 |
| SAC-E02A | 9/29/03 22:00 | 4649.873 | 16.607 |
| SAC-E02A | 9/29/03 23:00 | 4649.873 | 16.607 |
| SAC-E02A | 9/30/03 0:00 | 4649.871 | 16.609 |
| SAC-E02A | 9/30/03 1:00 | 4649.871 | 16.609 |
| SAC-E02A | 9/30/03 2:00 | 4649.871 | 16.609 |
| SAC-E02A | 9/30/03 3:00 | 4649.871 | 16.609 |
| SAC-E02A | 9/30/03 4:00 | 4649.871 | 16.609 |
| SAC-E02A | 9/30/03 5:00 | 4649.868 | 16.612 |
| SAC-E02A | 9/30/03 6:00 | 4649.87 | 16.61 |
| SAC-E02A | 9/30/03 7:00 | 4649.868 | 16.612 |

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| SAC-E02A | 9/30/03 8:00 | 4649.868 | 16.612 |
| SAC-E02A | 9/30/03 9:00 | 4649.866 | 16.614 |
| SAC-E02A | 9/30/03 10:00 | 4649.866 | 16.614 |
| SAC-E02A | 9/30/03 11:00 | 4649.866 | 16.614 |
| SAC-E02A | 9/30/03 12:00 | 4649.864 | 16.616 |
| SAC-E02A | 9/30/03 13:00 | 4649.864 | 16.616 |
| SAC-E02A | 9/30/03 14:00 | 4649.864 | 16.616 |
| SAC-E02A | 9/30/03 15:00 | 4649.862 | 16.618 |
| SAC-E02A | 9/30/03 16:00 | 4649.86 | 16.62 |
| SAC-E02A | 9/30/03 17:00 | 4649.86 | 16.62 |
| SAC-E02A | 9/30/03 18:00 | 4649.86 | 16.62 |
| SAC-E02A | 9/30/03 19:00 | 4649.86 | 16.62 |
| SAC-E02A | 9/30/03 20:00 | 4649.858 | 16.622 |
| SAC-E02A | 9/30/03 21:00 | 4649.858 | 16.622 |
| SAC-E02A | 9/30/03 22:00 | 4649.858 | 16.622 |
| SAC-E02A | 9/30/03 23:00 | 4649.856 | 16.624 |

| LOCID | Date and Time | WATELEV |
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| SAC-SG02 | 9/1/03 0:00 | 4651.317 |
| SAC-SG02 | 9/1/03 1:00 | 4651.474 |
| SAC-SG02 | 9/1/03 2:00 | 4651.492 |
| SAC-SG02 | 9/1/03 3:00 | 4651.501 |
| SAC-SG02 | 9/1/03 4:00 | 4651.481 |
| SAC-SG02 | 9/1/03 5:00 | 4651.37 |
| SAC-SG02 | 9/1/03 6:00 | 4651.299 |
| SAC-SG02 | 9/1/03 7:00 | 4651.228 |
| SAC-SG02 | 9/1/03 8:00 | 4651.157 |
| SAC-SG02 | 9/1/03 9:00 | 4651.085 |
| SAC-SG02 | 9/1/03 10:00 | 4651.005 |
| SAC-SG02 | 9/1/03 11:00 | 4651.012 |
| SAC-SG02 | 9/1/03 12:00 | 4650.913 |
| SAC-SG02 | 9/1/03 13:00 | 4650.885 |
| SAC-SG02 | 9/1/03 14:00 | 4650.93 |
| SAC-SG02 | 9/1/03 15:00 | 4650.85 |
| SAC-SG02 | 9/1/03 16:00 | 4650.84 |
| SAC-SG02 | 9/1/03 17:00 | 4650.842 |
| SAC-SG02 | 9/1/03 18:00 | 4650.847 |
| SAC-SG02 | 9/1/03 19:00 | 4650.877 |
| SAC-SG02 | 9/1/03 20:00 | 4650.911 |
| SAC-SG02 | 9/1/03 21:00 | 4650.951 |
| SAC-SG02 | 9/1/03 22:00 | 4650.988 |
| SAC-SG02 | 9/1/03 23:00 | 4651.024 |
| SAC-SG02 | 9/2/03 0:00 | 4651.059 |
| SAC-SG02 | 9/2/03 1:00 | 4651.1 |
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| SAC-SG02 | 9/11/03 9:00 | 4651.678 |
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| SAC-SG02 | 9/11/03 11:00 | 4651.668 |
| SAC-SG02 | 9/11/03 12:00 | 4651.677 |
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| SAC-SG02 | 9/13/03 9:00 | 4652.087 |
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| SAC-SG02 | 9/15/03 12:00 | 4652.617 |
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| SAC-SG02 | 9/16/03 14:00 | 4651.769 |
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| SAC-SG02 | 9/16/03 23:00 | 4651.699 |
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| SAC-SG02 | 9/20/03 14:00 | 4650.827 |

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| SAC-SG02 | 9/23/03 16:00 | 4650.592 |
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| SAC-SG02 | 9/24/03 7:00 | 4650.559 |
| SAC-SG02 | 9/24/03 8:00 | 4650.558 |
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| SAC-SG02 | 9/24/03 16:00 | 4650.543 |

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| SAC-SG02 | 9/24/03 17:00 | 4650.544 |
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| SAC-SG02 | 9/24/03 19:00 | 4650.592 |
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| SAC-SG02 | 9/24/03 22:00 | 4650.574 |
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| SAC-SG02 | 9/25/03 13:00 | 4650.597 |
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| SAC-SG02 | 9/25/03 15:00 | 4650.597 |
| SAC-SG02 | 9/25/03 16:00 | 4650.597 |
| SAC-SG02 | 9/25/03 17:00 | 4650.573 |
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| SAC-SG02 | 9/26/03 3:00 | 4650.571 |
| SAC-SG02 | 9/26/03 4:00 | 4650.573 |
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| SAC-SG02 | 9/26/03 7:00 | 4650.568 |
| SAC-SG02 | 9/26/03 8:00 | 4650.566 |
| SAC-SG02 | 9/26/03 9:00 | 4650.57 |
| SAC-SG02 | 9/26/03 10:00 | 4650.578 |
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| SAC-SG02 | 9/26/03 13:00 | 4650.599 |
| SAC-SG02 | 9/26/03 14:00 | 4650.607 |
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| SAC-SG02 | 9/26/03 16:00 | 4650.601 |
| SAC-SG02 | 9/26/03 17:00 | 4650.56 |

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| SAC-SG02 | 9/26/03 18:00 | 4650.554 |
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| SAC-SG02 | 9/26/03 20:00 | 4650.572 |
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| SAC-SG02 | 9/27/03 1:00 | 4650.599 |
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| SAC-SG02 | 9/27/03 8:00 | 4650.575 |
| SAC-SG02 | 9/27/03 9:00 | 4650.576 |
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| SAC-SG02 | 9/27/03 11:00 | 4650.593 |
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| SAC-SG02 | 9/27/03 13:00 | 4650.625 |
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| SAC-SG02 | 9/27/03 15:00 | 4650.629 |
| SAC-SG02 | 9/27/03 16:00 | 4650.632 |
| SAC-SG02 | 9/27/03 17:00 | 4650.633 |
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| SAC-SG02 | 9/27/03 20:00 | 4650.557 |
| SAC-SG02 | 9/27/03 21:00 | 4650.577 |
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| SAC-SG02 | 9/27/03 23:00 | 4650.579 |
| SAC-SG02 | 9/28/03 0:00 | 4650.575 |
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| SAC-SG02 | 9/28/03 2:00 | 4650.573 |
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| SAC-SG02 | 9/28/03 10:00 | 4650.633 |
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| SAC-SG02 | 9/28/03 12:00 | 4650.637 |
| SAC-SG02 | 9/28/03 13:00 | 4650.641 |
| SAC-SG02 | 9/28/03 14:00 | 4650.642 |
| SAC-SG02 | 9/28/03 15:00 | 4650.643 |
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| SAC-SG02 | 9/28/03 17:00 | 4650.647 |
| SAC-SG02 | 9/28/03 18:00 | 4650.649 |

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| SAC-SG02 | 9/28/03 19:00 | 4650.646 |
| SAC-SG02 | 9/28/03 20:00 | 4650.646 |
| SAC-SG02 | 9/28/03 21:00 | 4650.643 |
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| SAC-SG02 | 9/28/03 23:00 | 4650.627 |
| SAC-SG02 | 9/29/03 0:00 | 4650.616 |
| SAC-SG02 | 9/29/03 1:00 | 4650.594 |
| SAC-SG02 | 9/29/03 2:00 | 4650.575 |
| SAC-SG02 | 9/29/03 3:00 | 4650.574 |
| SAC-SG02 | 9/29/03 4:00 | 4650.563 |
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| SAC-SG02 | 9/29/03 8:00 | 4650.577 |
| SAC-SG02 | 9/29/03 9:00 | 4650.582 |
| SAC-SG02 | 9/29/03 10:00 | 4650.592 |
| SAC-SG02 | 9/29/03 11:00 | 4650.604 |
| SAC-SG02 | 9/29/03 12:00 | 4650.625 |
| SAC-SG02 | 9/29/03 13:00 | 4650.632 |
| SAC-SG02 | 9/29/03 14:00 | 4650.635 |
| SAC-SG02 | 9/29/03 15:00 | 4650.635 |
| SAC-SG02 | 9/29/03 16:00 | 4650.637 |
| SAC-SG02 | 9/29/03 17:00 | 4650.637 |
| SAC-SG02 | 9/29/03 18:00 | 4650.625 |
| SAC-SG02 | 9/29/03 19:00 | 4650.582 |
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| SAC-SG02 | 9/29/03 21:00 | 4650.562 |
| SAC-SG02 | 9/29/03 22:00 | 4650.579 |
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| SAC-SG02 | 9/30/03 0:00 | 4650.578 |
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| SAC-SG02 | 9/30/03 2:00 | 4650.572 |
| SAC-SG02 | 9/30/03 3:00 | 4650.571 |
| SAC-SG02 | 9/30/03 4:00 | 4650.59 |
| SAC-SG02 | 9/30/03 5:00 | 4650.577 |
| SAC-SG02 | 9/30/03 6:00 | 4650.568 |
| SAC-SG02 | 9/30/03 7:00 | 4650.582 |
| SAC-SG02 | 9/30/03 8:00 | 4650.58 |
| SAC-SG02 | 9/30/03 9:00 | 4650.58 |
| SAC-SG02 | 9/30/03 10:00 | 4650.582 |
| SAC-SG02 | 9/30/03 11:00 | 4650.594 |
| SAC-SG02 | 9/30/03 12:00 | 4650.613 |
| SAC-SG02 | 9/30/03 13:00 | 4650.627 |
| SAC-SG02 | 9/30/03 14:00 | 4650.627 |
| SAC-SG02 | 9/30/03 15:00 | 4650.631 |
| SAC-SG02 | 9/30/03 16:00 | 4650.634 |
| SAC-SG02 | 9/30/03 17:00 | 4650.632 |
| SAC-SG02 | 9/30/03 18:00 | 4650.594 |
| SAC-SG02 | 9/30/03 19:00 | 4650.561 |

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| SAC-SG02 | 9/30/03 20:00 | 4650.576 |
| SAC-SG02 | 9/30/03 21:00 | 4650.575 |
| SAC-SG02 | 9/30/03 22:00 | 4650.57 |
| SAC-SG02 | 9/30/03 23:00 | 4650.568 |

Highway 380 Transect Data

LOCID = Location Identification

Date and Time = Month/Day/Year Time in Military Time

WATELEV = Measured Water Level Elevation (ft)

DTW = Calculated Depth To Water (ft)

| LOCID | Date and Time | WATELEV | DTW |
|--------------|----------------------|----------------|------------|
| HWY-W07A | 9/1/03 0:00 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:00 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:05 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:10 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:15 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:20 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:25 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 1:30 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:35 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:40 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:45 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:50 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 1:55 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 2:00 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 2:05 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 2:10 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 2:15 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 2:20 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 2:25 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 2:30 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 2:35 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 2:40 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 2:45 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 2:50 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 2:55 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:00 | 4539.381 | 13.059 |
| HWY-W07A | 9/1/03 3:05 | 4539.379 | 13.061 |

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| HWY-W07A | 9/1/03 3:10 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:15 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:20 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:25 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:30 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:35 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:40 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 3:45 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:50 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 3:55 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:00 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:05 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:10 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:15 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:20 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:25 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:30 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:35 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 4:40 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:45 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:50 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 4:55 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 5:00 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 5:05 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 5:10 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 5:15 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 5:20 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 5:25 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 5:30 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 5:35 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 5:40 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 5:45 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 5:50 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 5:55 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 6:00 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 6:05 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 6:10 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 6:15 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 6:20 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 6:25 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 6:30 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 6:35 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 6:40 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 6:45 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 6:50 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 6:55 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 7:00 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:05 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:10 | 4539.379 | 13.061 |

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| HWY-W07A | 9/1/03 7:15 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:20 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:25 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:30 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:35 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:40 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:45 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:50 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 7:55 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:00 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 8:05 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 8:10 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:15 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:20 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:25 | 4539.379 | 13.061 |
| HWY-W07A | 9/1/03 8:30 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:35 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:40 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:45 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:50 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 8:55 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 9:00 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 9:05 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 9:10 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 9:15 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 9:20 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 9:25 | 4539.377 | 13.063 |
| HWY-W07A | 9/1/03 10:00 | 4539.359 | 13.081 |
| HWY-W07A | 9/1/03 11:00 | 4539.359 | 13.081 |
| HWY-W07A | 9/1/03 12:00 | 4539.359 | 13.081 |
| HWY-W07A | 9/1/03 13:00 | 4539.359 | 13.081 |
| HWY-W07A | 9/1/03 14:00 | 4539.359 | 13.081 |
| HWY-W07A | 9/1/03 15:00 | 4539.361 | 13.079 |
| HWY-W07A | 9/1/03 16:00 | 4539.361 | 13.079 |
| HWY-W07A | 9/1/03 17:00 | 4539.365 | 13.075 |
| HWY-W07A | 9/1/03 18:00 | 4539.367 | 13.073 |
| HWY-W07A | 9/1/03 19:00 | 4539.369 | 13.071 |
| HWY-W07A | 9/1/03 20:00 | 4539.371 | 13.069 |
| HWY-W07A | 9/1/03 21:00 | 4539.375 | 13.065 |
| HWY-W07A | 9/1/03 22:00 | 4539.375 | 13.065 |
| HWY-W07A | 9/1/03 23:00 | 4539.379 | 13.061 |
| HWY-W07A | 9/2/03 0:00 | 4539.381 | 13.059 |
| HWY-W07A | 9/2/03 1:00 | 4539.383 | 13.057 |
| HWY-W07A | 9/2/03 2:00 | 4539.385 | 13.055 |
| HWY-W07A | 9/2/03 3:00 | 4539.389 | 13.051 |
| HWY-W07A | 9/2/03 4:00 | 4539.391 | 13.049 |
| HWY-W07A | 9/2/03 5:00 | 4539.395 | 13.045 |
| HWY-W07A | 9/2/03 6:00 | 4539.397 | 13.043 |
| HWY-W07A | 9/2/03 7:00 | 4539.402 | 13.038 |

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| HWY-W07A | 9/2/03 8:00 | 4539.406 | 13.034 |
| HWY-W07A | 9/2/03 9:00 | 4539.41 | 13.03 |
| HWY-W07A | 9/2/03 10:00 | 4539.414 | 13.026 |
| HWY-W07A | 9/2/03 11:00 | 4539.416 | 13.024 |
| HWY-W07A | 9/2/03 12:00 | 4539.42 | 13.02 |
| HWY-W07A | 9/2/03 13:00 | 4539.422 | 13.018 |
| HWY-W07A | 9/2/03 14:00 | 4539.424 | 13.016 |
| HWY-W07A | 9/2/03 15:00 | 4539.426 | 13.014 |
| HWY-W07A | 9/2/03 16:00 | 4539.43 | 13.01 |
| HWY-W07A | 9/2/03 17:00 | 4539.436 | 13.004 |
| HWY-W07A | 9/2/03 18:00 | 4539.438 | 13.002 |
| HWY-W07A | 9/2/03 19:00 | 4539.442 | 12.998 |
| HWY-W07A | 9/2/03 20:00 | 4539.448 | 12.992 |
| HWY-W07A | 9/2/03 21:00 | 4539.454 | 12.986 |
| HWY-W07A | 9/2/03 22:00 | 4539.458 | 12.982 |
| HWY-W07A | 9/2/03 23:00 | 4539.464 | 12.976 |
| HWY-W07A | 9/3/03 0:00 | 4539.469 | 12.971 |
| HWY-W07A | 9/3/03 1:00 | 4539.473 | 12.967 |
| HWY-W07A | 9/3/03 2:00 | 4539.477 | 12.963 |
| HWY-W07A | 9/3/03 3:00 | 4539.479 | 12.961 |
| HWY-W07A | 9/3/03 4:00 | 4539.483 | 12.957 |
| HWY-W07A | 9/3/03 5:00 | 4539.485 | 12.955 |
| HWY-W07A | 9/3/03 6:00 | 4539.485 | 12.955 |
| HWY-W07A | 9/3/03 7:00 | 4539.487 | 12.953 |
| HWY-W07A | 9/3/03 8:00 | 4539.489 | 12.951 |
| HWY-W07A | 9/3/03 9:00 | 4539.489 | 12.951 |
| HWY-W07A | 9/3/03 10:00 | 4539.491 | 12.949 |
| HWY-W07A | 9/3/03 11:00 | 4539.491 | 12.949 |
| HWY-W07A | 9/3/03 12:00 | 4539.491 | 12.949 |
| HWY-W07A | 9/3/03 13:00 | 4539.493 | 12.947 |
| HWY-W07A | 9/3/03 14:00 | 4539.493 | 12.947 |
| HWY-W07A | 9/3/03 15:00 | 4539.495 | 12.945 |
| HWY-W07A | 9/3/03 16:00 | 4539.495 | 12.945 |
| HWY-W07A | 9/3/03 17:00 | 4539.495 | 12.945 |
| HWY-W07A | 9/3/03 18:00 | 4539.497 | 12.943 |
| HWY-W07A | 9/3/03 19:00 | 4539.499 | 12.941 |
| HWY-W07A | 9/3/03 20:00 | 4539.501 | 12.939 |
| HWY-W07A | 9/3/03 21:00 | 4539.505 | 12.935 |
| HWY-W07A | 9/3/03 22:00 | 4539.509 | 12.931 |
| HWY-W07A | 9/3/03 23:00 | 4539.515 | 12.925 |
| HWY-W07A | 9/4/03 0:00 | 4539.519 | 12.921 |
| HWY-W07A | 9/4/03 1:00 | 4539.523 | 12.917 |
| HWY-W07A | 9/4/03 2:00 | 4539.529 | 12.911 |
| HWY-W07A | 9/4/03 3:00 | 4539.533 | 12.907 |
| HWY-W07A | 9/4/03 4:00 | 4539.542 | 12.898 |
| HWY-W07A | 9/4/03 5:00 | 4539.546 | 12.894 |
| HWY-W07A | 9/4/03 6:00 | 4539.554 | 12.886 |
| HWY-W07A | 9/4/03 7:00 | 4539.558 | 12.882 |
| HWY-W07A | 9/4/03 8:00 | 4539.566 | 12.874 |

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| HWY-W07A | 9/4/03 9:00 | 4539.572 | 12.868 |
| HWY-W07A | 9/4/03 10:00 | 4539.578 | 12.862 |
| HWY-W07A | 9/4/03 11:00 | 4539.582 | 12.858 |
| HWY-W07A | 9/4/03 12:00 | 4539.588 | 12.852 |
| HWY-W07A | 9/4/03 13:00 | 4539.595 | 12.845 |
| HWY-W07A | 9/4/03 14:00 | 4539.6 | 12.84 |
| HWY-W07A | 9/4/03 15:00 | 4539.607 | 12.833 |
| HWY-W07A | 9/4/03 16:00 | 4539.613 | 12.827 |
| HWY-W07A | 9/4/03 17:00 | 4539.621 | 12.819 |
| HWY-W07A | 9/4/03 18:00 | 4539.625 | 12.815 |
| HWY-W07A | 9/4/03 19:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/4/03 20:00 | 4539.637 | 12.803 |
| HWY-W07A | 9/4/03 21:00 | 4539.643 | 12.797 |
| HWY-W07A | 9/4/03 22:00 | 4539.651 | 12.789 |
| HWY-W07A | 9/4/03 23:00 | 4539.655 | 12.785 |
| HWY-W07A | 9/5/03 0:00 | 4539.664 | 12.776 |
| HWY-W07A | 9/5/03 1:00 | 4539.67 | 12.77 |
| HWY-W07A | 9/5/03 2:00 | 4539.676 | 12.764 |
| HWY-W07A | 9/5/03 3:00 | 4539.682 | 12.758 |
| HWY-W07A | 9/5/03 4:00 | 4539.686 | 12.754 |
| HWY-W07A | 9/5/03 5:00 | 4539.69 | 12.75 |
| HWY-W07A | 9/5/03 6:00 | 4539.694 | 12.746 |
| HWY-W07A | 9/5/03 7:00 | 4539.698 | 12.742 |
| HWY-W07A | 9/5/03 8:00 | 4539.7 | 12.74 |
| HWY-W07A | 9/5/03 9:00 | 4539.704 | 12.736 |
| HWY-W07A | 9/5/03 10:00 | 4539.706 | 12.734 |
| HWY-W07A | 9/5/03 11:00 | 4539.708 | 12.732 |
| HWY-W07A | 9/5/03 12:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/5/03 13:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/5/03 14:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/5/03 15:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/5/03 16:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/5/03 17:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/5/03 18:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/5/03 19:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/5/03 20:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/5/03 21:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/5/03 22:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/5/03 23:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/6/03 0:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/6/03 1:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/6/03 2:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/6/03 3:00 | 4539.71 | 12.73 |
| HWY-W07A | 9/6/03 4:00 | 4539.707 | 12.733 |
| HWY-W07A | 9/6/03 5:00 | 4539.707 | 12.733 |
| HWY-W07A | 9/6/03 6:00 | 4539.705 | 12.735 |
| HWY-W07A | 9/6/03 7:00 | 4539.705 | 12.735 |
| HWY-W07A | 9/6/03 8:00 | 4539.703 | 12.737 |
| HWY-W07A | 9/6/03 9:00 | 4539.703 | 12.737 |

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| HWY-W07A | 9/6/03 10:00 | 4539.703 | 12.737 |
| HWY-W07A | 9/6/03 11:00 | 4539.701 | 12.739 |
| HWY-W07A | 9/6/03 12:00 | 4539.699 | 12.741 |
| HWY-W07A | 9/6/03 13:00 | 4539.697 | 12.743 |
| HWY-W07A | 9/6/03 14:00 | 4539.693 | 12.747 |
| HWY-W07A | 9/6/03 15:00 | 4539.691 | 12.749 |
| HWY-W07A | 9/6/03 16:00 | 4539.689 | 12.751 |
| HWY-W07A | 9/6/03 17:00 | 4539.687 | 12.753 |
| HWY-W07A | 9/6/03 18:00 | 4539.685 | 12.755 |
| HWY-W07A | 9/6/03 19:00 | 4539.683 | 12.757 |
| HWY-W07A | 9/6/03 20:00 | 4539.683 | 12.757 |
| HWY-W07A | 9/6/03 21:00 | 4539.677 | 12.763 |
| HWY-W07A | 9/6/03 22:00 | 4539.677 | 12.763 |
| HWY-W07A | 9/6/03 23:00 | 4539.675 | 12.765 |
| HWY-W07A | 9/7/03 0:00 | 4539.672 | 12.768 |
| HWY-W07A | 9/7/03 1:00 | 4539.67 | 12.77 |
| HWY-W07A | 9/7/03 2:00 | 4539.668 | 12.772 |
| HWY-W07A | 9/7/03 3:00 | 4539.668 | 12.772 |
| HWY-W07A | 9/7/03 4:00 | 4539.666 | 12.774 |
| HWY-W07A | 9/7/03 5:00 | 4539.664 | 12.776 |
| HWY-W07A | 9/7/03 6:00 | 4539.662 | 12.778 |
| HWY-W07A | 9/7/03 7:00 | 4539.662 | 12.778 |
| HWY-W07A | 9/7/03 8:00 | 4539.662 | 12.778 |
| HWY-W07A | 9/7/03 9:00 | 4539.66 | 12.78 |
| HWY-W07A | 9/7/03 10:00 | 4539.658 | 12.782 |
| HWY-W07A | 9/7/03 11:00 | 4539.658 | 12.782 |
| HWY-W07A | 9/7/03 12:00 | 4539.658 | 12.782 |
| HWY-W07A | 9/7/03 13:00 | 4539.656 | 12.784 |
| HWY-W07A | 9/7/03 14:00 | 4539.654 | 12.786 |
| HWY-W07A | 9/7/03 15:00 | 4539.65 | 12.79 |
| HWY-W07A | 9/7/03 16:00 | 4539.65 | 12.79 |
| HWY-W07A | 9/7/03 17:00 | 4539.648 | 12.792 |
| HWY-W07A | 9/7/03 18:00 | 4539.646 | 12.794 |
| HWY-W07A | 9/7/03 19:00 | 4539.643 | 12.797 |
| HWY-W07A | 9/7/03 20:00 | 4539.643 | 12.797 |
| HWY-W07A | 9/7/03 21:00 | 4539.641 | 12.799 |
| HWY-W07A | 9/7/03 22:00 | 4539.639 | 12.801 |
| HWY-W07A | 9/7/03 23:00 | 4539.637 | 12.803 |
| HWY-W07A | 9/8/03 0:00 | 4539.639 | 12.801 |
| HWY-W07A | 9/8/03 1:00 | 4539.635 | 12.805 |
| HWY-W07A | 9/8/03 2:00 | 4539.635 | 12.805 |
| HWY-W07A | 9/8/03 3:00 | 4539.635 | 12.805 |
| HWY-W07A | 9/8/03 4:00 | 4539.635 | 12.805 |
| HWY-W07A | 9/8/03 5:00 | 4539.633 | 12.807 |
| HWY-W07A | 9/8/03 6:00 | 4539.633 | 12.807 |
| HWY-W07A | 9/8/03 7:00 | 4539.633 | 12.807 |
| HWY-W07A | 9/8/03 8:00 | 4539.633 | 12.807 |
| HWY-W07A | 9/8/03 9:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/8/03 10:00 | 4539.633 | 12.807 |

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| HWY-W07A | 9/8/03 11:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/8/03 12:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/8/03 13:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/8/03 14:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/8/03 15:00 | 4539.629 | 12.811 |
| HWY-W07A | 9/8/03 16:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/8/03 17:00 | 4539.631 | 12.809 |
| HWY-W07A | 9/8/03 18:00 | 4539.633 | 12.807 |
| HWY-W07A | 9/8/03 19:00 | 4539.635 | 12.805 |
| HWY-W07A | 9/8/03 20:00 | 4539.637 | 12.803 |
| HWY-W07A | 9/8/03 21:00 | 4539.639 | 12.801 |
| HWY-W07A | 9/8/03 22:00 | 4539.645 | 12.795 |
| HWY-W07A | 9/8/03 23:00 | 4539.649 | 12.791 |
| HWY-W07A | 9/9/03 0:00 | 4539.653 | 12.787 |
| HWY-W07A | 9/9/03 1:00 | 4539.659 | 12.781 |
| HWY-W07A | 9/9/03 2:00 | 4539.663 | 12.777 |
| HWY-W07A | 9/9/03 3:00 | 4539.667 | 12.773 |
| HWY-W07A | 9/9/03 4:00 | 4539.674 | 12.766 |
| HWY-W07A | 9/9/03 5:00 | 4539.676 | 12.764 |
| HWY-W07A | 9/9/03 6:00 | 4539.682 | 12.758 |
| HWY-W07A | 9/9/03 7:00 | 4539.688 | 12.752 |
| HWY-W07A | 9/9/03 8:00 | 4539.694 | 12.746 |
| HWY-W07A | 9/9/03 9:00 | 4539.698 | 12.742 |
| HWY-W07A | 9/9/03 10:00 | 4539.704 | 12.736 |
| HWY-W07A | 9/9/03 11:00 | 4539.708 | 12.732 |
| HWY-W07A | 9/9/03 12:00 | 4539.712 | 12.728 |
| HWY-W07A | 9/9/03 13:00 | 4539.718 | 12.722 |
| HWY-W07A | 9/9/03 14:00 | 4539.723 | 12.717 |
| HWY-W07A | 9/9/03 15:00 | 4539.725 | 12.715 |
| HWY-W07A | 9/9/03 16:00 | 4539.731 | 12.709 |
| HWY-W07A | 9/9/03 17:00 | 4539.733 | 12.707 |
| HWY-W07A | 9/9/03 18:00 | 4539.737 | 12.703 |
| HWY-W07A | 9/9/03 19:00 | 4539.739 | 12.701 |
| HWY-W07A | 9/9/03 20:00 | 4539.743 | 12.697 |
| HWY-W07A | 9/9/03 21:00 | 4539.743 | 12.697 |
| HWY-W07A | 9/9/03 22:00 | 4539.745 | 12.695 |
| HWY-W07A | 9/9/03 23:00 | 4539.749 | 12.691 |
| HWY-W07A | 9/10/03 0:00 | 4539.753 | 12.687 |
| HWY-W07A | 9/10/03 1:00 | 4539.753 | 12.687 |
| HWY-W07A | 9/10/03 2:00 | 4539.755 | 12.685 |
| HWY-W07A | 9/10/03 3:00 | 4539.757 | 12.683 |
| HWY-W07A | 9/10/03 4:00 | 4539.757 | 12.683 |
| HWY-W07A | 9/10/03 5:00 | 4539.759 | 12.681 |
| HWY-W07A | 9/10/03 6:00 | 4539.761 | 12.679 |
| HWY-W07A | 9/10/03 7:00 | 4539.761 | 12.679 |
| HWY-W07A | 9/10/03 8:00 | 4539.763 | 12.677 |
| HWY-W07A | 9/10/03 9:00 | 4539.765 | 12.675 |
| HWY-W07A | 9/10/03 10:00 | 4539.767 | 12.673 |
| HWY-W07A | 9/10/03 11:00 | 4539.769 | 12.671 |

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| HWY-W07A | 9/10/03 12:00 | 4539.769 | 12.671 |
| HWY-W07A | 9/10/03 13:00 | 4539.773 | 12.667 |
| HWY-W07A | 9/10/03 14:00 | 4539.773 | 12.667 |
| HWY-W07A | 9/10/03 15:00 | 4539.775 | 12.665 |
| HWY-W07A | 9/10/03 16:00 | 4539.779 | 12.661 |
| HWY-W07A | 9/10/03 17:00 | 4539.779 | 12.661 |
| HWY-W07A | 9/10/03 18:00 | 4539.779 | 12.661 |
| HWY-W07A | 9/10/03 19:00 | 4539.783 | 12.657 |
| HWY-W07A | 9/10/03 20:00 | 4539.783 | 12.657 |
| HWY-W07A | 9/10/03 21:00 | 4539.785 | 12.655 |
| HWY-W07A | 9/10/03 22:00 | 4539.787 | 12.653 |
| HWY-W07A | 9/10/03 23:00 | 4539.789 | 12.651 |
| HWY-W07A | 9/11/03 0:00 | 4539.792 | 12.648 |
| HWY-W07A | 9/11/03 1:00 | 4539.795 | 12.645 |
| HWY-W07A | 9/11/03 2:00 | 4539.798 | 12.642 |
| HWY-W07A | 9/11/03 3:00 | 4539.798 | 12.642 |
| HWY-W07A | 9/11/03 4:00 | 4539.802 | 12.638 |
| HWY-W07A | 9/11/03 5:00 | 4539.803 | 12.637 |
| HWY-W07A | 9/11/03 6:00 | 4539.808 | 12.632 |
| HWY-W07A | 9/11/03 7:00 | 4539.81 | 12.63 |
| HWY-W07A | 9/11/03 8:00 | 4539.814 | 12.626 |
| HWY-W07A | 9/11/03 9:00 | 4539.818 | 12.622 |
| HWY-W07A | 9/11/03 10:00 | 4539.822 | 12.618 |
| HWY-W07A | 9/11/03 11:00 | 4539.824 | 12.616 |
| HWY-W07A | 9/11/03 12:00 | 4539.828 | 12.612 |
| HWY-W07A | 9/11/03 13:00 | 4539.832 | 12.608 |
| HWY-W07A | 9/11/03 14:00 | 4539.834 | 12.606 |
| HWY-W07A | 9/11/03 15:00 | 4539.838 | 12.602 |
| HWY-W07A | 9/11/03 16:00 | 4539.84 | 12.6 |
| HWY-W07A | 9/11/03 17:00 | 4539.842 | 12.598 |
| HWY-W07A | 9/11/03 18:00 | 4539.844 | 12.596 |
| HWY-W07A | 9/11/03 19:00 | 4539.846 | 12.594 |
| HWY-W07A | 9/11/03 20:00 | 4539.85 | 12.59 |
| HWY-W07A | 9/11/03 21:00 | 4539.852 | 12.588 |
| HWY-W07A | 9/11/03 22:00 | 4539.854 | 12.586 |
| HWY-W07A | 9/11/03 23:00 | 4539.858 | 12.582 |
| HWY-W07A | 9/12/03 0:00 | 4539.86 | 12.58 |
| HWY-W07A | 9/12/03 1:00 | 4539.865 | 12.575 |
| HWY-W07A | 9/12/03 2:00 | 4539.865 | 12.575 |
| HWY-W07A | 9/12/03 3:00 | 4539.869 | 12.571 |
| HWY-W07A | 9/12/03 4:00 | 4539.871 | 12.569 |
| HWY-W07A | 9/12/03 5:00 | 4539.873 | 12.567 |
| HWY-W07A | 9/12/03 6:00 | 4539.875 | 12.565 |
| HWY-W07A | 9/12/03 7:00 | 4539.877 | 12.563 |
| HWY-W07A | 9/12/03 8:00 | 4539.879 | 12.561 |
| HWY-W07A | 9/12/03 9:00 | 4539.879 | 12.561 |
| HWY-W07A | 9/12/03 10:00 | 4539.881 | 12.559 |
| HWY-W07A | 9/12/03 11:00 | 4539.883 | 12.557 |
| HWY-W07A | 9/12/03 12:00 | 4539.885 | 12.555 |

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| HWY-W07A | 9/12/03 13:00 | 4539.887 | 12.553 |
| HWY-W07A | 9/12/03 14:00 | 4539.887 | 12.553 |
| HWY-W07A | 9/12/03 15:00 | 4539.889 | 12.551 |
| HWY-W07A | 9/12/03 16:00 | 4539.891 | 12.549 |
| HWY-W07A | 9/12/03 17:00 | 4539.893 | 12.547 |
| HWY-W07A | 9/12/03 18:00 | 4539.893 | 12.547 |
| HWY-W07A | 9/12/03 19:00 | 4539.895 | 12.545 |
| HWY-W07A | 9/12/03 20:00 | 4539.895 | 12.545 |
| HWY-W07A | 9/12/03 21:00 | 4539.897 | 12.543 |
| HWY-W07A | 9/12/03 22:00 | 4539.899 | 12.541 |
| HWY-W07A | 9/12/03 23:00 | 4539.901 | 12.539 |
| HWY-W07A | 9/13/03 0:00 | 4539.903 | 12.537 |
| HWY-W07A | 9/13/03 1:00 | 4539.903 | 12.537 |
| HWY-W07A | 9/13/03 2:00 | 4539.905 | 12.535 |
| HWY-W07A | 9/13/03 3:00 | 4539.907 | 12.533 |
| HWY-W07A | 9/13/03 4:00 | 4539.909 | 12.531 |
| HWY-W07A | 9/13/03 5:00 | 4539.911 | 12.529 |
| HWY-W07A | 9/13/03 6:00 | 4539.911 | 12.529 |
| HWY-W07A | 9/13/03 7:00 | 4539.913 | 12.527 |
| HWY-W07A | 9/13/03 8:00 | 4539.915 | 12.525 |
| HWY-W07A | 9/13/03 9:00 | 4539.915 | 12.525 |
| HWY-W07A | 9/13/03 10:00 | 4539.917 | 12.523 |
| HWY-W07A | 9/13/03 11:00 | 4539.921 | 12.519 |
| HWY-W07A | 9/13/03 12:00 | 4539.921 | 12.519 |
| HWY-W07A | 9/13/03 13:00 | 4539.923 | 12.517 |
| HWY-W07A | 9/13/03 14:00 | 4539.925 | 12.515 |
| HWY-W07A | 9/13/03 15:00 | 4539.927 | 12.513 |
| HWY-W07A | 9/13/03 16:00 | 4539.929 | 12.511 |
| HWY-W07A | 9/13/03 17:00 | 4539.931 | 12.509 |
| HWY-W07A | 9/13/03 18:00 | 4539.933 | 12.507 |
| HWY-W07A | 9/13/03 19:00 | 4539.936 | 12.504 |
| HWY-W07A | 9/13/03 20:00 | 4539.94 | 12.5 |
| HWY-W07A | 9/13/03 21:00 | 4539.944 | 12.496 |
| HWY-W07A | 9/13/03 22:00 | 4539.948 | 12.492 |
| HWY-W07A | 9/13/03 23:00 | 4539.952 | 12.488 |
| HWY-W07A | 9/14/03 0:00 | 4539.954 | 12.486 |
| HWY-W07A | 9/14/03 1:00 | 4539.962 | 12.478 |
| HWY-W07A | 9/14/03 2:00 | 4539.966 | 12.474 |
| HWY-W07A | 9/14/03 3:00 | 4539.972 | 12.468 |
| HWY-W07A | 9/14/03 4:00 | 4539.976 | 12.464 |
| HWY-W07A | 9/14/03 5:00 | 4539.983 | 12.457 |
| HWY-W07A | 9/14/03 6:00 | 4539.989 | 12.451 |
| HWY-W07A | 9/14/03 7:00 | 4539.993 | 12.447 |
| HWY-W07A | 9/14/03 8:00 | 4540.001 | 12.439 |
| HWY-W07A | 9/14/03 9:00 | 4540.007 | 12.433 |
| HWY-W07A | 9/14/03 10:00 | 4540.013 | 12.427 |
| HWY-W07A | 9/14/03 11:00 | 4540.022 | 12.418 |
| HWY-W07A | 9/14/03 12:00 | 4540.028 | 12.412 |
| HWY-W07A | 9/14/03 13:00 | 4540.034 | 12.406 |

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| HWY-W07A | 9/14/03 14:00 | 4540.042 | 12.398 |
| HWY-W07A | 9/14/03 15:00 | 4540.048 | 12.392 |
| HWY-W07A | 9/14/03 16:00 | 4540.055 | 12.385 |
| HWY-W07A | 9/14/03 17:00 | 4540.063 | 12.377 |
| HWY-W07A | 9/14/03 18:00 | 4540.071 | 12.369 |
| HWY-W07A | 9/14/03 19:00 | 4540.077 | 12.363 |
| HWY-W07A | 9/14/03 20:00 | 4540.085 | 12.355 |
| HWY-W07A | 9/14/03 21:00 | 4540.095 | 12.345 |
| HWY-W07A | 9/14/03 22:00 | 4540.106 | 12.334 |
| HWY-W07A | 9/14/03 23:00 | 4540.116 | 12.324 |
| HWY-W07A | 9/15/03 0:00 | 4540.129 | 12.311 |
| HWY-W07A | 9/15/03 1:00 | 4540.141 | 12.299 |
| HWY-W07A | 9/15/03 2:00 | 4540.153 | 12.287 |
| HWY-W07A | 9/15/03 3:00 | 4540.17 | 12.27 |
| HWY-W07A | 9/15/03 4:00 | 4540.184 | 12.256 |
| HWY-W07A | 9/15/03 5:00 | 4540.199 | 12.241 |
| HWY-W07A | 9/15/03 6:00 | 4540.215 | 12.225 |
| HWY-W07A | 9/15/03 7:00 | 4540.23 | 12.21 |
| HWY-W07A | 9/15/03 8:00 | 4540.244 | 12.196 |
| HWY-W07A | 9/15/03 9:00 | 4540.261 | 12.179 |
| HWY-W07A | 9/15/03 10:00 | 4540.273 | 12.167 |
| HWY-W07A | 9/15/03 11:00 | 4540.289 | 12.151 |
| HWY-W07A | 9/15/03 12:00 | 4540.304 | 12.136 |
| HWY-W07A | 9/15/03 13:00 | 4540.316 | 12.124 |
| HWY-W07A | 9/15/03 14:00 | 4540.33 | 12.11 |
| HWY-W07A | 9/15/03 15:00 | 4540.342 | 12.098 |
| HWY-W07A | 9/15/03 16:00 | 4540.355 | 12.085 |
| HWY-W07A | 9/15/03 17:00 | 4540.365 | 12.075 |
| HWY-W07A | 9/15/03 18:00 | 4540.375 | 12.065 |
| HWY-W07A | 9/15/03 19:00 | 4540.387 | 12.053 |
| HWY-W07A | 9/15/03 20:00 | 4540.396 | 12.044 |
| HWY-W07A | 9/15/03 21:00 | 4540.405 | 12.035 |
| HWY-W07A | 9/15/03 22:00 | 4540.416 | 12.024 |
| HWY-W07A | 9/15/03 23:00 | 4540.424 | 12.016 |
| HWY-W07A | 9/16/03 0:00 | 4540.432 | 12.008 |
| HWY-W07A | 9/16/03 1:00 | 4540.44 | 12 |
| HWY-W07A | 9/16/03 2:00 | 4540.446 | 11.994 |
| HWY-W07A | 9/16/03 3:00 | 4540.45 | 11.99 |
| HWY-W07A | 9/16/03 4:00 | 4540.456 | 11.984 |
| HWY-W07A | 9/16/03 5:00 | 4540.462 | 11.978 |
| HWY-W07A | 9/16/03 6:00 | 4540.466 | 11.974 |
| HWY-W07A | 9/16/03 7:00 | 4540.47 | 11.97 |
| HWY-W07A | 9/16/03 8:00 | 4540.472 | 11.968 |
| HWY-W07A | 9/16/03 9:00 | 4540.474 | 11.966 |
| HWY-W07A | 9/16/03 10:00 | 4540.478 | 11.962 |
| HWY-W07A | 9/16/03 11:00 | 4540.48 | 11.96 |
| HWY-W07A | 9/16/03 12:00 | 4540.482 | 11.958 |
| HWY-W07A | 9/16/03 13:00 | 4540.484 | 11.956 |
| HWY-W07A | 9/16/03 14:00 | 4540.484 | 11.956 |

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| HWY-W07A | 9/16/03 15:00 | 4540.486 | 11.954 |
| HWY-W07A | 9/16/03 16:00 | 4540.484 | 11.956 |
| HWY-W07A | 9/16/03 17:00 | 4540.484 | 11.956 |
| HWY-W07A | 9/16/03 18:00 | 4540.484 | 11.956 |
| HWY-W07A | 9/16/03 19:00 | 4540.482 | 11.958 |
| HWY-W07A | 9/16/03 20:00 | 4540.48 | 11.96 |
| HWY-W07A | 9/16/03 21:00 | 4540.477 | 11.963 |
| HWY-W07A | 9/16/03 22:00 | 4540.475 | 11.965 |
| HWY-W07A | 9/16/03 23:00 | 4540.471 | 11.969 |
| HWY-W07A | 9/17/03 0:00 | 4540.467 | 11.973 |
| HWY-W07A | 9/17/03 1:00 | 4540.465 | 11.975 |
| HWY-W07A | 9/17/03 2:00 | 4540.463 | 11.977 |
| HWY-W07A | 9/17/03 3:00 | 4540.459 | 11.981 |
| HWY-W07A | 9/17/03 4:00 | 4540.455 | 11.985 |
| HWY-W07A | 9/17/03 5:00 | 4540.451 | 11.989 |
| HWY-W07A | 9/17/03 6:00 | 4540.447 | 11.993 |
| HWY-W07A | 9/17/03 7:00 | 4540.442 | 11.998 |
| HWY-W07A | 9/17/03 8:00 | 4540.44 | 12 |
| HWY-W07A | 9/17/03 9:00 | 4540.436 | 12.004 |
| HWY-W07A | 9/17/03 10:00 | 4540.434 | 12.006 |
| HWY-W07A | 9/17/03 11:00 | 4540.43 | 12.01 |
| HWY-W07A | 9/17/03 12:00 | 4540.426 | 12.014 |
| HWY-W07A | 9/17/03 13:00 | 4540.424 | 12.016 |
| HWY-W07A | 9/17/03 14:00 | 4540.422 | 12.018 |
| HWY-W07A | 9/17/03 15:00 | 4540.418 | 12.022 |
| HWY-W07A | 9/17/03 16:00 | 4540.412 | 12.028 |
| HWY-W07A | 9/17/03 17:00 | 4540.41 | 12.03 |
| HWY-W07A | 9/17/03 18:00 | 4540.405 | 12.035 |
| HWY-W07A | 9/17/03 19:00 | 4540.401 | 12.039 |
| HWY-W07A | 9/17/03 20:00 | 4540.397 | 12.043 |
| HWY-W07A | 9/17/03 21:00 | 4540.395 | 12.045 |
| HWY-W07A | 9/17/03 22:00 | 4540.393 | 12.047 |
| HWY-W07A | 9/17/03 23:00 | 4540.389 | 12.051 |
| HWY-W07A | 9/18/03 0:00 | 4540.383 | 12.057 |
| HWY-W07A | 9/18/03 1:00 | 4540.383 | 12.057 |
| HWY-W07A | 9/18/03 2:00 | 4540.379 | 12.061 |
| HWY-W07A | 9/18/03 3:00 | 4540.379 | 12.061 |
| HWY-W07A | 9/18/03 4:00 | 4540.373 | 12.067 |
| HWY-W07A | 9/18/03 5:00 | 4540.368 | 12.072 |
| HWY-W07A | 9/18/03 6:00 | 4540.364 | 12.076 |
| HWY-W07A | 9/18/03 7:00 | 4540.362 | 12.078 |
| HWY-W07A | 9/18/03 8:00 | 4540.358 | 12.082 |
| HWY-W07A | 9/18/03 9:00 | 4540.354 | 12.086 |
| HWY-W07A | 9/18/03 10:00 | 4540.352 | 12.088 |
| HWY-W07A | 9/18/03 11:00 | 4540.35 | 12.09 |
| HWY-W07A | 9/18/03 12:00 | 4540.346 | 12.094 |
| HWY-W07A | 9/18/03 13:00 | 4540.342 | 12.098 |
| HWY-W07A | 9/18/03 14:00 | 4540.338 | 12.102 |
| HWY-W07A | 9/18/03 15:00 | 4540.333 | 12.107 |

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| HWY-W07A | 9/18/03 16:00 | 4540.329 | 12.111 |
| HWY-W07A | 9/18/03 17:00 | 4540.325 | 12.115 |
| HWY-W07A | 9/18/03 18:00 | 4540.321 | 12.119 |
| HWY-W07A | 9/18/03 19:00 | 4540.315 | 12.125 |
| HWY-W07A | 9/18/03 20:00 | 4540.311 | 12.129 |
| HWY-W07A | 9/18/03 21:00 | 4540.307 | 12.133 |
| HWY-W07A | 9/18/03 22:00 | 4540.303 | 12.137 |
| HWY-W07A | 9/18/03 23:00 | 4540.297 | 12.143 |
| HWY-W07A | 9/19/03 0:00 | 4540.293 | 12.147 |
| HWY-W07A | 9/19/03 1:00 | 4540.289 | 12.151 |
| HWY-W07A | 9/19/03 2:00 | 4540.282 | 12.158 |
| HWY-W07A | 9/19/03 3:00 | 4540.278 | 12.162 |
| HWY-W07A | 9/19/03 4:00 | 4540.276 | 12.164 |
| HWY-W07A | 9/19/03 5:00 | 4540.27 | 12.17 |
| HWY-W07A | 9/19/03 6:00 | 4540.266 | 12.174 |
| HWY-W07A | 9/19/03 7:00 | 4540.262 | 12.178 |
| HWY-W07A | 9/19/03 8:00 | 4540.258 | 12.182 |
| HWY-W07A | 9/19/03 9:00 | 4540.252 | 12.188 |
| HWY-W07A | 9/19/03 10:00 | 4540.25 | 12.19 |
| HWY-W07A | 9/19/03 11:00 | 4540.243 | 12.197 |
| HWY-W07A | 9/19/03 12:00 | 4540.241 | 12.199 |
| HWY-W07A | 9/19/03 13:00 | 4540.237 | 12.203 |
| HWY-W07A | 9/19/03 14:00 | 4540.233 | 12.207 |
| HWY-W07A | 9/19/03 15:00 | 4540.227 | 12.213 |
| HWY-W07A | 9/19/03 16:00 | 4540.223 | 12.217 |
| HWY-W07A | 9/19/03 17:00 | 4540.217 | 12.223 |
| HWY-W07A | 9/19/03 18:00 | 4540.211 | 12.229 |
| HWY-W07A | 9/19/03 19:00 | 4540.206 | 12.234 |
| HWY-W07A | 9/19/03 20:00 | 4540.202 | 12.238 |
| HWY-W07A | 9/19/03 21:00 | 4540.198 | 12.242 |
| HWY-W07A | 9/19/03 22:00 | 4540.192 | 12.248 |
| HWY-W07A | 9/19/03 23:00 | 4540.19 | 12.25 |
| HWY-W07A | 9/20/03 0:00 | 4540.186 | 12.254 |
| HWY-W07A | 9/20/03 1:00 | 4540.182 | 12.258 |
| HWY-W07A | 9/20/03 2:00 | 4540.176 | 12.264 |
| HWY-W07A | 9/20/03 3:00 | 4540.172 | 12.268 |
| HWY-W07A | 9/20/03 4:00 | 4540.168 | 12.272 |
| HWY-W07A | 9/20/03 5:00 | 4540.166 | 12.274 |
| HWY-W07A | 9/20/03 6:00 | 4540.16 | 12.28 |
| HWY-W07A | 9/20/03 7:00 | 4540.157 | 12.283 |
| HWY-W07A | 9/20/03 8:00 | 4540.153 | 12.287 |
| HWY-W07A | 9/20/03 9:00 | 4540.149 | 12.291 |
| HWY-W07A | 9/20/03 10:00 | 4540.145 | 12.295 |
| HWY-W07A | 9/20/03 11:00 | 4540.141 | 12.299 |
| HWY-W07A | 9/20/03 12:00 | 4540.139 | 12.301 |
| HWY-W07A | 9/20/03 13:00 | 4540.133 | 12.307 |
| HWY-W07A | 9/20/03 14:00 | 4540.127 | 12.313 |
| HWY-W07A | 9/20/03 15:00 | 4540.123 | 12.317 |
| HWY-W07A | 9/20/03 16:00 | 4540.118 | 12.322 |

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| HWY-W07A | 9/20/03 17:00 | 4540.112 | 12.328 |
| HWY-W07A | 9/20/03 18:00 | 4540.11 | 12.33 |
| HWY-W07A | 9/20/03 19:00 | 4540.104 | 12.336 |
| HWY-W07A | 9/20/03 20:00 | 4540.098 | 12.342 |
| HWY-W07A | 9/20/03 21:00 | 4540.096 | 12.344 |
| HWY-W07A | 9/20/03 22:00 | 4540.094 | 12.346 |
| HWY-W07A | 9/20/03 23:00 | 4540.088 | 12.352 |
| HWY-W07A | 9/21/03 0:00 | 4540.086 | 12.354 |
| HWY-W07A | 9/21/03 1:00 | 4540.079 | 12.361 |
| HWY-W07A | 9/21/03 2:00 | 4540.075 | 12.365 |
| HWY-W07A | 9/21/03 3:00 | 4540.073 | 12.367 |
| HWY-W07A | 9/21/03 4:00 | 4540.069 | 12.371 |
| HWY-W07A | 9/21/03 5:00 | 4540.065 | 12.375 |
| HWY-W07A | 9/21/03 6:00 | 4540.061 | 12.379 |
| HWY-W07A | 9/21/03 7:00 | 4540.057 | 12.383 |
| HWY-W07A | 9/21/03 8:00 | 4540.055 | 12.385 |
| HWY-W07A | 9/21/03 9:00 | 4540.051 | 12.389 |
| HWY-W07A | 9/21/03 10:00 | 4540.046 | 12.394 |
| HWY-W07A | 9/21/03 11:00 | 4540.042 | 12.398 |
| HWY-W07A | 9/21/03 12:00 | 4540.04 | 12.4 |
| HWY-W07A | 9/21/03 13:00 | 4540.038 | 12.402 |
| HWY-W07A | 9/21/03 14:00 | 4540.034 | 12.406 |
| HWY-W07A | 9/21/03 15:00 | 4540.03 | 12.41 |
| HWY-W07A | 9/21/03 16:00 | 4540.026 | 12.414 |
| HWY-W07A | 9/21/03 17:00 | 4540.022 | 12.418 |
| HWY-W07A | 9/21/03 18:00 | 4540.02 | 12.42 |
| HWY-W07A | 9/21/03 19:00 | 4540.016 | 12.424 |
| HWY-W07A | 9/21/03 20:00 | 4540.009 | 12.431 |
| HWY-W07A | 9/21/03 21:00 | 4540.007 | 12.433 |
| HWY-W07A | 9/21/03 22:00 | 4540.003 | 12.437 |
| HWY-W07A | 9/21/03 23:00 | 4540.001 | 12.439 |
| HWY-W07A | 9/22/03 0:00 | 4539.999 | 12.441 |
| HWY-W07A | 9/22/03 1:00 | 4539.995 | 12.445 |
| HWY-W07A | 9/22/03 2:00 | 4539.993 | 12.447 |
| HWY-W07A | 9/22/03 3:00 | 4539.989 | 12.451 |
| HWY-W07A | 9/22/03 4:00 | 4539.987 | 12.453 |
| HWY-W07A | 9/22/03 5:00 | 4539.983 | 12.457 |
| HWY-W07A | 9/22/03 6:00 | 4539.981 | 12.459 |
| HWY-W07A | 9/22/03 7:00 | 4539.977 | 12.463 |
| HWY-W07A | 9/22/03 8:00 | 4539.974 | 12.466 |
| HWY-W07A | 9/22/03 9:00 | 4539.972 | 12.468 |
| HWY-W07A | 9/22/03 10:00 | 4539.969 | 12.471 |
| HWY-W07A | 9/22/03 11:00 | 4539.966 | 12.474 |
| HWY-W07A | 9/22/03 12:00 | 4539.962 | 12.478 |
| HWY-W07A | 9/22/03 13:00 | 4539.962 | 12.478 |
| HWY-W07A | 9/22/03 14:00 | 4539.958 | 12.482 |
| HWY-W07A | 9/22/03 15:00 | 4539.954 | 12.486 |
| HWY-W07A | 9/22/03 16:00 | 4539.95 | 12.49 |
| HWY-W07A | 9/22/03 17:00 | 4539.948 | 12.492 |

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| HWY-W07A | 9/22/03 18:00 | 4539.944 | 12.496 |
| HWY-W07A | 9/22/03 19:00 | 4539.942 | 12.498 |
| HWY-W07A | 9/22/03 20:00 | 4539.938 | 12.502 |
| HWY-W07A | 9/22/03 21:00 | 4539.936 | 12.504 |
| HWY-W07A | 9/22/03 22:00 | 4539.934 | 12.506 |
| HWY-W07A | 9/22/03 23:00 | 4539.932 | 12.508 |
| HWY-W07A | 9/23/03 0:00 | 4539.928 | 12.512 |
| HWY-W07A | 9/23/03 1:00 | 4539.923 | 12.517 |
| HWY-W07A | 9/23/03 2:00 | 4539.921 | 12.519 |
| HWY-W07A | 9/23/03 3:00 | 4539.919 | 12.521 |
| HWY-W07A | 9/23/03 4:00 | 4539.917 | 12.523 |
| HWY-W07A | 9/23/03 5:00 | 4539.913 | 12.527 |
| HWY-W07A | 9/23/03 6:00 | 4539.911 | 12.529 |
| HWY-W07A | 9/23/03 7:00 | 4539.909 | 12.531 |
| HWY-W07A | 9/23/03 8:00 | 4539.907 | 12.533 |
| HWY-W07A | 9/23/03 9:00 | 4539.905 | 12.535 |
| HWY-W07A | 9/23/03 10:00 | 4539.901 | 12.539 |
| HWY-W07A | 9/23/03 11:00 | 4539.898 | 12.542 |
| HWY-W07A | 9/23/03 12:00 | 4539.894 | 12.546 |
| HWY-W07A | 9/23/03 13:00 | 4539.892 | 12.548 |
| HWY-W07A | 9/23/03 14:00 | 4539.89 | 12.55 |
| HWY-W07A | 9/23/03 15:00 | 4539.884 | 12.556 |
| HWY-W07A | 9/23/03 16:00 | 4539.882 | 12.558 |
| HWY-W07A | 9/23/03 17:00 | 4539.88 | 12.56 |
| HWY-W07A | 9/23/03 18:00 | 4539.876 | 12.564 |
| HWY-W07A | 9/23/03 19:00 | 4539.874 | 12.566 |
| HWY-W07A | 9/23/03 20:00 | 4539.87 | 12.57 |
| HWY-W07A | 9/23/03 21:00 | 4539.868 | 12.572 |
| HWY-W07A | 9/23/03 22:00 | 4539.864 | 12.576 |
| HWY-W07A | 9/23/03 23:00 | 4539.861 | 12.579 |
| HWY-W07A | 9/24/03 0:00 | 4539.859 | 12.581 |
| HWY-W07A | 9/24/03 1:00 | 4539.855 | 12.585 |
| HWY-W07A | 9/24/03 2:00 | 4539.853 | 12.587 |
| HWY-W07A | 9/24/03 3:00 | 4539.851 | 12.589 |
| HWY-W07A | 9/24/03 4:00 | 4539.849 | 12.591 |
| HWY-W07A | 9/24/03 5:00 | 4539.845 | 12.595 |
| HWY-W07A | 9/24/03 6:00 | 4539.845 | 12.595 |
| HWY-W07A | 9/24/03 7:00 | 4539.841 | 12.599 |
| HWY-W07A | 9/24/03 8:00 | 4539.837 | 12.603 |
| HWY-W07A | 9/24/03 9:00 | 4539.835 | 12.605 |
| HWY-W07A | 9/24/03 10:00 | 4539.832 | 12.608 |
| HWY-W07A | 9/24/03 11:00 | 4539.83 | 12.61 |
| HWY-W07A | 9/24/03 12:00 | 4539.828 | 12.612 |
| HWY-W07A | 9/24/03 13:00 | 4539.824 | 12.616 |
| HWY-W07A | 9/24/03 14:00 | 4539.822 | 12.618 |
| HWY-W07A | 9/24/03 15:00 | 4539.818 | 12.622 |
| HWY-W07A | 9/24/03 16:00 | 4539.816 | 12.624 |
| HWY-W07A | 9/24/03 17:00 | 4539.812 | 12.628 |
| HWY-W07A | 9/24/03 18:00 | 4539.81 | 12.63 |

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| HWY-W07A | 9/24/03 19:00 | 4539.808 | 12.632 |
| HWY-W07A | 9/24/03 20:00 | 4539.802 | 12.638 |
| HWY-W07A | 9/24/03 21:00 | 4539.8 | 12.64 |
| HWY-W07A | 9/24/03 22:00 | 4539.798 | 12.642 |
| HWY-W07A | 9/24/03 23:00 | 4539.795 | 12.645 |
| HWY-W07A | 9/25/03 0:00 | 4539.791 | 12.649 |
| HWY-W07A | 9/25/03 1:00 | 4539.787 | 12.653 |
| HWY-W07A | 9/25/03 2:00 | 4539.787 | 12.653 |
| HWY-W07A | 9/25/03 3:00 | 4539.783 | 12.657 |
| HWY-W07A | 9/25/03 4:00 | 4539.781 | 12.659 |
| HWY-W07A | 9/25/03 5:00 | 4539.779 | 12.661 |
| HWY-W07A | 9/25/03 6:00 | 4539.777 | 12.663 |
| HWY-W07A | 9/25/03 7:00 | 4539.773 | 12.667 |
| HWY-W07A | 9/25/03 8:00 | 4539.773 | 12.667 |
| HWY-W07A | 9/25/03 9:00 | 4539.769 | 12.671 |
| HWY-W07A | 9/25/03 10:00 | 4539.767 | 12.673 |
| HWY-W07A | 9/25/03 11:00 | 4539.765 | 12.675 |
| HWY-W07A | 9/25/03 12:00 | 4539.763 | 12.677 |
| HWY-W07A | 9/25/03 13:00 | 4539.758 | 12.682 |
| HWY-W07A | 9/25/03 14:00 | 4539.756 | 12.684 |
| HWY-W07A | 9/25/03 15:00 | 4539.754 | 12.686 |
| HWY-W07A | 9/25/03 16:00 | 4539.752 | 12.688 |
| HWY-W07A | 9/25/03 17:00 | 4539.748 | 12.692 |
| HWY-W07A | 9/25/03 18:00 | 4539.748 | 12.692 |
| HWY-W07A | 9/25/03 19:00 | 4539.744 | 12.696 |
| HWY-W07A | 9/25/03 20:00 | 4539.742 | 12.698 |
| HWY-W07A | 9/25/03 21:00 | 4539.74 | 12.7 |
| HWY-W07A | 9/25/03 22:00 | 4539.736 | 12.704 |
| HWY-W07A | 9/25/03 23:00 | 4539.736 | 12.704 |
| HWY-W07A | 9/26/03 0:00 | 4539.734 | 12.706 |
| HWY-W07A | 9/26/03 1:00 | 4539.732 | 12.708 |
| HWY-W07A | 9/26/03 2:00 | 4539.728 | 12.712 |
| HWY-W07A | 9/26/03 3:00 | 4539.726 | 12.714 |
| HWY-W07A | 9/26/03 4:00 | 4539.723 | 12.717 |
| HWY-W07A | 9/26/03 5:00 | 4539.723 | 12.717 |
| HWY-W07A | 9/26/03 6:00 | 4539.721 | 12.719 |
| HWY-W07A | 9/26/03 7:00 | 4539.717 | 12.723 |
| HWY-W07A | 9/26/03 8:00 | 4539.715 | 12.725 |
| HWY-W07A | 9/26/03 9:00 | 4539.713 | 12.727 |
| HWY-W07A | 9/26/03 10:00 | 4539.711 | 12.729 |
| HWY-W07A | 9/26/03 11:00 | 4539.709 | 12.731 |
| HWY-W07A | 9/26/03 12:00 | 4539.707 | 12.733 |
| HWY-W07A | 9/26/03 13:00 | 4539.705 | 12.735 |
| HWY-W07A | 9/26/03 14:00 | 4539.703 | 12.737 |
| HWY-W07A | 9/26/03 15:00 | 4539.699 | 12.741 |
| HWY-W07A | 9/26/03 16:00 | 4539.697 | 12.743 |
| HWY-W07A | 9/26/03 17:00 | 4539.693 | 12.747 |
| HWY-W07A | 9/26/03 18:00 | 4539.691 | 12.749 |
| HWY-W07A | 9/26/03 19:00 | 4539.688 | 12.752 |

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|----------|---------------|----------|--------|
| HWY-W07A | 9/26/03 20:00 | 4539.686 | 12.754 |
| HWY-W07A | 9/26/03 21:00 | 4539.682 | 12.758 |
| HWY-W07A | 9/26/03 22:00 | 4539.682 | 12.758 |
| HWY-W07A | 9/26/03 23:00 | 4539.68 | 12.76 |
| HWY-W07A | 9/27/03 0:00 | 4539.676 | 12.764 |
| HWY-W07A | 9/27/03 1:00 | 4539.674 | 12.766 |
| HWY-W07A | 9/27/03 2:00 | 4539.674 | 12.766 |
| HWY-W07A | 9/27/03 3:00 | 4539.67 | 12.77 |
| HWY-W07A | 9/27/03 4:00 | 4539.666 | 12.774 |
| HWY-W07A | 9/27/03 5:00 | 4539.666 | 12.774 |
| HWY-W07A | 9/27/03 6:00 | 4539.662 | 12.778 |
| HWY-W07A | 9/27/03 7:00 | 4539.662 | 12.778 |
| HWY-W07A | 9/27/03 8:00 | 4539.657 | 12.783 |
| HWY-W07A | 9/27/03 9:00 | 4539.657 | 12.783 |
| HWY-W07A | 9/27/03 10:00 | 4539.655 | 12.785 |
| HWY-W07A | 9/27/03 11:00 | 4539.651 | 12.789 |
| HWY-W07A | 9/27/03 12:00 | 4539.649 | 12.791 |
| HWY-W07A | 9/27/03 13:00 | 4539.647 | 12.793 |
| HWY-W07A | 9/27/03 14:00 | 4539.645 | 12.795 |
| HWY-W07A | 9/27/03 15:00 | 4539.643 | 12.797 |
| HWY-W07A | 9/27/03 16:00 | 4539.641 | 12.799 |
| HWY-W07A | 9/27/03 17:00 | 4539.637 | 12.803 |
| HWY-W07A | 9/27/03 18:00 | 4539.635 | 12.805 |
| HWY-W07A | 9/27/03 19:00 | 4539.632 | 12.808 |
| HWY-W07A | 9/27/03 20:00 | 4539.63 | 12.81 |
| HWY-W07A | 9/27/03 21:00 | 4539.628 | 12.812 |
| HWY-W07A | 9/27/03 22:00 | 4539.624 | 12.816 |
| HWY-W07A | 9/27/03 23:00 | 4539.622 | 12.818 |
| HWY-W07A | 9/28/03 0:00 | 4539.62 | 12.82 |
| HWY-W07A | 9/28/03 1:00 | 4539.618 | 12.822 |
| HWY-W07A | 9/28/03 2:00 | 4539.616 | 12.824 |
| HWY-W07A | 9/28/03 3:00 | 4539.612 | 12.828 |
| HWY-W07A | 9/28/03 4:00 | 4539.61 | 12.83 |
| HWY-W07A | 9/28/03 5:00 | 4539.608 | 12.832 |
| HWY-W07A | 9/28/03 6:00 | 4539.606 | 12.834 |
| HWY-W07A | 9/28/03 7:00 | 4539.602 | 12.838 |
| HWY-W07A | 9/28/03 8:00 | 4539.6 | 12.84 |
| HWY-W07A | 9/28/03 9:00 | 4539.6 | 12.84 |
| HWY-W07A | 9/28/03 10:00 | 4539.598 | 12.842 |
| HWY-W07A | 9/28/03 11:00 | 4539.593 | 12.847 |
| HWY-W07A | 9/28/03 12:00 | 4539.591 | 12.849 |
| HWY-W07A | 9/28/03 13:00 | 4539.589 | 12.851 |
| HWY-W07A | 9/28/03 14:00 | 4539.587 | 12.853 |
| HWY-W07A | 9/28/03 15:00 | 4539.585 | 12.855 |
| HWY-W07A | 9/28/03 16:00 | 4539.581 | 12.859 |
| HWY-W07A | 9/28/03 17:00 | 4539.579 | 12.861 |
| HWY-W07A | 9/28/03 18:00 | 4539.575 | 12.865 |
| HWY-W07A | 9/28/03 19:00 | 4539.573 | 12.867 |
| HWY-W07A | 9/28/03 20:00 | 4539.571 | 12.869 |

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| HWY-W07A | 9/28/03 21:00 | 4539.567 | 12.873 |
| HWY-W07A | 9/28/03 22:00 | 4539.567 | 12.873 |
| HWY-W07A | 9/28/03 23:00 | 4539.565 | 12.875 |
| HWY-W07A | 9/29/03 0:00 | 4539.562 | 12.878 |
| HWY-W07A | 9/29/03 1:00 | 4539.558 | 12.882 |
| HWY-W07A | 9/29/03 2:00 | 4539.556 | 12.884 |
| HWY-W07A | 9/29/03 3:00 | 4539.554 | 12.886 |
| HWY-W07A | 9/29/03 4:00 | 4539.554 | 12.886 |
| HWY-W07A | 9/29/03 5:00 | 4539.552 | 12.888 |
| HWY-W07A | 9/29/03 6:00 | 4539.55 | 12.89 |
| HWY-W07A | 9/29/03 7:00 | 4539.548 | 12.892 |
| HWY-W07A | 9/29/03 8:00 | 4539.548 | 12.892 |
| HWY-W07A | 9/29/03 9:00 | 4539.544 | 12.896 |
| HWY-W07A | 9/29/03 10:00 | 4539.544 | 12.896 |
| HWY-W07A | 9/29/03 11:00 | 4539.544 | 12.896 |
| HWY-W07A | 9/29/03 12:00 | 4539.54 | 12.9 |
| HWY-W07A | 9/29/03 13:00 | 4539.54 | 12.9 |
| HWY-W07A | 9/29/03 14:00 | 4539.538 | 12.902 |
| HWY-W07A | 9/29/03 15:00 | 4539.536 | 12.904 |
| HWY-W07A | 9/29/03 16:00 | 4539.536 | 12.904 |
| HWY-W07A | 9/29/03 17:00 | 4539.536 | 12.904 |
| HWY-W07A | 9/29/03 18:00 | 4539.536 | 12.904 |
| HWY-W07A | 9/29/03 19:00 | 4539.534 | 12.906 |
| HWY-W07A | 9/29/03 20:00 | 4539.534 | 12.906 |
| HWY-W07A | 9/29/03 21:00 | 4539.532 | 12.908 |
| HWY-W07A | 9/29/03 22:00 | 4539.532 | 12.908 |
| HWY-W07A | 9/29/03 23:00 | 4539.534 | 12.906 |
| HWY-W07A | 9/30/03 0:00 | 4539.532 | 12.908 |
| HWY-W07A | 9/30/03 1:00 | 4539.533 | 12.907 |
| HWY-W07A | 9/30/03 2:00 | 4539.534 | 12.906 |
| HWY-W07A | 9/30/03 3:00 | 4539.534 | 12.906 |
| HWY-W07A | 9/30/03 4:00 | 4539.533 | 12.907 |
| HWY-W07A | 9/30/03 5:00 | 4539.534 | 12.906 |
| HWY-W07A | 9/30/03 6:00 | 4539.534 | 12.906 |
| HWY-W07A | 9/30/03 7:00 | 4539.536 | 12.904 |
| HWY-W07A | 9/30/03 8:00 | 4539.533 | 12.907 |
| HWY-W07A | 9/30/03 9:00 | 4539.535 | 12.905 |
| HWY-W07A | 9/30/03 10:00 | 4539.536 | 12.904 |
| HWY-W07A | 9/30/03 11:00 | 4539.533 | 12.907 |
| HWY-W07A | 9/30/03 12:00 | 4539.533 | 12.907 |
| HWY-W07A | 9/30/03 13:00 | 4539.531 | 12.909 |
| HWY-W07A | 9/30/03 14:00 | 4539.531 | 12.909 |
| HWY-W07A | 9/30/03 15:00 | 4539.531 | 12.909 |
| HWY-W07A | 9/30/03 16:00 | 4539.529 | 12.911 |
| HWY-W07A | 9/30/03 17:00 | 4539.527 | 12.913 |
| HWY-W07A | 9/30/03 18:00 | 4539.527 | 12.913 |
| HWY-W07A | 9/30/03 19:00 | 4539.525 | 12.915 |
| HWY-W07A | 9/30/03 20:00 | 4539.525 | 12.915 |
| HWY-W07A | 9/30/03 21:00 | 4539.525 | 12.915 |

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| HWY-W07A | 9/30/03 22:00 | 4539.523 | 12.917 |
| HWY-W07A | 9/30/03 23:00 | 4539.523 | 12.917 |

| LOCID | Date and Time | WATELEV | DTW |
|----------|---------------|----------|--------|
| HWY-W07B | 9/1/03 0:00 | 4539.52 | 12.55 |
| HWY-W07B | 9/1/03 1:00 | 4539.52 | 12.55 |
| HWY-W07B | 9/1/03 2:00 | 4539.518 | 12.552 |
| HWY-W07B | 9/1/03 3:00 | 4539.518 | 12.552 |
| HWY-W07B | 9/1/03 4:00 | 4539.518 | 12.552 |
| HWY-W07B | 9/1/03 5:00 | 4539.518 | 12.552 |
| HWY-W07B | 9/1/03 6:00 | 4539.518 | 12.552 |
| HWY-W07B | 9/1/03 7:00 | 4539.518 | 12.552 |
| HWY-W07B | 9/1/03 8:00 | 4539.518 | 12.552 |
| HWY-W07B | 9/1/03 9:00 | 4539.515 | 12.555 |
| HWY-W07B | 9/1/03 10:00 | 4539.462 | 12.608 |
| HWY-W07B | 9/1/03 11:00 | 4539.462 | 12.608 |
| HWY-W07B | 9/1/03 12:00 | 4539.465 | 12.605 |
| HWY-W07B | 9/1/03 13:00 | 4539.469 | 12.601 |
| HWY-W07B | 9/1/03 14:00 | 4539.473 | 12.597 |
| HWY-W07B | 9/1/03 15:00 | 4539.48 | 12.59 |
| HWY-W07B | 9/1/03 16:00 | 4539.486 | 12.584 |
| HWY-W07B | 9/1/03 17:00 | 4539.491 | 12.579 |
| HWY-W07B | 9/1/03 18:00 | 4539.495 | 12.575 |
| HWY-W07B | 9/1/03 19:00 | 4539.495 | 12.575 |
| HWY-W07B | 9/1/03 20:00 | 4539.499 | 12.571 |
| HWY-W07B | 9/1/03 21:00 | 4539.501 | 12.569 |
| HWY-W07B | 9/1/03 22:00 | 4539.506 | 12.564 |
| HWY-W07B | 9/1/03 23:00 | 4539.508 | 12.562 |
| HWY-W07B | 9/2/03 0:00 | 4539.512 | 12.558 |
| HWY-W07B | 9/2/03 1:00 | 4539.514 | 12.556 |
| HWY-W07B | 9/2/03 2:00 | 4539.519 | 12.551 |
| HWY-W07B | 9/2/03 3:00 | 4539.523 | 12.547 |
| HWY-W07B | 9/2/03 4:00 | 4539.527 | 12.543 |
| HWY-W07B | 9/2/03 5:00 | 4539.532 | 12.538 |
| HWY-W07B | 9/2/03 6:00 | 4539.536 | 12.534 |
| HWY-W07B | 9/2/03 7:00 | 4539.54 | 12.53 |
| HWY-W07B | 9/2/03 8:00 | 4539.547 | 12.523 |
| HWY-W07B | 9/2/03 9:00 | 4539.551 | 12.519 |
| HWY-W07B | 9/2/03 10:00 | 4539.553 | 12.517 |
| HWY-W07B | 9/2/03 11:00 | 4539.555 | 12.515 |
| HWY-W07B | 9/2/03 12:00 | 4539.555 | 12.515 |
| HWY-W07B | 9/2/03 13:00 | 4539.56 | 12.51 |
| HWY-W07B | 9/2/03 14:00 | 4539.564 | 12.506 |
| HWY-W07B | 9/2/03 15:00 | 4539.568 | 12.502 |
| HWY-W07B | 9/2/03 16:00 | 4539.573 | 12.497 |
| HWY-W07B | 9/2/03 17:00 | 4539.581 | 12.489 |
| HWY-W07B | 9/2/03 18:00 | 4539.586 | 12.484 |
| HWY-W07B | 9/2/03 19:00 | 4539.59 | 12.48 |
| HWY-W07B | 9/2/03 20:00 | 4539.594 | 12.476 |

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| HWY-W07B | 9/2/03 21:00 | 4539.599 | 12.471 |
| HWY-W07B | 9/2/03 22:00 | 4539.603 | 12.467 |
| HWY-W07B | 9/2/03 23:00 | 4539.607 | 12.463 |
| HWY-W07B | 9/3/03 0:00 | 4539.612 | 12.458 |
| HWY-W07B | 9/3/03 1:00 | 4539.614 | 12.456 |
| HWY-W07B | 9/3/03 2:00 | 4539.616 | 12.454 |
| HWY-W07B | 9/3/03 3:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 4:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 5:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 6:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 7:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 8:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 9:00 | 4539.616 | 12.454 |
| HWY-W07B | 9/3/03 10:00 | 4539.616 | 12.454 |
| HWY-W07B | 9/3/03 11:00 | 4539.616 | 12.454 |
| HWY-W07B | 9/3/03 12:00 | 4539.616 | 12.454 |
| HWY-W07B | 9/3/03 13:00 | 4539.616 | 12.454 |
| HWY-W07B | 9/3/03 14:00 | 4539.616 | 12.454 |
| HWY-W07B | 9/3/03 15:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 16:00 | 4539.618 | 12.452 |
| HWY-W07B | 9/3/03 17:00 | 4539.62 | 12.45 |
| HWY-W07B | 9/3/03 18:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/3/03 19:00 | 4539.629 | 12.441 |
| HWY-W07B | 9/3/03 20:00 | 4539.636 | 12.434 |
| HWY-W07B | 9/3/03 21:00 | 4539.64 | 12.43 |
| HWY-W07B | 9/3/03 22:00 | 4539.648 | 12.422 |
| HWY-W07B | 9/3/03 23:00 | 4539.657 | 12.413 |
| HWY-W07B | 9/4/03 0:00 | 4539.666 | 12.404 |
| HWY-W07B | 9/4/03 1:00 | 4539.674 | 12.396 |
| HWY-W07B | 9/4/03 2:00 | 4539.683 | 12.387 |
| HWY-W07B | 9/4/03 3:00 | 4539.698 | 12.372 |
| HWY-W07B | 9/4/03 4:00 | 4539.7 | 12.37 |
| HWY-W07B | 9/4/03 5:00 | 4539.709 | 12.361 |
| HWY-W07B | 9/4/03 6:00 | 4539.716 | 12.354 |
| HWY-W07B | 9/4/03 7:00 | 4539.724 | 12.346 |
| HWY-W07B | 9/4/03 8:00 | 4539.731 | 12.339 |
| HWY-W07B | 9/4/03 9:00 | 4539.739 | 12.331 |
| HWY-W07B | 9/4/03 10:00 | 4539.746 | 12.324 |
| HWY-W07B | 9/4/03 11:00 | 4539.752 | 12.318 |
| HWY-W07B | 9/4/03 12:00 | 4539.761 | 12.309 |
| HWY-W07B | 9/4/03 13:00 | 4539.767 | 12.303 |
| HWY-W07B | 9/4/03 14:00 | 4539.776 | 12.294 |
| HWY-W07B | 9/4/03 15:00 | 4539.783 | 12.287 |
| HWY-W07B | 9/4/03 16:00 | 4539.789 | 12.281 |
| HWY-W07B | 9/4/03 17:00 | 4539.796 | 12.274 |
| HWY-W07B | 9/4/03 18:00 | 4539.802 | 12.268 |
| HWY-W07B | 9/4/03 19:00 | 4539.811 | 12.259 |
| HWY-W07B | 9/4/03 20:00 | 4539.817 | 12.253 |
| HWY-W07B | 9/4/03 21:00 | 4539.826 | 12.244 |

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| HWY-W07B | 9/4/03 22:00 | 4539.83 | 12.24 |
| HWY-W07B | 9/4/03 23:00 | 4539.839 | 12.231 |
| HWY-W07B | 9/5/03 0:00 | 4539.845 | 12.225 |
| HWY-W07B | 9/5/03 1:00 | 4539.85 | 12.22 |
| HWY-W07B | 9/5/03 2:00 | 4539.852 | 12.218 |
| HWY-W07B | 9/5/03 3:00 | 4539.856 | 12.214 |
| HWY-W07B | 9/5/03 4:00 | 4539.858 | 12.212 |
| HWY-W07B | 9/5/03 5:00 | 4539.858 | 12.212 |
| HWY-W07B | 9/5/03 6:00 | 4539.856 | 12.214 |
| HWY-W07B | 9/5/03 7:00 | 4539.858 | 12.212 |
| HWY-W07B | 9/5/03 8:00 | 4539.856 | 12.214 |
| HWY-W07B | 9/5/03 9:00 | 4539.856 | 12.214 |
| HWY-W07B | 9/5/03 10:00 | 4539.856 | 12.214 |
| HWY-W07B | 9/5/03 11:00 | 4539.856 | 12.214 |
| HWY-W07B | 9/5/03 12:00 | 4539.854 | 12.216 |
| HWY-W07B | 9/5/03 13:00 | 4539.854 | 12.216 |
| HWY-W07B | 9/5/03 14:00 | 4539.852 | 12.218 |
| HWY-W07B | 9/5/03 15:00 | 4539.847 | 12.223 |
| HWY-W07B | 9/5/03 16:00 | 4539.845 | 12.225 |
| HWY-W07B | 9/5/03 17:00 | 4539.845 | 12.225 |
| HWY-W07B | 9/5/03 18:00 | 4539.841 | 12.229 |
| HWY-W07B | 9/5/03 19:00 | 4539.841 | 12.229 |
| HWY-W07B | 9/5/03 20:00 | 4539.839 | 12.231 |
| HWY-W07B | 9/5/03 21:00 | 4539.837 | 12.233 |
| HWY-W07B | 9/5/03 22:00 | 4539.835 | 12.235 |
| HWY-W07B | 9/5/03 23:00 | 4539.835 | 12.235 |
| HWY-W07B | 9/6/03 0:00 | 4539.832 | 12.238 |
| HWY-W07B | 9/6/03 1:00 | 4539.832 | 12.238 |
| HWY-W07B | 9/6/03 2:00 | 4539.83 | 12.24 |
| HWY-W07B | 9/6/03 3:00 | 4539.828 | 12.242 |
| HWY-W07B | 9/6/03 4:00 | 4539.828 | 12.242 |
| HWY-W07B | 9/6/03 5:00 | 4539.826 | 12.244 |
| HWY-W07B | 9/6/03 6:00 | 4539.822 | 12.248 |
| HWY-W07B | 9/6/03 7:00 | 4539.822 | 12.248 |
| HWY-W07B | 9/6/03 8:00 | 4539.819 | 12.251 |
| HWY-W07B | 9/6/03 9:00 | 4539.817 | 12.253 |
| HWY-W07B | 9/6/03 10:00 | 4539.815 | 12.255 |
| HWY-W07B | 9/6/03 11:00 | 4539.813 | 12.257 |
| HWY-W07B | 9/6/03 12:00 | 4539.809 | 12.261 |
| HWY-W07B | 9/6/03 13:00 | 4539.806 | 12.264 |
| HWY-W07B | 9/6/03 14:00 | 4539.802 | 12.268 |
| HWY-W07B | 9/6/03 15:00 | 4539.8 | 12.27 |
| HWY-W07B | 9/6/03 16:00 | 4539.798 | 12.272 |
| HWY-W07B | 9/6/03 17:00 | 4539.796 | 12.274 |
| HWY-W07B | 9/6/03 18:00 | 4539.794 | 12.276 |
| HWY-W07B | 9/6/03 19:00 | 4539.789 | 12.281 |
| HWY-W07B | 9/6/03 20:00 | 4539.787 | 12.283 |
| HWY-W07B | 9/6/03 21:00 | 4539.785 | 12.285 |
| HWY-W07B | 9/6/03 22:00 | 4539.783 | 12.287 |

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| HWY-W07B | 9/6/03 23:00 | 4539.781 | 12.289 |
| HWY-W07B | 9/7/03 0:00 | 4539.778 | 12.292 |
| HWY-W07B | 9/7/03 1:00 | 4539.776 | 12.294 |
| HWY-W07B | 9/7/03 2:00 | 4539.776 | 12.294 |
| HWY-W07B | 9/7/03 3:00 | 4539.774 | 12.296 |
| HWY-W07B | 9/7/03 4:00 | 4539.774 | 12.296 |
| HWY-W07B | 9/7/03 5:00 | 4539.774 | 12.296 |
| HWY-W07B | 9/7/03 6:00 | 4539.772 | 12.298 |
| HWY-W07B | 9/7/03 7:00 | 4539.772 | 12.298 |
| HWY-W07B | 9/7/03 8:00 | 4539.77 | 12.3 |
| HWY-W07B | 9/7/03 9:00 | 4539.77 | 12.3 |
| HWY-W07B | 9/7/03 10:00 | 4539.768 | 12.302 |
| HWY-W07B | 9/7/03 11:00 | 4539.765 | 12.305 |
| HWY-W07B | 9/7/03 12:00 | 4539.765 | 12.305 |
| HWY-W07B | 9/7/03 13:00 | 4539.763 | 12.307 |
| HWY-W07B | 9/7/03 14:00 | 4539.761 | 12.309 |
| HWY-W07B | 9/7/03 15:00 | 4539.759 | 12.311 |
| HWY-W07B | 9/7/03 16:00 | 4539.759 | 12.311 |
| HWY-W07B | 9/7/03 17:00 | 4539.757 | 12.313 |
| HWY-W07B | 9/7/03 18:00 | 4539.757 | 12.313 |
| HWY-W07B | 9/7/03 19:00 | 4539.755 | 12.315 |
| HWY-W07B | 9/7/03 20:00 | 4539.753 | 12.317 |
| HWY-W07B | 9/7/03 21:00 | 4539.75 | 12.32 |
| HWY-W07B | 9/7/03 22:00 | 4539.748 | 12.322 |
| HWY-W07B | 9/7/03 23:00 | 4539.748 | 12.322 |
| HWY-W07B | 9/8/03 0:00 | 4539.757 | 12.313 |
| HWY-W07B | 9/8/03 1:00 | 4539.748 | 12.322 |
| HWY-W07B | 9/8/03 2:00 | 4539.746 | 12.324 |
| HWY-W07B | 9/8/03 3:00 | 4539.746 | 12.324 |
| HWY-W07B | 9/8/03 4:00 | 4539.746 | 12.324 |
| HWY-W07B | 9/8/03 5:00 | 4539.744 | 12.326 |
| HWY-W07B | 9/8/03 6:00 | 4539.744 | 12.326 |
| HWY-W07B | 9/8/03 7:00 | 4539.746 | 12.324 |
| HWY-W07B | 9/8/03 8:00 | 4539.744 | 12.326 |
| HWY-W07B | 9/8/03 9:00 | 4539.744 | 12.326 |
| HWY-W07B | 9/8/03 10:00 | 4539.744 | 12.326 |
| HWY-W07B | 9/8/03 11:00 | 4539.742 | 12.328 |
| HWY-W07B | 9/8/03 12:00 | 4539.742 | 12.328 |
| HWY-W07B | 9/8/03 13:00 | 4539.742 | 12.328 |
| HWY-W07B | 9/8/03 14:00 | 4539.742 | 12.328 |
| HWY-W07B | 9/8/03 15:00 | 4539.744 | 12.326 |
| HWY-W07B | 9/8/03 16:00 | 4539.746 | 12.324 |
| HWY-W07B | 9/8/03 17:00 | 4539.753 | 12.317 |
| HWY-W07B | 9/8/03 18:00 | 4539.755 | 12.315 |
| HWY-W07B | 9/8/03 19:00 | 4539.759 | 12.311 |
| HWY-W07B | 9/8/03 20:00 | 4539.763 | 12.307 |
| HWY-W07B | 9/8/03 21:00 | 4539.77 | 12.3 |
| HWY-W07B | 9/8/03 22:00 | 4539.779 | 12.291 |
| HWY-W07B | 9/8/03 23:00 | 4539.785 | 12.285 |

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| HWY-W07B | 9/9/03 0:00 | 4539.792 | 12.278 |
| HWY-W07B | 9/9/03 1:00 | 4539.8 | 12.27 |
| HWY-W07B | 9/9/03 2:00 | 4539.807 | 12.263 |
| HWY-W07B | 9/9/03 3:00 | 4539.811 | 12.259 |
| HWY-W07B | 9/9/03 4:00 | 4539.818 | 12.252 |
| HWY-W07B | 9/9/03 5:00 | 4539.824 | 12.246 |
| HWY-W07B | 9/9/03 6:00 | 4539.83 | 12.24 |
| HWY-W07B | 9/9/03 7:00 | 4539.837 | 12.233 |
| HWY-W07B | 9/9/03 8:00 | 4539.843 | 12.227 |
| HWY-W07B | 9/9/03 9:00 | 4539.85 | 12.22 |
| HWY-W07B | 9/9/03 10:00 | 4539.854 | 12.216 |
| HWY-W07B | 9/9/03 11:00 | 4539.859 | 12.211 |
| HWY-W07B | 9/9/03 12:00 | 4539.863 | 12.207 |
| HWY-W07B | 9/9/03 13:00 | 4539.867 | 12.203 |
| HWY-W07B | 9/9/03 14:00 | 4539.869 | 12.201 |
| HWY-W07B | 9/9/03 15:00 | 4539.874 | 12.196 |
| HWY-W07B | 9/9/03 16:00 | 4539.876 | 12.194 |
| HWY-W07B | 9/9/03 17:00 | 4539.878 | 12.192 |
| HWY-W07B | 9/9/03 18:00 | 4539.88 | 12.19 |
| HWY-W07B | 9/9/03 19:00 | 4539.882 | 12.188 |
| HWY-W07B | 9/9/03 20:00 | 4539.884 | 12.186 |
| HWY-W07B | 9/9/03 21:00 | 4539.887 | 12.183 |
| HWY-W07B | 9/9/03 22:00 | 4539.887 | 12.183 |
| HWY-W07B | 9/9/03 23:00 | 4539.891 | 12.179 |
| HWY-W07B | 9/10/03 0:00 | 4539.891 | 12.179 |
| HWY-W07B | 9/10/03 1:00 | 4539.891 | 12.179 |
| HWY-W07B | 9/10/03 2:00 | 4539.893 | 12.177 |
| HWY-W07B | 9/10/03 3:00 | 4539.895 | 12.175 |
| HWY-W07B | 9/10/03 4:00 | 4539.895 | 12.175 |
| HWY-W07B | 9/10/03 5:00 | 4539.898 | 12.172 |
| HWY-W07B | 9/10/03 6:00 | 4539.898 | 12.172 |
| HWY-W07B | 9/10/03 7:00 | 4539.9 | 12.17 |
| HWY-W07B | 9/10/03 8:00 | 4539.9 | 12.17 |
| HWY-W07B | 9/10/03 9:00 | 4539.902 | 12.168 |
| HWY-W07B | 9/10/03 10:00 | 4539.904 | 12.166 |
| HWY-W07B | 9/10/03 11:00 | 4539.906 | 12.164 |
| HWY-W07B | 9/10/03 12:00 | 4539.908 | 12.162 |
| HWY-W07B | 9/10/03 13:00 | 4539.913 | 12.157 |
| HWY-W07B | 9/10/03 14:00 | 4539.913 | 12.157 |
| HWY-W07B | 9/10/03 15:00 | 4539.915 | 12.155 |
| HWY-W07B | 9/10/03 16:00 | 4539.919 | 12.151 |
| HWY-W07B | 9/10/03 17:00 | 4539.919 | 12.151 |
| HWY-W07B | 9/10/03 18:00 | 4539.921 | 12.149 |
| HWY-W07B | 9/10/03 19:00 | 4539.921 | 12.149 |
| HWY-W07B | 9/10/03 20:00 | 4539.924 | 12.146 |
| HWY-W07B | 9/10/03 21:00 | 4539.926 | 12.144 |
| HWY-W07B | 9/10/03 22:00 | 4539.928 | 12.142 |
| HWY-W07B | 9/10/03 23:00 | 4539.93 | 12.14 |
| HWY-W07B | 9/11/03 0:00 | 4539.934 | 12.136 |

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| HWY-W07B | 9/11/03 1:00 | 4539.939 | 12.131 |
| HWY-W07B | 9/11/03 2:00 | 4539.945 | 12.125 |
| HWY-W07B | 9/11/03 3:00 | 4539.947 | 12.123 |
| HWY-W07B | 9/11/03 4:00 | 4539.954 | 12.116 |
| HWY-W07B | 9/11/03 5:00 | 4539.958 | 12.112 |
| HWY-W07B | 9/11/03 6:00 | 4539.962 | 12.108 |
| HWY-W07B | 9/11/03 7:00 | 4539.967 | 12.103 |
| HWY-W07B | 9/11/03 8:00 | 4539.971 | 12.099 |
| HWY-W07B | 9/11/03 9:00 | 4539.978 | 12.092 |
| HWY-W07B | 9/11/03 10:00 | 4539.98 | 12.09 |
| HWY-W07B | 9/11/03 11:00 | 4539.982 | 12.088 |
| HWY-W07B | 9/11/03 12:00 | 4539.984 | 12.086 |
| HWY-W07B | 9/11/03 13:00 | 4539.986 | 12.084 |
| HWY-W07B | 9/11/03 14:00 | 4539.988 | 12.082 |
| HWY-W07B | 9/11/03 15:00 | 4539.993 | 12.077 |
| HWY-W07B | 9/11/03 16:00 | 4539.993 | 12.077 |
| HWY-W07B | 9/11/03 17:00 | 4539.995 | 12.075 |
| HWY-W07B | 9/11/03 18:00 | 4539.999 | 12.071 |
| HWY-W07B | 9/11/03 19:00 | 4539.999 | 12.071 |
| HWY-W07B | 9/11/03 20:00 | 4540.001 | 12.069 |
| HWY-W07B | 9/11/03 21:00 | 4540.004 | 12.066 |
| HWY-W07B | 9/11/03 22:00 | 4540.006 | 12.064 |
| HWY-W07B | 9/11/03 23:00 | 4540.008 | 12.062 |
| HWY-W07B | 9/12/03 0:00 | 4540.012 | 12.058 |
| HWY-W07B | 9/12/03 1:00 | 4540.014 | 12.056 |
| HWY-W07B | 9/12/03 2:00 | 4540.014 | 12.056 |
| HWY-W07B | 9/12/03 3:00 | 4540.017 | 12.053 |
| HWY-W07B | 9/12/03 4:00 | 4540.019 | 12.051 |
| HWY-W07B | 9/12/03 5:00 | 4540.021 | 12.049 |
| HWY-W07B | 9/12/03 6:00 | 4540.021 | 12.049 |
| HWY-W07B | 9/12/03 7:00 | 4540.025 | 12.045 |
| HWY-W07B | 9/12/03 8:00 | 4540.027 | 12.043 |
| HWY-W07B | 9/12/03 9:00 | 4540.032 | 12.038 |
| HWY-W07B | 9/12/03 10:00 | 4540.036 | 12.034 |
| HWY-W07B | 9/12/03 11:00 | 4540.036 | 12.034 |
| HWY-W07B | 9/12/03 12:00 | 4540.038 | 12.032 |
| HWY-W07B | 9/12/03 13:00 | 4540.04 | 12.03 |
| HWY-W07B | 9/12/03 14:00 | 4540.045 | 12.025 |
| HWY-W07B | 9/12/03 15:00 | 4540.047 | 12.023 |
| HWY-W07B | 9/12/03 16:00 | 4540.047 | 12.023 |
| HWY-W07B | 9/12/03 17:00 | 4540.049 | 12.021 |
| HWY-W07B | 9/12/03 18:00 | 4540.051 | 12.019 |
| HWY-W07B | 9/12/03 19:00 | 4540.051 | 12.019 |
| HWY-W07B | 9/12/03 20:00 | 4540.053 | 12.017 |
| HWY-W07B | 9/12/03 21:00 | 4540.056 | 12.014 |
| HWY-W07B | 9/12/03 22:00 | 4540.058 | 12.012 |
| HWY-W07B | 9/12/03 23:00 | 4540.058 | 12.012 |
| HWY-W07B | 9/13/03 0:00 | 4540.06 | 12.01 |
| HWY-W07B | 9/13/03 1:00 | 4540.058 | 12.012 |

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| HWY-W07B | 9/13/03 2:00 | 4540.06 | 12.01 |
| HWY-W07B | 9/13/03 3:00 | 4540.062 | 12.008 |
| HWY-W07B | 9/13/03 4:00 | 4540.064 | 12.006 |
| HWY-W07B | 9/13/03 5:00 | 4540.066 | 12.004 |
| HWY-W07B | 9/13/03 6:00 | 4540.069 | 12.001 |
| HWY-W07B | 9/13/03 7:00 | 4540.071 | 11.999 |
| HWY-W07B | 9/13/03 8:00 | 4540.077 | 11.993 |
| HWY-W07B | 9/13/03 9:00 | 4540.077 | 11.993 |
| HWY-W07B | 9/13/03 10:00 | 4540.082 | 11.988 |
| HWY-W07B | 9/13/03 11:00 | 4540.084 | 11.986 |
| HWY-W07B | 9/13/03 12:00 | 4540.088 | 11.982 |
| HWY-W07B | 9/13/03 13:00 | 4540.092 | 11.978 |
| HWY-W07B | 9/13/03 14:00 | 4540.097 | 11.973 |
| HWY-W07B | 9/13/03 15:00 | 4540.103 | 11.967 |
| HWY-W07B | 9/13/03 16:00 | 4540.114 | 11.956 |
| HWY-W07B | 9/13/03 17:00 | 4540.12 | 11.95 |
| HWY-W07B | 9/13/03 18:00 | 4540.125 | 11.945 |
| HWY-W07B | 9/13/03 19:00 | 4540.131 | 11.939 |
| HWY-W07B | 9/13/03 20:00 | 4540.142 | 11.928 |
| HWY-W07B | 9/13/03 21:00 | 4540.155 | 11.915 |
| HWY-W07B | 9/13/03 22:00 | 4540.172 | 11.898 |
| HWY-W07B | 9/13/03 23:00 | 4540.188 | 11.882 |
| HWY-W07B | 9/14/03 0:00 | 4540.2 | 11.87 |
| HWY-W07B | 9/14/03 1:00 | 4540.209 | 11.861 |
| HWY-W07B | 9/14/03 2:00 | 4540.218 | 11.852 |
| HWY-W07B | 9/14/03 3:00 | 4540.229 | 11.841 |
| HWY-W07B | 9/14/03 4:00 | 4540.239 | 11.831 |
| HWY-W07B | 9/14/03 5:00 | 4540.248 | 11.822 |
| HWY-W07B | 9/14/03 6:00 | 4540.257 | 11.813 |
| HWY-W07B | 9/14/03 7:00 | 4540.263 | 11.807 |
| HWY-W07B | 9/14/03 8:00 | 4540.272 | 11.798 |
| HWY-W07B | 9/14/03 9:00 | 4540.281 | 11.789 |
| HWY-W07B | 9/14/03 10:00 | 4540.287 | 11.783 |
| HWY-W07B | 9/14/03 11:00 | 4540.3 | 11.77 |
| HWY-W07B | 9/14/03 12:00 | 4540.304 | 11.766 |
| HWY-W07B | 9/14/03 13:00 | 4540.311 | 11.759 |
| HWY-W07B | 9/14/03 14:00 | 4540.324 | 11.746 |
| HWY-W07B | 9/14/03 15:00 | 4540.332 | 11.738 |
| HWY-W07B | 9/14/03 16:00 | 4540.343 | 11.727 |
| HWY-W07B | 9/14/03 17:00 | 4540.356 | 11.714 |
| HWY-W07B | 9/14/03 18:00 | 4540.371 | 11.699 |
| HWY-W07B | 9/14/03 19:00 | 4540.387 | 11.683 |
| HWY-W07B | 9/14/03 20:00 | 4540.402 | 11.668 |
| HWY-W07B | 9/14/03 21:00 | 4540.421 | 11.649 |
| HWY-W07B | 9/14/03 22:00 | 4540.462 | 11.608 |
| HWY-W07B | 9/14/03 23:00 | 4540.514 | 11.556 |
| HWY-W07B | 9/15/03 0:00 | 4540.555 | 11.515 |
| HWY-W07B | 9/15/03 1:00 | 4540.618 | 11.452 |
| HWY-W07B | 9/15/03 2:00 | 4540.646 | 11.424 |

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| HWY-W07B | 9/15/03 3:00 | 4540.681 | 11.389 |
| HWY-W07B | 9/15/03 4:00 | 4540.7 | 11.37 |
| HWY-W07B | 9/15/03 5:00 | 4540.713 | 11.357 |
| HWY-W07B | 9/15/03 6:00 | 4540.722 | 11.348 |
| HWY-W07B | 9/15/03 7:00 | 4540.737 | 11.333 |
| HWY-W07B | 9/15/03 8:00 | 4540.744 | 11.326 |
| HWY-W07B | 9/15/03 9:00 | 4540.744 | 11.326 |
| HWY-W07B | 9/15/03 10:00 | 4540.748 | 11.322 |
| HWY-W07B | 9/15/03 11:00 | 4540.761 | 11.309 |
| HWY-W07B | 9/15/03 12:00 | 4540.765 | 11.305 |
| HWY-W07B | 9/15/03 13:00 | 4540.761 | 11.309 |
| HWY-W07B | 9/15/03 14:00 | 4540.757 | 11.313 |
| HWY-W07B | 9/15/03 15:00 | 4540.748 | 11.322 |
| HWY-W07B | 9/15/03 16:00 | 4540.741 | 11.329 |
| HWY-W07B | 9/15/03 17:00 | 4540.733 | 11.337 |
| HWY-W07B | 9/15/03 18:00 | 4540.733 | 11.337 |
| HWY-W07B | 9/15/03 19:00 | 4540.733 | 11.337 |
| HWY-W07B | 9/15/03 20:00 | 4540.733 | 11.337 |
| HWY-W07B | 9/15/03 21:00 | 4540.731 | 11.339 |
| HWY-W07B | 9/15/03 22:00 | 4540.726 | 11.344 |
| HWY-W07B | 9/15/03 23:00 | 4540.72 | 11.35 |
| HWY-W07B | 9/16/03 0:00 | 4540.711 | 11.359 |
| HWY-W07B | 9/16/03 1:00 | 4540.705 | 11.365 |
| HWY-W07B | 9/16/03 2:00 | 4540.7 | 11.37 |
| HWY-W07B | 9/16/03 3:00 | 4540.694 | 11.376 |
| HWY-W07B | 9/16/03 4:00 | 4540.685 | 11.385 |
| HWY-W07B | 9/16/03 5:00 | 4540.681 | 11.389 |
| HWY-W07B | 9/16/03 6:00 | 4540.677 | 11.393 |
| HWY-W07B | 9/16/03 7:00 | 4540.67 | 11.4 |
| HWY-W07B | 9/16/03 8:00 | 4540.666 | 11.404 |
| HWY-W07B | 9/16/03 9:00 | 4540.661 | 11.409 |
| HWY-W07B | 9/16/03 10:00 | 4540.657 | 11.413 |
| HWY-W07B | 9/16/03 11:00 | 4540.651 | 11.419 |
| HWY-W07B | 9/16/03 12:00 | 4540.648 | 11.422 |
| HWY-W07B | 9/16/03 13:00 | 4540.644 | 11.426 |
| HWY-W07B | 9/16/03 14:00 | 4540.64 | 11.43 |
| HWY-W07B | 9/16/03 15:00 | 4540.633 | 11.437 |
| HWY-W07B | 9/16/03 16:00 | 4540.629 | 11.441 |
| HWY-W07B | 9/16/03 17:00 | 4540.625 | 11.445 |
| HWY-W07B | 9/16/03 18:00 | 4540.622 | 11.448 |
| HWY-W07B | 9/16/03 19:00 | 4540.614 | 11.456 |
| HWY-W07B | 9/16/03 20:00 | 4540.609 | 11.461 |
| HWY-W07B | 9/16/03 21:00 | 4540.605 | 11.465 |
| HWY-W07B | 9/16/03 22:00 | 4540.599 | 11.471 |
| HWY-W07B | 9/16/03 23:00 | 4540.592 | 11.478 |
| HWY-W07B | 9/17/03 0:00 | 4540.588 | 11.482 |
| HWY-W07B | 9/17/03 1:00 | 4540.584 | 11.486 |
| HWY-W07B | 9/17/03 2:00 | 4540.579 | 11.491 |
| HWY-W07B | 9/17/03 3:00 | 4540.573 | 11.497 |

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| HWY-W07B | 9/17/03 4:00 | 4540.568 | 11.502 |
| HWY-W07B | 9/17/03 5:00 | 4540.564 | 11.506 |
| HWY-W07B | 9/17/03 6:00 | 4540.56 | 11.51 |
| HWY-W07B | 9/17/03 7:00 | 4540.556 | 11.514 |
| HWY-W07B | 9/17/03 8:00 | 4540.551 | 11.519 |
| HWY-W07B | 9/17/03 9:00 | 4540.547 | 11.523 |
| HWY-W07B | 9/17/03 10:00 | 4540.542 | 11.528 |
| HWY-W07B | 9/17/03 11:00 | 4540.54 | 11.53 |
| HWY-W07B | 9/17/03 12:00 | 4540.534 | 11.536 |
| HWY-W07B | 9/17/03 13:00 | 4540.532 | 11.538 |
| HWY-W07B | 9/17/03 14:00 | 4540.53 | 11.54 |
| HWY-W07B | 9/17/03 15:00 | 4540.525 | 11.545 |
| HWY-W07B | 9/17/03 16:00 | 4540.521 | 11.549 |
| HWY-W07B | 9/17/03 17:00 | 4540.519 | 11.551 |
| HWY-W07B | 9/17/03 18:00 | 4540.512 | 11.558 |
| HWY-W07B | 9/17/03 19:00 | 4540.51 | 11.56 |
| HWY-W07B | 9/17/03 20:00 | 4540.506 | 11.564 |
| HWY-W07B | 9/17/03 21:00 | 4540.501 | 11.569 |
| HWY-W07B | 9/17/03 22:00 | 4540.497 | 11.573 |
| HWY-W07B | 9/17/03 23:00 | 4540.493 | 11.577 |
| HWY-W07B | 9/18/03 0:00 | 4540.491 | 11.579 |
| HWY-W07B | 9/18/03 1:00 | 4540.489 | 11.581 |
| HWY-W07B | 9/18/03 2:00 | 4540.484 | 11.586 |
| HWY-W07B | 9/18/03 3:00 | 4540.48 | 11.59 |
| HWY-W07B | 9/18/03 4:00 | 4540.478 | 11.592 |
| HWY-W07B | 9/18/03 5:00 | 4540.473 | 11.597 |
| HWY-W07B | 9/18/03 6:00 | 4540.469 | 11.601 |
| HWY-W07B | 9/18/03 7:00 | 4540.465 | 11.605 |
| HWY-W07B | 9/18/03 8:00 | 4540.463 | 11.607 |
| HWY-W07B | 9/18/03 9:00 | 4540.456 | 11.614 |
| HWY-W07B | 9/18/03 10:00 | 4540.454 | 11.616 |
| HWY-W07B | 9/18/03 11:00 | 4540.45 | 11.62 |
| HWY-W07B | 9/18/03 12:00 | 4540.443 | 11.627 |
| HWY-W07B | 9/18/03 13:00 | 4540.441 | 11.629 |
| HWY-W07B | 9/18/03 14:00 | 4540.437 | 11.633 |
| HWY-W07B | 9/18/03 15:00 | 4540.43 | 11.64 |
| HWY-W07B | 9/18/03 16:00 | 4540.428 | 11.642 |
| HWY-W07B | 9/18/03 17:00 | 4540.422 | 11.648 |
| HWY-W07B | 9/18/03 18:00 | 4540.417 | 11.653 |
| HWY-W07B | 9/18/03 19:00 | 4540.411 | 11.659 |
| HWY-W07B | 9/18/03 20:00 | 4540.406 | 11.664 |
| HWY-W07B | 9/18/03 21:00 | 4540.4 | 11.67 |
| HWY-W07B | 9/18/03 22:00 | 4540.393 | 11.677 |
| HWY-W07B | 9/18/03 23:00 | 4540.389 | 11.681 |
| HWY-W07B | 9/19/03 0:00 | 4540.383 | 11.687 |
| HWY-W07B | 9/19/03 1:00 | 4540.378 | 11.692 |
| HWY-W07B | 9/19/03 2:00 | 4540.372 | 11.698 |
| HWY-W07B | 9/19/03 3:00 | 4540.37 | 11.7 |
| HWY-W07B | 9/19/03 4:00 | 4540.363 | 11.707 |

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| HWY-W07B | 9/19/03 5:00 | 4540.359 | 11.711 |
| HWY-W07B | 9/19/03 6:00 | 4540.355 | 11.715 |
| HWY-W07B | 9/19/03 7:00 | 4540.35 | 11.72 |
| HWY-W07B | 9/19/03 8:00 | 4540.346 | 11.724 |
| HWY-W07B | 9/19/03 9:00 | 4540.339 | 11.731 |
| HWY-W07B | 9/19/03 10:00 | 4540.335 | 11.735 |
| HWY-W07B | 9/19/03 11:00 | 4540.331 | 11.739 |
| HWY-W07B | 9/19/03 12:00 | 4540.327 | 11.743 |
| HWY-W07B | 9/19/03 13:00 | 4540.32 | 11.75 |
| HWY-W07B | 9/19/03 14:00 | 4540.314 | 11.756 |
| HWY-W07B | 9/19/03 15:00 | 4540.309 | 11.761 |
| HWY-W07B | 9/19/03 16:00 | 4540.305 | 11.765 |
| HWY-W07B | 9/19/03 17:00 | 4540.298 | 11.772 |
| HWY-W07B | 9/19/03 18:00 | 4540.292 | 11.778 |
| HWY-W07B | 9/19/03 19:00 | 4540.288 | 11.782 |
| HWY-W07B | 9/19/03 20:00 | 4540.281 | 11.789 |
| HWY-W07B | 9/19/03 21:00 | 4540.277 | 11.793 |
| HWY-W07B | 9/19/03 22:00 | 4540.273 | 11.797 |
| HWY-W07B | 9/19/03 23:00 | 4540.268 | 11.802 |
| HWY-W07B | 9/20/03 0:00 | 4540.264 | 11.806 |
| HWY-W07B | 9/20/03 1:00 | 4540.26 | 11.81 |
| HWY-W07B | 9/20/03 2:00 | 4540.255 | 11.815 |
| HWY-W07B | 9/20/03 3:00 | 4540.251 | 11.819 |
| HWY-W07B | 9/20/03 4:00 | 4540.244 | 11.826 |
| HWY-W07B | 9/20/03 5:00 | 4540.24 | 11.83 |
| HWY-W07B | 9/20/03 6:00 | 4540.236 | 11.834 |
| HWY-W07B | 9/20/03 7:00 | 4540.231 | 11.839 |
| HWY-W07B | 9/20/03 8:00 | 4540.227 | 11.843 |
| HWY-W07B | 9/20/03 9:00 | 4540.223 | 11.847 |
| HWY-W07B | 9/20/03 10:00 | 4540.216 | 11.854 |
| HWY-W07B | 9/20/03 11:00 | 4540.212 | 11.858 |
| HWY-W07B | 9/20/03 12:00 | 4540.208 | 11.862 |
| HWY-W07B | 9/20/03 13:00 | 4540.203 | 11.867 |
| HWY-W07B | 9/20/03 14:00 | 4540.197 | 11.873 |
| HWY-W07B | 9/20/03 15:00 | 4540.19 | 11.88 |
| HWY-W07B | 9/20/03 16:00 | 4540.186 | 11.884 |
| HWY-W07B | 9/20/03 17:00 | 4540.182 | 11.888 |
| HWY-W07B | 9/20/03 18:00 | 4540.177 | 11.893 |
| HWY-W07B | 9/20/03 19:00 | 4540.169 | 11.901 |
| HWY-W07B | 9/20/03 20:00 | 4540.167 | 11.903 |
| HWY-W07B | 9/20/03 21:00 | 4540.162 | 11.908 |
| HWY-W07B | 9/20/03 22:00 | 4540.158 | 11.912 |
| HWY-W07B | 9/20/03 23:00 | 4540.154 | 11.916 |
| HWY-W07B | 9/21/03 0:00 | 4540.152 | 11.918 |
| HWY-W07B | 9/21/03 1:00 | 4540.147 | 11.923 |
| HWY-W07B | 9/21/03 2:00 | 4540.143 | 11.927 |
| HWY-W07B | 9/21/03 3:00 | 4540.139 | 11.931 |
| HWY-W07B | 9/21/03 4:00 | 4540.136 | 11.934 |
| HWY-W07B | 9/21/03 5:00 | 4540.132 | 11.938 |

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| HWY-W07B | 9/21/03 6:00 | 4540.128 | 11.942 |
| HWY-W07B | 9/21/03 7:00 | 4540.123 | 11.947 |
| HWY-W07B | 9/21/03 8:00 | 4540.121 | 11.949 |
| HWY-W07B | 9/21/03 9:00 | 4540.117 | 11.953 |
| HWY-W07B | 9/21/03 10:00 | 4540.115 | 11.955 |
| HWY-W07B | 9/21/03 11:00 | 4540.111 | 11.959 |
| HWY-W07B | 9/21/03 12:00 | 4540.108 | 11.962 |
| HWY-W07B | 9/21/03 13:00 | 4540.104 | 11.966 |
| HWY-W07B | 9/21/03 14:00 | 4540.102 | 11.968 |
| HWY-W07B | 9/21/03 15:00 | 4540.098 | 11.972 |
| HWY-W07B | 9/21/03 16:00 | 4540.093 | 11.977 |
| HWY-W07B | 9/21/03 17:00 | 4540.089 | 11.981 |
| HWY-W07B | 9/21/03 18:00 | 4540.085 | 11.985 |
| HWY-W07B | 9/21/03 19:00 | 4540.083 | 11.987 |
| HWY-W07B | 9/21/03 20:00 | 4540.078 | 11.992 |
| HWY-W07B | 9/21/03 21:00 | 4540.076 | 11.994 |
| HWY-W07B | 9/21/03 22:00 | 4540.074 | 11.996 |
| HWY-W07B | 9/21/03 23:00 | 4540.07 | 12 |
| HWY-W07B | 9/22/03 0:00 | 4540.07 | 12 |
| HWY-W07B | 9/22/03 1:00 | 4540.065 | 12.005 |
| HWY-W07B | 9/22/03 2:00 | 4540.063 | 12.007 |
| HWY-W07B | 9/22/03 3:00 | 4540.061 | 12.009 |
| HWY-W07B | 9/22/03 4:00 | 4540.059 | 12.011 |
| HWY-W07B | 9/22/03 5:00 | 4540.054 | 12.016 |
| HWY-W07B | 9/22/03 6:00 | 4540.052 | 12.018 |
| HWY-W07B | 9/22/03 7:00 | 4540.048 | 12.022 |
| HWY-W07B | 9/22/03 8:00 | 4540.046 | 12.024 |
| HWY-W07B | 9/22/03 9:00 | 4540.044 | 12.026 |
| HWY-W07B | 9/22/03 10:00 | 4540.039 | 12.031 |
| HWY-W07B | 9/22/03 11:00 | 4540.037 | 12.033 |
| HWY-W07B | 9/22/03 12:00 | 4540.035 | 12.035 |
| HWY-W07B | 9/22/03 13:00 | 4540.031 | 12.039 |
| HWY-W07B | 9/22/03 14:00 | 4540.028 | 12.042 |
| HWY-W07B | 9/22/03 15:00 | 4540.024 | 12.046 |
| HWY-W07B | 9/22/03 16:00 | 4540.02 | 12.05 |
| HWY-W07B | 9/22/03 17:00 | 4540.018 | 12.052 |
| HWY-W07B | 9/22/03 18:00 | 4540.013 | 12.057 |
| HWY-W07B | 9/22/03 19:00 | 4540.011 | 12.059 |
| HWY-W07B | 9/22/03 20:00 | 4540.007 | 12.063 |
| HWY-W07B | 9/22/03 21:00 | 4540.005 | 12.065 |
| HWY-W07B | 9/22/03 22:00 | 4540.003 | 12.067 |
| HWY-W07B | 9/22/03 23:00 | 4540 | 12.07 |
| HWY-W07B | 9/23/03 0:00 | 4539.996 | 12.074 |
| HWY-W07B | 9/23/03 1:00 | 4539.996 | 12.074 |
| HWY-W07B | 9/23/03 2:00 | 4539.992 | 12.078 |
| HWY-W07B | 9/23/03 3:00 | 4539.99 | 12.08 |
| HWY-W07B | 9/23/03 4:00 | 4539.987 | 12.083 |
| HWY-W07B | 9/23/03 5:00 | 4539.983 | 12.087 |
| HWY-W07B | 9/23/03 6:00 | 4539.981 | 12.089 |

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| HWY-W07B | 9/23/03 7:00 | 4539.979 | 12.091 |
| HWY-W07B | 9/23/03 8:00 | 4539.975 | 12.095 |
| HWY-W07B | 9/23/03 9:00 | 4539.97 | 12.1 |
| HWY-W07B | 9/23/03 10:00 | 4539.968 | 12.102 |
| HWY-W07B | 9/23/03 11:00 | 4539.964 | 12.106 |
| HWY-W07B | 9/23/03 12:00 | 4539.962 | 12.108 |
| HWY-W07B | 9/23/03 13:00 | 4539.959 | 12.111 |
| HWY-W07B | 9/23/03 14:00 | 4539.957 | 12.113 |
| HWY-W07B | 9/23/03 15:00 | 4539.953 | 12.117 |
| HWY-W07B | 9/23/03 16:00 | 4539.949 | 12.121 |
| HWY-W07B | 9/23/03 17:00 | 4539.946 | 12.124 |
| HWY-W07B | 9/23/03 18:00 | 4539.942 | 12.128 |
| HWY-W07B | 9/23/03 19:00 | 4539.938 | 12.132 |
| HWY-W07B | 9/23/03 20:00 | 4539.936 | 12.134 |
| HWY-W07B | 9/23/03 21:00 | 4539.931 | 12.139 |
| HWY-W07B | 9/23/03 22:00 | 4539.931 | 12.139 |
| HWY-W07B | 9/23/03 23:00 | 4539.929 | 12.141 |
| HWY-W07B | 9/24/03 0:00 | 4539.925 | 12.145 |
| HWY-W07B | 9/24/03 1:00 | 4539.925 | 12.145 |
| HWY-W07B | 9/24/03 2:00 | 4539.923 | 12.147 |
| HWY-W07B | 9/24/03 3:00 | 4539.918 | 12.152 |
| HWY-W07B | 9/24/03 4:00 | 4539.916 | 12.154 |
| HWY-W07B | 9/24/03 5:00 | 4539.914 | 12.156 |
| HWY-W07B | 9/24/03 6:00 | 4539.912 | 12.158 |
| HWY-W07B | 9/24/03 7:00 | 4539.908 | 12.162 |
| HWY-W07B | 9/24/03 8:00 | 4539.905 | 12.165 |
| HWY-W07B | 9/24/03 9:00 | 4539.901 | 12.169 |
| HWY-W07B | 9/24/03 10:00 | 4539.899 | 12.171 |
| HWY-W07B | 9/24/03 11:00 | 4539.895 | 12.175 |
| HWY-W07B | 9/24/03 12:00 | 4539.892 | 12.178 |
| HWY-W07B | 9/24/03 13:00 | 4539.89 | 12.18 |
| HWY-W07B | 9/24/03 14:00 | 4539.886 | 12.184 |
| HWY-W07B | 9/24/03 15:00 | 4539.882 | 12.188 |
| HWY-W07B | 9/24/03 16:00 | 4539.879 | 12.191 |
| HWY-W07B | 9/24/03 17:00 | 4539.877 | 12.193 |
| HWY-W07B | 9/24/03 18:00 | 4539.873 | 12.197 |
| HWY-W07B | 9/24/03 19:00 | 4539.871 | 12.199 |
| HWY-W07B | 9/24/03 20:00 | 4539.867 | 12.203 |
| HWY-W07B | 9/24/03 21:00 | 4539.864 | 12.206 |
| HWY-W07B | 9/24/03 22:00 | 4539.86 | 12.21 |
| HWY-W07B | 9/24/03 23:00 | 4539.86 | 12.21 |
| HWY-W07B | 9/25/03 0:00 | 4539.858 | 12.212 |
| HWY-W07B | 9/25/03 1:00 | 4539.854 | 12.216 |
| HWY-W07B | 9/25/03 2:00 | 4539.854 | 12.216 |
| HWY-W07B | 9/25/03 3:00 | 4539.851 | 12.219 |
| HWY-W07B | 9/25/03 4:00 | 4539.849 | 12.221 |
| HWY-W07B | 9/25/03 5:00 | 4539.847 | 12.223 |
| HWY-W07B | 9/25/03 6:00 | 4539.845 | 12.225 |
| HWY-W07B | 9/25/03 7:00 | 4539.843 | 12.227 |

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| HWY-W07B | 9/25/03 8:00 | 4539.843 | 12.227 |
| HWY-W07B | 9/25/03 9:00 | 4539.838 | 12.232 |
| HWY-W07B | 9/25/03 10:00 | 4539.836 | 12.234 |
| HWY-W07B | 9/25/03 11:00 | 4539.834 | 12.236 |
| HWY-W07B | 9/25/03 12:00 | 4539.834 | 12.236 |
| HWY-W07B | 9/25/03 13:00 | 4539.83 | 12.24 |
| HWY-W07B | 9/25/03 14:00 | 4539.83 | 12.24 |
| HWY-W07B | 9/25/03 15:00 | 4539.828 | 12.242 |
| HWY-W07B | 9/25/03 16:00 | 4539.826 | 12.244 |
| HWY-W07B | 9/25/03 17:00 | 4539.821 | 12.249 |
| HWY-W07B | 9/25/03 18:00 | 4539.821 | 12.249 |
| HWY-W07B | 9/25/03 19:00 | 4539.819 | 12.251 |
| HWY-W07B | 9/25/03 20:00 | 4539.815 | 12.255 |
| HWY-W07B | 9/25/03 21:00 | 4539.815 | 12.255 |
| HWY-W07B | 9/25/03 22:00 | 4539.813 | 12.257 |
| HWY-W07B | 9/25/03 23:00 | 4539.81 | 12.26 |
| HWY-W07B | 9/26/03 0:00 | 4539.81 | 12.26 |
| HWY-W07B | 9/26/03 1:00 | 4539.808 | 12.262 |
| HWY-W07B | 9/26/03 2:00 | 4539.806 | 12.264 |
| HWY-W07B | 9/26/03 3:00 | 4539.804 | 12.266 |
| HWY-W07B | 9/26/03 4:00 | 4539.802 | 12.268 |
| HWY-W07B | 9/26/03 5:00 | 4539.8 | 12.27 |
| HWY-W07B | 9/26/03 6:00 | 4539.8 | 12.27 |
| HWY-W07B | 9/26/03 7:00 | 4539.795 | 12.275 |
| HWY-W07B | 9/26/03 8:00 | 4539.793 | 12.277 |
| HWY-W07B | 9/26/03 9:00 | 4539.791 | 12.279 |
| HWY-W07B | 9/26/03 10:00 | 4539.787 | 12.283 |
| HWY-W07B | 9/26/03 11:00 | 4539.784 | 12.286 |
| HWY-W07B | 9/26/03 12:00 | 4539.78 | 12.29 |
| HWY-W07B | 9/26/03 13:00 | 4539.778 | 12.292 |
| HWY-W07B | 9/26/03 14:00 | 4539.776 | 12.294 |
| HWY-W07B | 9/26/03 15:00 | 4539.774 | 12.296 |
| HWY-W07B | 9/26/03 16:00 | 4539.769 | 12.301 |
| HWY-W07B | 9/26/03 17:00 | 4539.767 | 12.303 |
| HWY-W07B | 9/26/03 18:00 | 4539.763 | 12.307 |
| HWY-W07B | 9/26/03 19:00 | 4539.759 | 12.311 |
| HWY-W07B | 9/26/03 20:00 | 4539.754 | 12.316 |
| HWY-W07B | 9/26/03 21:00 | 4539.752 | 12.318 |
| HWY-W07B | 9/26/03 22:00 | 4539.75 | 12.32 |
| HWY-W07B | 9/26/03 23:00 | 4539.748 | 12.322 |
| HWY-W07B | 9/27/03 0:00 | 4539.746 | 12.324 |
| HWY-W07B | 9/27/03 1:00 | 4539.743 | 12.327 |
| HWY-W07B | 9/27/03 2:00 | 4539.741 | 12.329 |
| HWY-W07B | 9/27/03 3:00 | 4539.739 | 12.331 |
| HWY-W07B | 9/27/03 4:00 | 4539.737 | 12.333 |
| HWY-W07B | 9/27/03 5:00 | 4539.735 | 12.335 |
| HWY-W07B | 9/27/03 6:00 | 4539.733 | 12.337 |
| HWY-W07B | 9/27/03 7:00 | 4539.733 | 12.337 |
| HWY-W07B | 9/27/03 8:00 | 4539.728 | 12.342 |

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| HWY-W07B | 9/27/03 9:00 | 4539.726 | 12.344 |
| HWY-W07B | 9/27/03 10:00 | 4539.731 | 12.339 |
| HWY-W07B | 9/27/03 11:00 | 4539.72 | 12.35 |
| HWY-W07B | 9/27/03 12:00 | 4539.718 | 12.352 |
| HWY-W07B | 9/27/03 13:00 | 4539.713 | 12.357 |
| HWY-W07B | 9/27/03 14:00 | 4539.711 | 12.359 |
| HWY-W07B | 9/27/03 15:00 | 4539.707 | 12.363 |
| HWY-W07B | 9/27/03 16:00 | 4539.707 | 12.363 |
| HWY-W07B | 9/27/03 17:00 | 4539.705 | 12.365 |
| HWY-W07B | 9/27/03 18:00 | 4539.7 | 12.37 |
| HWY-W07B | 9/27/03 19:00 | 4539.698 | 12.372 |
| HWY-W07B | 9/27/03 20:00 | 4539.696 | 12.374 |
| HWY-W07B | 9/27/03 21:00 | 4539.692 | 12.378 |
| HWY-W07B | 9/27/03 22:00 | 4539.689 | 12.381 |
| HWY-W07B | 9/27/03 23:00 | 4539.687 | 12.383 |
| HWY-W07B | 9/28/03 0:00 | 4539.685 | 12.385 |
| HWY-W07B | 9/28/03 1:00 | 4539.683 | 12.387 |
| HWY-W07B | 9/28/03 2:00 | 4539.679 | 12.391 |
| HWY-W07B | 9/28/03 3:00 | 4539.676 | 12.394 |
| HWY-W07B | 9/28/03 4:00 | 4539.674 | 12.396 |
| HWY-W07B | 9/28/03 5:00 | 4539.672 | 12.398 |
| HWY-W07B | 9/28/03 6:00 | 4539.67 | 12.4 |
| HWY-W07B | 9/28/03 7:00 | 4539.668 | 12.402 |
| HWY-W07B | 9/28/03 8:00 | 4539.666 | 12.404 |
| HWY-W07B | 9/28/03 9:00 | 4539.664 | 12.406 |
| HWY-W07B | 9/28/03 10:00 | 4539.659 | 12.411 |
| HWY-W07B | 9/28/03 11:00 | 4539.657 | 12.413 |
| HWY-W07B | 9/28/03 12:00 | 4539.655 | 12.415 |
| HWY-W07B | 9/28/03 13:00 | 4539.651 | 12.419 |
| HWY-W07B | 9/28/03 14:00 | 4539.648 | 12.422 |
| HWY-W07B | 9/28/03 15:00 | 4539.646 | 12.424 |
| HWY-W07B | 9/28/03 16:00 | 4539.642 | 12.428 |
| HWY-W07B | 9/28/03 17:00 | 4539.64 | 12.43 |
| HWY-W07B | 9/28/03 18:00 | 4539.635 | 12.435 |
| HWY-W07B | 9/28/03 19:00 | 4539.633 | 12.437 |
| HWY-W07B | 9/28/03 20:00 | 4539.631 | 12.439 |
| HWY-W07B | 9/28/03 21:00 | 4539.631 | 12.439 |
| HWY-W07B | 9/28/03 22:00 | 4539.629 | 12.441 |
| HWY-W07B | 9/28/03 23:00 | 4539.629 | 12.441 |
| HWY-W07B | 9/29/03 0:00 | 4539.627 | 12.443 |
| HWY-W07B | 9/29/03 1:00 | 4539.627 | 12.443 |
| HWY-W07B | 9/29/03 2:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 3:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 4:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 5:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 6:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 7:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 8:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 9:00 | 4539.625 | 12.445 |

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| HWY-W07B | 9/29/03 10:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 11:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 12:00 | 4539.625 | 12.445 |
| HWY-W07B | 9/29/03 13:00 | 4539.627 | 12.443 |
| HWY-W07B | 9/29/03 14:00 | 4539.627 | 12.443 |
| HWY-W07B | 9/29/03 15:00 | 4539.629 | 12.441 |
| HWY-W07B | 9/29/03 16:00 | 4539.629 | 12.441 |
| HWY-W07B | 9/29/03 17:00 | 4539.633 | 12.437 |
| HWY-W07B | 9/29/03 18:00 | 4539.633 | 12.437 |
| HWY-W07B | 9/29/03 19:00 | 4539.633 | 12.437 |
| HWY-W07B | 9/29/03 20:00 | 4539.636 | 12.434 |
| HWY-W07B | 9/29/03 21:00 | 4539.638 | 12.432 |
| HWY-W07B | 9/29/03 22:00 | 4539.64 | 12.43 |
| HWY-W07B | 9/29/03 23:00 | 4539.642 | 12.428 |
| HWY-W07B | 9/30/03 0:00 | 4539.644 | 12.426 |
| HWY-W07B | 9/30/03 1:00 | 4539.644 | 12.426 |
| HWY-W07B | 9/30/03 2:00 | 4539.646 | 12.424 |
| HWY-W07B | 9/30/03 3:00 | 4539.646 | 12.424 |
| HWY-W07B | 9/30/03 4:00 | 4539.648 | 12.422 |
| HWY-W07B | 9/30/03 5:00 | 4539.648 | 12.422 |
| HWY-W07B | 9/30/03 6:00 | 4539.649 | 12.421 |
| HWY-W07B | 9/30/03 7:00 | 4539.651 | 12.419 |
| HWY-W07B | 9/30/03 8:00 | 4539.651 | 12.419 |
| HWY-W07B | 9/30/03 9:00 | 4539.651 | 12.419 |
| HWY-W07B | 9/30/03 10:00 | 4539.651 | 12.419 |
| HWY-W07B | 9/30/03 11:00 | 4539.651 | 12.419 |
| HWY-W07B | 9/30/03 12:00 | 4539.646 | 12.424 |
| HWY-W07B | 9/30/03 13:00 | 4539.646 | 12.424 |
| HWY-W07B | 9/30/03 14:00 | 4539.644 | 12.426 |
| HWY-W07B | 9/30/03 15:00 | 4539.642 | 12.428 |
| HWY-W07B | 9/30/03 16:00 | 4539.642 | 12.428 |
| HWY-W07B | 9/30/03 17:00 | 4539.64 | 12.43 |
| HWY-W07B | 9/30/03 18:00 | 4539.638 | 12.432 |
| HWY-W07B | 9/30/03 19:00 | 4539.638 | 12.432 |
| HWY-W07B | 9/30/03 20:00 | 4539.636 | 12.434 |
| HWY-W07B | 9/30/03 21:00 | 4539.636 | 12.434 |
| HWY-W07B | 9/30/03 22:00 | 4539.633 | 12.437 |
| HWY-W07B | 9/30/03 23:00 | 4539.633 | 12.437 |

| LOCID | Date and Time | WATELEV | DTW |
|----------|---------------|----------|--------|
| HWY-W07C | 9/1/03 0:00 | 4539.567 | 12.243 |
| HWY-W07C | 9/1/03 1:00 | 4539.567 | 12.243 |
| HWY-W07C | 9/1/03 2:00 | 4539.565 | 12.245 |
| HWY-W07C | 9/1/03 3:00 | 4539.565 | 12.245 |
| HWY-W07C | 9/1/03 4:00 | 4539.565 | 12.245 |
| HWY-W07C | 9/1/03 5:00 | 4539.565 | 12.245 |
| HWY-W07C | 9/1/03 6:00 | 4539.565 | 12.245 |
| HWY-W07C | 9/1/03 7:00 | 4539.565 | 12.245 |
| HWY-W07C | 9/1/03 8:00 | 4539.565 | 12.245 |

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| HWY-W07C | 9/1/03 9:00 | 4539.563 | 12.247 |
| HWY-W07C | 9/1/03 11:00 | 4539.55 | 12.26 |
| HWY-W07C | 9/1/03 12:00 | 4539.552 | 12.258 |
| HWY-W07C | 9/1/03 13:00 | 4539.556 | 12.254 |
| HWY-W07C | 9/1/03 14:00 | 4539.562 | 12.248 |
| HWY-W07C | 9/1/03 15:00 | 4539.571 | 12.239 |
| HWY-W07C | 9/1/03 16:00 | 4539.577 | 12.233 |
| HWY-W07C | 9/1/03 17:00 | 4539.582 | 12.228 |
| HWY-W07C | 9/1/03 18:00 | 4539.586 | 12.224 |
| HWY-W07C | 9/1/03 19:00 | 4539.588 | 12.222 |
| HWY-W07C | 9/1/03 20:00 | 4539.592 | 12.218 |
| HWY-W07C | 9/1/03 21:00 | 4539.594 | 12.216 |
| HWY-W07C | 9/1/03 22:00 | 4539.599 | 12.211 |
| HWY-W07C | 9/1/03 23:00 | 4539.603 | 12.207 |
| HWY-W07C | 9/2/03 0:00 | 4539.607 | 12.203 |
| HWY-W07C | 9/2/03 1:00 | 4539.609 | 12.201 |
| HWY-W07C | 9/2/03 2:00 | 4539.614 | 12.196 |
| HWY-W07C | 9/2/03 3:00 | 4539.618 | 12.192 |
| HWY-W07C | 9/2/03 4:00 | 4539.622 | 12.188 |
| HWY-W07C | 9/2/03 5:00 | 4539.627 | 12.183 |
| HWY-W07C | 9/2/03 6:00 | 4539.633 | 12.177 |
| HWY-W07C | 9/2/03 7:00 | 4539.637 | 12.173 |
| HWY-W07C | 9/2/03 8:00 | 4539.644 | 12.166 |
| HWY-W07C | 9/2/03 9:00 | 4539.648 | 12.162 |
| HWY-W07C | 9/2/03 10:00 | 4539.648 | 12.162 |
| HWY-W07C | 9/2/03 11:00 | 4539.652 | 12.158 |
| HWY-W07C | 9/2/03 12:00 | 4539.652 | 12.158 |
| HWY-W07C | 9/2/03 13:00 | 4539.655 | 12.155 |
| HWY-W07C | 9/2/03 14:00 | 4539.661 | 12.149 |
| HWY-W07C | 9/2/03 15:00 | 4539.665 | 12.145 |
| HWY-W07C | 9/2/03 16:00 | 4539.672 | 12.138 |
| HWY-W07C | 9/2/03 17:00 | 4539.678 | 12.132 |
| HWY-W07C | 9/2/03 18:00 | 4539.682 | 12.128 |
| HWY-W07C | 9/2/03 19:00 | 4539.689 | 12.121 |
| HWY-W07C | 9/2/03 20:00 | 4539.693 | 12.117 |
| HWY-W07C | 9/2/03 21:00 | 4539.697 | 12.113 |
| HWY-W07C | 9/2/03 22:00 | 4539.701 | 12.109 |
| HWY-W07C | 9/2/03 23:00 | 4539.704 | 12.106 |
| HWY-W07C | 9/3/03 0:00 | 4539.706 | 12.104 |
| HWY-W07C | 9/3/03 1:00 | 4539.712 | 12.098 |
| HWY-W07C | 9/3/03 2:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/3/03 3:00 | 4539.714 | 12.096 |
| HWY-W07C | 9/3/03 4:00 | 4539.712 | 12.098 |
| HWY-W07C | 9/3/03 5:00 | 4539.712 | 12.098 |
| HWY-W07C | 9/3/03 6:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/3/03 7:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/3/03 8:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/3/03 9:00 | 4539.708 | 12.102 |
| HWY-W07C | 9/3/03 10:00 | 4539.706 | 12.104 |

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| HWY-W07C | 9/3/03 11:00 | 4539.706 | 12.104 |
| HWY-W07C | 9/3/03 12:00 | 4539.706 | 12.104 |
| HWY-W07C | 9/3/03 13:00 | 4539.708 | 12.102 |
| HWY-W07C | 9/3/03 14:00 | 4539.706 | 12.104 |
| HWY-W07C | 9/3/03 15:00 | 4539.708 | 12.102 |
| HWY-W07C | 9/3/03 16:00 | 4539.708 | 12.102 |
| HWY-W07C | 9/3/03 17:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/3/03 18:00 | 4539.712 | 12.098 |
| HWY-W07C | 9/3/03 19:00 | 4539.719 | 12.091 |
| HWY-W07C | 9/3/03 20:00 | 4539.723 | 12.087 |
| HWY-W07C | 9/3/03 21:00 | 4539.736 | 12.074 |
| HWY-W07C | 9/3/03 22:00 | 4539.736 | 12.074 |
| HWY-W07C | 9/3/03 23:00 | 4539.747 | 12.063 |
| HWY-W07C | 9/4/03 0:00 | 4539.755 | 12.055 |
| HWY-W07C | 9/4/03 1:00 | 4539.764 | 12.046 |
| HWY-W07C | 9/4/03 2:00 | 4539.772 | 12.038 |
| HWY-W07C | 9/4/03 3:00 | 4539.781 | 12.029 |
| HWY-W07C | 9/4/03 4:00 | 4539.789 | 12.021 |
| HWY-W07C | 9/4/03 5:00 | 4539.798 | 12.012 |
| HWY-W07C | 9/4/03 6:00 | 4539.804 | 12.006 |
| HWY-W07C | 9/4/03 7:00 | 4539.813 | 11.997 |
| HWY-W07C | 9/4/03 8:00 | 4539.819 | 11.991 |
| HWY-W07C | 9/4/03 9:00 | 4539.828 | 11.982 |
| HWY-W07C | 9/4/03 10:00 | 4539.834 | 11.976 |
| HWY-W07C | 9/4/03 11:00 | 4539.84 | 11.97 |
| HWY-W07C | 9/4/03 12:00 | 4539.847 | 11.963 |
| HWY-W07C | 9/4/03 13:00 | 4539.854 | 11.956 |
| HWY-W07C | 9/4/03 14:00 | 4539.862 | 11.948 |
| HWY-W07C | 9/4/03 15:00 | 4539.871 | 11.939 |
| HWY-W07C | 9/4/03 16:00 | 4539.877 | 11.933 |
| HWY-W07C | 9/4/03 17:00 | 4539.883 | 11.927 |
| HWY-W07C | 9/4/03 18:00 | 4539.89 | 11.92 |
| HWY-W07C | 9/4/03 19:00 | 4539.898 | 11.912 |
| HWY-W07C | 9/4/03 20:00 | 4539.905 | 11.905 |
| HWY-W07C | 9/4/03 21:00 | 4539.913 | 11.897 |
| HWY-W07C | 9/4/03 22:00 | 4539.918 | 11.892 |
| HWY-W07C | 9/4/03 23:00 | 4539.926 | 11.884 |
| HWY-W07C | 9/5/03 0:00 | 4539.933 | 11.877 |
| HWY-W07C | 9/5/03 1:00 | 4539.937 | 11.873 |
| HWY-W07C | 9/5/03 2:00 | 4539.939 | 11.871 |
| HWY-W07C | 9/5/03 3:00 | 4539.941 | 11.869 |
| HWY-W07C | 9/5/03 4:00 | 4539.943 | 11.867 |
| HWY-W07C | 9/5/03 5:00 | 4539.941 | 11.869 |
| HWY-W07C | 9/5/03 6:00 | 4539.941 | 11.869 |
| HWY-W07C | 9/5/03 7:00 | 4539.941 | 11.869 |
| HWY-W07C | 9/5/03 8:00 | 4539.941 | 11.869 |
| HWY-W07C | 9/5/03 9:00 | 4539.941 | 11.869 |
| HWY-W07C | 9/5/03 10:00 | 4539.939 | 11.871 |
| HWY-W07C | 9/5/03 11:00 | 4539.937 | 11.873 |

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| HWY-W07C | 9/5/03 12:00 | 4539.935 | 11.875 |
| HWY-W07C | 9/5/03 13:00 | 4539.933 | 11.877 |
| HWY-W07C | 9/5/03 14:00 | 4539.933 | 11.877 |
| HWY-W07C | 9/5/03 15:00 | 4539.929 | 11.881 |
| HWY-W07C | 9/5/03 16:00 | 4539.926 | 11.884 |
| HWY-W07C | 9/5/03 17:00 | 4539.924 | 11.886 |
| HWY-W07C | 9/5/03 18:00 | 4539.92 | 11.89 |
| HWY-W07C | 9/5/03 19:00 | 4539.92 | 11.89 |
| HWY-W07C | 9/5/03 20:00 | 4539.916 | 11.894 |
| HWY-W07C | 9/5/03 21:00 | 4539.914 | 11.896 |
| HWY-W07C | 9/5/03 22:00 | 4539.914 | 11.896 |
| HWY-W07C | 9/5/03 23:00 | 4539.912 | 11.898 |
| HWY-W07C | 9/6/03 0:00 | 4539.91 | 11.9 |
| HWY-W07C | 9/6/03 1:00 | 4539.91 | 11.9 |
| HWY-W07C | 9/6/03 2:00 | 4539.907 | 11.903 |
| HWY-W07C | 9/6/03 3:00 | 4539.905 | 11.905 |
| HWY-W07C | 9/6/03 4:00 | 4539.903 | 11.907 |
| HWY-W07C | 9/6/03 5:00 | 4539.901 | 11.909 |
| HWY-W07C | 9/6/03 6:00 | 4539.901 | 11.909 |
| HWY-W07C | 9/6/03 7:00 | 4539.899 | 11.911 |
| HWY-W07C | 9/6/03 8:00 | 4539.897 | 11.913 |
| HWY-W07C | 9/6/03 9:00 | 4539.895 | 11.915 |
| HWY-W07C | 9/6/03 10:00 | 4539.893 | 11.917 |
| HWY-W07C | 9/6/03 11:00 | 4539.889 | 11.921 |
| HWY-W07C | 9/6/03 12:00 | 4539.886 | 11.924 |
| HWY-W07C | 9/6/03 13:00 | 4539.884 | 11.926 |
| HWY-W07C | 9/6/03 14:00 | 4539.878 | 11.932 |
| HWY-W07C | 9/6/03 15:00 | 4539.876 | 11.934 |
| HWY-W07C | 9/6/03 16:00 | 4539.874 | 11.936 |
| HWY-W07C | 9/6/03 17:00 | 4539.871 | 11.939 |
| HWY-W07C | 9/6/03 18:00 | 4539.869 | 11.941 |
| HWY-W07C | 9/6/03 19:00 | 4539.867 | 11.943 |
| HWY-W07C | 9/6/03 20:00 | 4539.863 | 11.947 |
| HWY-W07C | 9/6/03 21:00 | 4539.861 | 11.949 |
| HWY-W07C | 9/6/03 22:00 | 4539.859 | 11.951 |
| HWY-W07C | 9/6/03 23:00 | 4539.859 | 11.951 |
| HWY-W07C | 9/7/03 0:00 | 4539.855 | 11.955 |
| HWY-W07C | 9/7/03 1:00 | 4539.855 | 11.955 |
| HWY-W07C | 9/7/03 2:00 | 4539.853 | 11.957 |
| HWY-W07C | 9/7/03 3:00 | 4539.853 | 11.957 |
| HWY-W07C | 9/7/03 4:00 | 4539.853 | 11.957 |
| HWY-W07C | 9/7/03 5:00 | 4539.853 | 11.957 |
| HWY-W07C | 9/7/03 6:00 | 4539.85 | 11.96 |
| HWY-W07C | 9/7/03 7:00 | 4539.848 | 11.962 |
| HWY-W07C | 9/7/03 8:00 | 4539.848 | 11.962 |
| HWY-W07C | 9/7/03 9:00 | 4539.846 | 11.964 |
| HWY-W07C | 9/7/03 10:00 | 4539.844 | 11.966 |
| HWY-W07C | 9/7/03 11:00 | 4539.844 | 11.966 |
| HWY-W07C | 9/7/03 12:00 | 4539.844 | 11.966 |

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|----------|--------------|----------|--------|
| HWY-W07C | 9/7/03 13:00 | 4539.842 | 11.968 |
| HWY-W07C | 9/7/03 14:00 | 4539.842 | 11.968 |
| HWY-W07C | 9/7/03 15:00 | 4539.842 | 11.968 |
| HWY-W07C | 9/7/03 16:00 | 4539.84 | 11.97 |
| HWY-W07C | 9/7/03 17:00 | 4539.838 | 11.972 |
| HWY-W07C | 9/7/03 18:00 | 4539.836 | 11.974 |
| HWY-W07C | 9/7/03 19:00 | 4539.834 | 11.976 |
| HWY-W07C | 9/7/03 20:00 | 4539.832 | 11.978 |
| HWY-W07C | 9/7/03 21:00 | 4539.829 | 11.981 |
| HWY-W07C | 9/7/03 22:00 | 4539.829 | 11.981 |
| HWY-W07C | 9/7/03 23:00 | 4539.827 | 11.983 |
| HWY-W07C | 9/8/03 0:00 | 4539.84 | 11.97 |
| HWY-W07C | 9/8/03 1:00 | 4539.829 | 11.981 |
| HWY-W07C | 9/8/03 2:00 | 4539.827 | 11.983 |
| HWY-W07C | 9/8/03 3:00 | 4539.827 | 11.983 |
| HWY-W07C | 9/8/03 4:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/8/03 5:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/8/03 6:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/8/03 7:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/8/03 8:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/8/03 9:00 | 4539.823 | 11.987 |
| HWY-W07C | 9/8/03 10:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/8/03 11:00 | 4539.823 | 11.987 |
| HWY-W07C | 9/8/03 12:00 | 4539.823 | 11.987 |
| HWY-W07C | 9/8/03 13:00 | 4539.823 | 11.987 |
| HWY-W07C | 9/8/03 14:00 | 4539.823 | 11.987 |
| HWY-W07C | 9/8/03 15:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/8/03 16:00 | 4539.828 | 11.982 |
| HWY-W07C | 9/8/03 17:00 | 4539.834 | 11.976 |
| HWY-W07C | 9/8/03 18:00 | 4539.838 | 11.972 |
| HWY-W07C | 9/8/03 19:00 | 4539.842 | 11.968 |
| HWY-W07C | 9/8/03 20:00 | 4539.847 | 11.963 |
| HWY-W07C | 9/8/03 21:00 | 4539.853 | 11.957 |
| HWY-W07C | 9/8/03 22:00 | 4539.862 | 11.948 |
| HWY-W07C | 9/8/03 23:00 | 4539.87 | 11.94 |
| HWY-W07C | 9/9/03 0:00 | 4539.877 | 11.933 |
| HWY-W07C | 9/9/03 1:00 | 4539.885 | 11.925 |
| HWY-W07C | 9/9/03 2:00 | 4539.894 | 11.916 |
| HWY-W07C | 9/9/03 3:00 | 4539.896 | 11.914 |
| HWY-W07C | 9/9/03 4:00 | 4539.904 | 11.906 |
| HWY-W07C | 9/9/03 5:00 | 4539.909 | 11.901 |
| HWY-W07C | 9/9/03 6:00 | 4539.915 | 11.895 |
| HWY-W07C | 9/9/03 7:00 | 4539.924 | 11.886 |
| HWY-W07C | 9/9/03 8:00 | 4539.928 | 11.882 |
| HWY-W07C | 9/9/03 9:00 | 4539.937 | 11.873 |
| HWY-W07C | 9/9/03 10:00 | 4539.939 | 11.871 |
| HWY-W07C | 9/9/03 11:00 | 4539.943 | 11.867 |
| HWY-W07C | 9/9/03 12:00 | 4539.947 | 11.863 |
| HWY-W07C | 9/9/03 13:00 | 4539.952 | 11.858 |

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| HWY-W07C | 9/9/03 14:00 | 4539.956 | 11.854 |
| HWY-W07C | 9/9/03 15:00 | 4539.96 | 11.85 |
| HWY-W07C | 9/9/03 16:00 | 4539.96 | 11.85 |
| HWY-W07C | 9/9/03 17:00 | 4539.962 | 11.848 |
| HWY-W07C | 9/9/03 18:00 | 4539.964 | 11.846 |
| HWY-W07C | 9/9/03 19:00 | 4539.967 | 11.843 |
| HWY-W07C | 9/9/03 20:00 | 4539.969 | 11.841 |
| HWY-W07C | 9/9/03 21:00 | 4539.971 | 11.839 |
| HWY-W07C | 9/9/03 22:00 | 4539.971 | 11.839 |
| HWY-W07C | 9/9/03 23:00 | 4539.971 | 11.839 |
| HWY-W07C | 9/10/03 0:00 | 4539.971 | 11.839 |
| HWY-W07C | 9/10/03 1:00 | 4539.973 | 11.837 |
| HWY-W07C | 9/10/03 2:00 | 4539.973 | 11.837 |
| HWY-W07C | 9/10/03 3:00 | 4539.975 | 11.835 |
| HWY-W07C | 9/10/03 4:00 | 4539.975 | 11.835 |
| HWY-W07C | 9/10/03 5:00 | 4539.977 | 11.833 |
| HWY-W07C | 9/10/03 6:00 | 4539.977 | 11.833 |
| HWY-W07C | 9/10/03 7:00 | 4539.98 | 11.83 |
| HWY-W07C | 9/10/03 8:00 | 4539.982 | 11.828 |
| HWY-W07C | 9/10/03 9:00 | 4539.984 | 11.826 |
| HWY-W07C | 9/10/03 10:00 | 4539.984 | 11.826 |
| HWY-W07C | 9/10/03 11:00 | 4539.984 | 11.826 |
| HWY-W07C | 9/10/03 12:00 | 4539.988 | 11.822 |
| HWY-W07C | 9/10/03 13:00 | 4539.992 | 11.818 |
| HWY-W07C | 9/10/03 14:00 | 4539.995 | 11.815 |
| HWY-W07C | 9/10/03 15:00 | 4539.995 | 11.815 |
| HWY-W07C | 9/10/03 16:00 | 4539.999 | 11.811 |
| HWY-W07C | 9/10/03 17:00 | 4539.999 | 11.811 |
| HWY-W07C | 9/10/03 18:00 | 4540.001 | 11.809 |
| HWY-W07C | 9/10/03 19:00 | 4540.003 | 11.807 |
| HWY-W07C | 9/10/03 20:00 | 4540.001 | 11.809 |
| HWY-W07C | 9/10/03 21:00 | 4540.005 | 11.805 |
| HWY-W07C | 9/10/03 22:00 | 4540.01 | 11.8 |
| HWY-W07C | 9/10/03 23:00 | 4540.01 | 11.8 |
| HWY-W07C | 9/11/03 0:00 | 4540.014 | 11.796 |
| HWY-W07C | 9/11/03 1:00 | 4540.02 | 11.79 |
| HWY-W07C | 9/11/03 2:00 | 4540.027 | 11.783 |
| HWY-W07C | 9/11/03 3:00 | 4540.027 | 11.783 |
| HWY-W07C | 9/11/03 4:00 | 4540.035 | 11.775 |
| HWY-W07C | 9/11/03 5:00 | 4540.038 | 11.772 |
| HWY-W07C | 9/11/03 6:00 | 4540.044 | 11.766 |
| HWY-W07C | 9/11/03 7:00 | 4540.048 | 11.762 |
| HWY-W07C | 9/11/03 8:00 | 4540.055 | 11.755 |
| HWY-W07C | 9/11/03 9:00 | 4540.059 | 11.751 |
| HWY-W07C | 9/11/03 10:00 | 4540.061 | 11.749 |
| HWY-W07C | 9/11/03 11:00 | 4540.063 | 11.747 |
| HWY-W07C | 9/11/03 12:00 | 4540.063 | 11.747 |
| HWY-W07C | 9/11/03 13:00 | 4540.065 | 11.745 |
| HWY-W07C | 9/11/03 14:00 | 4540.067 | 11.743 |

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| HWY-W07C | 9/11/03 15:00 | 4540.07 | 11.74 |
| HWY-W07C | 9/11/03 16:00 | 4540.074 | 11.736 |
| HWY-W07C | 9/11/03 17:00 | 4540.076 | 11.734 |
| HWY-W07C | 9/11/03 18:00 | 4540.078 | 11.732 |
| HWY-W07C | 9/11/03 19:00 | 4540.08 | 11.73 |
| HWY-W07C | 9/11/03 20:00 | 4540.08 | 11.73 |
| HWY-W07C | 9/11/03 21:00 | 4540.082 | 11.728 |
| HWY-W07C | 9/11/03 22:00 | 4540.085 | 11.725 |
| HWY-W07C | 9/11/03 23:00 | 4540.087 | 11.723 |
| HWY-W07C | 9/12/03 0:00 | 4540.089 | 11.721 |
| HWY-W07C | 9/12/03 1:00 | 4540.091 | 11.719 |
| HWY-W07C | 9/12/03 2:00 | 4540.093 | 11.717 |
| HWY-W07C | 9/12/03 3:00 | 4540.093 | 11.717 |
| HWY-W07C | 9/12/03 4:00 | 4540.098 | 11.712 |
| HWY-W07C | 9/12/03 5:00 | 4540.098 | 11.712 |
| HWY-W07C | 9/12/03 6:00 | 4540.1 | 11.71 |
| HWY-W07C | 9/12/03 7:00 | 4540.102 | 11.708 |
| HWY-W07C | 9/12/03 8:00 | 4540.104 | 11.706 |
| HWY-W07C | 9/12/03 9:00 | 4540.11 | 11.7 |
| HWY-W07C | 9/12/03 10:00 | 4540.113 | 11.697 |
| HWY-W07C | 9/12/03 11:00 | 4540.113 | 11.697 |
| HWY-W07C | 9/12/03 12:00 | 4540.117 | 11.693 |
| HWY-W07C | 9/12/03 13:00 | 4540.119 | 11.691 |
| HWY-W07C | 9/12/03 14:00 | 4540.121 | 11.689 |
| HWY-W07C | 9/12/03 15:00 | 4540.123 | 11.687 |
| HWY-W07C | 9/12/03 16:00 | 4540.123 | 11.687 |
| HWY-W07C | 9/12/03 17:00 | 4540.127 | 11.683 |
| HWY-W07C | 9/12/03 18:00 | 4540.128 | 11.682 |
| HWY-W07C | 9/12/03 19:00 | 4540.13 | 11.68 |
| HWY-W07C | 9/12/03 20:00 | 4540.132 | 11.678 |
| HWY-W07C | 9/12/03 21:00 | 4540.132 | 11.678 |
| HWY-W07C | 9/12/03 22:00 | 4540.132 | 11.678 |
| HWY-W07C | 9/12/03 23:00 | 4540.134 | 11.676 |
| HWY-W07C | 9/13/03 0:00 | 4540.136 | 11.674 |
| HWY-W07C | 9/13/03 1:00 | 4540.134 | 11.676 |
| HWY-W07C | 9/13/03 2:00 | 4540.136 | 11.674 |
| HWY-W07C | 9/13/03 3:00 | 4540.138 | 11.672 |
| HWY-W07C | 9/13/03 4:00 | 4540.141 | 11.669 |
| HWY-W07C | 9/13/03 5:00 | 4540.143 | 11.667 |
| HWY-W07C | 9/13/03 6:00 | 4540.145 | 11.665 |
| HWY-W07C | 9/13/03 7:00 | 4540.149 | 11.661 |
| HWY-W07C | 9/13/03 8:00 | 4540.153 | 11.657 |
| HWY-W07C | 9/13/03 9:00 | 4540.153 | 11.657 |
| HWY-W07C | 9/13/03 10:00 | 4540.158 | 11.652 |
| HWY-W07C | 9/13/03 11:00 | 4540.16 | 11.65 |
| HWY-W07C | 9/13/03 12:00 | 4540.164 | 11.646 |
| HWY-W07C | 9/13/03 13:00 | 4540.169 | 11.641 |
| HWY-W07C | 9/13/03 14:00 | 4540.175 | 11.635 |
| HWY-W07C | 9/13/03 15:00 | 4540.181 | 11.629 |

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| HWY-W07C | 9/13/03 16:00 | 4540.192 | 11.618 |
| HWY-W07C | 9/13/03 17:00 | 4540.198 | 11.612 |
| HWY-W07C | 9/13/03 18:00 | 4540.205 | 11.605 |
| HWY-W07C | 9/13/03 19:00 | 4540.213 | 11.597 |
| HWY-W07C | 9/13/03 20:00 | 4540.224 | 11.586 |
| HWY-W07C | 9/13/03 21:00 | 4540.237 | 11.573 |
| HWY-W07C | 9/13/03 22:00 | 4540.254 | 11.556 |
| HWY-W07C | 9/13/03 23:00 | 4540.271 | 11.539 |
| HWY-W07C | 9/14/03 0:00 | 4540.284 | 11.526 |
| HWY-W07C | 9/14/03 1:00 | 4540.294 | 11.516 |
| HWY-W07C | 9/14/03 2:00 | 4540.303 | 11.507 |
| HWY-W07C | 9/14/03 3:00 | 4540.314 | 11.496 |
| HWY-W07C | 9/14/03 4:00 | 4540.327 | 11.483 |
| HWY-W07C | 9/14/03 5:00 | 4540.335 | 11.475 |
| HWY-W07C | 9/14/03 6:00 | 4540.342 | 11.468 |
| HWY-W07C | 9/14/03 7:00 | 4540.352 | 11.458 |
| HWY-W07C | 9/14/03 8:00 | 4540.359 | 11.451 |
| HWY-W07C | 9/14/03 9:00 | 4540.365 | 11.445 |
| HWY-W07C | 9/14/03 10:00 | 4540.376 | 11.434 |
| HWY-W07C | 9/14/03 11:00 | 4540.387 | 11.423 |
| HWY-W07C | 9/14/03 12:00 | 4540.391 | 11.419 |
| HWY-W07C | 9/14/03 13:00 | 4540.398 | 11.412 |
| HWY-W07C | 9/14/03 14:00 | 4540.41 | 11.4 |
| HWY-W07C | 9/14/03 15:00 | 4540.421 | 11.389 |
| HWY-W07C | 9/14/03 16:00 | 4540.432 | 11.378 |
| HWY-W07C | 9/14/03 17:00 | 4540.447 | 11.363 |
| HWY-W07C | 9/14/03 18:00 | 4540.464 | 11.346 |
| HWY-W07C | 9/14/03 19:00 | 4540.479 | 11.331 |
| HWY-W07C | 9/14/03 20:00 | 4540.494 | 11.316 |
| HWY-W07C | 9/14/03 21:00 | 4540.515 | 11.295 |
| HWY-W07C | 9/14/03 22:00 | 4540.558 | 11.252 |
| HWY-W07C | 9/14/03 23:00 | 4540.618 | 11.192 |
| HWY-W07C | 9/15/03 0:00 | 4540.665 | 11.145 |
| HWY-W07C | 9/15/03 1:00 | 4540.731 | 11.079 |
| HWY-W07C | 9/15/03 2:00 | 4540.763 | 11.047 |
| HWY-W07C | 9/15/03 3:00 | 4540.799 | 11.011 |
| HWY-W07C | 9/15/03 4:00 | 4540.821 | 10.989 |
| HWY-W07C | 9/15/03 5:00 | 4540.833 | 10.977 |
| HWY-W07C | 9/15/03 6:00 | 4540.84 | 10.97 |
| HWY-W07C | 9/15/03 7:00 | 4540.853 | 10.957 |
| HWY-W07C | 9/15/03 8:00 | 4540.859 | 10.951 |
| HWY-W07C | 9/15/03 9:00 | 4540.859 | 10.951 |
| HWY-W07C | 9/15/03 10:00 | 4540.859 | 10.951 |
| HWY-W07C | 9/15/03 11:00 | 4540.872 | 10.938 |
| HWY-W07C | 9/15/03 12:00 | 4540.876 | 10.934 |
| HWY-W07C | 9/15/03 13:00 | 4540.866 | 10.944 |
| HWY-W07C | 9/15/03 14:00 | 4540.859 | 10.951 |
| HWY-W07C | 9/15/03 15:00 | 4540.847 | 10.963 |
| HWY-W07C | 9/15/03 16:00 | 4540.84 | 10.97 |

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| HWY-W07C | 9/15/03 17:00 | 4540.825 | 10.985 |
| HWY-W07C | 9/15/03 18:00 | 4540.825 | 10.985 |
| HWY-W07C | 9/15/03 19:00 | 4540.823 | 10.987 |
| HWY-W07C | 9/15/03 20:00 | 4540.821 | 10.989 |
| HWY-W07C | 9/15/03 21:00 | 4540.817 | 10.993 |
| HWY-W07C | 9/15/03 22:00 | 4540.811 | 10.999 |
| HWY-W07C | 9/15/03 23:00 | 4540.802 | 11.008 |
| HWY-W07C | 9/16/03 0:00 | 4540.794 | 11.016 |
| HWY-W07C | 9/16/03 1:00 | 4540.785 | 11.025 |
| HWY-W07C | 9/16/03 2:00 | 4540.779 | 11.031 |
| HWY-W07C | 9/16/03 3:00 | 4540.77 | 11.04 |
| HWY-W07C | 9/16/03 4:00 | 4540.762 | 11.048 |
| HWY-W07C | 9/16/03 5:00 | 4540.756 | 11.054 |
| HWY-W07C | 9/16/03 6:00 | 4540.749 | 11.061 |
| HWY-W07C | 9/16/03 7:00 | 4540.743 | 11.067 |
| HWY-W07C | 9/16/03 8:00 | 4540.734 | 11.076 |
| HWY-W07C | 9/16/03 9:00 | 4540.73 | 11.08 |
| HWY-W07C | 9/16/03 10:00 | 4540.724 | 11.086 |
| HWY-W07C | 9/16/03 11:00 | 4540.719 | 11.091 |
| HWY-W07C | 9/16/03 12:00 | 4540.713 | 11.097 |
| HWY-W07C | 9/16/03 13:00 | 4540.709 | 11.101 |
| HWY-W07C | 9/16/03 14:00 | 4540.705 | 11.105 |
| HWY-W07C | 9/16/03 15:00 | 4540.698 | 11.112 |
| HWY-W07C | 9/16/03 16:00 | 4540.692 | 11.118 |
| HWY-W07C | 9/16/03 17:00 | 4540.688 | 11.122 |
| HWY-W07C | 9/16/03 18:00 | 4540.683 | 11.127 |
| HWY-W07C | 9/16/03 19:00 | 4540.677 | 11.133 |
| HWY-W07C | 9/16/03 20:00 | 4540.671 | 11.139 |
| HWY-W07C | 9/16/03 21:00 | 4540.664 | 11.146 |
| HWY-W07C | 9/16/03 22:00 | 4540.66 | 11.15 |
| HWY-W07C | 9/16/03 23:00 | 4540.654 | 11.156 |
| HWY-W07C | 9/17/03 0:00 | 4540.647 | 11.163 |
| HWY-W07C | 9/17/03 1:00 | 4540.643 | 11.167 |
| HWY-W07C | 9/17/03 2:00 | 4540.639 | 11.171 |
| HWY-W07C | 9/17/03 3:00 | 4540.632 | 11.178 |
| HWY-W07C | 9/17/03 4:00 | 4540.628 | 11.182 |
| HWY-W07C | 9/17/03 5:00 | 4540.624 | 11.186 |
| HWY-W07C | 9/17/03 6:00 | 4540.618 | 11.192 |
| HWY-W07C | 9/17/03 7:00 | 4540.616 | 11.194 |
| HWY-W07C | 9/17/03 8:00 | 4540.611 | 11.199 |
| HWY-W07C | 9/17/03 9:00 | 4540.605 | 11.205 |
| HWY-W07C | 9/17/03 10:00 | 4540.603 | 11.207 |
| HWY-W07C | 9/17/03 11:00 | 4540.601 | 11.209 |
| HWY-W07C | 9/17/03 12:00 | 4540.596 | 11.214 |
| HWY-W07C | 9/17/03 13:00 | 4540.592 | 11.218 |
| HWY-W07C | 9/17/03 14:00 | 4540.592 | 11.218 |
| HWY-W07C | 9/17/03 15:00 | 4540.586 | 11.224 |
| HWY-W07C | 9/17/03 16:00 | 4540.584 | 11.226 |
| HWY-W07C | 9/17/03 17:00 | 4540.58 | 11.23 |

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| HWY-W07C | 9/17/03 18:00 | 4540.575 | 11.235 |
| HWY-W07C | 9/17/03 19:00 | 4540.571 | 11.239 |
| HWY-W07C | 9/17/03 20:00 | 4540.565 | 11.245 |
| HWY-W07C | 9/17/03 21:00 | 4540.563 | 11.247 |
| HWY-W07C | 9/17/03 22:00 | 4540.558 | 11.252 |
| HWY-W07C | 9/17/03 23:00 | 4540.554 | 11.256 |
| HWY-W07C | 9/18/03 0:00 | 4540.552 | 11.258 |
| HWY-W07C | 9/18/03 1:00 | 4540.55 | 11.26 |
| HWY-W07C | 9/18/03 2:00 | 4540.546 | 11.264 |
| HWY-W07C | 9/18/03 3:00 | 4540.542 | 11.268 |
| HWY-W07C | 9/18/03 4:00 | 4540.539 | 11.271 |
| HWY-W07C | 9/18/03 5:00 | 4540.533 | 11.277 |
| HWY-W07C | 9/18/03 6:00 | 4540.529 | 11.281 |
| HWY-W07C | 9/18/03 7:00 | 4540.527 | 11.283 |
| HWY-W07C | 9/18/03 8:00 | 4540.522 | 11.288 |
| HWY-W07C | 9/18/03 9:00 | 4540.516 | 11.294 |
| HWY-W07C | 9/18/03 10:00 | 4540.512 | 11.298 |
| HWY-W07C | 9/18/03 11:00 | 4540.51 | 11.3 |
| HWY-W07C | 9/18/03 12:00 | 4540.503 | 11.307 |
| HWY-W07C | 9/18/03 13:00 | 4540.499 | 11.311 |
| HWY-W07C | 9/18/03 14:00 | 4540.497 | 11.313 |
| HWY-W07C | 9/18/03 15:00 | 4540.492 | 11.318 |
| HWY-W07C | 9/18/03 16:00 | 4540.486 | 11.324 |
| HWY-W07C | 9/18/03 17:00 | 4540.482 | 11.328 |
| HWY-W07C | 9/18/03 18:00 | 4540.478 | 11.332 |
| HWY-W07C | 9/18/03 19:00 | 4540.471 | 11.339 |
| HWY-W07C | 9/18/03 20:00 | 4540.465 | 11.345 |
| HWY-W07C | 9/18/03 21:00 | 4540.461 | 11.349 |
| HWY-W07C | 9/18/03 22:00 | 4540.454 | 11.356 |
| HWY-W07C | 9/18/03 23:00 | 4540.45 | 11.36 |
| HWY-W07C | 9/19/03 0:00 | 4540.442 | 11.368 |
| HWY-W07C | 9/19/03 1:00 | 4540.439 | 11.371 |
| HWY-W07C | 9/19/03 2:00 | 4540.433 | 11.377 |
| HWY-W07C | 9/19/03 3:00 | 4540.429 | 11.381 |
| HWY-W07C | 9/19/03 4:00 | 4540.424 | 11.386 |
| HWY-W07C | 9/19/03 5:00 | 4540.42 | 11.39 |
| HWY-W07C | 9/19/03 6:00 | 4540.414 | 11.396 |
| HWY-W07C | 9/19/03 7:00 | 4540.41 | 11.4 |
| HWY-W07C | 9/19/03 8:00 | 4540.406 | 11.404 |
| HWY-W07C | 9/19/03 9:00 | 4540.401 | 11.409 |
| HWY-W07C | 9/19/03 10:00 | 4540.395 | 11.415 |
| HWY-W07C | 9/19/03 11:00 | 4540.391 | 11.419 |
| HWY-W07C | 9/19/03 12:00 | 4540.386 | 11.424 |
| HWY-W07C | 9/19/03 13:00 | 4540.38 | 11.43 |
| HWY-W07C | 9/19/03 14:00 | 4540.376 | 11.434 |
| HWY-W07C | 9/19/03 15:00 | 4540.371 | 11.439 |
| HWY-W07C | 9/19/03 16:00 | 4540.365 | 11.445 |
| HWY-W07C | 9/19/03 17:00 | 4540.359 | 11.451 |
| HWY-W07C | 9/19/03 18:00 | 4540.352 | 11.458 |

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| HWY-W07C | 9/19/03 19:00 | 4540.348 | 11.462 |
| HWY-W07C | 9/19/03 20:00 | 4540.342 | 11.468 |
| HWY-W07C | 9/19/03 21:00 | 4540.337 | 11.473 |
| HWY-W07C | 9/19/03 22:00 | 4540.333 | 11.477 |
| HWY-W07C | 9/19/03 23:00 | 4540.329 | 11.481 |
| HWY-W07C | 9/20/03 0:00 | 4540.323 | 11.487 |
| HWY-W07C | 9/20/03 1:00 | 4540.32 | 11.49 |
| HWY-W07C | 9/20/03 2:00 | 4540.314 | 11.496 |
| HWY-W07C | 9/20/03 3:00 | 4540.31 | 11.5 |
| HWY-W07C | 9/20/03 4:00 | 4540.306 | 11.504 |
| HWY-W07C | 9/20/03 5:00 | 4540.299 | 11.511 |
| HWY-W07C | 9/20/03 6:00 | 4540.295 | 11.515 |
| HWY-W07C | 9/20/03 7:00 | 4540.291 | 11.519 |
| HWY-W07C | 9/20/03 8:00 | 4540.286 | 11.524 |
| HWY-W07C | 9/20/03 9:00 | 4540.282 | 11.528 |
| HWY-W07C | 9/20/03 10:00 | 4540.276 | 11.534 |
| HWY-W07C | 9/20/03 11:00 | 4540.271 | 11.539 |
| HWY-W07C | 9/20/03 12:00 | 4540.267 | 11.543 |
| HWY-W07C | 9/20/03 13:00 | 4540.261 | 11.549 |
| HWY-W07C | 9/20/03 14:00 | 4540.254 | 11.556 |
| HWY-W07C | 9/20/03 15:00 | 4540.25 | 11.56 |
| HWY-W07C | 9/20/03 16:00 | 4540.244 | 11.566 |
| HWY-W07C | 9/20/03 17:00 | 4540.239 | 11.571 |
| HWY-W07C | 9/20/03 18:00 | 4540.235 | 11.575 |
| HWY-W07C | 9/20/03 19:00 | 4540.229 | 11.581 |
| HWY-W07C | 9/20/03 20:00 | 4540.225 | 11.585 |
| HWY-W07C | 9/20/03 21:00 | 4540.223 | 11.587 |
| HWY-W07C | 9/20/03 22:00 | 4540.218 | 11.592 |
| HWY-W07C | 9/20/03 23:00 | 4540.212 | 11.598 |
| HWY-W07C | 9/21/03 0:00 | 4540.212 | 11.598 |
| HWY-W07C | 9/21/03 1:00 | 4540.206 | 11.604 |
| HWY-W07C | 9/21/03 2:00 | 4540.201 | 11.609 |
| HWY-W07C | 9/21/03 3:00 | 4540.197 | 11.613 |
| HWY-W07C | 9/21/03 4:00 | 4540.195 | 11.615 |
| HWY-W07C | 9/21/03 5:00 | 4540.191 | 11.619 |
| HWY-W07C | 9/21/03 6:00 | 4540.188 | 11.622 |
| HWY-W07C | 9/21/03 7:00 | 4540.184 | 11.626 |
| HWY-W07C | 9/21/03 8:00 | 4540.182 | 11.628 |
| HWY-W07C | 9/21/03 9:00 | 4540.178 | 11.632 |
| HWY-W07C | 9/21/03 10:00 | 4540.174 | 11.636 |
| HWY-W07C | 9/21/03 11:00 | 4540.171 | 11.639 |
| HWY-W07C | 9/21/03 12:00 | 4540.167 | 11.643 |
| HWY-W07C | 9/21/03 13:00 | 4540.165 | 11.645 |
| HWY-W07C | 9/21/03 14:00 | 4540.161 | 11.649 |
| HWY-W07C | 9/21/03 15:00 | 4540.156 | 11.654 |
| HWY-W07C | 9/21/03 16:00 | 4540.152 | 11.658 |
| HWY-W07C | 9/21/03 17:00 | 4540.148 | 11.662 |
| HWY-W07C | 9/21/03 18:00 | 4540.146 | 11.664 |
| HWY-W07C | 9/21/03 19:00 | 4540.142 | 11.668 |

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| HWY-W07C | 9/21/03 20:00 | 4540.138 | 11.672 |
| HWY-W07C | 9/21/03 21:00 | 4540.135 | 11.675 |
| HWY-W07C | 9/21/03 22:00 | 4540.133 | 11.677 |
| HWY-W07C | 9/21/03 23:00 | 4540.129 | 11.681 |
| HWY-W07C | 9/22/03 0:00 | 4540.127 | 11.683 |
| HWY-W07C | 9/22/03 1:00 | 4540.125 | 11.685 |
| HWY-W07C | 9/22/03 2:00 | 4540.125 | 11.685 |
| HWY-W07C | 9/22/03 3:00 | 4540.123 | 11.687 |
| HWY-W07C | 9/22/03 4:00 | 4540.118 | 11.692 |
| HWY-W07C | 9/22/03 5:00 | 4540.116 | 11.694 |
| HWY-W07C | 9/22/03 6:00 | 4540.112 | 11.698 |
| HWY-W07C | 9/22/03 7:00 | 4540.11 | 11.7 |
| HWY-W07C | 9/22/03 8:00 | 4540.108 | 11.702 |
| HWY-W07C | 9/22/03 9:00 | 4540.103 | 11.707 |
| HWY-W07C | 9/22/03 10:00 | 4540.101 | 11.709 |
| HWY-W07C | 9/22/03 11:00 | 4540.099 | 11.711 |
| HWY-W07C | 9/22/03 12:00 | 4540.095 | 11.715 |
| HWY-W07C | 9/22/03 13:00 | 4540.091 | 11.719 |
| HWY-W07C | 9/22/03 14:00 | 4540.089 | 11.721 |
| HWY-W07C | 9/22/03 15:00 | 4540.084 | 11.726 |
| HWY-W07C | 9/22/03 16:00 | 4540.08 | 11.73 |
| HWY-W07C | 9/22/03 17:00 | 4540.078 | 11.732 |
| HWY-W07C | 9/22/03 18:00 | 4540.074 | 11.736 |
| HWY-W07C | 9/22/03 19:00 | 4540.072 | 11.738 |
| HWY-W07C | 9/22/03 20:00 | 4540.07 | 11.74 |
| HWY-W07C | 9/22/03 21:00 | 4540.067 | 11.743 |
| HWY-W07C | 9/22/03 22:00 | 4540.067 | 11.743 |
| HWY-W07C | 9/22/03 23:00 | 4540.065 | 11.745 |
| HWY-W07C | 9/23/03 0:00 | 4540.061 | 11.749 |
| HWY-W07C | 9/23/03 1:00 | 4540.059 | 11.751 |
| HWY-W07C | 9/23/03 2:00 | 4540.057 | 11.753 |
| HWY-W07C | 9/23/03 3:00 | 4540.055 | 11.755 |
| HWY-W07C | 9/23/03 4:00 | 4540.052 | 11.758 |
| HWY-W07C | 9/23/03 5:00 | 4540.048 | 11.762 |
| HWY-W07C | 9/23/03 6:00 | 4540.044 | 11.766 |
| HWY-W07C | 9/23/03 7:00 | 4540.042 | 11.768 |
| HWY-W07C | 9/23/03 8:00 | 4540.04 | 11.77 |
| HWY-W07C | 9/23/03 9:00 | 4540.035 | 11.775 |
| HWY-W07C | 9/23/03 10:00 | 4540.031 | 11.779 |
| HWY-W07C | 9/23/03 11:00 | 4540.029 | 11.781 |
| HWY-W07C | 9/23/03 12:00 | 4540.027 | 11.783 |
| HWY-W07C | 9/23/03 13:00 | 4540.025 | 11.785 |
| HWY-W07C | 9/23/03 14:00 | 4540.02 | 11.79 |
| HWY-W07C | 9/23/03 15:00 | 4540.016 | 11.794 |
| HWY-W07C | 9/23/03 16:00 | 4540.014 | 11.796 |
| HWY-W07C | 9/23/03 17:00 | 4540.01 | 11.8 |
| HWY-W07C | 9/23/03 18:00 | 4540.006 | 11.804 |
| HWY-W07C | 9/23/03 19:00 | 4540.002 | 11.808 |
| HWY-W07C | 9/23/03 20:00 | 4539.999 | 11.811 |

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| HWY-W07C | 9/23/03 21:00 | 4539.997 | 11.813 |
| HWY-W07C | 9/23/03 22:00 | 4539.995 | 11.815 |
| HWY-W07C | 9/23/03 23:00 | 4539.993 | 11.817 |
| HWY-W07C | 9/24/03 0:00 | 4539.991 | 11.819 |
| HWY-W07C | 9/24/03 1:00 | 4539.989 | 11.821 |
| HWY-W07C | 9/24/03 2:00 | 4539.987 | 11.823 |
| HWY-W07C | 9/24/03 3:00 | 4539.984 | 11.826 |
| HWY-W07C | 9/24/03 4:00 | 4539.984 | 11.826 |
| HWY-W07C | 9/24/03 5:00 | 4539.98 | 11.83 |
| HWY-W07C | 9/24/03 6:00 | 4539.976 | 11.834 |
| HWY-W07C | 9/24/03 7:00 | 4539.974 | 11.836 |
| HWY-W07C | 9/24/03 8:00 | 4539.97 | 11.84 |
| HWY-W07C | 9/24/03 9:00 | 4539.965 | 11.845 |
| HWY-W07C | 9/24/03 10:00 | 4539.963 | 11.847 |
| HWY-W07C | 9/24/03 11:00 | 4539.961 | 11.849 |
| HWY-W07C | 9/24/03 12:00 | 4539.959 | 11.851 |
| HWY-W07C | 9/24/03 13:00 | 4539.955 | 11.855 |
| HWY-W07C | 9/24/03 14:00 | 4539.95 | 11.86 |
| HWY-W07C | 9/24/03 15:00 | 4539.948 | 11.862 |
| HWY-W07C | 9/24/03 16:00 | 4539.944 | 11.866 |
| HWY-W07C | 9/24/03 17:00 | 4539.942 | 11.868 |
| HWY-W07C | 9/24/03 18:00 | 4539.94 | 11.87 |
| HWY-W07C | 9/24/03 19:00 | 4539.935 | 11.875 |
| HWY-W07C | 9/24/03 20:00 | 4539.931 | 11.879 |
| HWY-W07C | 9/24/03 21:00 | 4539.929 | 11.881 |
| HWY-W07C | 9/24/03 22:00 | 4539.927 | 11.883 |
| HWY-W07C | 9/24/03 23:00 | 4539.925 | 11.885 |
| HWY-W07C | 9/25/03 0:00 | 4539.923 | 11.887 |
| HWY-W07C | 9/25/03 1:00 | 4539.921 | 11.889 |
| HWY-W07C | 9/25/03 2:00 | 4539.919 | 11.891 |
| HWY-W07C | 9/25/03 3:00 | 4539.916 | 11.894 |
| HWY-W07C | 9/25/03 4:00 | 4539.916 | 11.894 |
| HWY-W07C | 9/25/03 5:00 | 4539.914 | 11.896 |
| HWY-W07C | 9/25/03 6:00 | 4539.912 | 11.898 |
| HWY-W07C | 9/25/03 7:00 | 4539.91 | 11.9 |
| HWY-W07C | 9/25/03 8:00 | 4539.91 | 11.9 |
| HWY-W07C | 9/25/03 9:00 | 4539.906 | 11.904 |
| HWY-W07C | 9/25/03 10:00 | 4539.906 | 11.904 |
| HWY-W07C | 9/25/03 11:00 | 4539.904 | 11.906 |
| HWY-W07C | 9/25/03 12:00 | 4539.902 | 11.908 |
| HWY-W07C | 9/25/03 13:00 | 4539.899 | 11.911 |
| HWY-W07C | 9/25/03 14:00 | 4539.897 | 11.913 |
| HWY-W07C | 9/25/03 15:00 | 4539.895 | 11.915 |
| HWY-W07C | 9/25/03 16:00 | 4539.893 | 11.917 |
| HWY-W07C | 9/25/03 17:00 | 4539.891 | 11.919 |
| HWY-W07C | 9/25/03 18:00 | 4539.889 | 11.921 |
| HWY-W07C | 9/25/03 19:00 | 4539.889 | 11.921 |
| HWY-W07C | 9/25/03 20:00 | 4539.887 | 11.923 |
| HWY-W07C | 9/25/03 21:00 | 4539.884 | 11.926 |

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| HWY-W07C | 9/25/03 22:00 | 4539.882 | 11.928 |
| HWY-W07C | 9/25/03 23:00 | 4539.88 | 11.93 |
| HWY-W07C | 9/26/03 0:00 | 4539.878 | 11.932 |
| HWY-W07C | 9/26/03 1:00 | 4539.878 | 11.932 |
| HWY-W07C | 9/26/03 2:00 | 4539.876 | 11.934 |
| HWY-W07C | 9/26/03 3:00 | 4539.874 | 11.936 |
| HWY-W07C | 9/26/03 4:00 | 4539.872 | 11.938 |
| HWY-W07C | 9/26/03 5:00 | 4539.87 | 11.94 |
| HWY-W07C | 9/26/03 6:00 | 4539.87 | 11.94 |
| HWY-W07C | 9/26/03 7:00 | 4539.866 | 11.944 |
| HWY-W07C | 9/26/03 8:00 | 4539.863 | 11.947 |
| HWY-W07C | 9/26/03 9:00 | 4539.859 | 11.951 |
| HWY-W07C | 9/26/03 10:00 | 4539.857 | 11.953 |
| HWY-W07C | 9/26/03 11:00 | 4539.855 | 11.955 |
| HWY-W07C | 9/26/03 12:00 | 4539.851 | 11.959 |
| HWY-W07C | 9/26/03 13:00 | 4539.846 | 11.964 |
| HWY-W07C | 9/26/03 14:00 | 4539.844 | 11.966 |
| HWY-W07C | 9/26/03 15:00 | 4539.84 | 11.97 |
| HWY-W07C | 9/26/03 16:00 | 4539.838 | 11.972 |
| HWY-W07C | 9/26/03 17:00 | 4539.836 | 11.974 |
| HWY-W07C | 9/26/03 18:00 | 4539.834 | 11.976 |
| HWY-W07C | 9/26/03 19:00 | 4539.831 | 11.979 |
| HWY-W07C | 9/26/03 20:00 | 4539.827 | 11.983 |
| HWY-W07C | 9/26/03 21:00 | 4539.825 | 11.985 |
| HWY-W07C | 9/26/03 22:00 | 4539.823 | 11.987 |
| HWY-W07C | 9/26/03 23:00 | 4539.821 | 11.989 |
| HWY-W07C | 9/27/03 0:00 | 4539.819 | 11.991 |
| HWY-W07C | 9/27/03 1:00 | 4539.816 | 11.994 |
| HWY-W07C | 9/27/03 2:00 | 4539.814 | 11.996 |
| HWY-W07C | 9/27/03 3:00 | 4539.812 | 11.998 |
| HWY-W07C | 9/27/03 4:00 | 4539.81 | 12 |
| HWY-W07C | 9/27/03 5:00 | 4539.808 | 12.002 |
| HWY-W07C | 9/27/03 6:00 | 4539.806 | 12.004 |
| HWY-W07C | 9/27/03 7:00 | 4539.804 | 12.006 |
| HWY-W07C | 9/27/03 8:00 | 4539.799 | 12.011 |
| HWY-W07C | 9/27/03 9:00 | 4539.799 | 12.011 |
| HWY-W07C | 9/27/03 10:00 | 4539.795 | 12.015 |
| HWY-W07C | 9/27/03 11:00 | 4539.791 | 12.019 |
| HWY-W07C | 9/27/03 12:00 | 4539.789 | 12.021 |
| HWY-W07C | 9/27/03 13:00 | 4539.787 | 12.023 |
| HWY-W07C | 9/27/03 14:00 | 4539.784 | 12.026 |
| HWY-W07C | 9/27/03 15:00 | 4539.782 | 12.028 |
| HWY-W07C | 9/27/03 16:00 | 4539.778 | 12.032 |
| HWY-W07C | 9/27/03 17:00 | 4539.776 | 12.034 |
| HWY-W07C | 9/27/03 18:00 | 4539.774 | 12.036 |
| HWY-W07C | 9/27/03 19:00 | 4539.772 | 12.038 |
| HWY-W07C | 9/27/03 20:00 | 4539.767 | 12.043 |
| HWY-W07C | 9/27/03 21:00 | 4539.765 | 12.045 |
| HWY-W07C | 9/27/03 22:00 | 4539.761 | 12.049 |

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| HWY-W07C | 9/27/03 23:00 | 4539.759 | 12.051 |
| HWY-W07C | 9/28/03 0:00 | 4539.757 | 12.053 |
| HWY-W07C | 9/28/03 1:00 | 4539.755 | 12.055 |
| HWY-W07C | 9/28/03 2:00 | 4539.753 | 12.057 |
| HWY-W07C | 9/28/03 3:00 | 4539.748 | 12.062 |
| HWY-W07C | 9/28/03 4:00 | 4539.746 | 12.064 |
| HWY-W07C | 9/28/03 5:00 | 4539.746 | 12.064 |
| HWY-W07C | 9/28/03 6:00 | 4539.742 | 12.068 |
| HWY-W07C | 9/28/03 7:00 | 4539.74 | 12.07 |
| HWY-W07C | 9/28/03 8:00 | 4539.738 | 12.072 |
| HWY-W07C | 9/28/03 9:00 | 4539.734 | 12.076 |
| HWY-W07C | 9/28/03 10:00 | 4539.729 | 12.081 |
| HWY-W07C | 9/28/03 11:00 | 4539.725 | 12.085 |
| HWY-W07C | 9/28/03 12:00 | 4539.725 | 12.085 |
| HWY-W07C | 9/28/03 13:00 | 4539.721 | 12.089 |
| HWY-W07C | 9/28/03 14:00 | 4539.719 | 12.091 |
| HWY-W07C | 9/28/03 15:00 | 4539.716 | 12.094 |
| HWY-W07C | 9/28/03 16:00 | 4539.712 | 12.098 |
| HWY-W07C | 9/28/03 17:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/28/03 18:00 | 4539.708 | 12.102 |
| HWY-W07C | 9/28/03 19:00 | 4539.706 | 12.104 |
| HWY-W07C | 9/28/03 20:00 | 4539.704 | 12.106 |
| HWY-W07C | 9/28/03 21:00 | 4539.702 | 12.108 |
| HWY-W07C | 9/28/03 22:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/28/03 23:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 0:00 | 4539.697 | 12.113 |
| HWY-W07C | 9/29/03 1:00 | 4539.697 | 12.113 |
| HWY-W07C | 9/29/03 2:00 | 4539.697 | 12.113 |
| HWY-W07C | 9/29/03 3:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 4:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 5:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 6:00 | 4539.702 | 12.108 |
| HWY-W07C | 9/29/03 7:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 8:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 9:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 10:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 11:00 | 4539.699 | 12.111 |
| HWY-W07C | 9/29/03 12:00 | 4539.702 | 12.108 |
| HWY-W07C | 9/29/03 13:00 | 4539.704 | 12.106 |
| HWY-W07C | 9/29/03 14:00 | 4539.706 | 12.104 |
| HWY-W07C | 9/29/03 15:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/29/03 16:00 | 4539.71 | 12.1 |
| HWY-W07C | 9/29/03 17:00 | 4539.714 | 12.096 |
| HWY-W07C | 9/29/03 18:00 | 4539.714 | 12.096 |
| HWY-W07C | 9/29/03 19:00 | 4539.719 | 12.091 |
| HWY-W07C | 9/29/03 20:00 | 4539.719 | 12.091 |
| HWY-W07C | 9/29/03 21:00 | 4539.721 | 12.089 |
| HWY-W07C | 9/29/03 22:00 | 4539.725 | 12.085 |
| HWY-W07C | 9/29/03 23:00 | 4539.725 | 12.085 |

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| HWY-W07C | 9/30/03 0:00 | 4539.729 | 12.081 |
| HWY-W07C | 9/30/03 1:00 | 4539.73 | 12.08 |
| HWY-W07C | 9/30/03 2:00 | 4539.731 | 12.079 |
| HWY-W07C | 9/30/03 3:00 | 4539.734 | 12.076 |
| HWY-W07C | 9/30/03 4:00 | 4539.736 | 12.074 |
| HWY-W07C | 9/30/03 5:00 | 4539.738 | 12.072 |
| HWY-W07C | 9/30/03 6:00 | 4539.736 | 12.074 |
| HWY-W07C | 9/30/03 7:00 | 4539.738 | 12.072 |
| HWY-W07C | 9/30/03 8:00 | 4539.738 | 12.072 |
| HWY-W07C | 9/30/03 9:00 | 4539.738 | 12.072 |
| HWY-W07C | 9/30/03 10:00 | 4539.738 | 12.072 |
| HWY-W07C | 9/30/03 11:00 | 4539.736 | 12.074 |
| HWY-W07C | 9/30/03 12:00 | 4539.734 | 12.076 |
| HWY-W07C | 9/30/03 13:00 | 4539.734 | 12.076 |
| HWY-W07C | 9/30/03 14:00 | 4539.73 | 12.08 |
| HWY-W07C | 9/30/03 15:00 | 4539.727 | 12.083 |
| HWY-W07C | 9/30/03 16:00 | 4539.725 | 12.085 |
| HWY-W07C | 9/30/03 17:00 | 4539.725 | 12.085 |
| HWY-W07C | 9/30/03 18:00 | 4539.725 | 12.085 |
| HWY-W07C | 9/30/03 19:00 | 4539.723 | 12.087 |
| HWY-W07C | 9/30/03 20:00 | 4539.721 | 12.089 |
| HWY-W07C | 9/30/03 21:00 | 4539.721 | 12.089 |
| HWY-W07C | 9/30/03 22:00 | 4539.719 | 12.091 |
| HWY-W07C | 9/30/03 23:00 | 4539.719 | 12.091 |

APPENDIX C: MODEL RUN DATA

BC = Boundary Condition (ft)

ET = Evapotranspiration (ft/day)

Recharge = (ft/day)

Layer1 = Layer 1 Hydraulic Conductivity (ft/day)

Layer3 = Layer 3 Hydraulic Conductivity (ft/day)

RG = Rio Grande

Cond. = Conductivity (ft²/day)

LFCC = Low Flow Conveyance Channel

Run = Did Mode Run, (Y)es or (N)o.

Mean Residual = The Mean Difference Between the Calculated and Observed Water Elevations (ft)

| Model name | Top BC | Bottom BC | Side BC | ET | Recharge | layer1 | layer3 | RG | Cond. | LFCC | Cond. | Run | Mean Residual |
|------------------------|---------------------|---------------------|---------|--------|----------|--------|--------|-------|--------|-------|----------|-----|---------------|
| ss_basic_s_run1 | 4574-4568 | 4550-4538 | None | 0.009 | 0.002739 | 100/50 | 100/50 | River | 10000 | River | 10000 | Y | |
| tr_basic_s_run1 | 4574-4569 | 4550-4539 | None | 0.009 | 0.002739 | 100/50 | 100/50 | River | 10000 | River | 10000 | Y | |
| tr_basic_s_run2 | 4574-4570 | 4550-4540 | None | 0.009 | 0.002739 | 100/50 | 100/50 | River | 10000 | River | 10000 | Y | |
| tr_basic_s_run3 | 4574-4571 | 4550-4541 | None | 0.009 | 0.002739 | 100/50 | 100/50 | River | 10000 | River | 10000 | N | |
| ss_basic_drain_s_run1 | 4574-4572 | 4550-4542 | None | 0.009 | 0.002739 | 100/50 | 100/50 | River | 10000 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run1 | 4574-4573 | 4550-4543 | None | 0.009 | 0.002739 | 100/50 | 100/50 | River | 10000 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run2 | 4574-4574 | 4550-4544 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 10000 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run2 | 4574-4575 | 4550-4545 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 10000 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run3 | 4574-4576 | 4550-4546 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 5000 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run3 | 4574-4577 | 4550-4547 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 5000 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run4 | 4574-4578 | 4550-4548 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 20000 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run4 | 4574-4579 | 4550-4549 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run4a | 4574-4580 | 4550-4550 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run5 | 4574-4558-4571-4574 | 4550-4533-4545-4550 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 20000 | Drain | 1 ft/day | Y | |

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|--------------------------|---------------------|---------------------|------|--------|----------|--------|--------|-------|--------|-------|----------|---|-------|
| tr_basic_drain_s_run5 | 4574-4558-4571-4574 | 4550-4533-4545-4550 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run6 | 4574-4564 | 4550-4539 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 20000 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run6 | 4574-4564 | 4550-4539 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run7 | 4574-4564 | 4550-4539 | YES | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run8 | 4574-4558 | 4550-4533 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run8 | 4574-4558 | 4550-4533 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run9 | 4574-4558 | 4550-4533 | YES | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | N | |
| ss_basic_drain_s_run10 | 4573-4556 | 4545-4528 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run10A | 4573-4556 | 4545-4528 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 1000 | Drain | 1 ft/day | N | |
| ss_basic_drain_s_run10AA | 4573-4556 | 4545-4528 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 5000 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run10 | 4573-4556 | 4545-4528 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| tr_basic_drain_s_run11 | 4573-4556 | 4545-4528 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209920 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run12 | 4573-4556 | 4545-4528 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 1 ft/day | Y | 0.857 |
| tr_basic_drain_s_run11A | 4573-4556 | 4545-4528 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_run13 | 4574-4558 | 4550-4533 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 1 ft/day | Y | 4.19 |
| tr_basic_drain_s_run13 | 4574-4558 | 4550-4533 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s | 4574- | 4550- | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 1 ft/day | Y | 1.922 |

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|----------------------------|-----------|-----------|------|--------|----------|--------|--------|-------|--------|-------|----------|---|----------|
| _run14 | 4558 | 4533 | | | | | | | | | | | |
| tr_basic_drain_s_run14 | 4574-4558 | 4550-4533 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 1 ft/day | Y | |
| ss_basic_drain_s_ru15 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -0.939 |
| tr_basic_drain_s_run15 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | |
| ss_basic_drain_s_run16_imp | 4574-4558 | 4550-4533 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -0.634 |
| tr_basic_drain_s_run16 | 4574-4558 | 4550-4533 | None | 0.0201 | 0.002739 | 100/50 | 100/50 | River | 209900 | Drain | 100000 | N | |
| tr_basic_drain_s_run17 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | |
| tr_basic_drain_s_run18 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | None |
| ss_gap_equalK_s_run2 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -0.987 |
| tr_gap_equalK_s_run2 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | N | |
| ss_gap_equalK_s_run3 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -0.976 |
| tr_gap_equalK_s_run3 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | |
| tr_gap_equalK_s_run4 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | None |
| ss_Ellipse_equalK_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -0.896 |
| tr_Ellipse_equalK_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_River_equalK_s_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | 0.658 |
| tr_River_equalK_s_run1 | 4574-4556 | 4550-4531 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_River_equalK_s_run2 | 4574-4557 | 4550-4532 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -1.295 |

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|---------------------------|-----------|-----------|------|--------|------|-----------|-----------|-------|--------|-------|--------|---|----------|
| tr_River_equalK_s_run2 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | | Reversal |
| Basic_drain_L3G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | -0.826 |
| basic_drain_L3G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_gap_L3G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | -0.753 |
| tr_gap_L3G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_River_L3G_s_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | 0.533 |
| tr_River_L3G_s_run1 | 4574-4556 | 4550-4531 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_River_L3G_s_run2 | 4574-4557 | 4550-4532 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | -0.932 |
| tr_River_L3G_s_run2 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| Basic_drain_L1G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.053 |
| tr_basic_drain_L1G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | None |
| ss_gap_L1G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.055 |
| tr_gap_L1G_s_run1 | 4574-4558 | 4550-4533 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | None |
| ss_River_L1G_s_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | 0.125 |
| tr_River_L1G_s_run1 | 4574-4556 | 4550-4531 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_River_L1G_s_run2 | 4574-4557 | 4550-4532 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.253 |

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|----------------------------------|---------------|---------------|------|--------|------|---------------|---------------|-------|--------|-------|--------|---|----------|
| tr_River_L1G_s_r un2 | 4574- 4558 | 4550- 4533 | None | 0.0201 | None | 150/ 67.5 | 67.5/ 4.35 | River | 209900 | Drain | 100000 | | Reversal |
| ss_Ellipse_equal K_s_run1_20P | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -1.314 |
| ss_ellipse_equal K_s_W20_run1 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -1.101 |
| tr_ellipse_equalK _s_run2_w20 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_ellipse_eqaulk _s_run3_w40 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -1.187 |
| tr_ellipse_equalK _s_run3_w40 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_ellipse_eqaulk _s_run4_w60 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -1.187 |
| tr_ellipse_equalK _s_run4_w60 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_ellipse_eqaulk _s_run5_w80 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -1.329 |
| tr_ellipse_equalK _s_run5_w80 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_ellipse_L3G_s _run1_w20 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 67.5/ 4.35 | 150/ 67.5 | River | 209900 | Drain | 100000 | Y | -0.828 |
| tr_ellipse_L3G_s _run1_w20 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 67.5/ 4.35 | 150/ 67.5 | River | 209900 | Drain | 100000 | Y | None |
| ss_ellipse_L3G_s _run2_w40 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 67.5/ 4.35 | 150/ 67.5 | River | 209900 | Drain | 100000 | Y | -1.13 |
| tr_ellipse_L3G_s _run2_w40 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 67.5/ 4.35 | 150/ 67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_ellipse_L3G_s _run3_w60 | 4574- 4555 | 4550- 4530 | None | 0.0201 | None | 67.5/ 4.35 | 150/ 67.5 | River | 209900 | Drain | 100000 | Y | -0.873 |

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|---------------------------|-----------|-----------|------|--------|------|------------|-----------|-------|--------|-------|--------|---|----------|
| tr_ellipse_L3G_s_run3_w60 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_ellipse_L3G_s_run4_w80 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 67.5/33.75 | 150/67.5 | River | 209900 | Drain | 100000 | Y | -1.107 |
| tr_ellipse_L3G_s_run4_w80 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 67.5/33.75 | 150/67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_ellipse_L1G_s_run1_w20 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.126 |
| tr_ellipse_L1G_s_run1_w20 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | None |
| ss_ellipse_L1G_s_run2_w40 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.171 |
| tr_ellipse_L1G_s_run2_w40 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | None |
| ss_ellipse_L1G_s_run3_w60 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.168 |
| tr_ellipse_L1G_s_run3_w60 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | None |
| ss_ellipse_L1G_s_run4_w80 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.27 |
| tr_ellipse_L1G_s_run4_w80 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_NoClay_EqualK_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | -1.489 |
| tr_NoClay_EqualK_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 100/50 | 100/50 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_NoClay_L1G_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -1.141 |
| tr_NoClay_L1G_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | None |
| ss_NoClay_L3G_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | -1.07 |

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|--------------------------|-----------|-----------|------|--------|------|-----------|-----------|-------|--------|-------|--------|---|----------|
| tr_NoClay_L3G_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 67.5/4.35 | 150/67.5 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_NOClay_E_KV_KH_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 100/100 | 100/100 | River | 209900 | Drain | 100000 | Y | -1.656 |
| tr_NOClay_E_KV_KH_run1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 100/100 | 100/100 | River | 209900 | Drain | 100000 | Y | None |
| ss_River_L1G_s_run1_ssx1 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -0.405 |
| tr_River_L1G_s_run1_ssx1 | 4574-4556 | 4550-4531 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_River_L1G_s_run1_ssx2 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -0.451 |
| tr_River_L1G_s_run1_ssx2 | 4574-4556 | 4550-4531 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | Reversal |
| ss_River_L1G_s_run1_ssx3 | 4574-4555 | 4550-4530 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | -0.451 |
| tr_River_L1G_s_run1_ssx3 | 4574-4556 | 4550-4531 | None | 0.0201 | None | 150/67.5 | 67.5/4.35 | River | 209900 | Drain | 100000 | Y | Reversal |

APPENDIX D: BASIC MODEL FILES

The MODFLOW 2000 file required to run the basic 4 layer steady-state and transient models can be found in the attached CD. The following files are included in the Appendix D folder.

The Steady_state_basic_4_layer_model folder contains the following:

TwellScreens.txt

Schema.ini

ss_basic_drain_s_ru15.mdb

SS_BASIC_DRAIN_S_RU15.INI

SS_BASIC_DRAIN_S_RU15.LOG

SS_BASIC_DRAIN_S_RU15.\$CND

SS_BASIC_DRAIN_S_RU15.BAS

SS_BASIC_DRAIN_S_RU15.BGT

SS_BASIC_DRAIN_S_RU15.CLB

SS_BASIC_DRAIN_S_RU15.CONC001.MCP

SS_BASIC_DRAIN_S_RU15.CONC001.MTI

SS_BASIC_DRAIN_S_RU15.DDN

SS_BASIC_DRAIN_S_RU15.DIS

SS_BASIC_DRAIN_S_RU15.DRN

SS_BASIC_DRAIN_S_RU15.ENGINES.INI

SS_BASIC_DRAIN_S_RU15.EVT
SS_BASIC_DRAIN_S_RU15.HDS
SS_BASIC_DRAIN_S_RU15.HVT
SS_BASIC_DRAIN_S_RU15.LPF
SS_BASIC_DRAIN_S_RU15.LST
SS_BASIC_DRAIN_S_RU15.MBT
SS_BASIC_DRAIN_S_RU15.MFI
SS_BASIC_DRAIN_S_RU15.MFR.LOG
SS_BASIC_DRAIN_S_RU15.MODFLOW.BF
SS_BASIC_DRAIN_S_RU15.MODFLOW.IN
SS_BASIC_DRAIN_S_RU15.MPS
SS_BASIC_DRAIN_S_RU15.MRK
SS_BASIC_DRAIN_S_RU15.MSS
SS_BASIC_DRAIN_S_RU15.MTD
SS_BASIC_DRAIN_S_RU15.MTH
SS_BASIC_DRAIN_S_RU15.MTN
SS_BASIC_DRAIN_S_RU15.MTS
SS_BASIC_DRAIN_S_RU15.MTT
SS_BASIC_DRAIN_S_RU15.MTV
SS_BASIC_DRAIN_S_RU15.NDC
SS_BASIC_DRAIN_S_RU15.OC
SS_BASIC_DRAIN_S_RU15.OVMF
SS_BASIC_DRAIN_S_RU15.OVMF.BACKUP

SS_BASIC_DRAIN_S_RU15.RIV
SS_BASIC_DRAIN_S_RU15.SIG
SS_BASIC_DRAIN_S_RU15.UNDO
SS_BASIC_DRAIN_S_RU15.V3D
SS_BASIC_DRAIN_S_RU15.VIH

The Transient_basic_4_layer_model folder contains the following:

Tgroups.txt
TWellScreens.txt
Schema.ini
TCObservations.txt
Tcpoints.txt
Tcwells.txt
TFobservations.txt
Tfpoints.txt
Tfwells.txt
TGroupPoints.txt
Tgroups.txt
TPumpingSchedules.txt
Tr_basic_drain_s_run18.mdb
TR_BASIC_DRAIN_S_RUN18.INI
TR_BASIC_DRAIN_S_RUN18.LOG
TR_BASIC_DRAIN_S_RUN18.BAS

TR_BASIC_DRAIN_S_RUN18.CHD
TR_BASIC_DRAIN_S_RUN18.CLB
TR_BASIC_DRAIN_S_RUN18.CONC001.MTI
TR_BASIC_DRAIN_S_RUN18.CON001.MCP
TR_BASIC_DRAIN_S_RUN18.DDN
TR_BASIC_DRAIN_S_RUN18.DIS
TR_BASIC_DRAIN_S_RUN18.DRN
TR_BASIC_DRAIN_S_RUN18.ENGINS
TR_BASIC_DRAIN_S_RUN18.EVT
TR_BASIC_DRAIN_S_RUN18.HDS
TR_BASIC_DRAIN_S_RUN18.HVT
TR_BASIC_DRAIN_S_RUN18.LPF
TR_BASIC_DRAIN_S_RUN18.LST
TR_BASIC_DRAIN_S_RUN18.MFT
TR_BASIC_DRAIN_S_RUN18.MFI
TR_BASIC_DRAIN_S_RUN18.MFR
TR_BASIC_DRAIN_S_RUN18.MODFLOW.BF
TR_BASIC_DRAIN_S_RUN18.MODFLOW.IN
TR_BASIC_DRAIN_S_RUN18.MPS
TR_BASIC_DRAIN_S_RUN18.MRK
TR_BASIC_DRAIN_S_RUN18.MSS
TR_BASIC_DRAIN_S_RUN18.MTD
TR_BASIC_DRAIN_S_RUN18.MTH

TR_BASIC_DRAIN_S_RUN18.MTN
TR_BASIC_DRAIN_S_RUN18.MTS
TR_BASIC_DRAIN_S_RUN18.MTT
TR_BASIC_DRAIN_S_RUN18.MTV
TR_BASIC_DRAIN_S_RUN18.NDC
TR_BASIC_DRAIN_S_RUN18.OC
TR_BASIC_DRAIN_S_RUN18.OVMF
TR_BASIC_DRAIN_S_RUN18.OVMF.BACKUP
TR_BASIC_DRAIN_S_RUN18.PCG
TR_BASIC_DRAIN_S_RUN18.RCH
TR_BASIC_DRAIN_S_RUN18.RIV
TR_BASIC_DRAIN_S_RUN18.SIG
TR_BASIC_DRAIN_S_RUN18.V3D
TR_BASIC_DRAIN_S_RUN18.VIH
TR_BASIC_DRAIN_S_RUN18.VMA
TR_BASIC_DRAIN_S_RUN18.VMB
TR_BASIC_DRAIN_S_RUN18.VMF
TR_BASIC_DRAIN_S_RUN18.VMG
TR_BASIC_DRAIN_S_RUN18.VMN
TR_BASIC_DRAIN_S_RUN18.VMO
TR_BASIC_DRAIN_S_RUN18.VMP
TR_BASIC_DRAIN_S_RUN18.VMP.HDS
TR_BASIC_DRAIN_S_RUN18.VMR

TR_BASIC_DRAIN_S_RUN18.VMW

TR_BASIC_DRAIN_S_RUN18.VMZ

TR_BASIC_DRAIN_S_RUN18.VMT

TR_BASIC_DRAIN_S_RUN18.WHS

tr_basic_drain_s_run18.var001

tr_basic_drain_s_run18.vmf

tr_basic_drain_s_run18.vmf.backup

tr_basic_drain_s_run18.vmf.lock

Twells.txt

TWellScreens.txt

APPENDIX E: MODEL LAYER VARIATION

The MODFLOW 2000 LPF files for each tested layer 2 variation are included in the Appendix E folder on the attached CD. The LPF files contain hydraulic conductivities for each model layer. The LPF file needs to be replaced in the basic model to change the distribution of layer 2.

The Appendix E folder contains the following files.

SS_River_Removed.LPF

SS_River_LFCC_Removed.LPF

SS_ELLIPSE_20.LPF

SS_ELLIPSE_40.LPF

SS_ELLIPSE_60.LPF

SS_ELLIPSE_80.LPF

SS_GAP.LPF

Each file is for the steady-state model and is for the case where $K1=K3$. In order to run the $K1>K3$ and $K1<K3$ models, one simply change the hydraulic conductivity values in Visual Modflow.

APPENDIX F: MATLAB CODES

The Appendix F folder contains the following Matlab codes.

ellipse_percent

conversion

The ellipse_percent program generates 54,400 random numbers between 0 and 1. These numbers are then converted to a 0 or 1 based on the specified percent. The values are exported into a file as a string of numbers. The matrix size is too large to be viewed in Matlab and therefore is saved in the user space as the specified file name. Each value must be assigned a hydraulic conductivity and a place in the model matrix.

The conversion program converts a string of hydraulic conductivities into a matrix format, which can then be used to replace the matrices in the LPF files. The file input must be a data file with 5 columns corresponding to column number, row number, K_x , K_y , and K_z . The out put is 170 columns and 320 rows with each number having 7 digits including a decimal place and one digit following the decimal. The matrix is then output into the 170F7.1 format. The program must be run twice to output the files. The horizontal and vertical hydraulic conductivities are output as separate files.

REFERENCES

- Anderholm, Scott K., 1987, Hydrogeology of the Socorro and La Jencia Basins, Socorro County, New Mexico: U. S. Geological Survey, Water-Resources Investigations Report 84-4342, 62pp.
- Bullard, Thomas F., and Stephen G. Wells, 1992, Hydrology of the Middle Rio Grande From Velarde to Elephant Butte Reservoir: New Mexico, United States Department of the Interior Fish and Wildlife Service, Resource Publication 179, 51pp.
- Cardenas, Bayani R., 2006, Dynamics of Fluids, Heat and Solutes along Sediment-Water Interfaces: A Multiphysics Modeling Study, Appendix K, Ph.D. diss. New Mexico Institute of Mining and Technology, Socorro, New Mexico, 269pp.
- Cather, S.M., R.M. Chamberlin, C.E. Chapin, and W.C. McIntosh. 1994, Stratigraphic Consequences of Episodic Extension in the Lemitar Mountains, Central Rio Grande Rift, in G.R. Keller and S.M. Cather, (ed.) Basins of the Rio Grande Rift: Structure, Stratigraphy, and tectonic Setting: Boulder, Colorado, Geological Society of America Special paper 291.
- Fetter, C.W., 1994, Applied Hydrogeology Third Edition, Prentice-Hall, Inc, A Simon and Schuster Company, Upper Saddle River, NJ, p 98.
- Hantush, M.S., and C.E. Jacob, 1955, Non-Steady Radial Flow in an Infinite Leaky Aquifer. Transactions, American Geophysical Union, Vol. 36, p. 95-100.
- Hydrosphere Resource Consultants, 2001, Investigation of Surface Water – Groundwater Interactions along the Rio Grande Low Flow conveyance Channel, Socorro County, NM, Contracted for U.S. Bureau of Reclamation Upper Colorado Region Albuquerque Area Office, Socorro, NM, 74pp.
- Keller, G. Randy and S. M. Cather, 1994, Basins of the Rio Grande Rift: Structure, Stratigraphy and Tectonic Setting: Geological Society of America Special Paper 291, 304pp.
- Ladenburger, C.G., Hild, A.L., Kazmer, D.J., Munn, L.C. 2005. Soil Salinity Patterns in Tamarix Invasions in the Bighorn Basin, Wyoming, USA. Journal of Arid Environments. 65(2006):111.128,
http://www.ars.usda.gov/research/publications/Publications.htm?seq_no_115=187925

National Oceanic and Atmospheric Administration (NOAA), 2006, National Climatic Data Center—National Environmental Satellite, Data, and Information Service, <http://www.ncdc.noaa.gov/oa/ncdc.html>

Roybal, Eileen F., 1991, Ground-water Resources of Socorro County, New Mexico, U.S. Geological Survey Water-Resources Investigation Report 89-4083, Albuquerque, New Mexico, 103pp.

S. S. Papadopulos and Associates, Inc, 2001, Field Assessment and Flow and Seepage Conditions along the Rio Grande and the Low Flow Conveyance channel, San Acacia to Elephant Butte: Contract report for NM Interstate Stream Commission, Boulder Colorado, 22pp.

S. S. Papadopulos and Associates, Inc, 2003, Technical Memorandum Exploratory and Shallow Well Drilling Middle Rio Grande Watershed Study Phase 1: Contract report for U.S. Army Corps of Engineers, Boulder Colorado

S. S. Papadopulos and Associates, Inc, 2004a, Technical Memorandum Highway and Escondida Aquifer Testing Middle Rio Grande Watershed Study Phase 1: Contract report for U.S. Army Corps of Engineers, Boulder Colorado, 19pp.

S.S. Papadopulos and Associates, Inc, 2004b, Middle Rio Grande Water Supply Study, Phase 3: Contract report for U.S. Army Corps of Engineers and N.M. Interstate Stream Commission, Boulder, Colorado, 110pp.

Scurlock, Dan, 1998, From the Rio to the Sierra: An Environmental History of the Middle Rio Grande Basin, USDA Forest Service General Technical Report RMRS-GTR-5, 398pp.

Shafike, N. G., 2001. Surface Water – Groundwater Interactions Along the San Acacia to San Marcial Reach of the Rio Grande. *In: Proc. Conf. Of the American Water Resources Association (AWRA), November 12-15, 2001.*

Shafike, Nabil G., 2004, Abstract: Linked Surface Water and Groundwater Model for the San Acacia Reach as a Tool to Support Decision Making Analysis, Identifying Technologies to Improve Regional Water Stewardship: North-Middle Rio Grade Corridor, April 21-22, 2004.

U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, and the New Mexico Interstate Stream Commission, 2006, Draft Environmental Impact Statement (DEIS) Upper Rio Grande Basin Water Operations Review, Appendix J –Surface Water/Groundwater Model, <http://www.spa.usace.army.mil/urgwops/drafteis.asp>

U. S. Bureau of Reclamation, 2006a, Albuquerque area office, Middle Rio Grande Project Fact Sheet, Managing water in the West, http://www.usbr.gov/uc/albuq/rm/mrg/fact/mrg_proj.pdf

U. S. Bureau of Reclamation, 2006b, Dams, Projects, and Power Plants, San Acacia Diversion Dam, http://www.usbr.gov/dataweb/dams/san_acacia_diversion.htm

U. S. Bureau of Reclamation, 2006c, Dams, Projects, and Power Plants, Middle Rio Grande Project, New Mexico, <http://www.usbr.gov/dataweb/html/mriogrande.html>

U. S. Bureau of Reclamation, 2006d, Rio Grande Silvery Minnow Sanctuary Fact Sheet, Reclamation, Gears Up to Help Rescue Minnows, <http://www.usbr.gov/uc/feature/minnow/index.html>

U. S. Census Bureau, 2000, Population and Household Economic Topics, Population Finder, <http://www.census.gov/population/www/index.html>

U.S. Fish and Wildlife Service, 2004, Southwestern Willow Flycatcher Arizona Ecological Services Field Office, http://www.usbr.gov/uc/albuq/rm/mrg/fact/swwf_fact.pdf

U. S. Fish and Wildlife Service, 1999, Rio Grande Compact, http://www.fws.gov/southwest/mrgbi/Resources/RG_Compact/rg_compact.pdf

U. S. Fish and Wildlife Service, 2006a, Rio Grande Silvery Minnow, http://ecos.fws.gov/species_profile/SpeciesProfile?spcode=E07I

U. S. Fish and Wildlife Service, 2006b, Southwestern Willow Flycatcher, http://ecos.fws.gov/species_profile/SpeciesProfile?spcode=B094

Vivoni, E. R., R. S. Bowman, R. L. Wyckoff, R. T. Jakubowski, and K. E. Richards, 2006, Analysis of a Monsoon Flood Event in an Ephemeral Tributary and its Downstream Hydrologic Effects, *Journal of Geophysical Research, Water Resources Research*, Vol. 42, W03404, doi:10.1029/2005WR004036.

Wilcox, L.J., 2004 Telescopic Model of Groundwater/Surface Water Interactions Near San Antonio, NM. Unpublished M.S. Thesis, New Mexico Institute of Mining and Technology, Socorro, NM, 87pp.

Wikipedia: The Free Encyclopedia, 2006, List of Rivers by Length, http://en.wikipedia.org/wiki/River_lengths