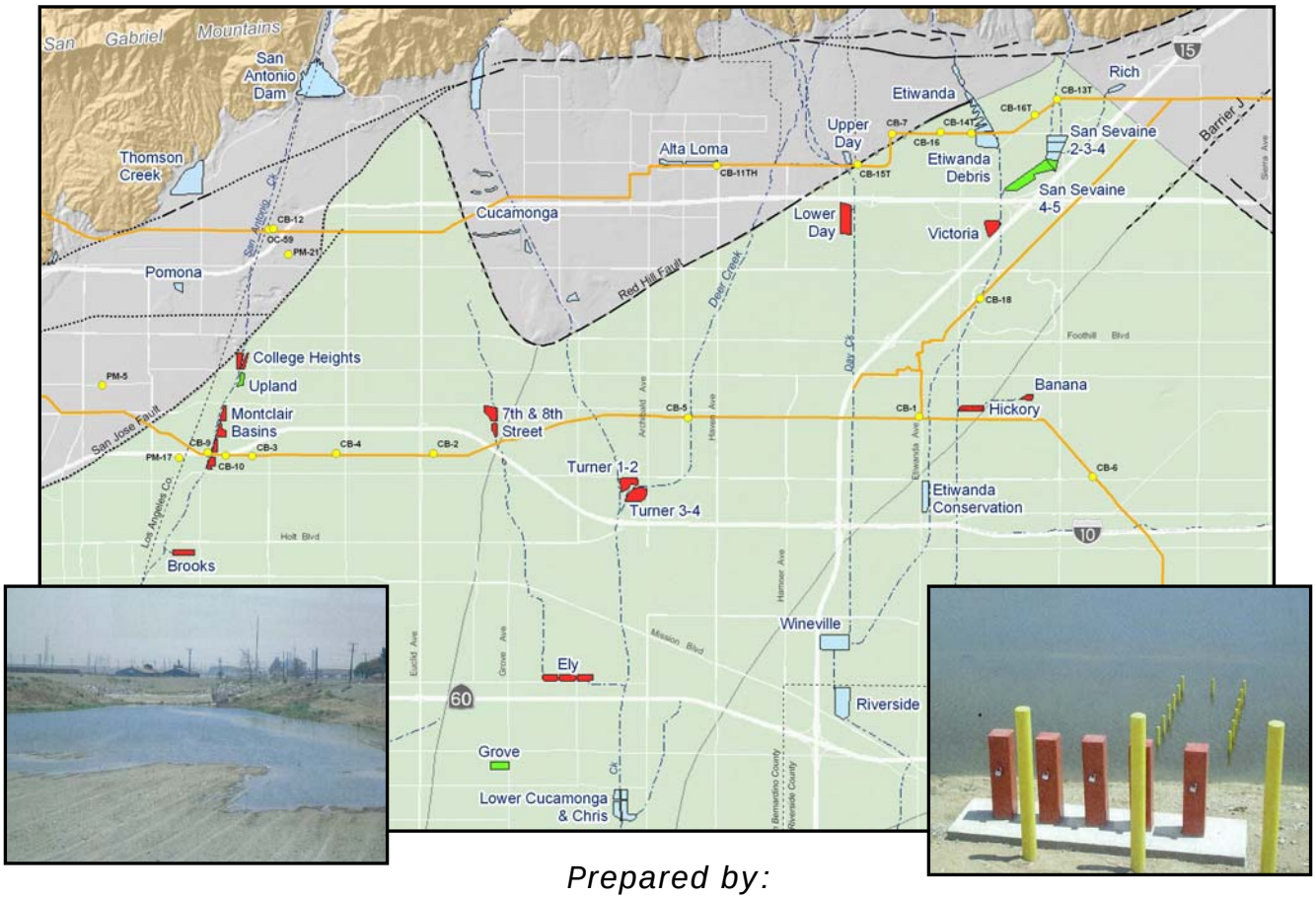
Chino Basin
Recycled Water Groundwater Recharge Program

Start-Up Period Report for Hickory Basin



Prepared by:

Inland Empire Utilities Agency

and

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May 22, 2006

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Richard Atwater
CEO and General Manager

Kenneth Manning
CEO

May 22, 2006

Regional Water Quality Control Board, Santa Ana Region
Attention: Mr. Gerard Thibeault
3737 Main Street, Suite 500
Riverside, California 92501-3348

Subject: Chino Basin Recycled Water Groundwater Recharge Program
Transmittal of the Start-Up Report for Hickory Basin

Dear Mr. Thibeault,

The Inland Empire Utilities Agency (IEUA) and the Chino Basin Watermaster (Watermaster) hereby submit the *Start-Up Report for Hickory Basin* for the *Recycled Water Groundwater Recharge Program* being implemented by IEUA and Watermaster. This document is submitted pursuant to requirements in Order No. R8-2005-0033 and Monitoring and Reporting Program No. R8-2005-0033:

- California Regional Water Quality Control Board, Santa Ana Region. Order No. R8-2005-0033. Water Recycling Requirements for Inland Empire Utilities Agency and Chino Basin Watermaster. Phase 1 Chino Basin Recycled Water Groundwater Recharge Project, San Bernardino County. Draft Order: April 2005.
- California Regional Water Quality Control Board, Santa Ana Region. Monitoring and Reporting Program No. R8-2005-0033 for Inland Empire Utilities Agency and Chino Basin Watermaster. Phase 1 Chino Basin Recycled Water Groundwater Recharge Project, San Bernardino County.

The following items highlight the findings of the Hickory Basin Start-Up Report:

- Electrical conductivity (EC) was effective as a tracer or indicator of the source of water in samples collected from the lysimeters.
- The Start-Up Period for Hickory Basin was September 9, 2005 through March 8, 2006. Storm flow interruptions and increasing soil aquifer treatment efficiency necessitated the full 180 day start-up period.
- All lysimeters at Hickory Basin are representative of recharged water, *i.e.*, there appears to be no geologic features that would cause anomalous results: preferential pathways or lenses of fine grained materials. The soil aquifer treatment (SAT) at Hickory Basin is quite effective and there appears to be some additional reduction of total organic carbon with increasing depth. Therefore, the 25-foot below ground surface (bgs) lysimeter at the bottom of the basin was selected to be the compliance point lysimeter.
- The average percent reduction in TOC during the Start-Up Period for Hickory Basin West and East Cells was 66 and 81 percent, respectively. The average percent reduction in total nitrogen (TN) during the Start-Up Period for Hickory Basin West and East Cells was 49 and 35 percent, respectively. The SAT treatment was very effective at removing TOC and TN in the upper 25 feet of the unsaturated zone. One might expect some further reduction in TOC and TN concentrations with depth. With regular operation, IEUA believes that Hickory Basin can consistently achieve a TOC value at 25 feet bgs of 2 mg/L. Based

on the formula in the draft groundwater recharge regulations, a TOC concentration of 2 mg/L in the compliance point lysimeter would result in an RWC of 33 percent. IEUA's permit currently limits RWC to a maximum of 20 percent prior to receiving administrative approval from the Regional Board and DHS.

- The Start-Up Period Report includes a Recycled Water Management Plan that forecasts deliveries of recycled water and recharge of diluent water in the future and demonstrates compliance with the 20 percent RWC at 60 months.

If you have any questions, please do not hesitate to call us.

Best regards,

Richard Atwater
Chief Executive Officer and General Manager

Kenneth Manning
Chief Executive Officer

Chino Basin

Recycled Water Groundwater Recharge Program

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1. Introduction

Inland Empire Utilities Agency (IEUA), Chino Basin Watermaster (Watermaster), Chino Basin Water Conservation District, and San Bernardino County Flood Control District jointly sponsor the Chino Basin Recycled Water Groundwater Recharge Program. This is a comprehensive water supply program to enhance water supply reliability and improve groundwater quality in local drinking water wells in the Chino Groundwater Basin by increasing the recharge of stormwater, imported water and recycled water. This program is an integral part of Watermaster's Optimum Basin Management Plan (OBMP).

This document is the Start-Up Period Report for Hickory Basin and documents soil aquifer treatment (SAT) removal of total organic carbon (TOC) for the Start-Up Period and the recycled water contribution (RWC) associated with the reduced TOC concentrations in the compliance point lysimeter.

1.1 Requirements of Order No. R8-2005-0033

This Recycled Water Groundwater Recharge Program being implemented by IEUA and Watermaster is subject to the following requirements:

- California Regional Water Quality Control Board, Santa Ana Region. Order No. R8-2005-0033. Water Recycling Requirements for Inland Empire Utilities Agency and Chino Basin Watermaster. Phase 1 Chino Basin Recycled Water Groundwater Recharge Project, San Bernardino County. April 15, 2005.
- California Regional Water Quality Control Board, Santa Ana Region. Monitoring and Reporting Program (M&RP) No. R8-2005-0033 for Inland Empire Utilities Agency and Chino Basin Watermaster. Phase 1 Chino Basin Recycled Water Groundwater Recharge Project, San Bernardino County. April 15, 2005.

The draft order written by the Santa Ana Regional Water Quality Control Board (RWQCB, 2005a) describes the requirements for the Start-Up Period Report. Following is an excerpt from Section G.4 of the order:

> A start-up period report shall be prepared at the conclusion of the START-UP PERIOD for each recharge basin. The start-up period report shall include: site specific determinations of percolation rates, soil aquifer treatment efficiency and optimum depths and locations of lysimeters to obtain representative compliance samples of recycled water after soil aquifer treatment. The report shall specify the date that the START-UP PERIOD ended. The report shall make recommendations for final compliance lysimeter placement and monitoring plan to be employed during the initial year of operation, the initial year maximum average RWC and corresponding TOC limit, and generalized method to track recharge water in the vadose zone. The analytical results from weekly lysimeter samples shall be evaluated and reported along with conclusions regarding soil aquifer treatment (SAT) performance. This report is subject to approval by the CDHS and the Regional Board Executive Officer. The report recommendations shall be implemented upon approval.

1.2 Organization of the Start-Up Report

Section 2 of this report describes the installation of lysimeters at Hickory Basin. Section 3 details the recharge operations during the Start-Up Period. Section 4 and 5 discuss the lysimeter sampling and monitoring results, as well as the soil aquifer treatment efficiency in terms of TOC and TN removal. Section 6 describes the determination of the Start-Up Period and selection of the compliance point lysimeter through the use of electrical conductivity as a natural tracer for recycled water. Section 7 discusses the determination of RWC and a Recycled Water Management Plan to ensure that the RWC limit is met in the future. Section 8 is a proposed water quality monitoring plan for the first year after the Start-Up Period and Section 9 includes the references.

2. Borehole Drilling and Lysimeter Installation

The boreholes and lysimeters at Hickory Basin were drilled and constructed on May 4, 5, and 6, 2005. The location of Hickory Basin is shown in Figure 2-1, while the location of lysimeters at Hickory Basin is shown in Figure 2-2. Lysimeter construction occurred in general accordance with the *Project Plans for the Construction of the Hickory and Banana Basins Lysimeter Installation*, dated January 23, 2005 and the *Hickory Basin Start-Up Protocol*, dated June 2005. Asbuilts are included in Appendix A.

2.1 Assembly and Pre-Testing

All lysimeter units were assembled and pre-tested, prior to field mobilization to ensure that each unit functioned properly. Each unit was assembled, tested for pressure leaks, and cleaned in accordance with manufacturer recommendations. Each lysimeter consisted of a 2-inch OD dual-chamber stainless steel body equipped with two 1/4-inch OD stainless steel nipples and a stainless steel porous "cup." A 1/4-inch OD x 0.170-inch ID polyethylene tube is attached to the vacuum/pressure nipple and a 1/4-inch OD x 1/8-inch Teflon™ tube is attached to the sampling nipple with stainless steel unions.

The lysimeter valve, tubing unions, and welded joints were tested for leaks by applying approximately 0.5 bars of pressure on the lysimeter while submerged in distilled water. While under pressure, the lysimeter was observed for bubbles emanating from any portion of the lysimeter. If no bubbles were observed, the lysimeter assembly was considered pressure-tight and was then cleaned.

Each assembly was cleaned by flushing internally with 70% isopropyl alcohol and rinsing with distilled water. Initially, a minimum vacuum of 0.5 bars was applied to the vacuum/pressure tube while clamping the sampling tube shut and submerging the porous cup within the alcohol. The alcohol was then evacuated from the lysimeter body by applying a minimum pressure of 0.5 bars to the vacuum/pressure tube and opening the sampling tube until the lysimeter body was emptied. The lysimeter body was then rinsed internally four times with distilled water (a total of approximately 1 gallon) following the same procedure described above. After performing a final exterior rinse with distilled water, each lysimeter assembly (lysimeter body, tubes, and unions) was inserted intact within a new plastic 55-gallon plastic bag and sealed pending installation in the field.

2.2 Borehole Drilling and Soil Sample Collection

A Marl 5T all-terrain hollow-stem auger drill rig was used to drill the boreholes. The two lysimeter clusters consist of five individual lysimeter assemblies installed in separate boreholes to depths of 5, 10, 15, and two at 25 feet below ground surface at the bottom of the basin (bgs). All drilling was observed by a California Professional Geologist. The boreholes were drilled with 8-inch nominal OD continuous flight augers.

Relatively undisturbed soil samples were collected from one 25-foot boring at approximately 5, 10, 15, 20, and 25 feet bgs. Each soil sample was collected with a 3-inch diameter split-spoon sampler equipped with three (3) 6-inch long brass sample sleeves. The sampler was driven approximately 18 inches below borehole depth using a rig-mounted pneumatic hammer.

After driving the sampler, the split-spoon was retrieved to the ground surface, opened, and the sample sleeves were removed from the sampler. The ends of sleeve of the retrieved samples were lined with Teflon™ sheeting, sealed with tight-fitting plastic end caps, labeled, and stored in an ice-cooled chest pending chemical analysis. One sample from each depth material was sent to the analytical laboratory for a leaching test (e.g., TCLP or WET) to determine background soil concentrations prior to the initiation of recycled water. These samples were analyzed for TOC, nitrate, nitrite, total Kjeldahl nitrogen, TDS, and trace metals and the results are presented in Table 2-1.

Borehole geologic logs were prepared based on cuttings and soil samples collected from the 25-foot borehole. Soil sample characteristics are described using the Unified Soil Classification System (USCS). Borehole logs were prepared by a California Professional Geologist and are included in Appendix A.

Based on the borehole geologic logs included in Appendix A, soil types observed below Hickory Basin generally consisted of fine to coarse sand from 0 to 5 feet bgs and fine to coarse sand with gravel from 5 to 25 feet bgs.

2.3 Lysimeter Installation

Lysimeter construction proceeded upon reaching total borehole depth. Each lysimeter was installed within the continuous auger string as a precautionary measure against borehole collapse. Upon reaching total borehole depth, the string was raised approximately one foot from the bottom of the borehole prior to installation of any materials to prevent the lysimeter assembly from becoming wedged within the auger. The lysimeter assembly was then removed from its plastic bag and a 1.9-inch OD Schedule 40 polyvinyl chloride (PVC) flush-threaded extension casing was threaded onto the top of the lysimeter body. The extension casing of each lysimeter extended approximately 2 feet above the surrounding grade. Approximately 22 pounds (10 kilograms) of the native soil slurry was installed within the bottom portion of the borehole to create an approximate 1.5- to 2-foot thick layer at the bottom of the borehole. After letting the slurry settle via dewatering, the lysimeter assembly was lowered into the borehole via the PVC extension casing and gently pressed into the top of the slurry.

A minimum 1-foot layer of No. 60 granular sand and then a minimum 2-foot layer of 3/8-inch bentonite pellets were successively installed on top of the native soil slurry prior to placement of the neat cement seal (note: the 5 foot depth lysimeter was sealed to ground surface with bentonite pellets). The pellets were hydrated in accordance with manufacturer recommendations to allow them to expand and create a tight seal. The neat cement grout was prepared in accordance with ASTM C150 “Standard Specifications for Portland Cement” Type II. The grout was mixed in a 55-gallon barrel at a ratio of 7 gallons of fresh water to each 94-pound bag of dry cement, to which up to 3% by weight of bentonite powder was added to reduce shrinkage during grout curing, and vigorously stirred with a motor-driven paddle. The grout seal was then placed from the top of the bentonite pellet seal to approximately 2 feet bgs.

2.4 Trenching and Head Assembly

Following installation of the lysimeter assemblies, the lysimeter tubes were extended toward the lysimeter head assembly locations along the northern basin berm. A trench was dug adjacent to each lysimeter to allow the placement of the lysimeter tubing 1.09-inch diameter PVC conduit which carries the lysimeter tubing to the lysimeter head assembly along the basin berm.

Each trench was excavated to approximately 2.5 feet bgs with a four-wheel drive backhoe to facilitate the burial of the conduits protecting the paired tubes. After trenching was completed, the lysimeter extension casings were cut off approximately 2 feet bgs and fitted with curved 90-degree 1.9-inch OD Schedule 40 PVC elbow connectors. The paired lysimeter tubes were threaded through 1.9-inch OD Schedule 40 PVC conduit extending from the elbow to the lysimeter head assemblies via the trench. An electric heater box was used to bend the conduit to fit the geometry within the trenches prior to threading the paired tubes through to the surface. After the conduits were labeled with the appropriate lysimeter information and secured at the lysimeter head assembly locations, an approximate 4-inch layer of imported sand/gravel was installed within the trench and the conduits were gently lifted on top of this layer prior to installing another 4-inch layer on top of it for protection and identification during potential future excavation.

The trenches were backfilled to grade with the native soils that had been excavated. The backfill located adjacent to the lysimeters within the basin and the lysimeter head assemblies was compacted with a gasoline-powered manually-operated soil compactor to prevent accidental damage. All extra soils generated during borehole drilling and trenching that were not used to backfill trenches were spread over the bottom surface of the basin such that no hummocks (*i.e.*, vehicular, slip, trip, and fall hazards) are produced.

The lysimeter head assemblies were secured in place within a single concrete pad aligned parallel with the edge of the berm with approximately 4 inches protruding above the surrounding grade. A structural concrete was mixed onsite with an electric concrete mixer and poured into the form. The locking metal well protectors were set on approximately 2-foot centers such that they extend approximately 2 feet above grade.

A Monoflex lysimeter head assembly was installed within each locking steel well protector. Each head assembly consists of a vacuum pressure gauge, two ball valves, and two termination ports for the vacuum/pressure and sampling tubes leading to the corresponding lysimeter assembly. After installation of the head assemblies, each lysimeter was pressure tested by applying both a vacuum and pressure to the system, closing the ball valves and observing the pressure gauge for leaks.

2.5 Crash Post Installation

The lysimeters and lysimeter head assemblies are protected against damage from vehicles and heavy equipment by concrete-filled crash posts. Each lysimeter cluster is encircled by several crash posts installed in a box-like array, with sufficient spacing to reduce hindrance with field activities, yet close enough (approximate 5-foot intervals) to prevent entry of vehicles. The lysimeter head assemblies are encircled by a U-shaped array of crash posts with the open end aligned up slope.

Each crash post consists of an approximate 6-foot length of 4-inch diameter galvanized steel pipe set into concrete such that it extends approximately 4 feet above grade. Each crash post is filled with concrete and painted bright yellow to increase its visibility and reduce accidental impacts with vehicles and heavy equipment.

3. Recharge Operations

3.1 Volume of Historical Diluent Water Recharged

WEI has estimated the recharge in Hickory Basin over the previous 5 years (60 months). Keep in mind that this basin was historically operated solely as flood control basins and not as a conservation basin; therefore the historical monthly recharge was lower than can be expected for the future. There are no regular historical measurements of inflow, outflow, or water surface elevation that can be used to directly estimate recharge at Hickory Basin. WEI used the rainfall-runoff simulation model, WLAM, which WEI developed for SAWPA. The model generates runoff from historical daily rainfall data, routes the flow through the network of stream and recharge basins, and estimates the recharge volume at the basins. The estimated recharge of stormwater in Hickory Basin from July 2000 to June 2005 is 1655 AF and is summarized by month in Table 3-1.

3.2 Recharge Operations during the Start-Up Period

IEUA's Groundwater Recharge Coordinator recorded the volume of water delivered to Hickory Basin before and during the Start-Up Period. The delivered volumes included SWP water from MWD Turnout CB18 (pre-Start-Up Period diluent water), local runoff, stormwater, and recycled water from the Whittram force main. CB18 flows commingle with local runoff in San Sevaine Channel prior to diversion into Hickory Basin. Certain quantities of water held in Hickory Basin are exported to Banana Basin. Recycled water is delivered to Hickory Basin directly from the Whittram force main. Stormwater volumes are estimated from change in storage in the basin based on positive changes in water elevation. Outflow of stormwater from the basin is not measured or estimated as these waters do not recharge. Table 3-2 lists the daily water deliveries to Hickory Basin.

3.3 Estimated Recharge Rate

IEUA's Groundwater Recharge Coordinator has estimated the infiltration rate of Hickory Basin to range between 0.67 and 0.84 feet per day, based on the following data (note that infiltration rates may vary with depth of water):

Parameter	Infiltration Test 1	Infiltration Test 2
Start Date/Time (T_1)	9/20/2005 21:00	9/21/2005 17:00
Start Water Depth (H_1) [feet]	2.8	2.1
End Date/Time (T_2)	9/21/2005 17:00	9/22/2005 11:00
End Water Depth (H_2) [feet]	2.1	1.6
Change in Water Depth: dH = -(H_2- H_1) [feet]	0.7	0.5
Change in Time: dT = (T_2- T_1) [days]	0.83	0.75
Infiltration Rate: dH/dT [feet/day]	0.84	0.67
Comment	6 hours after RW turned off	24 hours after RW turned off

4. Lysimeter Sampling and Monitoring Results

The M&RP schedule (RWQCB, 2005b) for basin and lysimeter sampling is the following:

- EC: Grab, Twice per Week
- TOC: Grab, Weekly
- Nitrate-Nitrogen: Grab, Twice per Week
- Nitrite-Nitrogen: Grab, Twice per Week
- Ammonia: Grab, Twice per Week
- Total Kjeldahl Nitrogen (TKN): Grab, Twice per Week
- Total Nitrogen (TN) – by Addition: Grab, Twice per Week

These data are summarized in Tables 4-1 through 4-8. Tables 4-1 and 4-2 detail EC results for the surface water samples from Hickory Basin and from each of the lysimeters. Tables 4-3 and 4-4 provide TOC results for the surface water samples from Hickory Basin and from each of the lysimeters. Tables 4-5 and 4-6 list results for nitrogen species (ammonia, nitrite, nitrate, total Kjeldahl nitrogen [TKN], and total nitrogen [TN]) for the surface water samples from Hickory Basin and from each of the lysimeters. Tables 4-7 and 4-8 are summaries of the TN data displaying TN by depth and percent reduction of TN.

Tables 4-1 through 4-4, 4-7, and 4-8 contain cells that are shaded to indicate when samples were collected in both the surface water and in the lysimeters that are representative of a recycled water component of greater than or equal to 75 percent. There is a column in both tables that provides the percentage of recycled water in the 25 foot bgs lysimeter. This analysis is based on comparing the EC values of diluent water and recycled water and is discussed in Section 6.

5. Soil Aquifer Treatment Efficiency: TOC and TN Removal

Figures 5-1 and 5-2 depict average TOC as a function of increasing depth. The "0 feet bgs" sample represents the surface water grab sample, while the other depths correspond to the lysimeter samples collected at those depths. The values plotted are an average of all results for samples with a recycled water component greater than or equal to 75 percent from July 6, 2005 to December 6, 2005. Note that SAT reduction in TOC concentration appears to continue to at least 25 feet bgs and may continue at greater depths. Figures 5-3 and 5-4 are a time history of TOC values for the basin and the lysimeters. In the upper part of the graph, the period when various sources of water were diverted into Hickory Basin are recorded as bars across given periods. Note that the reduction of TOC with depth is consistent with time. Also depicted in Figures 5-3 and 5-4, is the 20-sample running average for TOC from the 25-foot bgs lysimeter, beginning respectively on September 20, 2006 and October 4, 2006, the date that the 25 foot bgs lysimeter had a recycled water component greater than or equal to 75 percent. The Recycled Water Quality Specification A.10 (Regional Board, 2005a) states, "At each recharge basin, the monthly average TOC concentration of the recycled water prior to reaching the regional groundwater table, shall not exceed the average TOC value calculated from the following formula:"

$$TOC_{average} = \frac{0.5 mg/L}{RWC_{average}}$$

Using this formula, the dashed line on Figures 5-3 and 5-4 at TOC = 2.5 mg/L represents a TOC limit with a RWC of 20 percent.

Figures 5-5 through 5-8 are similar graphs for TN. There appears to be more variability in the TN results and this may reflect the very low TN concentrations in the recycled water. Note that TN in all lysimeters is typically less than 2 mg/L, which is much less than the compliance metric of 10 mg/L.

Figures 5-9 and 5-10 are graphs of the time history of TOC reduction and local runoff/storm flow. Local runoff/storm flow events are based on onsite field observations of IEUA's Groundwater Recharge Coordinator. In the periods following the introduction of storm water, there was a decrease in TOC reduction. Figures 5-11 and 5-12 are similar graphs of the time history of TN reduction, local runoff/ storm flow.

Figures 5-13 and 5-14 show the time history for TOC and TN, respectively, for Hickory Basin surface water, the 25-foot bgs lysimeters, RP-1 effluent and RP-4 effluent. Based on the data SAT is generally accounted for utilizing the basin surface water and 25-foot bgs lysimeter for its calculation. Please refer to the 3rd and 4th Quarter 2005 Monitoring Reports for the RP-1 and RP-4 data used in Figures 5-13 and 5-14.

Soil aquifer treatment efficiency (TOC and TN reduction) was estimated using the following algorithm:

1. The travel time of recharged water was estimated using EC as a natural tracer. As discussed in Section 6, recycled water reached the Hickory East and West Basin 25-foot bgs lysimeters on September 20, 2005 and October 4, 2005, respectively, 11 and 25 days after recycled water was introduced into Hickory Basin on September 9, 2005. Recognizing that travel time can vary over time, 11 and 25 days was used as the offset throughout the Start-Up Period.
2. Grab samples of surface water from Hickory Basin and lysimeter samples were collected on a frequency of weekly or twice-weekly, hence, there are rarely pairs of samples collected from the surface water on a given day and the lysimeter 11 or 25 days later. Therefore, linear interpolation was used to estimate TOC values in both the surface water and in the 25-foot bgs lysimeter for each day of the Start-Up Period (Tables 5-1 through 5-4).
3. TOC reduction was calculated by the following formula:

$$\%TOC\_reduction = \frac{TOC_{SW} - TOC_{lys-offset}}{TOC_{SW}}$$

where the $TOC_{lys\text{-}offset}$ is the value 11 or 25 days after the surface water sample was collected. A similar calculation was performed for TN reduction.

During the start-up period the average percent reduction in TOC for Hickory Basin West and East Cells was 66 and 81 percent, respectively, and the average percent reduction in TN for Hickory Basin West and East Cells was 49 and 35 percent, respectively.

6. Start-Up Period

6.1 Determination of the Start-Up Period

The Order (RWQCB, 2005a) establishes a Start-Up Period for each recharge basin in the Chino Basin Recycled Water Groundwater Recharge Program (Finding 9, page 3):

> At each recharge basin, a START-UP PERIOD not to exceed 180 days will be used at the outset of recycled water recharge operations. The purposes of each START-UP PERIOD are to establish site characteristics, including percolation rates, the physical characteristics of the vadose zone and soil aquifer treatment efficiency, and to establish a sampling regime, based on these characteristics, that is representative of recycled water following soil aquifer treatment. The length of the START-UP PERIOD at each basin will be contingent on site characteristics, including percolation rates and recycled water transit time in the subsurface. The Order requires IEUA to submit for CDHS and Regional Board approval a proposed START-UP PERIOD protocol at least two weeks prior to beginning each START-UP PERIOD. A START-UP PERIOD report will be prepared at the close of each START-UP PERIOD and will include recommendations for the optimum depths and locations for placement of lysimeters that will be used to measure compliance, and for a compliance-monitoring program. The report will also include recommendations for the maximum average RWC and Total Organic Carbon (TOC) limit for the initial year of recharge operations following the START-UP PERIOD. This Order requires that the average TOC limit during the START-UP PERIOD not exceed 0.5 mg/L divided by the maximum average RWC. As stated in Finding 8, above, the maximum average RWC is not to exceed 20 percent.

The Start-Up Period for each basin will be long enough to demonstrate effective TOC removal. As long as TOC concentrations continue to decline over time, the basin is still deemed to be in the Start-Up Period, up to 180 days.

Section H.8 of the Order mandates that lysimeters or an "alternative-monitoring plan" be used to demonstrate soil-aquifer treatment and compliance with the requirements of the order. As discussed in Section 2, four lysimeters were installed at 5, 10, 15, and 25 feet bgs. **EC was used as a tracer or indicator of the source of water.** The following matrix provides information on EC for various water sources that were recharged:

Statistic	EC (µmhos/cm)			
	SWP[1]	RP-1[1]	RP-4[1]	Stormwater[2]
Minimum	319	700	735	
Maximum	375	710	750	
Mean	343	704	750	130
Standard Deviation	23	5	6	
Mean + 2*SD	297	694	730	
Mean + 2*SD	390	713	755	

[1]WEI and IEUA, 2005; WEI and IEUA, 2006; MWD 2005 and MWD 2006
[2]WEI, 2005a

Tables 4-1 and 4-2 provides the results of EC measurements for surface water grab samples collected from Hickory Basin as well as samples collected from the lysimeters from September 9, 2005 through March 8, 2006. Figures 6-1 and 6-2 are a time history of EC values for the basin and the lysimeters. In the upper part of the graph, the period when various sources of water were diverted into Hickory Basin are represented as bars. EC in the basin and in the lysimeters increases after September 9, 2005 when recycled water was first introduced into Hickory Basin. Recycled water reached all the lysimeters by October 4, 2005, and the EC values remain fairly stable. A significant storm events occurred on October 17 and 18, 2005, resulting in about 22 acre feet (AF), December 31, 2005 and January 1, 2006 resulting in about 30 AF, and February 28 through March 3, 2006 resulting in about 37 AF of stormwater entering Hickory Basin. One sees an EC concentration decrease in the basin, with delayed responses in the lysimeters in order of greater depth.

Tables 4-1 and 4-2 contain cells that are shaded to indicate which samples are representative of a recycled water component of greater than or equal to 75 percent. When the diluent water is primarily imported water, the percentage is based on an average SWP EC of 343 µmhos/cm and average recycled water EC of 727 µmhos/cm. A sample with a 75 percent or greater recycled water component would have an EC of 630 µmhos/cm or greater. When the diluent water is primarily stormwater, this is based on an average stormwater EC of 130 µmhos/cm and average recycled water EC of 727 µmhos/cm. A sample with a 75 percent or greater recycled water component would have an EC of 578 µmhos/cm or greater.

Based on these results, recycled water reached the 25-foot bgs lysimeters Hickory West Basin on September 20, 2005, and Hickory East Basin on October 4, 2005, which is an average of 18 days after recycled water was introduced into Hickory Basin on September 9, 2005. According to the Order, the Start-Up Period can be no longer than 180 days (Finding 9, page 3). The Start-Up Period continued for the full 180 days, due to interruptions by storm flow and because the concentrations of TOC in all the lysimeters continued to decrease during the Start-Up Period. T**he Start-Up Period for Hickory Basin was September 9, 2005 through March 8, 2006.**

6.2 Compliance Point Lysimeter Selection

As demonstrated in Figure 6-1a/b, all lysimeters at Hickory Basin are representative of recharged water, *i.e.*, there appears to be no geologic features that would cause anomalous results: preferential pathways or lenses of fine grained materials. As discussed in Section 5, the SAT is quite effective and there appears to be additional reduction of TOC with increasing depth. **Therefore, the 25-foot bgs lysimeter was selected to be the compliance point lysimeter.**

7. RWC Determination and Recycled Water Management Plan

Finding 8 of the Order (RWQCB, 2005a) states:

> This Order limits the maximum average recycled water contribution (RWC) at each basin, based on a 60-month running average, to 20 percent, unless a higher percentage is approved in advance by CDHS and the Regional Board. Diluents will be stormwater and imported State Project Water from Northern California that is purchased from Metropolitan Water District of Southern California. Stormwater will be local captured runoff originating from the watersheds along the southern extent of the San Gabriel Mountains and from the developed and undeveloped areas below the mountains.

Table 7-1 shows the diluent water history, prior to the Start-Up Period in Hickory Basin, as well as the volume of diluent water and recycled water that were recharged during the Start-Up Period. The column with the heading, "RWC" provides a calculation of RWC based on a 60-month moving average. At the end of the Start-Up Period, the RWC was 13.6 percent. Table 7-1 also shows a Recycled Water Management Plan that forecasts deliveries of recycled water and recharge of diluent water for the first 60 months following the initiation of recycled water recharge. A Recycled Water Management Plan was included in the Annual Report and the plan will be updated annually. The Recycled Water Management Plan included in Table 7-1 and Figure 7-1 shows excursions above the RWC limit of 20 percent, but that ultimately the limit would be met by 60 months of operations.

As shown in Tables 4-3 and 4-4, the average percent reduction in TOC during the Start-Up Period for Hickory Basin West and East Cells was 66 and 81 percent, respectively, while the blend of recycled water was greater than or equal to 75 percent. Note that SAT is more efficient when the basin is recharging recycled water than it is when recharging imported water or stormwater. This is consistent with the TOC in State Water Project water and stormwater being less biodegradable. The average percent reduction in TN during the Start-Up Period for Hickory Basin West and East Cells was 49 and 35 percent, respectively, while the blend of recycled water was greater than or equal to 75 percent (Table 4-7 and 4-8). The SAT treatment was very effective at removing TOC and TN in the upper 25 feet of soil. One might expect further reduction in TOC and TN concentrations with depth. **Based on the results in Tables 4-2 and 4-3 and Figures 4-7 and 4-8, Hickory Basin can achieve a running average TOC of 2 mg/L at 25 feet bgs. Based on the formula in the permit (RWQCB, 2005a):**

$$TOC_{average} = \frac{0.5 mg/L}{RWC_{average}}$$

a TOC of 2 mg/L in the compliance point lysimeter would allow an RWC of 25 percent. However, the currently permitted maximum RWC for Hickory Basin is initially 20 percent, based on the startup period data.

8. First Year Monitoring Plan

The order (RWQCB, 2005a) Section G.4 allows for recommendations regarding the first year monitoring plan. As shown in the tables and graphs included in this report, lysimeter compliance criteria are consistently met at the 25-foot compliance lysimeter. TOC is reduced by SAT at an average rate of approximately 73 percent and nitrogen species compliance criteria are met at the RP-1 and RP-4 effluent. **In light of the generally beneficial trends seen in the lysimeter data, we recommend the minimum first year lysimeter monitoring plan shown in the matrix below.**

Analytes	Start -Up	Initial Year Monitoring Plan				
		Jan-Mar 2006 1st Qtr	Apr-Jun 2006 2nd Qtr	Jul-Aug 2006 3rd Qtr	Sep-Dec 2006 4th Qtr	Jan-Mar 2007 1st Qtr
	sampling events per week					
Total Organic Carbon	1	0	0	every other	every other	every other
Total Nitrogen	2	0	0			
Total Inorganic Nitrogen	2	0	0			
Nitrate-Nitrogen	2	0	0			
Nitrite, ammonia, organic nitrogen	2	0	0			
Nitrite-Nitrogen	2	0	0			

Sampling would only be conducted when recycled water is shown to be in the basin or in the lysimeters, based on basin operations and EC.

9. References

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California Regional Water Quality Control Board, Santa Ana Region. 2005b. Monitoring and Reporting Program No. R8-2005-0033 for Inland Empire Utilities Agency and Chino Basin Watermaster. Phase 1 Chino Basin Recycled Water Groundwater Recharge Project, San Bernardino County. April 15, 2005.

Metropolitan Water District of Southern California. 2005. Table D. Monthly Analyses of the District Water Supplies – July 2005.

Metropolitan Water District of Southern California. 2005. Table D. Monthly Analyses of the District Water Supplies – August 2005.

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Wildermuth Environmental, Inc. and the Inland Empire Utilities Agency. 2005. Chino Basin Recycled Water Recharge Program. Quarterly Monitoring Report July through September 2005. November 15, 2006.

Wildermuth Environmental, Inc. and the Inland Empire Utilities Agency. 2006. Chino Basin Recycled Water Recharge Program. Quarterly Monitoring Report October through December 2005. February 15, 2006.

Table 2-1
Soil Sample Leaching Analytical Results for Hickory Basin

Sample No.	Total Organic Carbon	Nitrate	Nitrite	Total Kjeldahl Nitrogen	Total Dissolved Solids	Metals*
HW-25A-5	2210	<1.0	0.017	0.35	6020	Cobalt – 0.01 Copper – 0.38 Zinc – 0.26
HW-25A-10	2120	<1.0	<0.015	0.49	5320	Cobalt – 0.01 Copper – 0.32 Zinc – 0.28
HW-25A-15	2110	<1.0	<0.015	0.36	5290	Cobalt – 0.02 Copper – 0.40 Zinc – 0.32
HW-25A-20	2090	<1.0	<0.015	0.3	5340	Copper – 0.02 Lead – 0.50 Zinc – 0.34
HW-25A-25	2110	<1.0	<0.015	0.3	5420	Chromium – 0.01 Cobalt – 0.02 Copper – 0.47 Zinc – 0.33
HE-25A-5	2070	<1.0	0.016	0.57	5300	Copper – 0.01 Zinc – 0.03
HE-25A-10	2070	<1.0	0.016	0.31	5300	Cobalt – 0.02 Copper – 0.43 Zinc – 0.31
HE-25A-15	2100	<1.0	<0.015	0.3	5280	Cobalt – 0.02 Copper – 0.44 Zinc – 0.27
HE-25A-20	2040	<1.0	0.016	0.32	5260	Cobalt – 0.02 Copper – 0.30 Zinc – 0.23
HE-25A-25	2090	<1.0	<0.015	0.3	5180	Cobalt – 0.01 Copper – 0.15 Zinc – 0.17

Note:
All units are in milligrams per liter (mg/L)
*= All metals not listed below were less than the method detection limit

Table 3-1
Estimated Volume of Historical Diluent Water Recharged
(acre-feet)

Hickory Basin

Year	July	August	September	October	November	December	January	February	March	April	May	June	Total	Average per Month
2000/01	0	0	0	2	0	0	10	13	6	6	0	0	37	3
2001/02	1	0	0	0	61	2	35	0	4	1	0	0	105	9
2002/03	0	0	0	0	82	122	0	146	106	89	7	0	551	46
2003/04	0	0	0	0	5	35	1	129	55	0	0	0	224	19
2004/05	0	0	0	118	2	39	150	127	27	4	0	0	467	39
Monthly Average	0	0	0	24	30	40	39	83	39	20	1	0		
												Total	**1384**	

Source: WEI (2005) Estimates for Chino Basin Watermaster and IEUA

Table 3-2
Volume of Diluent and Recycled Water Recharged
Hickory Basin (AF)

Date	Imported Water (MWD CB 18)	Local Runoff/Storm Flow	Recycled Water
07/01/05	0	4	0
07/02/05	3	4	0
07/03/05	3	4	0
07/04/05	3	4	0
07/05/05	5	4	0
07/06/05	10	4	0
07/07/05	5	4	0
07/08/05	2	4	0
07/09/05	2	4	0
07/10/05	2	4	0
07/11/05	8	4	0
07/12/05	6	4	0
07/13/05	4	4	0
07/14/05	4	4	0
07/15/05	4	4	0
07/16/05	4	4	0
07/17/05	4	4	0
07/18/05	4	4	0
07/19/05	4	4	0
07/20/05	0	4	0
07/21/05	0	4	0
07/22/05	0	4	0
07/23/05	0	4	0
07/24/05	0	4	0
07/25/05	0	4	0
07/26/05	0	4	0
07/27/05	4	4	0
07/28/05	11	4	0
07/29/05	14	4	0
07/30/05	17	4	0
07/31/05	17	4	0
08/01/05	20	4	0
08/02/05	26	4	0
08/03/05	29	4	0
08/04/05	32	4	0
08/05/05	32	4	0
08/06/05	33	4	0
08/07/05	29	4	0
08/08/05	26	4	0
08/09/05	18	4	0
08/10/05	15	4	0
08/11/05	12	4	0
08/12/05	13	4	0
08/13/05	12	4	0
08/14/05	13	4	0
08/15/05	13	4	0
08/16/05	7	4	0
08/17/05	0	0	0
08/18/05	6	2	0
08/19/05	12	2	0
08/20/05	12	2	0
08/21/05	12	2	0
08/22/05	4	2	0
08/23/05	8	2	0
08/24/05	14	2	0
08/25/05	7	2	0
08/26/05	0	0	0

Table 3-2
Volume of Diluent and Recycled Water Recharged
Hickory Basin (AF)

Date	Imported Water (MWD CB 18)	Local Runoff/Storm Flow	Recycled Water
08/27/05	0	0	0
08/28/05	0	0	0
08/29/05	0	0	0
08/30/05	0	0	0
08/31/05	0	0	0
09/01/05	5	2	0
09/02/05	11	2	0
09/03/05	11	2	0
09/04/05	11	2	0
09/05/05	11	2	0
09/06/05	11	2	0
09/07/05	11	2	0
09/08/05	3	2	0
09/09/05	0	1	7
09/10/05	0	2	6
09/11/05	0	2	6
09/12/05	0	2	0
09/13/05	0	2	6
09/14/05	0	2	6
09/15/05	0	2	6
09/16/05	0	2	6
09/17/05	0	2	6
09/18/05	0	2	6
09/19/05	0	2	6
09/20/05	0	23	2
09/21/05	0	0	11
09/22/05	0	0	11
09/23/05	0	0	10
09/24/05	0	0	11
09/25/05	0	0	11
09/26/05	0	0	11
09/27/05	0	0	11
09/28/05	0	0	0
09/29/05	0	0	0
09/30/05	0	0	0
10/01/05	0	0	0
10/02/05	0	0	0
10/03/05	0	0	0
10/04/05	0	0	0
10/05/05	0	0	7
10/06/05	0	0	10
10/07/05	0	0	10
10/08/05	0	0	7
10/09/05	0	0	7
10/10/05	0	0	6
10/11/05	0	0	7
10/12/05	0	0	7
10/13/05	0	0	8
10/14/05	0	0	8
10/15/05	0	0	7
10/16/05	0	0	4
10/17/05	0	11	0
10/18/05	0	11	0
10/19/05	0	0	0

Table 3-2
Volume of Diluent and Recycled Water Recharged
Hickory Basin (AF)

Date	Imported Water (MWD CB 18)	Local Runoff/Storm Flow	Recycled Water
10/20/05	0	0	0
10/21/05	0	0	0
10/22/05	0	0	0
10/23/05	0	0	0
10/24/05	0	0	0
10/25/05	0	0	0
10/26/05	0	0	0
10/27/05	0	0	0
10/28/05	0	0	0
10/29/05	0	0	1
10/30/05	0	0	1
10/31/05	0	0	1
11/01/05	0	0	0
11/02/05	0	0	2
11/03/05	0	0	3
11/04/05	0	0	3
11/05/05	0	0	3
11/06/05	0	0	6
11/07/05	0	0	1
11/08/05	0	0	0
11/09/05	0	0	4
11/10/05	0	0	0
11/11/05	0	0	5
11/12/05	0	0	9
11/13/05	0	0	8
11/14/05	0	0	1
11/15/05	0	0	0
11/16/05	0	0	3
11/17/05	0	0	4
11/18/05	0	0	7
11/19/05	0	0	3
11/20/05	0	0	3
11/21/05	0	0	1
11/22/05	0	0	0
11/23/05	0	0	0
11/24/05	0	0	5
11/25/05	0	0	5
11/26/05	0	0	5
11/27/05	0	0	6
11/28/05	0	0	4
11/29/05	0	0	0
11/30/05	0	0	0
12/01/05	0	0	3
12/02/05	0	0	0
12/03/05	0	0	0
12/04/05	0	0	0
12/05/05	0	0	0
12/06/05	0	0	0
12/07/05	0	0	4
12/08/05	0	0	0
12/09/05	0	1	0
12/10/05	0	0	0
12/11/05	0	0	0
12/12/05	0	0	0

Table 3-2
Volume of Diluent and Recycled Water Recharged
Hickory Basin (AF)

Date	Imported Water (MWD CB 18)	Local Runoff/Storm Flow	Recycled Water
12/13/05	0	0	3
12/14/05	0	0	3
12/15/05	0	0	1
12/16/05	0	0	2
12/17/05	0	0	0
12/18/05	0	0	0
12/19/05	0	0	2
12/20/05	1	0	0
12/21/05	0	0	0
12/22/05	0	0	2
12/23/05	0	0	0
12/24/05	0	0	3
12/25/05	0	0	2
12/26/05	0	0	0
12/27/05	0	0	0
12/28/05	0	0	0
12/29/05	0	0	0
12/30/05	0	0	2
12/31/05	0	18	4
01/01/06	0	12	5
01/02/06	0	0	3
01/03/06	0	0	0
01/04/06	0	0	0
01/05/06	0	0	0
01/06/06	0	0	0
01/07/06	0	0	0
01/08/06	0	0	0
01/09/06	0	0	0
01/10/06	0	0	0
01/11/06	0	0	0
01/12/06	0	0	0
01/13/06	0	0	0
01/14/06	0	1	0
01/15/06	0	0	0
01/16/06	0	0	0
01/17/06	0	0	0
01/18/06	0	0	10
01/19/06	0	0	9
01/20/06	0	0	9
01/21/06	0	0	6
01/22/06	0	0	11
01/23/06	0	0	11
01/24/06	0	0	8
01/25/06	0	0	0
01/26/06	0	0	4
01/27/06	0	0	0
01/28/06	0	0	3
01/29/06	0	0	1
01/30/06	0	0	0
01/31/06	0	0	3
02/01/06	0	0	4
02/02/06	0	0	0
02/03/06	0	0	7
02/04/06	0	0	7
02/05/06	0	0	6
02/06/06	0	0	0
02/07/06	0	0	1

Table 3-2
Volume of Diluent and Recycled Water Recharged
Hickory Basin (AF)

Date	Imported Water (MWD CB 18)	Local Runoff/Storm Flow	Recycled Water
02/08/06	0	0	5
02/09/06	0	0	3
02/10/06	0	0	5
02/11/06	0	0	0
02/12/06	0	0	5
02/13/06	0	0	5
02/14/06	0	0	0
02/15/06	0	0	8
02/16/06	0	0	4
02/17/06	0	0	0
02/18/06	0	0	4
02/19/06	0	0	4
02/20/06	0	0	7
02/21/06	0	0	5
02/22/06	0	0	1
02/23/06	0	0	0
02/24/06	0	0	0
02/25/06	0	0	0
02/26/06	0	0	0
02/27/06	0	0	0
02/28/06	0	35	0
03/01/06	0	2	0
03/02/06	0	0	0
03/03/06	0	8.8.	0
03/04/06	0	0	0
03/05/06	0	0	0
03/06/06	0	0	0
03/07/06	0	0	0
03/08/06	0	0	0
Totals	**1.4**	**40.8**	**216.6**

Table 3-3

Recycled Water Contribution for Hickory Basin

Source of Recharged Water	Units	Hickory
Historical Diluent - Previous 54 months	AF	1382
State Water Project Water: 3Q05	AF	621
State Water Project Water: 4Q05	AF	1
Local Runoff: 3Q05	AF	262
Local Runoff: 4Q05	AF	41
Recycled Water: 3Q05	AF	147
Recycled Water: 4Q05	AF	217
Recycled Water Contribution		13.6%

Table 4-1
Basin and Lysimeter Monitoring Results for Hickory West Basin: Electrical Conductivity

Station ID	Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter
			5	10	15	25	
8/2/2005	µmhos/cm	330	360	NT	NT	350	Residual Water
8/9/2005	µmhos/cm	320	340	NT	NT	330	Residual Water
8/16/2005	µmhos/cm	345	345	NT	NT	335	Residual Water
8/23/2005	µmhos/cm	310	345	NT	NT	320	Residual Water
8/26/2005	µmhos/cm	340	400	NT	NT	355	Residual Water
8/30/2005	µmhos/cm	295	NT	NT	NT	350	Residual Water
9/6/2005	µmhos/cm	415	NT	NT	NT	375	Residual Water
9/13/2005	µmhos/cm	640	580	NT	NT	455	54%
9/20/2005	µmhos/cm	660	695	NT	NT	670	90%
9/27/2005	µmhos/cm	695	630	NT	NT	635	85%
10/4/2005	µmhos/cm	690	755	NT	NT	645	86%
10/13/2005	µmhos/cm	800	NT	NT	NT	760	100%
10/18/2005	µmhos/cm	505	1020	NT	NT	770	100%
10/25/2005	µmhos/cm	455	NT	NT	NT	940	100%
11/1/2005	µmhos/cm	NS-BD	NT	NT	NT	950	100%
11/8/2005	µmhos/cm	NS-BD	NT	NT	NT	930	100%
11/15/2005	µmhos/cm	735	880	775	NT	760	100%
11/22/2005	µmhos/cm	725	790	835	975	730	100%
11/29/2005	µmhos/cm	745	740	915	NT	710	97%
12/6/2005	µmhos/cm	745	750	880	885	730	100%
12/13/2005	µmhos/cm	745	755	855	850	735	100%
12/20/2005	µmhos/cm	735	750	845	845	750	100%
12/27/2005	µmhos/cm	745	745	820	820	730	100%
1/3/2006	µmhos/cm	330	NT	855	830	765	100%
1/10/2006	µmhos/cm	330	390	715	725	460	55%
1/17/2006	µmhos/cm	345	400	685	680	445	53%
1/24/2006	µmhos/cm	680	570	695	600	600	79%
1/31/2006	µmhos/cm	798	730	NT	NT	580	75%
2/7/2006	µmhos/cm	800	815	805	750	805	100%
2/14/2006	µmhos/cm	825	840	845	815	810	100%
2/21/2006	µmhos/cm	795	830	910	905	850	100%
2/28/2006	µmhos/cm	270	820	925	915	835	100%
3/3/2006	µmhos/cm	NT	NT	NT	NT	370	40%
3/7/2006	µmhos/cm	235	280	NT	745	310	0%
3/14/2006	µmhos/cm	215	245	NT	675	280	0%

NS-BD: Not Sampled-Basin Dry

NT: Insufficient Sample for Analytical Test

IDC: Insufficient Data for Calculation

Indicates that the sampled water is >75 percent recycled water, based on:

SWP = 343 umhos/cm
RW = 727 umhos/cm
→ 75 percent recycled water would have an EC of 630 umhos/cm or greater.

SWP = 343 umhos/cm
Local Runoff = 130 umhos/cm
→ 75 percent recycled water would have an EC of 578 umhos/cm or greater.

Table 4-2
Basin and Lysimeter Monitoring Results for Hickory East Basin: Electrical Conductivity

Station ID	Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter
			5	10	15	25	
8/2/2005	µmhos/cm	330	355	510	620	480	Residual Water
8/9/2005	µmhos/cm	320	342.5	340	570	395	Residual Water
8/16/2005	µmhos/cm	345	292.5	320	370	360	Residual Water
8/23/2005	µmhos/cm	330	345	340	360	NT	Residual Water
8/26/2005	µmhos/cm	340	375	370	400	400	Residual Water
8/30/2005	µmhos/cm	385	NT	NT	NT	420	Residual Water
9/6/2005	µmhos/cm	NS-BD	NT	NT	NT	425	Residual Water
9/13/2005	µmhos/cm	640	555	400	410	440	52%
9/20/2005	µmhos/cm	665	645	415	640	445	53%
9/27/2005	µmhos/cm	780	750	695	650	485	59%
10/4/2005	µmhos/cm	700	735	725	750	755	100%
10/13/2005	µmhos/cm	775	815	760	715	735	100%
10/18/2005	µmhos/cm	440	765	765	750	760	100%
10/25/2005	µmhos/cm	470	470	735	780	770	100%
11/1/2005	µmhos/cm	765	530	735	775	790	100%
11/8/2005	µmhos/cm	700	770	645	710	775	100%
11/15/2005	µmhos/cm	760	775	590	680	NT	*98%*
11/22/2005	µmhos/cm	715	NT	560	635	NT	*96%*
11/29/2005	µmhos/cm	750	880	560	595	NT	*95%*
12/6/2005	µmhos/cm	790	820	645	590	685	93%
12/13/2005	µmhos/cm	750	810	650	590	NT	*94%*
12/20/2005	µmhos/cm	715	850	720	605	NT	*95%*
12/27/2005	µmhos/cm	790	810	735	635	NT	*96%*
1/3/2006	µmhos/cm	270	835	780	655	NT	*97%*
1/10/2006	µmhos/cm	280	440	795	700	NT	*98%*
1/17/2006	µmhos/cm	815	NT	805	740	NT	*99%*
1/24/2006	µmhos/cm	885	785	845	785	765	100%
1/31/2006	µmhos/cm	865	900	NT	665	NT	*100%*
2/7/2006	µmhos/cm	825	865	770	810	770	100%
2/14/2006	µmhos/cm	855	835	830	860	870	100%
2/21/2006	µmhos/cm	790	790	780	800	850	100%
2/28/2006	µmhos/cm	185	810	755	800	805	100%
3/7/2006	µmhos/cm	160	NT	725	735	NT	*100%*
3/14/2006	µmhos/cm	140	NT	625	610	755	100%

NS-BD: Not Sampled-Basin Dry

NT: Insufficient Sample for Analytical Test

IDC: Insufficient Data for Calculation

Indicates that the sampled water is >75 percent recycled water, based on:

SWP = 343 umhos/cm
RW = 727 umhos/cm
→ 75 percent recycled water would have an EC of 630 umhos/cm or grea

SWP = 343 umhos/cm
Local Runoff = 130 umhos/cm
→ 75 percent recycled water would have an EC of 578 umhos/cm or grea

95% Denotes an interpolated value.

Table 4-3
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
06/10/05	6.3	7.2	7.8	4.9	*3.0*		Residual Water	53%
06/15/05	13.4	6.4	NT	NT	2.8		Residual Water	79%
06/20/05	17.2	NT	NT	NT	2.8		Residual Water	84%
06/27/05	5.5	7.1	NT	NT	2.9		Residual Water	47%
07/05/05	6.3	4.9	NT	NT	2.9		Residual Water	54%
07/12/05	6.1	4.0	NT	NT	2.6		Residual Water	57%
07/19/05	5.1	3.8	NT	NT	2.6		Residual Water	49%
07/26/05	8.8	5.4	NT	NT	2.8		Residual Water	68%
08/02/05	5.1	4.4	NT	NT	2.9		Residual Water	43%
08/09/05	4.4	3.8	NT	NT	2.5		Residual Water	43%
08/16/05	20.0	3.5	NT	NT	2.5		Residual Water	88%
08/23/05	6.5	5.0	NT	NT	3.7		Residual Water	43%
08/30/05	6.9	4.9	NT	NT	2.7		Residual Water	61%
09/13/05	8.3	4.7	NT	NT	2.4		54%	71%
09/20/05	21.6	4.8	NT	NT	3.1	3.1	90%	61%
09/27/05	14.1	16.2	NT	NT	10.0	6.6	85%	37%
10/04/05	98.4	9.8	NT	NT	7.2	7.4	86%	56%
10/13/05	10.7	5.7	NT	NT	4.3	6.7	100%	96%
10/18/05	10.5	4.7	NT	NT	3.9	6.3	100%	93%
10/25/05	11.8	NT	NT	NT	2.8	5.7	100%	74%
11/15/05	7.9	6.1	7.1	NT	5.0	5.1	100%	49%
11/22/05	7.1	4.1	5.5	9.2	3.4	5.0	100%	60%
11/25/05	8.0	5.4	5.4	9.5	3.5	4.9	*98%*	56%
11/29/05	8.3	4.0	4.8	12.3	3.8	4.8	97%	50%
12/02/05	7.4	4.1	3.7	4.4	3.5	4.8	98%	51%
12/06/05	7.4	4.4	3.7	4.1	3.3	4.7	100%	59%
12/09/05	9.1	4.6	3.7	3.8	3.6	4.7	*100%*	57%
12/13/05	9.6	5.5	4.1	4.5	3.1	4.6	100%	58%
12/16/05	8.7	4.6	3.3	3.7	2.9	4.5	*100%*	60%
12/20/05	8.1	5.0	3.5	3.7	2.7	4.5	100%	71%
12/23/05	8.9	4.8	3.4	5.1	2.6	4.4	*100%*	73%
12/27/05	8.4	4.7	3.6	3.6	2.5	4.3	100%	71%
12/30/05	8.4	4.2	3.5	3.5	3.5	4.3	*100%*	56%
01/03/06	7.9	4.7	3.4	3.4	2.4	4.2	100%	73%
01/10/06	7.0	3.7	3.1	3.5	2.1		55%	75%
01/17/06	7.0	3.6	3.0	3.3	1.9		53%	74%
01/24/06	7.1	3.1	2.6	3.1	1.7	1.7	79%	76%
01/31/06	7.2	3.3	2.6	3.0	1.9	1.8	75%	72%
02/07/06	7.8	3.6	2.7	3.0	2.2	2.0	100%	69%
02/14/06	8.0	4.4	2.8	2.9	2.4	2.1	100%	69%
02/21/06	7.8	4.4	3.0	3.0	2.2	2.1	100%	72%
02/28/06	7.2	4.5	2.9	3.1	2.2	2.1	100%	72%
03/07/06	5.6	3.0	1.9	3.1	1.7		0%	77%
03/14/06	5.4	2.9	NT	3.0	1.9		0%	69%
Average	**17.9**	**4.9**	**3.5**	**4.0**	**3.6**	**4.9**		**66%**

NS-BD: Not Sampled-Basin Dry
NT: Insufficient Sample for Analytical Test
IDC: Insufficient Data for Calculation
Indicates that the sampled water is >75 percent recycled water
64% Denotes an interpolated value.

Table 4-4
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
06/10/05	6.0	4.0	2.3	2.8	*1.9*		Residual Water	68%
06/15/05	NT	3.7	2.6	2.4	1.4		Residual Water	IDC
06/20/05	NT	NT	2.2	2.1	1.3		Residual Water	IDC
06/27/05	6.8	3.2	3.2	2.2	1.6		Residual Water	77%
07/05/05	6.6	3.2	2.4	2.2	1.5		Residual Water	77%
07/12/05	5.7	3.1	2.9	2.1	1.6		Residual Water	72%
07/19/05	5.2	2.7	2.7	1.9	1.2		Residual Water	78%
07/26/05	NT	3.0	2.6	1.8	1.2		Residual Water	IDC
08/02/05	6.2	3.3	2.8	2.1	1.2		Residual Water	81%
08/09/05	4.5	3.2	3.0	2.2	1.6		Residual Water	64%
08/16/05	20.1	2.9	3.0	2.7	1.8		Residual Water	91%
08/23/05	6.4	6.7	6.9	5.3	2.3		Residual Water	64%
08/30/05	14.4	4.0	4.3	3.7	2.6		Residual Water	82%
09/06/05	NS-BD	3.5	3.8	2.9	2.5		Residual Water	IDC
09/13/05	8.2	3.7	3.2	2.5	2.7		52%	68%
09/20/05	9.4	3.4	3.0	2.4	2.2		53%	77%
09/27/05	7.2	4.0	3.4	2.9	2.1		59%	70%
10/04/05	19.8	8.1	4.0	3.2	2.8	2.8	100%	71%
10/13/05	9.0	5.4	4.1	3.5	2.3	2.5	100%	75%
10/18/05	10.6	3.3	2.9	2.5	2.3	2.5	100%	73%
10/25/05	11.5	3.5	2.5	2.1	3.2	2.6	100%	74%
11/01/05	8.3	2.6	2.1	2.0	2.0	2.6	100%	88%
11/08/05	7.9	2.5	2.1	1.8	1.7	2.4	100%	82%
11/15/05	10.5	2.6	5.3	1.8	2.1	2.3	*97%*	81%
11/22/05	7.9	1.8	1.4	1.3	1.4	2.2	*96%*	86%
11/25/05	7.6	1.9	1.5	1.4	1.3	2.2	*95%*	85%
11/29/05	7.8	2.4	1.6	1.2	1.6	2.1	*94%*	81%
12/02/05	7.8	2.4	1.9	1.3	1.3	2.1	*94%*	83%
12/06/05	10.0	1.9	1.7	1.3	1.2	2.0	93%	85%
12/09/05	9.9	1.7	1.4	1.3	1.3	2.0	*93%*	85%
12/13/05	11.7	2.4	1.5	1.6	1.5	2.0	*94%*	84%
12/16/05	9.3	2.0	1.3	1.1	1.1	1.9	*94%*	87%
12/20/05	9.3	2.6	1.4	1.2	1.2	1.9	*95%*	84%
12/23/05	10.2	2.2	1.3	1.2	1.1	1.9	*95%*	82%
12/27/05	7.9	2.0	1.4	1.2	1.3	1.8	*96%*	84%
12/30/05	8.8	2.3	1.6	1.3	1.2	1.8	*96%*	85%
01/03/06	7.9	2.0	1.4	1.2	1.2	1.8	*97%*	85%
01/10/06	7.5	2.2	1.5	1.3	1.3	1.8	*98%*	88%
01/17/06	11.4	2.1	1.4	1.3	1.1	1.7	*99%*	88%
01/24/06	7.2	2.0	2.5	1.3	1.1	1.7	100%	88%
01/31/06	8.2	2.9	1.8	1.2	1.1	1.6	*100%*	86%
02/07/06	8.0	3.5	2.0	1.6	1.2	1.6	100%	87%
02/14/06	7.9	3.8	3.0	2.1	1.3	1.6	100%	86%
02/21/06	7.4	3.6	3.1	2.5	2.2	1.6	100%	71%
02/28/06	6.9	3.1	2.5	2.4	2.2	1.6	100%	73%
03/07/06	5.9	2.5	3.0	2.1	1.8	1.7	*100%*	77%
03/14/06	5.9	NT	2.1	1.7	1.7	1.7	100%	78%
Average	**9.2**	**3.2**	**2.3**	**1.8**	**1.7**	**1.9**		**81%**

NS-BD: Not Sampled-Basin Dry

NT: Insufficient Sample for Analytical Test

IDC: Insufficient Data for Calculation

Indicates that the sampled water is >75 percent recycled water

Table 4-5
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HW-SW	0 ft	06/10/05	NT	0.02	0.2	1.20	1.4
HW-5	5 ft	06/10/05	NT	0.05	0.5	0.49	1.0
HW-25B	25 ft	06/10/05	<0.1	0.04	1.0	0.33	1.4
HW-25A	25 ft	06/10/05	<0.1	0.02	1.5	0.33	1.9
HW-SW	0 ft	06/15/05	<0.1	0.04	<0.1	1.90	1.9
HW-5	5 ft	06/15/05	<0.1	0.01	<0.1	0.50	0.5
HW-25	25 ft	06/15/05	<0.1	0.02	0.3	0.32	0.6
HW-SW	0 ft	06/20/05	0.2	0.01	<0.1	2.10	2.1
HW-5	5 ft	06/20/05	NT	NT	NT	0.93	IDC
HW-25	25 ft	06/20/05	0.1	<0.01	0.3	0.46	0.8
HW-5	5 ft	06/23/05	NT	NT	NT	0.52	IDC
HW-25B	25 ft	06/23/05	0.1	<0.01	0.3	0.24	0.5
HW-SW	0 ft	06/27/05	0.1	0.02	0.4	0.81	1.2
HW-5	5 ft	06/27/05	0.1	0.06	5.3	1.00	6.3
HW-25	25 ft	06/27/05	0.1	0.01	0.7	0.42	1.1
HW-SW	0 ft	06/30/05	0.1	0.05	<0.1	0.74	0.8
HW-5	5 ft	06/30/05	0.1	0.01	0.6	0.31	0.9
HW-15	15 ft	06/30/05	0.1	0.02	1.3	NT	IDC
HW-25	25 ft	06/30/05	0.1	0.02	0.6	<0.2	0.6
HW-SW	0 ft	07/05/05	0.1	0.05	0.1	0.54	0.7
HW-5	5 ft	07/05/05	0.1	0.01	0.4	0.36	0.7
HW-25	25 ft	07/05/05	0.1	0.02	0.4	0.25	0.7
HW-SW	0 ft	07/07/05	0.1	0.01	0.1	0.50	0.6
HW-5	5 ft	07/07/05	0.1	<0.01	0.2	0.50	0.7
HW-25	25 ft	07/07/05	0.1	0.02	0.4	0.35	0.8
HW-SW	0 ft	07/12/05	0.2	0.10	0.2	1.40	1.7
HW-5	5 ft	07/12/05	0.1	<0.01	0.2	0.27	0.5
HW-25	25 ft	07/12/05	0.1	0.01	0.4	0.2	0.6
HW-SW	0 ft	07/15/05	0.1	0.02	0.2	0.73	1.0
HW-5	5 ft	07/15/05	0.1	0.03	0.1	0.31	0.4
HW-25	25 ft	07/15/05	0.1	0.01	0.5	0.21	0.7
HW-SW	0 ft	07/19/05	0.1	0.11	0.1	0.76	1.0
HW-5	5 ft	07/19/05	1.0	0.08	0.2	0.38	0.6
HW-25	25 ft	07/19/05	0.1	<0.01	0.5	0.27	0.8
HW-SW	0 ft	07/22/05	0.1	<0.01	<0.1	0.93	0.9
HW-5	5 ft	07/22/05	0.1	0.02	<0.1	0.46	0.5
HW-25	25 ft	07/22/05	0.1	<0.01	0.5	0.22	0.7
HW-SW	0 ft	07/26/05	0.2	<0.01	<0.1	1.4	1.4
HW-5	5 ft	07/26/05	0.1	<0.01	<0.1	0.51	0.5
HW-25	25 ft	07/26/05	0.1	<0.01	0.2	0.23	0.4
HW-SW	0 ft	07/29/05	0.1	0.02	<0.1	0.92	0.9
HW-5	5 ft	07/29/05	0.1	<0.01	<0.1	0.55	0.6
HW-25	25 ft	07/29/05	0.1	<0.01	0.1	0.36	0.5
HW-SW	0 ft	08/02/05	0.1	0.05	0.2	0.74	1.0
HW-5	5 ft	08/02/05	0.1	<0.01	<0.1	0.44	0.4
HW-25	25 ft	08/02/05	0.1	<0.01	0.4	0.28	0.7
HW-SW	0 ft	08/05/05	0.1	0.02	<0.1	1.1	1.1
HW-5	5 ft	08/05/05	0.1	<0.01	0.2	0.35	0.6
HW-25	25 ft	08/05/05	0.2	<0.01	0.4	0.31	0.7

Table 4-5
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HW-SW	0 ft	08/09/05	<0.1	0.01	<0.1	0.53	0.5
HW-5	5 ft	08/09/05	<0.1	0.02	0.1	0.31	0.4
HW-25	25 ft	08/09/05	<0.1	<0.01	0.4	0.22	0.6
HW-SW	0 ft	08/12/05	<0.1	0.01	<0.1	0.5	0.5
HW-5	5 ft	08/12/05	<0.1	<0.01	<0.1	0.28	0.3
HW-25	25 ft	08/12/05	<0.1	<0.01	0.3	0.22	0.6
HW-SW	0 ft	08/16/05	<0.1	0.17	0.8	1.40	2.4
HW-5	5 ft	08/16/05	<0.1	<0.01	0.1	0.29	0.4
HW-25	25 ft	08/16/05	<0.1	<0.01	0.3	0.18	0.5
HW-SW	0 ft	08/19/05	0.2	0.07	0.2	1.0	1.3
HW-5	5 ft	08/19/05	0.1	<0.01	<0.1	0.61	0.6
HW-25	25 ft	08/19/05	0.1	<0.01	0.1	0.38	0.4
HW-SW	0 ft	08/23/05	0.1	<0.01	<0.1	0.6	0.6
HW-5	5 ft	08/23/05	<0.1	<0.01	0.2	0.3	0.5
HW-25	25 ft	08/23/05	0.1	<0.01	0.5	0.22	0.7
HW-SW	0 ft	08/26/05	<0.1	0.02	<0.1	0.5	0.5
HW-5	5 ft	08/26/05	<0.1	<0.01	<0.1	0.84	0.8
HW-25	25 ft	08/26/05	<0.1	<0.01	0.3	0.2	0.5
HW-SW	0 ft	08/30/05	0.1	0.02	<0.1	0.76	0.8
HW-5	5 ft	08/30/05	<0.1	0.01	<0.1	0.38	0.4
HW-25	25 ft	08/30/05	<0.1	<0.01	0.4	0.24	0.7
HW-5	5 ft	09/02/05	<0.1	<0.01	1.6	0.36	2.0
HW-25	25 ft	09/02/05	<0.1	<0.01	0.6	0.92	1.5
HW-SW	0 ft	09/06/05	0.1	0.02	<0.1	1.7	1.7
HW-5	5 ft	09/06/05	NT	NT	NT	0.63	IDC
HW-25	25 ft	09/06/05	<0.1	<0.01	0.6	1.95	2.5
HW-SW	0 ft	09/09/05	<0.1	0.01	<0.1	0.77	0.8
HW-5	5 ft	09/09/05	<0.1	<0.01	0.1	0.44	0.5
HW-25	25 ft	09/09/05	<0.1	<0.01	0.8	<0.20	0.8
HW-SW	0 ft	09/13/05	0.1	<0.50	1.4	1.2	2.6
HW-5	5 ft	09/13/05	<0.1	<0.01	0.6	0.41	1.0
HW-25	25 ft	09/13/05	<0.1	<0.20	0.9	0.2	1.1
HW-SW	0 ft	09/16/05	0.1	<0.50	0.5	0.20	0.7
HW-5	5 ft	09/16/05	0.2	<1.00	<1.0	0.2	0.2
HW-25	25 ft	09/16/05	0.1	<0.50	0.5	0.2	0.7
HW-SW	0 ft	09/20/05	0.4	0.06	2.0	2.8	4.9
HW-5	5 ft	09/20/05	0.1	<0.01	0.1	0.48	0.6
HW-25	25 ft	09/20/05	0.1	<0.01	0.7	0.34	1.0
HW-SW	0 ft	09/23/05	0.5	0.37	0.4	0.2	0.9
HW-5	5 ft	09/23/05	0.1	0.01	<0.1	0.2	0.2
HW-25	25 ft	09/23/05	0.1	<0.01	0.6	0.2	0.8
HW-SW	0 ft	09/27/05	0.1	0.04	0.3	1.90	2.2
HW-5	5 ft	09/27/05	0.1	<0.01	<0.1	0.98	1.0
HW-25	25 ft	09/27/05	0.1	<0.01	0.1	0.8	0.9
HW-SW	0 ft	09/30/05	NT	NT	NT	1.7	IDC
HW-5	5 ft	09/30/05	0.1	0.01	0.1	0.96	1.1
HW-25	25 ft	09/30/05	0.1	<0.01	<0.1	0.49	0.5

Table 4-5
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HW-SW	0 ft	10/04/05	0.2	<0.01	<0.1	3.30	3.3
HW-5	5 ft	10/04/05	0.1	<0.01	0.3	0.59	0.9
HW-25	25 ft	10/04/05	<0.1	<0.01	<0.1	0.48	0.5
HW-SW	0 ft	10/07/05	0.5	0.06	0.3	2.4	2.8
HW-5	5 ft	10/07/05	0.1	<0.01	2.5	1.3	3.8
HW-25	25 ft	10/07/05	0.1	<0.01	0.2	0.4	0.6
HW-SW	0 ft	10/13/05	0.1	0.01	0.2	1.7	1.9
HW-5	5 ft	10/13/05	NT	NT	NT	0.74	IDC
HW-25	25 ft	10/13/05	0.1	<0.01	1.0	0.38	1.4
HW-SW	0 ft	10/14/05	0.1	<0.01	<0.1	1.7	1.7
HW-5	5 ft	10/14/05	0.1	<0.01	0.3	0.65	1.0
HW-25	25 ft	10/14/05	0.1	<0.01	0.8	0.32	1.1
HW-SW	0 ft	10/18/05	0.2	0.03	1.0	1.3	2.3
HW-5	5 ft	10/18/05	0.1	<0.01	0.8	0.43	1.3
HW-25	25 ft	10/18/05	0.1	<0.01	0.6	0.4	1.0
HW-SW	0 ft	10/21/05	0.8	0.01	<0.1	3.5	3.5
HW-5	5 ft	10/21/05	0.1	0.02	0.4	0.34	0.7
HW-25	25 ft	10/21/05	<0.1	<0.01	0.7	0.39	1.1
HW-SW	0 ft	10/25/05	0.2	0.02	3.3	1.7	5.0
HW-25	25 ft	10/25/05	0.2	0.01	1.2	0.37	1.6
HW-25	25 ft	11/01/05	0.1	0.01	1.5	0.48	2.0
HW-25	25 ft	11/08/05	0.1	HM	1.6	0.36	IDC
HW-SW	0 ft	11/11/05	0.2	0.02	0.3	1.6	1.9
HW-25	25 ft	11/11/05	0.1	<0.01	1.9	0.32	2.2
HW-SW	0 ft	11/15/05	0.1	HM	HM	0.98	IDC
HW-5	5 ft	11/15/05	0.1	HM	HM	0.75	IDC
HW-10	10 ft	11/15/05	<0.1	HM	HM	0.71	IDC
HW-25	25 ft	11/15/05	<0.1	HM	HM	0.68	IDC
HW-SW	0 ft	11/18/05	0.1	0.01	2.1	1.3	3.4
HW-5	5 ft	11/18/05	0.1	<0.01	0.2	0.7	0.9
HW-10	10 ft	11/18/05	<0.1	<0.01	0.6	0.60	1.2
HW-15	15 ft	11/18/05	NT	NT	NT	1.10	IDC
HW-25	25 ft	11/18/05	<0.1	<0.01	1.2	0.57	1.8
HW-SW	0 ft	11/22/05	0.1	<0.01	1.1	1.5	2.6
HW-5	5 ft	11/22/05	0.1	<0.01	0.2	0.6	0.9
HW-10	10 ft	11/22/05	0.2	<0.01	0.4	0.57	1.0
HW-15	15 ft	11/22/05	0.1	HM	HM	1.20	1.5
HW-25	25 ft	11/22/05	0.4	0.02	0.2	0.62	0.8
HW-SW	0 ft	11/25/05	0.1	<0.01	0.1	1.9	2.0
HW-5	5 ft	11/25/05	0.1	<0.01	0.3	0.7	1.0
HW-10	10 ft	11/25/05	0.1	<0.01	0.4	0.73	1.2
HW-15	15 ft	11/25/05	0.4	0.04	0.4	1.50	2.0
HW-25	25 ft	11/25/05	0.1	<0.01	0.9	0.60	1.5
HW-SW	0 ft	11/29/05	0.2	<0.01	0.1	1.3	1.4
HW-5	5 ft	11/29/05	0.2	<0.01	0.3	0.8	1.1
HW-10	10 ft	11/29/05	0.3	<0.01	0.3	0.98	1.3
HW-15	15 ft	11/29/05	NT	NT	NT	1.30	IDC
HW-25	25 ft	11/29/05	0.2	<0.01	0.3	0.49	0.8

Table 4-5
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HW-SW	0 ft	12/02/05	<0.1	<0.01	<0.1	1.9	1.9
HW-5	5 ft	12/02/05	0.3	<0.01	0.1	1.0	1.1
HW-10	10 ft	12/02/05	0.2	<0.01	0.3	0.75	1.0
HW-15	15 ft	12/02/05	0.3	0.11	0.3	1.00	1.4
HW-25	25 ft	12/02/05	<0.1	<0.01	0.2	0.92	1.2
HW-SW	0 ft	12/06/05	NT	<0.01	<0.1	1.2	1.2
HW-5	5 ft	12/06/05	0.6	<0.01	<0.1	1.0	1.0
HW-10	10 ft	12/06/05	0.2	<0.01	0.3	0.56	0.9
HW-15	15 ft	12/06/05	0.3	0.12	0.3	0.80	1.2
HW-25	25 ft	12/06/05	0.3	<0.01	0.3	0.40	0.7
HW-SW	0 ft	12/09/05	0.1	<0.01	0.1	2.2	2.3
HW-5	5 ft	12/09/05	0.2	0.01	0.1	0.9	1.0
HW-10	10 ft	12/09/05	0.3	0.01	0.3	0.60	0.9
HW-15	15 ft	12/09/05	0.1	0.11	0.3	0.87	1.3
HW-25	25 ft	12/09/05	0.1	0.01	0.2	0.60	0.8
HW-SW	0 ft	12/13/05	0.1	<0.01	<0.1	1.3	1.3
HW-5	5 ft	12/13/05	0.3	0.01	0.1	0.9	1.0
HW-10	10 ft	12/13/05	0.2	0.01	0.3	0.63	1.0
HW-15	15 ft	12/13/05	0.3	0.11	0.3	0.85	1.3
HW-25	25 ft	12/13/05	0.1	<0.01	0.3	0.51	0.8
HW-SW	0 ft	12/16/05	0.1	<0.01	<0.1	1.6	1.6
HW-5	5 ft	12/16/05	0.3	<0.01	0.2	1.0	1.1
HW-10	10 ft	12/16/05	0.2	0.01	0.3	0.68	1.0
HW-15	15 ft	12/16/05	0.4	0.09	0.3	0.67	1.1
HW-25	25 ft	12/16/05	0.1	<0.01	0.3	0.90	1.2
HW-SW	0 ft	12/20/05	<0.1	<0.01	<0.1	1.5	1.5
HW-5	5 ft	12/20/05	0.2	<0.01	0.2	1.0	1.1
HW-10	10 ft	12/20/05	0.1	<0.01	0.3	0.51	0.9
HW-15	15 ft	12/20/05	0.3	<0.01	0.3	0.85	1.3
HW-25	25 ft	12/20/05	<0.1	<0.01	0.4	0.59	1.0
HW-SW	0 ft	12/23/05	0.1	<0.01	0.2	1.7	1.9
HW-5	5 ft	12/23/05	0.2	<0.01	0.2	0.9	1.1
HW-10	10 ft	12/23/05	0.1	0.01	0.4	0.85	1.2
HW-15	15 ft	12/23/05	0.2	0.09	0.3	1.20	1.6
HW-25	25 ft	12/23/05	0.1	<0.01	0.4	0.49	0.9
HW-SW	0 ft	12/27/05	0.1	<0.01	<0.1	1.7	1.7
HW-5	5 ft	12/27/05	0.2	<0.01	<0.1	1.1	1.1
HW-10	10 ft	12/27/05	0.1	0.01	0.3	0.62	1.0
HW-15	15 ft	12/27/05	0.1	0.06	0.4	1.40	1.8
HW-25	25 ft	12/27/05	0.1	<0.01	0.4	0.47	0.9
HW-SW	0 ft	12/30/05	0.2	<0.01	0.2	1.7	1.7
HW-5	5 ft	12/30/05	0.2	<0.01	<0.1	0.75	0.8
HW-10	10 ft	12/30/05	0.2	<0.01	<0.1	0.43	0.4
HW-15	15 ft	12/30/05	0.3	<0.01	<0.1	0.66	0.7
HW-25	25 ft	12/30/05	0.2	<0.01	<0.1	0.44	0.4
HW-SW	0 ft	01/03/06	0.4	0.03	0.5	1.00	1.6
HW-10	10 ft	01/03/06	0.4	<0.01	0.4	0.4	0.8
HW-15	15 ft	01/03/06	0.4	0.05	0.4	0.6	1.0
HW-25	25 ft	01/03/06	0.1	<0.01	0.3	0.33	0.6

Table 4-5
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HW-SW	0 ft	01/06/06	0.4	0.03	0.5	1.0	1.5
HW-5	5 ft	01/06/06	0.1	0.01	0.2	0.38	0.6
HW-10	10 ft	01/06/06	0.1	0.01	0.4	0.4	0.8
HW-15	15 ft	01/06/06	0.3	0.03	0.5	0.68	1.2
HW-25	25 ft	01/06/06	0.1	<0.01	1.0	0.46	1.5
HW-SW	0 ft	01/10/06	0.1	0.02	0.3	0.82	1.1
HW-5	5 ft	01/10/06	0.1	<0.01	<0.1	0.46	0.5
HW-10	10 ft	01/10/06	0.1	<0.01	0.3	0.5	0.8
HW-15	15 ft	01/10/06	0.2	0.03	0.4	0.55	0.9
HW-25	25 ft	01/10/06	<0.1	0.01	0.2	0.36	0.6
HW-SW	0 ft	01/13/06	<0.1	<0.01	<0.1	1.0	1.0
HW-5	5 ft	01/13/06	<0.1	<0.01	<0.1	0.3	0.3
HW-10	10 ft	01/13/06	0.1	0.02	0.3	0.4	0.7
HW-15	15 ft	01/13/06	0.2	0.08	0.4	0.44	0.9
HW-25	25 ft	01/13/06	<0.1	<0.01	0.5	0.29	0.7
HW-SW	0 ft	01/17/06	<0.1	0.01	<0.1	1.3	1.3
HW-5	5 ft	01/17/06	<0.1	<0.01	0.1	0.4	0.5
HW-10	10 ft	01/17/06	<0.1	<0.01	0.3	0.4	0.7
HW-15	15 ft	01/17/06	0.4	0.03	0.3	0.59	0.9
HW-25	25 ft	01/17/06	<0.1	<0.01	0.1	0.26	0.4
HW-SW	0 ft	01/20/06	0.1	<0.01	1.1	1.4	2.5
HW-5	5 ft	01/20/06	<0.1	<0.01	0.2	0.33	0.5
HW-10	10 ft	01/20/06	0.1	<0.01	0.5	0.29	0.7
HW-15	15 ft	01/20/06	0.1	<0.01	0.6	0.41	1.0
HW-25	25 ft	01/20/06	<0.1	<0.01	0.4	<0.20	0.4
HW-SW	0 ft	01/24/06	0.2	0.03	1.8	1.4	3.2
HW-5	5 ft	01/24/06	<0.1	<0.01	0.2	0.38	0.6
HW-10	10 ft	01/24/06	0.1	<0.01	0.4	0.62	1.0
HW-15	15 ft	01/24/06	0.1	<0.01	0.5	0.47	0.9
HW-25	25 ft	01/24/06	0.1	<0.01	0.3	0.2	0.5
HW-SW	0 ft	01/27/06	0.2	0.07	1.5	1.5	3.0
HW-5	5 ft	01/27/06	<0.1	<0.01	0.7	0.41	1.1
HW-10	10 ft	01/27/06	0.1	<0.01	0.4	0.38	0.8
HW-15	15 ft	01/27/06	0.1	<0.01	0.6	0.38	1.0
HW-25	25 ft	01/27/06	<0.1	<0.01	1.1	0.3	1.4
HW-SW	0 ft	01/31/06	0.2	0.03	1.2	1.40	2.6
HW-5	5 ft	01/31/06	<0.1	<0.01	0.9	0.63	1.5
HW-10	10 ft	01/31/06	0.1	<0.01	0.4	0.39	0.8
HW-15	15 ft	01/31/06	<0.1	0.01	0.6	0.38	1.0
HW-25	25 ft	01/31/06	<0.1	<0.01	0.4	0.42	0.8
HW-SW	0 ft	02/03/06	0.2	0.02	0.5	1.4	1.9
HW-5	5 ft	02/03/06	0.1	<0.01	0.6	0.47	1.1
HW-10	10 ft	02/03/06	0.1	<0.01	0.3	0.41	0.7
HW-15	15 ft	02/03/06	0.1	<0.01	0.4	1.0	1.4
HW-25	25 ft	02/03/06	0.1	<0.01	0.8	0.28	1.0

Table 4-5
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HW-SW	0 ft	02/07/06	0.2	0.02	0.5	1.3	1.8
HW-5	5 ft	02/07/06	<0.1	<0.01	0.4	0.44	0.9
HW-10	10 ft	02/07/06	0.1	<0.01	0.4	0.38	0.8
HW-15	15 ft	02/07/06	<0.1	<0.01	0.5	0.31	0.8
HW-25	25 ft	02/07/06	<0.1	<0.01	0.4	0.38	0.8
HW-SW	0 ft	02/10/06	0.3	0.02	0.4	1.40	1.1
HW-5	5 ft	02/10/06	<0.1	<0.01	0.3	0.69	0.7
HW-10	10 ft	02/10/06	0.1	<0.01	0.4	0.42	1.0
HW-15	15 ft	02/10/06	<0.1	<0.01	0.4	0.6	0.8
HW-25	25 ft	02/10/06	<0.1	<0.01	0.6	0.31	0.9
HW-SW	0 ft	02/14/06	0.4	0.02	0.6	1.4	2.0
HW-5	5 ft	02/14/06	0.2	0.02	0.2	0.98	1.2
HW-10	10 ft	02/14/06	0.1	<0.01	0.3	0.31	0.6
HW-15	15 ft	02/14/06	<0.1	<0.01	0.5	0.44	0.9
HW-25	25 ft	02/14/06	<0.1	<0.01	0.3	0.39	0.7
HW-SW	0 ft	02/17/06	0.3	0.02	1.0	1.6	2.6
HW-5	5 ft	02/17/06	0.3	0.02	0.2	0.95	1.1
HW-10	10 ft	02/17/06	0.1	<0.01	0.3	0.47	0.8
HW-15	15 ft	02/17/06	0.1	<0.01	0.5	0.41	0.9
HW-25	25 ft	02/17/06	<0.1	<0.01	0.3	0.56	0.9
HW-SW	0 ft	02/21/06	0.3	0.02	1.3	1.6	2.9
HW-5	5 ft	02/21/06	0.4	0.02	0.2	0.99	1.2
HW-10	10 ft	02/21/06	0.1	<0.01	0.3	0.53	0.8
HW-15	15 ft	02/21/06	0.1	<0.01	0.4	0.47	0.9
HW-25	25 ft	02/21/06	0.1	<0.01	0.5	0.33	0.8
HW-SW	0 ft	02/24/06	0.3	0.03	1.2	1.6	2.9
HW-5	5 ft	02/24/06	0.5	0.02	0.2	0.96	1.2
HW-10	10 ft	02/24/06	0.1	<0.01	0.3	0.32	0.7
HW-15	15 ft	02/24/06	0.1	<0.01	0.4	0.38	0.8
HW-25	25 ft	02/24/06	<0.1	<0.01	0.8	0.36	1.2
HW-SW	0 ft	02/28/06	0.3	0.03	0.4	1.2	1.7
HW-5	5 ft	02/28/06	0.5	<0.01	<0.1	0.78	0.8
HW-10	10 ft	02/28/06	0.1	<0.01	0.3	0.31	0.6
HW-15	15 ft	02/28/06	0.1	<0.01	0.4	0.43	0.8
HW-25	25 ft	02/28/06	0.1	<0.01	0.5	0.33	0.9
HW-SW	0 ft	03/03/06	0.3	0.02	0.4	1.2	1.6
HW-5	5 ft	03/03/06	0.1	0.02	0.5	0.49	1.0
HW-10	10 ft	03/03/06	0.1	<0.01	0.4	0.41	0.8
HW-15	15 ft	03/03/06	0.1	<0.01	0.4	0.43	0.8
HW-25	25 ft	03/03/06	<0.1	<0.01	0.6	0.32	0.9
HW-SW	0 ft	03/07/06	0.4	0.02	0.3	1.4	1.7
HW-5	5 ft	03/07/06	0.1	0.06	0.5	0.59	1.2
HW-10	10 ft	03/07/06	NT	NT	NT	NT	IDC
HW-15	15 ft	03/07/06	0.1	<0.01	0.4	0.45	0.8
HW-25	25 ft	03/07/06	<0.1	<0.01	0.3	0.31	0.6

Table 4-5
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HW-SW	0 ft	03/10/06	0.5	0.02	0.2	1.5	1.8
HW-5	5 ft	03/10/06	0.1	0.01	0.6	0.44	1.1
HW-10	10 ft	03/10/06	NT	<0.01	0.2	0.72	0.9
HW-15	15 ft	03/10/06	0.1	<0.01	0.3	0.45	0.8
HW-25	25 ft	03/10/06	<0.1	<0.01	0.4	0.22	0.6
HW-SW	0 ft	03/14/06	0.5	0.02	0.6	1.5	2.2
HW-5	5 ft	03/14/06	<0.1	<0.01	0.7	0.47	1.2
HW-10	10 ft	03/14/06	NT	NT	NT	NT	IDC
HW-15	15 ft	03/14/06	0.1	<0.01	0.8	0.39	1.2
HW-25	25 ft	03/14/06	<0.1	<0.01	0.9	0.24	1.1
HW-SW	0 ft	03/17/06	0.4	0.01	0.6	1.2	1.8
HW-5	5 ft	03/17/06	0.1	0.04	0.8	0.41	1.3
HW-10	10 ft	03/17/06	NT	NT	NT	NT	IDC
HW-15	15 ft	03/17/06	0.1	<0.01	1.0	0.37	1.4
HW-25	25 ft	03/17/06	0.1	<0.01	1.1	0.24	1.3

HM: Hold-time missed due to laboratory QA/QC problems
NS-BD: Not Sampled-Basin Dry
NT: Insufficient Sample for Analytical Test
IDC: Insufficient Data for Calculation

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	06/10/05	NT	0.01	<0.1	0.73	0.7
HE-5	5 ft	06/10/05	<0.1	<0.01	0.4	0.44	0.8
HE-10	10 ft	06/10/05	NT	NT	NT	0.62	IDC
HE-15	15 ft	06/10/05	<0.1	0.01	3.1	0.44	3.6
HE-25B	25 ft	06/10/05	<0.1	0.02	1.8	0.38	2.2
HE-25A	25 ft	06/10/05	<0.1	0.01	1.9	0.33	2.2
HE-5	5 ft	06/15/05	NT	NT	NT	0.40	IDC
HE-10	10 ft	06/15/05	<0.1	0.05	0.8	0.27	1.1
HE-15	15 ft	06/15/05	<0.1	<0.01	3.5	0.40	3.9
HE-25	25 ft	06/15/05	<0.1	0.02	3.5	0.23	3.7
HE-5	5 ft	06/20/05	NT	NT	NT	0.36	IDC
HE-10	10 ft	06/20/05	<0.1	0.02	1.2	0.51	1.7
HE-15	15 ft	06/20/05	<0.1	0.01	2.2	0.61	2.8
HE-25	25 ft	06/20/05	<0.1	0.01	3.2	0.45	3.7
HE-SW	0 ft	06/23/05	0.3	<0.01	<0.1	2.50	2.5
HE-5	5 ft	06/23/05	NT	NT	NT	0.94	IDC
HE-10	10 ft	06/23/05	0.1	0.01	1.1	0.31	1.4
HE-15	15 ft	06/23/05	0.1	0.01	1.7	0.31	2.0
HE-25	25 ft	06/23/05	0.1	<0.01	3.5	0.24	3.7
HE-SW	0 ft	06/27/05	0.1	0.02	0.4	0.77	1.2
HE-5	5 ft	06/27/05	NT	NT	NT	0.38	IDC
HE-10	10 ft	06/27/05	0.1	0.05	0.9	0.29	1.3
HE-15	15 ft	06/27/05	0.1	0.02	1.4	<0.2	1.4
HE-25	25 ft	06/27/05	0.1	<0.01	3.4	<0.2	3.4
HE-SW	0 ft	06/30/05	0.1	<0.01	<0.1	0.57	0.6
HE-5	5 ft	06/30/05	0.1	0.01	4.5	0.49	5.0
HE-10	10 ft	06/30/05	0.1	0.03	0.8	<0.2	0.8
HE-15	15 ft	06/30/05	NT	NT	NT	<0.2	IDC
HE-25	25 ft	06/30/05	0.1	<0.01	3.2	<0.2	3.2
HE-SW	0 ft	07/05/05	0.2	<0.01	<0.1	1.10	1.1
HE-5	5 ft	07/05/05	0.1	0.02	0.6	0.35	0.9
HE-10	10 ft	07/05/05	0.1	<0.01	0.6	0.22	0.8
HE-15	15 ft	07/05/05	0.1	0.02	1.2	<0.2	1.2
HE-25	25 ft	07/05/05	0.1	0.02	2.2	0.22	2.4
HE-SW	0 ft	07/07/05	0.1	<0.01	0.1	0.50	0.6
HE-5	5 ft	07/07/05	NT	NT	NT	0.28	IDC
HE-10	10 ft	07/07/05	0.1	0.01	2.4	0.40	2.8
HE-15	15 ft	07/07/05	0.1	<0.01	1.5	0.27	1.8
HE-25	25 ft	07/07/05	0.1	0.01	3.6	0.21	3.8
HE-SW	0 ft	07/12/05	0.1	0.02	<0.1	0.86	0.9
HE-5	5 ft	07/12/05	NT	NT	NT	0.31	IDC
HE-10	10 ft	07/12/05	NT	NT	NT	0.43	IDC
HE-15	15 ft	07/12/05	0.1	0.02	1.5	0.28	1.8
HE-25	25 ft	07/12/05	0.1	0.02	3.5	0.21	3.7

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	07/15/05	0.1	<0.01	0.1	0.69	0.8
HE-5	5 ft	07/15/05	0.1	0.03	0.5	0.29	0.8
HE-10	10 ft	07/15/05	0.1	0.03	4.6	0.45	5.0
HE-15	15 ft	07/15/05	0.1	<0.01	1.5	0.27	1.8
HE-25	25 ft	07/15/05	<0.1	<0.01	4.4	<0.2	4.4
HE-SW	0 ft	07/19/05	0.1	0.01	<0.1	0.56	0.6
HE-5	5 ft	07/19/05	NT	NT	NT	0.31	IDC
HE-10	10 ft	07/19/05	0.1	0.07	5.1	0.41	5.5
HE-15	15 ft	07/19/05	0.1	0.07	1.4	<0.2	1.5
HE-25	25 ft	07/19/05	0.1	<0.1	3.7	<0.2	3.7
HE-SW	0 ft	07/22/05	0.1	<0.01	<0.1	0.98	1.0
HE-5	5 ft	07/22/05	0.1	0.02	<0.1	0.36	0.4
HE-10	10 ft	07/22/05	0.1	0.04	5.5	0.37	5.9
HE-15	15 ft	07/22/05	0.1	0.06	1.4	0.32	1.8
HE-25	25 ft	07/22/05	0.1	0.05	1.6	0.21	1.9
HE-5	5 ft	07/26/05	0.1	<0.01	<0.1	0.27	0.3
HE-10	10 ft	07/26/05	0.1	0.05	4.9	0.39	5.4
HE-15	15 ft	07/26/05	0.1	<0.01	1.4	0.24	1.6
HE-25	25 ft	07/26/05	0.1	<0.01	3.9	<0.20	3.9
HE-SW	0 ft	07/29/05	0.1	0.01	0.1	1.30	1.4
HE-5	5 ft	07/29/05	0.1	<0.01	<0.1	0.30	0.3
HE-10	10 ft	07/29/05	0.1	0.02	4.1	0.32	4.5
HE-15	15 ft	07/29/05	<0.1	<0.01	1.6	0.12	1.7
HE-25	25 ft	07/29/05	0.1	0.01	1.9	0.16	2.1
HE-SW	0 ft	08/02/05	0.2	0.03	<0.1	1.10	1.1
HE-5	5 ft	08/02/05	0.1	<0.01	0.4	0.45	0.9
HE-15	15 ft	08/02/05	0.1	<0.01	1.5	0.18	1.7
HE-25	25 ft	08/02/05	0.1	<0.01	3.6	0.42	4.0
HE-SW	0 ft	08/05/05	0.1	0.05	0.1	0.66	0.8
HE-5	5 ft	08/05/05	0.2	<0.01	0.2	0.38	0.6
HE-10	10 ft	08/05/05	0.1	<0.01	0.4	0.25	0.7
HE-15	15 ft	08/05/05	0.3	0.03	2.5	0.34	2.8
HE-25	25 ft	08/05/05	0.2	<0.01	1.2	0.16	1.4
HE-SW	0 ft	08/09/05	<0.1	0.01	<0.1	0.61	0.6
HE-5	5 ft	08/09/05	<0.1	<0.01	0.7	0.30	1.0
HE-10	10 ft	08/09/05	<0.1	<0.01	0.1	0.26	0.4
HE-15	15 ft	08/09/05	<0.1	<0.01	0.7	0.27	0.9
HE-25	25 ft	08/09/05	<0.1	<0.01	0.6	0.17	0.8
HE-SW	0 ft	08/12/05	<0.1	<0.01	<0.1	0.50	0.5
HE-5	5 ft	08/12/05	<0.1	<0.01	0.2	0.29	0.5
HE-10	10 ft	08/12/05	<0.1	<0.01	0.3	0.24	0.5
HE-15	15 ft	08/12/05	<0.1	<0.01	0.5	0.21	0.7
HE-25	25 ft	08/12/05	<0.1	<0.01	0.8	0.14	0.9

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	08/16/05	0.1	0.13	1.0	1.80	3.0
HE-5	5 ft	08/16/05	<0.1	<0.01	0.2	0.31	0.5
HE-10	10 ft	08/16/05	<0.1	<0.01	0.2	0.31	0.5
HE-15	15 ft	08/16/05	<0.1	<0.01	0.2	0.31	0.5
HE-25	25 ft	08/16/05	<0.1	<0.01	0.6	0.14	0.8
HE-SW	0 ft	08/19/05	0.4	0.04	0.1	2.40	2.6
HE-5	5 ft	08/19/05	0.1	0.06	0.5	0.51	1.0
HE-10	10 ft	08/19/05	0.1	0.09	0.5	0.50	1.1
HE-15	15 ft	08/19/05	0.1	0.06	0.6	0.36	1.0
HE-25	25 ft	08/19/05	0.1	<0.01	0.3	0.15	0.5
HE-SW	0 ft	08/23/05	0.1	0.01	<0.1	0.63	0.6
HE-5	5 ft	08/23/05	<0.1	<0.01	0.2	0.39	0.6
HE-10	10 ft	08/23/05	<0.1	<0.01	0.7	0.29	1.0
HE-15	15 ft	08/23/05	<0.1	<0.01	0.5	0.35	0.8
HE-25	25 ft	08/23/05	0.1	<0.01	0.7	<0.2	0.7
HE-SW	0 ft	08/26/05	<0.1	<0.01	<0.1	0.78	0.8
HE-5	5 ft	08/26/05	<0.1	<0.01	0.4	0.36	0.7
HE-10	10 ft	08/26/05	<0.1	<0.01	0.6	0.36	0.9
HE-15	15 ft	08/26/05	<0.1	<0.01	0.6	0.30	0.9
HE-25	25 ft	08/26/05	<0.1	<0.01	0.7	0.24	0.9
HE-SW	0 ft	08/30/05	<0.1	<0.01	<0.1	2.10	2.1
HE-10	10 ft	08/30/05	<0.1	<0.01	1.0	0.25	1.2
HE-15	15 ft	08/30/05	<0.1	<0.01	1.2	0.68	1.9
HE-25	25 ft	08/30/05	<0.1	<0.01	1.6	<0.20	1.6
HE-SW	0 ft	09/02/05	<0.1	<0.01	<0.1	2.60	2.6
HE-5	5 ft	09/02/05	<0.1	<0.01	1.0	0.43	1.4
HE-10	10 ft	09/02/05	<0.1	<0.01	1.2	0.42	1.6
HE-15	15 ft	09/02/05	<0.1	<0.01	1.2	0.42	1.6
HE-25	25 ft	09/02/05	<0.1	<0.01	0.8	0.31	1.1
HE-10	10 ft	09/06/05	<0.1	<0.01	1.4	0.35	1.7
HE-15	15 ft	09/06/05	<0.1	<0.01	1.0	0.41	1.5
HE-25	25 ft	09/06/05	<0.1	<0.01	1.8	0.59	2.4
HE-SW	0 ft	09/09/05	<0.1	0.01	<0.1	1.10	1.1
HE-5	5 ft	09/09/05	<0.1	<0.01	2.1	0.73	2.8
HE-10	10 ft	09/09/05	<0.1	<0.01	1.4	0.41	1.8
HE-15	15 ft	09/09/05	<0.1	<0.01	1.0	0.59	1.6
HE-25	25 ft	09/09/05	<0.1	<0.01	1.2	0.33	1.5
HE-SW	0 ft	09/13/05	0.1	<0.20	0.7	1.30	2.0
HE-5	5 ft	09/13/05	<0.1	<0.01	2.5	0.48	3.0
HE-10	10 ft	09/13/05	<0.1	<0.01	<0.1	0.23	0.2
HE-15	15 ft	09/13/05	<0.1	<0.01	0.9	0.34	1.2
HE-25	25 ft	09/13/05	<0.1	<0.20	1.4	0.21	1.6
HE-SW	0 ft	09/16/05	0.1	<0.50	<0.5	0.82	0.8
HE-5	5 ft	09/16/05	0.1	<0.50	2.5	0.31	2.8
HE-10	10 ft	09/16/05	0.1	<0.50	1.2	0.32	1.5
HE-15	15 ft	09/16/05	0.1	<0.50	0.9	0.45	1.3
HE-25	25 ft	09/16/05	0.1	<0.50	1.3	0.20	1.5

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	09/20/05	0.1	0.03	0.7	1.60	2.4
HE-5	5 ft	09/20/05	0.1	0.01	1.3	0.55	1.9
HE-10	10 ft	09/20/05	<0.1	<0.01	1.4	0.27	1.7
HE-15	15 ft	09/20/05	0.1	<0.01	1.1	0.21	1.3
HE-25	25 ft	09/20/05	0.1	<0.01	1.2	<0.20	1.2
HE-SW	0 ft	09/23/05	0.1	0.01	0.8	1.10	1.9
HE-5	5 ft	09/23/05	0.1	0.01	1.1	0.45	1.6
HE-10	10 ft	09/23/05	0.1	<0.01	3.3	0.53	3.8
HE-15	15 ft	09/23/05	<0.1	<0.01	2.3	0.40	2.7
HE-25	25 ft	09/23/05	0.1	<0.01	1.6	0.31	1.9
HE-SW	0 ft	09/27/05	<0.1	<0.01	0.8	1.40	2.2
HE-5	5 ft	09/27/05	0.1	<0.01	0.8	0.46	1.2
HE-10	10 ft	09/27/05	0.1	<0.01	1.1	0.62	1.7
HE-15	15 ft	09/27/05	0.1	<0.01	1.3	0.38	1.7
HE-25	25 ft	09/27/05	0.1	<0.01	2.2	0.41	2.6
HE-SW	0 ft	09/30/05	0.1	<0.01	<0.1	2.0	2.0
HE-5	5 ft	09/30/05	0.1	0.01	0.5	0.47	0.9
HE-10	10 ft	09/30/05	0.1	0.01	0.6	0.40	1.0
HE-15	15 ft	09/30/05	0.1	<0.01	0.9	0.71	1.6
HE-25	25 ft	09/30/05	0.1	<0.01	0.9	0.56	1.4
HE-SW	0 ft	10/04/05	0.1	<0.01	<0.1	2.20	2.2
HE-5	5 ft	10/04/05	0.1	<0.01	<0.1	0.59	0.6
HE-10	10 ft	10/04/05	<0.1	<0.01	0.6	0.36	1.0
HE-15	15 ft	10/04/05	0.1	<0.01	0.8	0.33	1.1
HE-25	25 ft	10/04/05	<0.1	<0.01	0.5	0.64	1.2
HE-SW	0 ft	10/07/05	0.1	<0.01	0.7	1.30	2.0
HE-5	5 ft	10/07/05	0.1	<0.01	<0.1	0.55	0.6
HE-10	10 ft	10/07/05	0.1	<0.01	0.6	0.33	1.0
HE-15	15 ft	10/07/05	0.1	<0.01	0.7	0.29	1.0
HE-25	25 ft	10/07/05	0.1	<0.01	0.5	0.36	0.9
HE-SW	0 ft	10/13/05	0.1	0.01	1.0	1.30	2.3
HE-5	5 ft	10/13/05	0.1	<0.01	<0.1	0.63	0.6
HE-10	10 ft	10/13/05	0.1	<0.01	0.3	0.64	0.9
HE-15	15 ft	10/13/05	0.1	<0.01	0.5	0.36	0.8
HE-25	25 ft	10/13/05	0.1	<0.01	5.7	0.49	6.2
HE-SW	0 ft	10/14/05	0.1	<0.01	0.2	1.20	1.4
HE-5	5 ft	10/14/05	0.1	<0.01	0.2	0.81	1.1
HE-10	10 ft	10/14/05	0.1	<0.01	0.3	0.52	0.9
HE-15	15 ft	10/14/05	0.2	<0.01	0.1	0.40	0.5
HE-25	25 ft	10/14/05	0.1	<0.01	<0.1	0.45	0.5
HE-SW	0 ft	10/18/05	0.2	0.04	1.1	3.80	4.9
HE-5	5 ft	10/18/05	0.1	<0.01	0.2	0.35	0.6
HE-10	10 ft	10/18/05	0.1	<0.01	0.3	0.29	0.6
HE-15	15 ft	10/18/05	0.1	<0.01	0.5	0.34	0.8
HE-25	25 ft	10/18/05	0.1	<0.01	0.5	0.20	0.7

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	10/21/05	0.1	0.05	0.8	1.70	2.5
HE-5	5 ft	10/21/05	<0.1	<0.01	0.2	0.77	1.0
HE-10	10 ft	10/21/05	<0.1	<0.01	1.2	0.59	1.8
HE-15	15 ft	10/21/05	<0.1	<0.01	0.7	0.30	1.0
HE-25	25 ft	10/21/05	<0.1	<0.01	0.3	0.30	0.6
HE-SW	0 ft	10/25/05	0.7	0.03	0.2	1.80	2.0
HE-5	5 ft	10/25/05	0.2	<0.01	0.6	0.32	0.9
HE-10	10 ft	10/25/05	0.1	<0.01	0.6	0.38	0.9
HE-15	15 ft	10/25/05	0.2	<0.01	0.4	0.29	0.7
HE-25	25 ft	10/25/05	0.2	0.04	0.2	0.55	0.8
HE-5	5 ft	10/28/05	NT	NT	NT	0.31	IDC
HE-10	10 ft	10/28/05	0.1	<0.01	0.9	0.35	1.3
HE-15	15 ft	10/28/05	0.1	<0.01	0.8	<0.2	0.8
HE-25	25 ft	10/28/05	0.1	<0.01	0.4	<0.2	0.4
HE-SW	0 ft	11/01/05	0.1	0.01	0.5	1.80	2.3
HE-5	5 ft	11/01/05	0.1	<0.01	2.0	0.37	2.4
HE-10	10 ft	11/01/05	0.1	<0.01	1.1	0.35	1.5
HE-15	15 ft	11/01/05	0.1	<0.01	1.1	0.91	2.0
HE-25	25 ft	11/01/05	0.2	0.01	0.5	0.99	1.5
HE-SW	0 ft	11/04/05	0.1	<0.01	0.2	1.40	1.6
HE-5	5 ft	11/04/05	<0.1	0.01	5.2	0.55	5.8
HE-10	10 ft	11/04/05	<0.1	<0.01	1.2	0.35	1.6
HE-15	15 ft	11/04/05	<0.1	<0.01	1.3	0.29	1.6
HE-25	25 ft	11/04/05	NT	NT	NT	0.34	IDC
HE-SW	0 ft	11/08/05	0.1	HM	<0.1	1.10	IDC
HE-5	5 ft	11/08/05	0.1	HM	1.0	0.63	IDC
HE-10	10 ft	11/08/05	0.1	HM	1.3	<0.2	IDC
HE-15	15 ft	11/08/05	0.1	HM	1.4	0.31	IDC
HE-25	25 ft	11/08/05	0.1	HM	1.0	0.45	IDC
HE-SW	0 ft	11/11/05	0.1	<0.01	0.2	1.50	1.7
HE-5	5 ft	11/11/05	0.1	<0.01	1.1	0.31	1.4
HE-10	10 ft	11/11/05	0.1	<0.01	1.4	0.25	1.6
HE-15	15 ft	11/11/05	0.1	NT	NT	<0.2	IDC
HE-25	25 ft	11/11/05	NT	NT	NT	0.29	IDC
HE-SW	0 ft	11/15/05	<0.1	HM	HM	1.50	IDC
HE-5	5 ft	11/15/05	<0.1	HM	HM	0.34	IDC
HE-10	10 ft	11/15/05	<0.1	HM	HM	0.21	IDC
HE-15	15 ft	11/15/05	<0.1	HM	HM	0.39	IDC
HE-SW	0 ft	11/18/05	0.1	0.02	2.1	1.70	3.8
HE-5	5 ft	11/18/05	<0.1	0.02	2.5	0.54	3.1
HE-10	10 ft	11/18/05	<0.1	<0.01	1.0	0.26	1.3
HE-15	15 ft	11/18/05	<0.1	<0.01	1.4	0.36	1.8
HE-25	25 ft	11/18/05	0.1	0.02	1.8	0.49	2.3
HE-SW	0 ft	11/22/05	0.1	<0.01	1.2	1.70	2.9
HE-5	5 ft	11/22/05	NT	NT	NT	0.42	IDC
HE-10	10 ft	11/22/05	0.1	0.01	0.2	0.36	0.6
HE-15	15 ft	11/22/05	0.1	0.37	2.1	0.26	2.7
HE-25	25 ft	11/22/05	NT	NT	NT	0.25	IDC

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	11/25/05	<0.1	<0.01	0.4	1.30	1.7
HE-5	5 ft	11/25/05	<0.1	0.01	2.9	0.47	3.4
HE-10	10 ft	11/25/05	<0.1	<0.01	0.9	0.39	1.3
HE-15	15 ft	11/25/05	<0.1	<0.01	1.1	0.27	1.4
HE-25	25 ft	11/25/05	NT	NT	NT	0.27	IDC
HE-SW	0 ft	11/29/05	0.3	<0.01	0.3	1.30	1.6
HE-5	5 ft	11/29/05	0.1	0.02	3.6	0.36	4.0
HE-10	10 ft	11/29/05	0.1	<0.01	1.0	<0.2	1.0
HE-15	15 ft	11/29/05	0.1	<0.01	1.1	<0.2	1.1
HE-25	25 ft	11/29/05	NT	NT	NT	0.28	IDC
HE-SW	0 ft	12/02/05	<0.1	<0.01	0.3	1.60	1.9
HE-5	5 ft	12/02/05	<0.1	<0.01	1.5	0.42	1.9
HE-10	10 ft	12/02/05	<0.1	<0.01	3.7	0.41	4.1
HE-15	15 ft	12/02/05	<0.1	<0.01	1.0	0.25	1.3
HE-25	25 ft	12/02/05	NT	NT	NT	0.33	IDC
HE-SW	0 ft	12/06/05	0.2	<0.01	<0.1	1.60	1.6
HE-5	5 ft	12/06/05	0.1	0.01	1.2	0.30	1.5
HE-10	10 ft	12/06/05	0.3	0.01	4.3	0.29	4.6
HE-15	15 ft	12/06/05	0.1	<0.01	1.3	0.29	1.6
HE-25	25 ft	12/06/05	0.1	<0.01	1.4	<0.2	1.4
HE-SW	0 ft	12/09/05	0.3	0.01	0.7	2.00	2.7
HE-5	5 ft	12/09/05	0.1	<0.01	1.3	0.24	1.5
HE-10	10 ft	12/09/05	0.1	<0.01	3.1	<0.2	3.1
HE-15	15 ft	12/09/05	0.1	<0.01	1.6	0.57	2.1
HE-25	25 ft	12/09/05	0.1	<0.01	1.2	0.69	1.9
HE-SW	0 ft	12/13/05	0.1	0.01	0.7	1.60	2.3
HE-5	5 ft	12/13/05	0.1	0.01	1.8	0.41	2.2
HE-10	10 ft	12/13/05	0.1	0.01	3.1	0.34	3.5
HE-15	15 ft	12/13/05	0.1	<0.01	1.9	0.36	2.3
HE-25	25 ft	12/13/05	NT	NT	NT	0.26	IDC
HE-SW	0 ft	12/16/05	0.1	0.01	0.9	1.80	2.7
HE-5	5 ft	12/16/05	2.1	0.02	2.2	0.52	2.7
HE-10	10 ft	12/16/05	0.2	<0.01	3.0	<0.2	3.0
HE-15	15 ft	12/16/05	1.4	<0.01	2.2	0.28	2.4
HE-25	25 ft	12/16/05	<0.1	<0.01	1.3	0.37	1.6
HE-SW	0 ft	12/20/05	<0.1	<0.01	<0.1	1.50	1.5
HE-5	5 ft	12/20/05	<0.1	<0.01	2.3	0.31	2.6
HE-10	10 ft	12/20/05	<0.1	<0.01	2.8	<0.2	2.8
HE-15	15 ft	12/20/05	<0.1	<0.01	2.6	0.29	2.9
HE-25	25 ft	12/20/05	NT	NT	NT	<0.2	IDC
HE-SW	0 ft	12/23/05	0.1	<0.01	<0.1	2.10	2.1
HE-5	5 ft	12/23/05	0.1	<0.01	1.6	0.77	2.4
HE-10	10 ft	12/23/05	0.1	<0.01	2.8	0.47	3.3
HE-15	15 ft	12/23/05	0.1	<0.01	3.0	0.77	3.8
HE-25	25 ft	12/23/05	NT	NT	NT	0.42	IDC

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	12/27/05	0.1	<0.01	<0.1	1.20	1.2
HE-5	5 ft	12/27/05	0.1	<0.01	1.3	0.48	1.8
HE-10	10 ft	12/27/05	0.1	<0.01	3.0	0.30	3.3
HE-15	15 ft	12/27/05	0.1	<0.01	3.2	0.39	3.6
HE-25	25 ft	12/27/05	NT	NT	NT	0.29	IDC
HE-SW	0 ft	12/30/05	0.1	<0.01	<0.1	1.20	1.2
HE-5	5 ft	12/30/05	0.2	<0.01	<0.1	0.70	0.7
HE-10	10 ft	12/30/05	0.2	<0.01	<0.1	0.35	0.4
HE-15	15 ft	12/30/05	0.2	<0.01	<0.1	0.25	0.3
HE-25	25 ft	12/30/05	NT	NT	NT	0.27	IDC
HE-SW	0 ft	01/03/06	0.4	0.04	0.6	0.99	1.6
HE-5	5 ft	01/03/06	0.1	<0.01	1.9	0.69	2.6
HE-10	10 ft	01/03/06	0.1	<0.01	3.4	0.39	3.7
HE-15	15 ft	01/03/06	0.1	<0.01	3.7	0.39	4.0
HE-25	25 ft	01/03/06	NT	NT	NT	0.25	IDC
HE-SW	0 ft	01/06/06	0.3	0.03	0.4	1.0	1.4
HE-5	5 ft	01/06/06	<0.1	<0.01	1.6	0.34	2.0
HE-10	10 ft	01/06/06	<0.1	<0.01	3.1	0.21	3.3
HE-15	15 ft	01/06/06	<0.1	0.01	3.4	0.24	3.7
HE-25	25 ft	01/06/06	NT	NT	NT	<0.2	IDC
HE-SW	0 ft	01/10/06	0.1	<0.01	0.1	0.75	0.8
HE-5	5 ft	01/10/06	<0.1	<0.01	0.9	0.23	1.1
HE-10	10 ft	01/10/06	<0.1	<0.01	2.5	0.43	3.0
HE-15	15 ft	01/10/06	0.1	<0.01	3.2	0.39	3.6
HE-25	25 ft	01/10/06	NT	NT	NT	<0.2	IDC
HE-SW	0 ft	01/13/06	0.1	<0.01	<0.1	1.40	1.4
HE-5	5 ft	01/13/06	<0.1	<0.01	0.9	0.26	1.1
HE-10	10 ft	01/13/06	<0.1	0.01	2.5	0.28	2.8
HE-15	15 ft	01/13/06	<0.1	0.01	3.0	0.31	3.3
HE-25	25 ft	01/13/06	<0.1	<0.1	3.1	0.62	3.7
HE-SW	0 ft	01/17/06	0.2	0.02	0.5	1.90	2.5
HE-5	5 ft	01/17/06	NT	NT	NT	0.39	IDC
HE-10	10 ft	01/17/06	<0.1	<0.01	2.5	0.25	2.7
HE-15	15 ft	01/17/06	<0.1	<0.01	2.8	0.39	3.2
HE-25	25 ft	01/17/06	NT	NT	NT	<0.2	IDC
HE-SW	0 ft	01/20/06	0.1	<0.01	4.4	1.10	5.5
HE-5	5 ft	01/20/06	<0.1	<0.01	1.2	0.37	1.6
HE-10	10 ft	01/20/06	<0.1	<0.01	2.7	0.29	3.0
HE-15	15 ft	01/20/06	<0.1	<0.01	2.7	0.28	3.0
HE-25	25 ft	01/20/06	<0.1	<0.01	2.5	0.21	2.7
HE-SW	0 ft	01/24/06	0.1	0.03	2.3	1.60	3.9
HE-5	5 ft	01/24/06	<0.1	<0.01	3.0	0.46	3.5
HE-10	10 ft	01/24/06	<0.1	<0.01	3.1	1.30	4.4
HE-15	15 ft	01/24/06	<0.1	<0.01	2.4	0.34	2.8
HE-25	25 ft	01/24/06	0.1	<0.01	2.5	0.26	2.7

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell:
Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	01/27/06	0.1	0.01	2.2	1.40	3.6
HE-5	5 ft	01/27/06	<0.1	<0.01	2.4	0.45	2.9
HE-10	10 ft	01/27/06	<0.1	<0.01	3.3	0.35	3.6
HE-15	15 ft	01/27/06	<0.1	<0.01	2.1	0.31	2.4
HE-25	25 ft	01/27/06	<0.1	<0.01	1.8	0.20	2.0
HE-SW	0 ft	01/31/06	<0.1	<0.01	0.4	1.40	1.8
HE-5	5 ft	01/31/06	<0.1	<0.01	2.0	0.66	2.7
HE-10	10 ft	01/31/06	NT	NT	NT	0.55	IDC
HE-15	15 ft	01/31/06	0.1	<0.01	1.9	0.46	2.4
HE-25	25 ft	01/31/06	0.1	NT	1.8	0.22	IDC
HE-SW	0 ft	02/03/06	0.1	<0.01	0.9	0.86	1.7
HE-5	5 ft	02/03/06	0.1	<0.01	0.8	0.43	1.2
HE-10	10 ft	02/03/06	0.2	<0.01	1.8	0.40	2.2
HE-15	15 ft	02/03/06	<0.1	<0.01	1.8	0.28	2.1
HE-25	25 ft	02/03/06	0.1	<0.01	1.9	1.20	3.1
HE-SW	0 ft	02/07/06	0.1	<0.01	0.2	1.40	1.6
HE-5	5 ft	02/07/06	<0.1	<0.01	0.5	0.47	1.0
HE-10	10 ft	02/07/06	<0.1	<0.01	1.5	0.36	1.8
HE-15	15 ft	02/07/06	<0.1	<0.01	1.8	0.31	2.1
HE-25	25 ft	02/07/06	<0.1	<0.01	2.0	0.30	2.3
HE-SW	0 ft	02/10/06	0.1	<0.01	1.6	1.30	2.9
HE-5	5 ft	02/10/06	<0.1	<0.01	0.5	0.52	1.0
HE-10	10 ft	02/10/06	<0.1	<0.01	0.9	0.38	1.3
HE-15	15 ft	02/10/06	<0.1	<0.01	1.6	0.20	1.8
HE-25	25 ft	02/10/06	<0.1	<0.01	1.6	0.23	1.8
HE-SW	0 ft	02/14/06	0.1	0.02	2.0	1.40	3.4
HE-5	5 ft	02/14/06	0.2	<0.01	0.4	0.76	1.1
HE-10	10 ft	02/14/06	0.2	<0.01	0.9	0.57	1.4
HE-15	15 ft	02/14/06	<0.1	<0.01	0.9	0.48	1.4
HE-25	25 ft	02/14/06	0.2	<0.01	0.9	0.32	1.3
HE-SW	0 ft	02/17/06	0.1	0.03	3.9	1.50	5.4
HE-5	5 ft	02/17/06	<0.1	<0.01	1.8	0.95	2.7
HE-10	10 ft	02/17/06	<0.1	<0.01	1.8	0.74	2.5
HE-15	15 ft	02/17/06	<0.1	<0.01	0.8	0.40	1.2
HE-25	25 ft	02/17/06	0.1	<0.01	0.6	0.40	1.0
HE-SW	0 ft	02/21/06	0.1	<0.01	1.6	1.40	3.0
HE-5	5 ft	02/21/06	0.1	<0.01	2.7	0.64	3.3
HE-10	10 ft	02/21/06	0.1	<0.01	2.9	0.73	3.6
HE-15	15 ft	02/21/06	<0.1	<0.01	1.9	0.52	2.4
HE-25	25 ft	02/21/06	0.1	<0.01	0.9	0.36	1.2
HE-SW	0 ft	02/24/06	0.1	0.03	1.9	1.70	3.6
HE-5	5 ft	02/24/06	0.1	<0.01	1.5	0.52	2.0
HE-10	10 ft	02/24/06	<0.1	<0.01	2.1	0.59	2.7
HE-15	15 ft	02/24/06	<0.1	<0.01	2.5	0.48	3.0
HE-25	25 ft	02/24/06	<0.1	<0.01	1.7	0.41	2.1

Table 4-6
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Ammonia, Nitrite, Nitrate, TKN, and TN (mg/L)

Station ID	Depth	Date	NH_3-N	NO_2-N	NO_3-N	TKN	TN
HE-SW	0 ft	02/28/06	1.3	0.02	0.4	1.10	1.5
HE-5	5 ft	02/28/06	0.3	<0.01	0.4	0.51	0.9
HE-10	10 ft	02/28/06	0.2	<0.01	2.5	0.53	3.0
HE-15	15 ft	02/28/06	0.2	<0.01	2.1	0.49	2.6
HE-25	25 ft	02/28/06	0.2	<0.01	1.7	0.36	2.1
HE-SW	0 ft	03/03/06	0.4	0.02	0.3	1.60	1.9
HE-5	5 ft	03/03/06	0.3	<0.01	0.2	0.34	0.5
HE-10	10 ft	03/03/06	<0.1	<0.01	2.4	0.41	2.8
HE-15	15 ft	03/03/06	<0.1	<0.01	1.8	0.31	2.1
HE-25	25 ft	03/03/06	<0.1	<0.01	1.5	0.40	1.9
HE-SW	0 ft	03/07/06	<0.1	0.02	0.2	1.70	1.9
HE-5	5 ft	03/07/06	NT	NT	NT	0.33	IDC
HE-10	10 ft	03/07/06	0.1	<0.01	2.0	0.42	2.4
HE-15	15 ft	03/07/06	<0.1	<0.01	1.5	0.37	1.9
HE-25	25 ft	03/07/06	NT	NT	NT	0.36	IDC
HE-SW	0 ft	03/10/06	0.1	<0.01	<0.1	4.50	4.5
HE-5	5 ft	03/10/06	<0.1	<0.01	0.2	0.24	0.4
HE-10	10 ft	03/10/06	<0.1	<0.01	1.2	0.30	1.5
HE-15	15 ft	03/10/06	<0.1	<0.01	1.2	0.27	1.4
HE-25	25 ft	03/10/06	<0.1	<0.01	0.9	0.28	1.2
HE-SW	0 ft	03/14/06	0.1	0.02	0.2	1.40	1.6
HE-5	5 ft	03/14/06	NT	NT	NT	NT	IDC
HE-10	10 ft	03/14/06	0.1	<0.01	0.9	0.34	1.2
HE-15	15 ft	03/14/06	<0.1	<0.01	0.8	0.26	1.1
HE-25	25 ft	03/14/06	NT	0.20	0.2	0.25	0.7
HE-SW	0 ft	03/17/06	0.1	<0.01	0.4	1.90	2.3
HE-5	5 ft	03/17/06	0.1	<0.01	1.9	0.22	2.2
HE-10	10 ft	03/17/06	0.1	<0.01	1.1	0.28	1.3
HE-15	15 ft	03/17/06	<0.1	<0.01	1.0	0.34	1.4
HE-25	25 ft	03/17/06	<0.1	<0.01	1.1	0.53	1.6

HM: Hold-time missed due to laboratory QA/QC problems

NS-BD: Not Sampled-Basin Dry

NT: Insufficient Sample for Analytical Test

IDC: Insufficient Data for Calculation

Table 4-7
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Sumary for Total Nitrogen

Station ID	Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
			5	10	15	25		
06/10/05	mg/L	1.4	1.0	1.4	NT	1.9	Residual Water	-30%
06/15/05	mg/L	1.9	0.5	NT	NT	0.6	Residual Water	68%
06/20/05	mg/L	2.1	IDC	NT	NT	0.8	Residual Water	64%
06/23/05	mg/L	NT	IDC	NT	NT	0.5	Residual Water	IDC
06/27/05	mg/L	1.2	6.3	NT	NT	1.1	Residual Water	11%
06/30/05	mg/L	0.8	0.9	NT	IDC	0.6	Residual Water	27%
07/05/05	mg/L	0.7	0.7	NT	NT	0.7	Residual Water	-3%
07/07/05	mg/L	0.6	0.7	NT	NT	0.8	Residual Water	-26%
07/12/05	mg/L	1.7	0.5	NT	NT	0.6	Residual Water	66%
07/15/05	mg/L	1.0	0.4	NT	NT	0.7	Residual Water	24%
07/19/05	mg/L	1.0	0.6	NT	NT	0.8	Residual Water	22%
07/22/05	mg/L	0.9	0.5	NT	NT	0.7	Residual Water	25%
07/26/05	mg/L	1.4	0.5	NT	NT	0.4	Residual Water	69%
07/29/05	mg/L	0.9	0.6	NT	NT	0.5	Residual Water	47%
08/02/05	mg/L	1.0	0.4	NT	NT	0.7	Residual Water	29%
08/05/05	mg/L	1.1	0.6	NT	NT	0.7	Residual Water	37%
08/09/05	mg/L	0.5	0.4	NT	NT	0.6	Residual Water	-11%
08/12/05	mg/L	0.5	0.3	NT	NT	0.6	Residual Water	-12%
08/16/05	mg/L	2.4	0.4	NT	NT	0.5	Residual Water	78%
08/19/05	mg/L	1.3	0.6	NT	NT	0.4	Residual Water	66%
08/23/05	mg/L	0.6	0.5	NT	NT	0.7	Residual Water	-22%
08/26/05	mg/L	0.5	0.8	NT	NT	0.5	Residual Water	-4%
08/30/05	mg/L	0.8	0.4	NT	NT	0.7	Residual Water	13%
09/02/05	mg/L	NT	2.0	NT	NT	1.5	Residual Water	IDC
09/06/05	mg/L	1.7	IDC	NT	NT	2.5	Residual Water	-45%
09/09/05	mg/L	0.8	0.5	NT	NT	0.8	*27%*	3%
09/13/05	mg/L	2.6	1.0	NT	NT	1.1	54%	59%
09/16/05	mg/L	0.7	0.2	NT	NT	0.7	*72%*	0%
09/20/05	mg/L	4.9	0.6	NT	NT	1.0	90%	-33%
09/23/05	mg/L	0.9	0.2	NT	NT	0.8	*88%*	63%
09/27/05	mg/L	2.2	1.0	NT	NT	0.9	85%	-23%
09/30/05	mg/L	IDC	1.1	NT	NT	0.5	*85%*	87%
10/04/05	mg/L	3.3	0.9	NT	NT	0.5	86%	48%
10/07/05	mg/L	2.8	3.8	NT	NT	0.6	*93%*	68%
10/13/05	mg/L	1.9	IDC	NT	NT	1.4	100%	52%
10/14/05	mg/L	1.7	1.0	NT	NT	1.1	*100%*	64%
10/18/05	mg/L	2.3	1.3	NT	NT	1.0	100%	63%
10/25/05	mg/L	5.0	NT	NT	NT	1.6	100%	5%
11/01/05	mg/L	NT	NT	NT	NT	2.0	*100%*	36%
11/08/05	mg/L	NT	NT	NT	NT	IDC	*100%*	IDC
11/11/05	mg/L	1.9	NT	NT	NT	2.2	*100%*	46%
11/15/05	mg/L	IDC	IDC	IDC	IDC	IDC	100%	IDC
11/18/05	mg/L	3.4	0.9	1.2	IDC	1.8	*100%*	33%
11/22/05	mg/L	2.6	0.9	1.0	1.5	0.8	100%	57%
11/25/05	mg/L	2.0	1.0	1.2	2.0	1.5	*98%*	39%
11/29/05	mg/L	1.4	1.1	1.3	IDC	0.8	97%	77%
12/02/05	mg/L	1.9	1.1	1.0	1.4	1.2	*98%*	58%
12/06/05	mg/L	1.2	1.0	0.9	1.2	0.7	100%	65%
12/09/05	mg/L	2.3	1.0	0.9	1.3	0.8	*100%*	47%
12/13/05	mg/L	1.3	1.0	1.0	1.3	0.8	100%	59%
12/16/05	mg/L	1.6	1.1	1.0	1.1	1.2	*100%*	11%
12/20/05	mg/L	1.5	1.1	0.9	1.3	1.0	100%	58%
12/23/05	mg/L	1.9	1.1	1.2	1.6	0.9	*100%*	40%
12/27/05	mg/L	1.7	1.1	1.0	1.8	0.9	100%	43%
12/30/05	mg/L	1.7	0.8	0.4	0.7	0.4	*100%*	71%

Table 4-7
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Sumary for Total Nitrogen

Station ID	Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
			5	10	15	25		
01/03/06	mg/L	1.6	NS	0.8	1.0	0.6	100%	66%
01/06/06	mg/L	1.5	0.6	0.8	1.2	1.5	*78%*	15%
01/10/06	mg/L	1.1	0.5	0.8	0.9	0.6	55%	64%
01/13/06	mg/L	1.0	0.3	0.7	0.9	0.7	*54%*	57%
01/17/06	mg/L	1.3	0.5	0.7	0.9	0.4	53%	74%
01/20/06	mg/L	2.5	0.5	0.7	1.0	0.4	*66%*	67%
01/24/06	mg/L	3.2	0.6	1.0	0.9	0.5	79%	50%
01/27/06	mg/L	3.0	1.1	0.8	1.0	1.4	*77%*	-14%
01/31/06	mg/L	2.6	1.5	0.8	1.0	0.8	75%	68%
02/03/06	mg/L	1.9	1.1	0.7	1.4	1.0	*88%*	67%
02/07/06	mg/L	1.8	0.9	0.8	0.8	0.8	100%	74%
02/10/06	mg/L	1.1	0.7	1.0	0.8	0.9	*100%*	67%
02/14/06	mg/L	2.0	1.2	0.6	0.9	0.7	100%	63%
02/17/06	mg/L	2.6	1.1	0.6	0.9	0.9	*100%*	51%
02/21/06	mg/L	2.9	1.2	0.8	0.9	0.8	100%	27%
02/24/06	mg/L	2.9	1.2	0.7	0.8	1.2	*100%*	32%
02/28/06	mg/L	1.7	0.8	0.6	0.8	0.9	100%	65%
03/03/06	mg/L	1.6	1.0	0.8	0.8	0.9	7%	68%
03/07/06	mg/L	1.7	1.2	IDC	0.8	0.6	0%	79%
03/10/06	mg/L	1.8	1.1	0.9	0.8	0.6	*0%*	70%
03/14/06	mg/L	2.2	1.2	IDC	1.2	1.1	0%	31%
03/17/06	mg/L	1.8	1.3	IDC	1.4	1.3	*0%*	22%
Average	**mg/L**	**2.2**	**1.0**	**0.9**	**1.1**	**1.1**		**49%**

NS-BD: Not Sampled-Basin Dry
NT: Insufficient Sample for Analytical Test
IDC: Insufficient Data for Calculation
Indicates that the sampled water is >75 percent recycled water
64% Denotes an interpolated value.

Table 4-8
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Sumary for Total Nitrogen

Station ID	Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
			5	10	15	25		
06/10/05	mg/L	0.7	0.8	IDC	3.6	2.2	Residual Water	-203%
06/15/05	mg/L	NT	IDC	1.1	3.9	3.7	Residual Water	IDC
06/20/05	mg/L	NT	IDC	1.7	2.8	3.7	Residual Water	IDC
06/23/05	mg/L	2.5	IDC	1.4	2.0	3.7	Residual Water	-48%
06/27/05	mg/L	1.2	IDC	1.3	1.4	3.4	Residual Water	-182%
06/30/05	mg/L	0.6	5.0	0.8	IDC	3.2	Residual Water	-456%
07/05/05	mg/L	1.1	0.9	0.8	1.2	2.4	Residual Water	-226%
07/07/05	mg/L	0.6	0.5	2.8	1.8	3.8	Residual Water	-278%
07/12/05	mg/L	0.9	0.5	IDC	1.8	3.7	Residual Water	-119%
07/15/05	mg/L	0.8	0.8	5.0	1.8	4.4	Residual Water	IDC
07/19/05	mg/L	0.6	0.6	5.5	1.5	3.7	Residual Water	-68%
07/22/05	mg/L	1.0	0.4	5.9	1.8	1.9	Residual Water	-60%
07/26/05	mg/L	NT	0.3	5.4	1.6	3.9	Residual Water	-477%
07/29/05	mg/L	1.4	0.3	4.5	1.7	2.1	Residual Water	-108%
08/02/05	mg/L	1.1	0.9	NT	1.7	4.0	Residual Water	-511%
08/05/05	mg/L	0.8	0.6	0.7	2.8	1.4	Residual Water	-65%
08/09/05	mg/L	0.6	1.0	0.4	0.9	0.8	Residual Water	-1%
08/12/05	mg/L	0.5	0.5	0.5	0.7	0.9	Residual Water	-50%
08/16/05	mg/L	3.0	0.5	0.5	0.5	0.8	Residual Water	23%
08/19/05	mg/L	2.6	1.0	1.1	1.0	0.5	Residual Water	61%
08/23/05	mg/L	0.6	0.6	1.0	0.8	0.7	Residual Water	52%
08/26/05	mg/L	0.8	0.7	0.9	0.9	0.9	Residual Water	23%
08/30/05	mg/L	2.1	NT	1.2	1.9	1.6	Residual Water	-96%
09/02/05	mg/L	2.6	1.4	1.6	1.6	1.1	Residual Water	-62%
09/06/05	mg/L	NS-BD	NT	1.7	1.5	2.4	Residual Water	-372%
09/09/05	mg/L	1.1	2.8	1.8	1.6	1.5	*26%*	36%
09/13/05	mg/L	2.0	3.0	0.2	1.2	1.6	52%	37%
09/16/05	mg/L	0.8	2.8	1.5	1.3	1.5	*53%*	-34%
09/20/05	mg/L	2.4	1.9	1.7	1.3	1.2	53%	-59%
09/23/05	mg/L	1.9	1.6	3.8	2.7	1.9	*56%*	-7%
09/27/05	mg/L	2.2	1.2	1.7	1.7	2.6	59%	0%
09/30/05	mg/L	2.0	0.9	1.0	1.6	1.4	*80%*	28%
10/04/05	mg/L	2.2	0.6	1.0	1.1	1.2	100%	-5%
10/07/05	mg/L	2.0	0.6	1.0	1.0	0.9	*100%*	49%
10/13/05	mg/L	2.3	0.6	0.9	0.8	6.2	100%	-291%
10/14/05	mg/L	1.4	1.1	0.9	0.5	0.5	*100%*	77%
10/18/05	mg/L	4.9	0.6	0.6	0.8	0.7	100%	62%
10/21/05	mg/L	2.5	1.0	1.8	1.0	0.6	*100%*	71%
10/25/05	mg/L	2.0	0.9	0.9	0.7	0.8	100%	60%
10/28/05	mg/L	NT	IDC	1.3	0.8	0.4	*100%*	81%
11/01/05	mg/L	2.3	2.4	1.5	2.0	1.5	100%	25%
11/04/05	mg/L	1.6	5.8	1.6	1.6	IDC	*100%*	IDC
11/08/05	mg/L	IDC	IDC	IDC	IDC	IDC	100%	IDC
11/11/05	mg/L	1.7	1.4	1.6	IDC	IDC	*99%*	IDC
11/15/05	mg/L	IDC	IDC	IDC	IDC	NS	*98%*	IDC
11/18/05	mg/L	3.8	3.1	1.3	1.8	2.3	*98%*	-8%
11/22/05	mg/L	2.9	IDC	0.6	2.7	IDC	*97%*	IDC
11/25/05	mg/L	1.7	3.4	1.3	1.4	IDC	*96%*	IDC
11/29/05	mg/L	1.6	4.0	1.0	1.1	IDC	*95%*	IDC
12/02/05	mg/L	1.9	1.9	4.1	1.3	IDC	*94%*	IDC
12/06/05	mg/L	1.6	1.5	4.6	1.6	1.4	93%	17%
12/09/05	mg/L	2.7	1.5	3.1	2.1	1.9	*93%*	26%
12/13/05	mg/L	2.3	2.2	3.5	2.3	IDC	94%	IDC
12/16/05	mg/L	2.7	2.7	3.0	2.4	1.6	94%	48%
12/20/05	mg/L	1.5	2.6	2.8	2.9	IDC	95%	IDC
12/23/05	mg/L	2.1	2.4	3.3	3.8	IDC	95%	IDC
12/27/05	mg/L	1.2	1.8	3.3	3.6	IDC	96%	IDC
12/30/05	mg/L	1.2	0.7	0.4	0.3	IDC	96%	IDC

Table 4-8
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Sumary for Total Nitrogen

Station ID	Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
			5	10	15	25		
01/03/06	mg/L	1.6	2.6	3.7	4.0	IDC	97%	IDC
01/06/06	mg/L	1.4	2.0	3.3	3.7	IDC	97%	IDC
01/10/06	mg/L	0.8	1.1	3.0	3.6	IDC	98%	IDC
01/13/06	mg/L	1.4	1.1	2.8	3.3	3.7	98%	-105%
01/17/06	mg/L	2.5	IDC	2.7	3.2	IDC	99%	IDC
01/20/06	mg/L	5.5	1.6	3.0	3.0	2.7	99%	-88%
01/24/06	mg/L	3.9	3.5	4.4	2.8	2.7	100%	-128%
01/27/06	mg/L	3.6	2.9	3.6	2.4	2.0	*100%*	-30%
01/31/06	mg/L	1.8	2.7	IDC	2.4	IDC	100%	IDC
02/03/06	mg/L	1.7	1.2	2.2	2.1	3.1	*100%*	-216%
02/07/06	mg/L	1.6	1.0	1.8	2.1	2.3	100%	-62%
02/10/06	mg/L	2.9	1.0	1.3	1.8	1.8	*100%*	18%
02/14/06	mg/L	3.4	1.1	1.4	1.4	1.3	100%	76%
02/17/06	mg/L	5.4	2.7	2.5	1.2	1.0	*100%*	77%
02/21/06	mg/L	3.0	3.3	3.6	2.4	1.2	100%	66%
02/24/06	mg/L	3.6	2.0	2.7	3.0	2.1	*100%*	7%
02/28/06	mg/L	1.5	0.9	3.0	2.6	2.1	100%	-24%
03/03/06	mg/L	1.9	0.5	2.8	2.1	1.9	*100%*	-17%
03/07/06	mg/L	1.9	IDC	2.4	1.9	IDC	100%	IDC
03/10/06	mg/L	4.5	0.4	1.5	1.4	1.2	*100%*	63%
03/14/06	mg/L	1.6	IDC	1.2	1.1	0.7	100%	87%
03/17/06	mg/L	2.3	2.2	1.3	1.4	1.6	*100%*	56%
Average	**mg/L**	**2.4**	**1.8**	**2.3**	**2.1**	**1.5**		**23%**

NS-BD: Not Sampled-Basin Dry
NT: Insufficient Sample for Analytical Test
IDC: Insufficient Data for Calculation
Indicates that the sampled water is >75 percent recycled water
64% Denotes an interpolated value.

Table 5-1
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
06/10/05	6.3	7.2	7.8	4.9	*3.0*		Residual Water	53%
06/11/05	7.4	0.9			2.9		Residual Water	60%
06/12/05	9.2	6.9			2.9		Residual Water	69%
06/13/05	10.6	6.7			2.8		Residual Water	73%
06/14/05	12.0	6.6			2.8		Residual Water	77%
06/15/05	13.4	6.4	NT	NT	2.8		Residual Water	79%
06/16/05	13.9	6.5			2.8		Residual Water	80%
06/17/05	14.9	6.5			2.8		Residual Water	81%
06/18/05	15.7	6.6			2.8		Residual Water	82%
06/19/05	16.4	6.6			2.8		Residual Water	83%
06/20/05	17.2	NT	NT	NT	2.8		Residual Water	56%
06/21/05	15.5	6.7			2.8		Residual Water	62%
06/22/05	13.9	6.8			2.8		Residual Water	69%
06/23/05	12.2	6.9			2.9		Residual Water	73%
06/24/05	10.5	6.9			2.9		Residual Water	76%
06/25/05	8.9	7.0			2.9		Residual Water	78%
06/26/05	7.2	7.0			2.9		Residual Water	79%
06/27/05	5.5	7.1	NT	NT	2.9		Residual Water	80%
06/28/05	5.6	6.8			2.9		Residual Water	81%
06/29/05	5.7	6.5			2.9		Residual Water	82%
06/30/05	5.8	6.2			2.9		Residual Water	83%
07/01/05	5.9	6.0			2.9		Residual Water	81%
07/02/05	6.0	5.7			2.9		Residual Water	79%
07/03/05	6.1	5.4			2.9		Residual Water	76%
07/04/05	6.2	5.1			2.9		Residual Water	73%
07/05/05	6.3	4.9	NT	NT	2.9		Residual Water	68%
07/06/05	6.2	4.7			2.8		Residual Water	61%
07/07/05	6.2	4.6			2.8		Residual Water	50%
07/08/05	6.2	4.5			2.7		Residual Water	51%
07/09/05	6.1	4.3			2.7		Residual Water	52%
07/10/05	6.1	4.2			2.7		Residual Water	54%
07/11/05	6.1	4.1			2.6		Residual Water	55%
07/12/05	6.1	4.0	NT	NT	2.6		Residual Water	56%
07/13/05	5.9	3.9			2.6		Residual Water	57%
07/14/05	5.8	3.9			2.6		Residual Water	58%
07/15/05	5.6	3.9			2.6		Residual Water	59%
07/16/05	5.5	3.8			2.6		Residual Water	58%
07/17/05	5.4	3.8			2.6		Residual Water	58%
07/18/05	5.2	3.8			2.6		Residual Water	58%
07/19/05	5.1	3.8	NT	NT	2.6		Residual Water	58%
07/20/05	5.6	4.0			2.6		Residual Water	57%
07/21/05	6.1	4.2			2.6		Residual Water	56%
07/22/05	6.7	4.5			2.7		Residual Water	56%
07/23/05	7.2	4.7			2.7		Residual Water	54%
07/24/05	7.7	4.9			2.8		Residual Water	52%
07/25/05	8.2	5.2			2.8		Residual Water	50%
07/26/05	8.8	5.4	NT	NT	2.8		Residual Water	49%
07/27/05	8.2	5.2			2.8		Residual Water	47%
07/28/05	7.7	5.1			2.8		Residual Water	46%
07/29/05	7.2	5.0			2.8		Residual Water	44%
07/30/05	6.7	4.8			2.9		Residual Water	49%
07/31/05	6.1	4.7			2.9		Residual Water	53%

Table 5-1
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
08/01/05	5.6	4.5			2.9		Residual Water	57%
08/02/05	5.1	4.4	NT	NT	2.9		Residual Water	60%
08/03/05	5.0	4.3			2.8		Residual Water	63%
08/04/05	4.9	4.2			2.8		Residual Water	66%
08/05/05	4.8	4.1			2.7		Residual Water	69%
08/06/05	4.7	4.0			2.7		Residual Water	68%
08/07/05	4.6	4.0			2.6		Residual Water	66%
08/08/05	4.5	3.9			2.6		Residual Water	64%
08/09/05	4.4	3.8	NT	NT	2.5		Residual Water	62%
08/10/05	6.7	3.7			2.5		Residual Water	59%
08/11/05	8.9	3.7			2.5		Residual Water	55%
08/12/05	11.1	3.6			2.5		Residual Water	51%
08/13/05	13.3	3.6			2.5		Residual Water	50%
08/14/05	15.6	3.5			2.5		Residual Water	49%
08/15/05	17.8	3.5			2.5		Residual Water	48%
08/16/05	20.0	3.5	NT	NT	2.5		Residual Water	47%
08/17/05	18.1	3.7			2.7		Residual Water	42%
08/18/05	16.1	3.9			2.8		Residual Water	37%
08/19/05	14.2	4.1			3.0		Residual Water	32%
08/20/05	12.3	4.4			3.2		Residual Water	52%
08/21/05	10.3	4.6			3.4		Residual Water	62%
08/22/05	8.4	4.8			3.5		Residual Water	68%
08/23/05	6.5	5.0	NT	NT	3.7		Residual Water	72%
08/24/05	6.5	5.0			3.6		Residual Water	77%
08/25/05	6.6	5.0			3.4		Residual Water	81%
08/26/05	6.7	5.0			3.3		Residual Water	84%
08/27/05	6.7	5.0			3.1		Residual Water	83%
08/28/05	6.8	4.9			3.0		Residual Water	81%
08/29/05	6.8	4.9			2.8		Residual Water	80%
08/30/05	6.9	4.9	NT	NT	2.7		Residual Water	78%
08/31/05	7.0	4.9			2.7		Residual Water	74%
09/01/05	7.1	4.9			2.7		Residual Water	68%
09/02/05	7.2	4.9			2.6		Residual Water	59%
09/03/05	7.3	4.8			2.6		Residual Water	60%
09/04/05	7.4	4.8			2.6		Residual Water	61%
09/05/05	7.5	4.8			2.6		Residual Water	61%
09/06/05	7.6	4.8			2.5		Residual Water	62%
09/07/05	7.7	4.8			2.5		Residual Water	63%
09/08/05	7.8	4.8			2.5		Residual Water	64%
09/09/05	7.9	4.8			2.5		27%	64%
09/10/05	8.0	4.7			2.4		41%	65%
09/11/05	8.1	4.7			2.4		48%	66%
09/13/05	8.3	4.7	NT	NT	2.4		54%	67%
09/14/05	10.2	4.7			2.5		60%	66%
09/15/05	12.1	4.7			2.6		65%	65%
09/16/05	14.0	4.7			2.7		70%	64%
09/17/05	15.9	4.8			2.8		75%	63%
09/18/05	17.8	4.8			2.9		80%	62%
09/19/05	19.7	4.8			3.0		85%	62%
09/20/05	21.6	4.8	NT	NT	3.1	3.1	90%	61%
09/21/05	20.5	6.4			4.1	3.6	90%	49%
09/22/05	19.5	8.1			5.1	4.1	89%	37%
09/23/05	18.4	9.7			6.1	4.6	88%	27%
09/24/05	17.3	11.3			7.0	5.1	87%	31%
09/25/05	16.2	12.9			8.0	5.6	86%	34%
09/26/05	15.2	14.6			9.0	6.1	85%	36%
09/27/05	14.1	16.2	NT	NT	10.0	6.6	85%	37%
09/28/05	26.1	15.3			9.6	6.9	85%	46%
09/29/05	38.2	14.4			9.2	7.1	85%	53%
09/30/05	50.2	13.5			8.8	7.3	85%	59%

Table 5-1
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
10/01/05	62.3	12.5			8.4	7.4	86%	59%
10/02/05	74.3	11.6			8.0	7.4	86%	59%
10/03/05	86.4	10.7			7.6	7.4	86%	59%
10/04/05	98.4	9.8			7.2	7.4	86%	58%
10/04/05	98.4	9.8	NT	NT	7.2	7.4	86%	56%
10/05/05	88.7	9.3			6.9	7.4	88%	55%
10/06/05	78.9	8.9			6.5	7.3	89%	54%
10/07/05	69.2	8.4			6.2	7.3	91%	76%
10/08/05	59.4	8.0			5.9	7.2	92%	85%
10/09/05	49.7	7.5			5.6	7.1	94%	89%
10/10/05	39.9	7.0			5.2	7.0	95%	92%
10/11/05	30.2	6.6			4.9	6.9	97%	93%
10/12/05	20.4	6.1			4.6	6.8	98%	95%
10/13/05	10.7	5.7	NT	NT	4.3	6.7	100%	96%
10/14/05	10.7	5.5			4.2	6.6	100%	96%
10/15/05	10.6	5.3			4.1	6.6	100%	95%
10/16/05	10.6	5.1			4.1	6.5	100%	95%
10/17/05	10.5	4.9			4.0	6.4	100%	94%
10/18/05	10.5	4.7	NT	NT	3.9	6.3	100%	93%
10/19/05	10.7	4.8			3.7	6.2	100%	92%
10/20/05	10.9	4.8			3.6	6.1	100%	91%
10/21/05	11.1	4.9			3.4	6.0	100%	89%
10/22/05	11.2	4.9			3.2	6.0	100%	84%
10/23/05	11.4	5.0			3.1	5.9	100%	71%
10/24/05	11.6	5.0			2.9	5.8	100%	73%
10/25/05	11.8	NT	NT	NT	2.8	5.7	100%	74%
10/26/05	11.6	5.1			2.9	5.6	100%	73%
10/27/05	11.4	5.2			3.0	5.6	100%	72%
10/28/05	11.3	5.2			3.1	5.5	100%	71%
10/29/05	11.1	5.3			3.2	5.5	100%	70%
10/30/05	10.9	5.3			3.3	5.4	100%	70%
10/31/05	10.7	5.4			3.4	5.4	100%	69%
11/01/05	10.5	5.4			3.5	5.3	100%	69%
11/02/05	10.3	5.5			3.6	5.3	100%	68%
11/03/05	10.2	5.5			3.7	5.2	100%	68%
11/04/05	10.0	5.6			3.8	5.2	100%	68%
11/05/05	9.8	5.6			3.9	5.2	100%	66%
11/06/05	9.6	5.7			4.0	5.2	100%	65%
11/07/05	9.4	5.7			4.2	5.1	100%	63%
11/08/05	9.2	5.8			4.3	5.1	100%	61%
11/09/05	9.0	5.8			4.4	5.1	100%	60%
11/10/05	8.9	5.9			4.5	5.1	100%	58%
11/11/05	8.7	5.9			4.6	5.1	100%	56%
11/12/05	8.5	6.0			4.7	5.1	100%	55%
11/13/05	8.3	6.0			4.8	5.1	100%	53%
11/14/05	8.1	6.1			4.9	5.1	100%	51%
11/15/05	7.9	6.1	7.1	NT	5.0	5.1	100%	49%
11/16/05	7.8	5.8	6.9		4.8	5.1	100%	50%
11/17/05	7.7	5.6	6.6		4.5	5.1	100%	52%
11/18/05	7.6	5.3	6.4		4.3	5.0	100%	53%
11/19/05	7.5	5.0	6.2		4.1	5.0	100%	55%
11/20/05	7.3	4.7	6.0		3.8	5.0	100%	57%
11/21/05	7.2	4.4	5.7		3.6	5.0	100%	59%
11/22/05	7.1	4.1	5.5	9.2	3.4	5.0	100%	60%
11/23/05	7.4	4.6	5.5	9.3	3.4	4.9	100%	59%
11/24/05	7.7	5.0	5.4	9.4	3.4	4.9	99%	58%
11/25/05	8.0	5.4	5.4	9.5	3.5	4.9	99%	56%
11/26/05	8.1	5.1	5.2	10.2	3.5	4.9	98%	55%
11/27/05	8.2	4.7	5.1	10.9	3.6	4.9	98%	53%
11/28/05	8.2	4.3	4.9	11.6	3.7	4.8	98%	51%
11/29/05	8.3	4.0	4.8	12.3	3.8	4.8	97%	50%
11/30/05	8.0	4.0	4.4	9.7	3.7	4.8	98%	50%

Table 5-1
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
12/01/05	7.7	4.0	4.0	7.1	3.6	4.8	98%	51%
12/02/05	7.4	4.1	3.7	4.4	3.5	4.8	98%	51%
12/03/05	7.4	4.2	3.7	4.3	3.4	4.8	99%	54%
12/04/05	7.4	4.2	3.7	4.3	3.4	4.7	99%	56%
12/05/05	7.4	4.3	3.7	4.2	3.3	4.7	100%	58%
12/06/05	7.4	4.4	3.7	4.1	3.3	4.7	100%	59%
12/07/05	8.0	4.5	3.7	4.0	3.4	4.7	100%	59%
12/08/05	8.5	4.6	3.7	3.9	3.5	4.7	100%	58%
12/09/05	9.1	4.6	3.7	3.8	3.6	4.7	100%	57%
12/10/05	9.2	4.9	3.8	4.0	3.4	4.6	100%	57%
12/11/05	9.4	5.1	3.9	4.2	3.3	4.6	100%	57%
12/12/05	9.5	5.3	4.0	4.3	3.2	4.6	100%	56%
12/13/05	9.6	5.5	4.1	4.5	3.1	4.6	100%	58%
12/14/05	9.3	5.2	3.8	4.3	3.0	4.6	100%	59%
12/15/05	9.0	4.9	3.5	4.0	3.0	4.6	100%	60%
12/16/05	8.7	4.6	3.3	3.7	2.9	4.5	100%	60%
12/17/05	8.5	4.7	3.3	3.7	2.9	4.5	100%	64%
12/18/05	8.4	4.8	3.4	3.7	2.8	4.5	100%	67%
12/19/05	8.2	4.9	3.5	3.7	2.8	4.5	100%	70%
12/20/05	8.1	5.0	3.5	3.7	2.7	4.5	100%	71%
12/21/05	8.4	4.9	3.5	4.2	2.7	4.4	100%	72%
12/22/05	8.6	4.9	3.4	4.6	2.6	4.4	100%	73%
12/23/05	8.9	4.8	3.4	5.1	2.6	4.4	100%	73%
12/24/05	8.8	4.8	3.4	4.7	2.5	4.4	100%	73%
12/25/05	8.6	4.7	3.5	4.3	2.5	4.4	100%	72%
12/26/05	8.5	4.7	3.5	4.0	2.5	4.4	100%	71%
12/27/05	8.4	4.7	3.6	3.6	2.5	4.3	100%	71%
12/28/05	8.4	4.5	3.5	3.5	2.9	4.3	100%	66%
12/29/05	8.4	4.4	3.5	3.5	3.2	4.3	100%	61%
12/30/05	8.4	4.2	3.5	3.5	3.5	4.3	100%	56%
12/31/05	8.3	4.4	3.5	3.5	3.2	4.3	100%	61%
01/01/06	8.2	4.5	3.4	3.4	2.9	4.3	100%	66%
01/02/06	8.0	4.6	3.4	3.4	2.6	4.3	100%	70%
01/03/06	7.9	4.7	3.4	3.4	2.4	4.2	100%	73%
01/04/06	7.8	4.6	3.3	3.4	2.3		94%	73%
01/05/06	7.6	4.4	3.3	3.4	2.3		87%	73%
01/06/06	7.5	4.3	3.3	3.5	2.2		81%	73%
01/07/06	7.4	4.1	3.2	3.5	2.2		74%	74%
01/08/06	7.3	4.0	3.2	3.5	2.2		68%	74%
01/09/06	7.1	3.8	3.1	3.5	2.1		62%	75%
01/10/06	7.0	3.7	3.1	3.5	2.1		55%	75%
01/11/06	7.0	3.7	3.1	3.5	2.1		55%	75%
01/12/06	7.0	3.7	3.1	3.5	2.0		55%	75%
01/13/06	7.0	3.6	3.1	3.4	2.0		54%	75%
01/14/06	7.0	3.6	3.0	3.4	2.0		54%	75%
01/15/06	7.0	3.6	3.0	3.4	2.0		53%	74%
01/16/06	7.0	3.6	3.0	3.4	1.9		53%	74%
01/17/06	7.0	3.6	3.0	3.3	1.9		53%	74%
01/18/06	7.0	3.5	2.9	3.3	1.9		56%	74%
01/19/06	7.0	3.4	2.9	3.3	1.8		60%	74%
01/20/06	7.0	3.4	2.8	3.2	1.8		64%	74%
01/21/06	7.0	3.3	2.8	3.2	1.8		68%	74%
01/22/06	7.1	3.2	2.7	3.1	1.8		71%	75%
01/23/06	7.1	3.2	2.7	3.1	1.7		75%	75%
01/24/06	7.1	3.1	2.6	3.1	1.7	1.7	79%	76%
01/25/06	7.1	3.1	2.6	3.0	1.7	1.7	78%	75%
01/26/06	7.1	3.2	2.6	3.0	1.8	1.8	78%	75%
01/27/06	7.1	3.2	2.6	3.0	1.8	1.8	77%	74%
01/28/06	7.2	3.2	2.6	3.0	1.8	1.8	77%	74%
01/29/06	7.2	3.3	2.6	3.0	1.9	1.9	76%	73%
01/30/06	7.2	3.3	2.6	3.0	1.9	1.9	76%	73%
01/31/06	7.2	3.3	2.6	3.0	1.9	1.8	75%	72%

Table 5-1
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
02/01/06	7.3	3.4	2.6	3.0	2.0	2.0	79%	72%
02/02/06	7.4	3.4	2.6	3.0	2.0	2.0	82%	71%
02/03/06	7.5	3.4	2.7	3.0	2.1	2.1	86%	71%
02/04/06	7.6	3.5	2.7	3.0	2.1	2.1	89%	70%
02/05/06	7.6	3.5	2.7	3.0	2.1	2.1	93%	70%
02/06/06	7.7	3.5	2.7	3.0	2.2	2.2	96%	69%
02/07/06	7.8	3.6	2.7	3.0	2.2	2.0	100%	69%
02/08/06	7.9	3.7	2.7	3.0	2.2	2.0	100%	69%
02/09/06	7.9	3.8	2.7	2.9	2.3	2.0	100%	69%
02/10/06	7.9	3.9	2.8	2.9	2.3	2.0	100%	68%
02/11/06	7.9	4.0	2.8	2.9	2.3	2.0	100%	68%
02/12/06	8.0	4.2	2.8	2.9	2.3	2.0	100%	69%
02/13/06	8.0	4.3	2.8	2.9	2.3	2.0	100%	69%
02/14/06	8.0	4.4	2.8	2.9	2.4	2.1	100%	69%
02/15/06	8.0	4.4	2.8	2.9	2.3	2.1	100%	69%
02/16/06	8.0	4.4	2.9	2.9	2.3	2.1	100%	70%
02/17/06	7.9	4.4	2.9	3.0	2.3	2.1	100%	71%
02/18/06	7.9	4.4	2.9	3.0	2.3	2.1	100%	71%
02/19/06	7.9	4.4	2.9	3.0	2.3	2.1	100%	71%
02/20/06	7.9	4.4	3.0	3.0	2.2	2.1	100%	72%
02/21/06	7.8	4.4	3.0	3.0	2.2	2.1	100%	72%
02/22/06	7.7	4.4	3.0	3.0	2.2	2.1	100%	72%
02/23/06	7.7	4.4	3.0	3.0	2.2	2.1	100%	72%
02/24/06	7.6	4.4	3.0	3.1	2.2	2.1	100%	72%
02/25/06	7.5	4.4	2.9	3.1	2.2	2.1	100%	72%
02/26/06	7.4	4.4	2.9	3.1	2.2	2.1	100%	72%
02/27/06	7.3	4.5	2.9	3.1	2.2	2.1	100%	72%
02/28/06	7.2	4.5	2.9	3.1	2.2	2.1	100%	72%
03/01/06	6.9	4.3	2.8	3.1	2.2		86%	73%
03/02/06	6.7	4.0	2.6	3.1	2.1		71%	74%
03/03/06	6.5	3.8	2.5	3.1	2.0		57%	74%
03/04/06	6.3	3.6	2.3	3.1	1.9		43%	75%
03/05/06	6.0	3.4	2.2	3.1	1.9		29%	76%
03/06/06	5.8	3.2	2.0	3.1	1.8		14%	76%
03/07/06	5.6	3.0	1.9	3.1	1.7		0%	77%
03/08/06	5.5	2.9		3.1	1.8		0%	76%
03/09/06	5.5	2.9		3.1	1.8		0%	75%
03/10/06	5.5	2.9		3.1	1.8		0%	75%
03/11/06	5.5	2.9		3.0	1.8		0%	73%
03/12/06	5.4	2.9		3.0	1.9		0%	72%
03/13/06	5.4	2.9		3.0	1.9		0%	71%
03/14/06	5.4	2.9	NT	3.0	1.9		0%	69%
Average	**17.3**	**5.8**	**3.5**	**4.0**	**3.7**	**4.5**		**66%**

NS-BD: Not Sampled-Basin Dry
NT: Insufficient Sample for Analytical Test
IDC: Insufficient Data for Calculation

Indicates that the sampled water is >75 percent recycled water

5.4 Denotes an interpolated value.

3.0 Denotes an average of individual samples collected at lysimeters HW-25a and HW-25b

Table 5-2
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
06/10/05	6.0	4.0	2.3	2.8	*1.9*		Residual Water	68%
06/11/05	6.0	4.0	2.3	2.8	1.8		Residual Water	70%
06/12/05	6.1	3.9	2.4	2.7	1.7		Residual Water	72%
06/13/05	6.1	3.8	2.5	2.6	1.6		Residual Water	74%
06/14/05	6.2	3.8	2.5	2.5	1.5		Residual Water	76%
06/15/05	NT	3.7	2.6	2.4	1.4		Residual Water	IDC
06/16/05	6.3	3.7	2.5	2.4	1.4		Residual Water	78%
06/17/05	6.3	3.6	2.4	2.3	1.3		Residual Water	79%
06/18/05	6.4	3.6	2.4	2.2	1.3		Residual Water	79%
06/19/05	6.4	3.5	2.3	2.2	1.3		Residual Water	79%
06/20/05	NT	NT	2.2	2.1	1.3		Residual Water	IDC
06/21/05	6.5	3.4	2.4	2.1	1.4		Residual Water	79%
06/22/05	6.6	3.4	2.5	2.1	1.4		Residual Water	79%
06/23/05	6.6	3.3	2.6	2.2	1.4		Residual Water	78%
06/24/05	6.7	3.3	2.8	2.2	1.5		Residual Water	78%
06/25/05	6.7	3.2	2.9	2.2	1.5		Residual Water	77%
06/26/05	6.8	3.2	3.0	2.2	1.6		Residual Water	77%
06/27/05	6.8	3.2	3.2	2.2	1.6		Residual Water	77%
06/28/05	6.8	3.2	3.1	2.2	1.6		Residual Water	77%
06/29/05	6.8	3.2	3.0	2.2	1.6		Residual Water	77%
06/30/05	6.8	3.2	2.9	2.2	1.6		Residual Water	77%
07/01/05	6.7	3.2	2.8	2.2	1.6		Residual Water	77%
07/02/05	6.7	3.2	2.7	2.2	1.5		Residual Water	77%
07/03/05	6.7	3.2	2.6	2.2	1.5		Residual Water	77%
07/04/05	6.6	3.2	2.5	2.2	1.5		Residual Water	77%
07/05/05	6.6	3.2	2.4	2.2	1.5		Residual Water	75%
07/06/05	6.5	3.2	2.5	2.2	1.5		Residual Water	75%
07/07/05	6.3	3.2	2.6	2.2	1.5		Residual Water	75%
07/08/05	6.2	3.1	2.6	2.2	1.5		Residual Water	75%
07/09/05	6.1	3.1	2.7	2.2	1.5		Residual Water	75%
07/10/05	5.9	3.1	2.8	2.2	1.5		Residual Water	IDC
07/11/05	5.8	3.1	2.8	2.1	1.6		Residual Water	75%
07/12/05	5.7	3.1	2.9	2.1	1.6		Residual Water	75%
07/13/05	5.6	3.0	2.9	2.1	1.5		Residual Water	76%
07/14/05	5.5	3.0	2.9	2.1	1.4		Residual Water	77%
07/15/05	5.5	2.9	2.8	2.0	1.4		Residual Water	IDC
07/16/05	5.4	2.9	2.8	2.0	1.3		Residual Water	80%
07/17/05	5.4	2.8	2.8	2.0	1.3		Residual Water	81%
07/18/05	5.3	2.8	2.8	1.9	1.2		Residual Water	82%
07/19/05	5.2	2.7	2.7	1.9	1.2		Residual Water	83%
07/20/05	5.3	2.7	2.7	1.9	1.2		Residual Water	83%
07/21/05	5.4	2.8	2.7	1.9	1.2		Residual Water	83%
07/22/05	5.4	2.8	2.7	1.9	1.2		Residual Water	83%
07/23/05	5.5	2.9	2.7	1.9	1.2		Residual Water	83%
07/24/05	5.6	2.9	2.7	1.9	1.2		Residual Water	82%
07/25/05	5.6	2.9	2.6	1.8	1.2		Residual Water	82%
07/26/05	NT	3.0	2.6	1.8	1.2		Residual Water	82%
07/27/05	5.8	3.0	2.6	1.9	1.2		Residual Water	82%
07/28/05	5.9	3.1	2.7	1.9	1.2		Residual Water	82%
07/29/05	5.9	3.1	2.7	1.9	1.2		Residual Water	82%
07/30/05	6.0	3.2	2.7	2.0	1.2		Residual Water	82%
07/31/05	6.1	3.2	2.7	2.0	1.2		Residual Water	82%

Table 5-2
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
08/01/05	6.1	3.3	2.8	2.1	1.2		Residual Water	81%
08/02/05	6.2	3.3	2.8	2.1	1.2		Residual Water	81%
08/03/05	5.9	3.3	2.8	2.1	1.3		Residual Water	79%
08/04/05	5.7	3.3	2.9	2.1	1.3		Residual Water	78%
08/05/05	5.5	3.3	2.9	2.1	1.4		Residual Water	76%
08/06/05	5.2	3.2	2.9	2.1	1.4		Residual Water	74%
08/07/05	5.0	3.2	3.0	2.2	1.5		Residual Water	73%
08/08/05	4.7	3.2	3.0	2.2	1.6		Residual Water	72%
08/09/05	4.5	3.2	3.0	2.2	1.6		Residual Water	70%
08/10/05	6.7	3.1	3.0	2.3	1.6		Residual Water	70%
08/11/05	9.0	3.1	3.0	2.3	1.7		Residual Water	69%
08/12/05	11.2	3.0	3.0	2.4	1.7		Residual Water	68%
08/13/05	13.4	3.0	3.0	2.5	1.7		Residual Water	67%
08/14/05	15.6	3.0	3.0	2.6	1.7		Residual Water	67%
08/15/05	17.9	2.9	3.0	2.7	1.7		Residual Water	67%
08/16/05	20.1	2.9	3.0	2.7	1.8		Residual Water	67%
08/17/05	18.1	3.4	3.5	3.1	1.8		Residual Water	67%
08/18/05	16.2	4.0	4.1	3.5	1.9		Residual Water	66%
08/19/05	14.2	4.5	4.7	3.8	2.0		Residual Water	65%
08/20/05	12.3	5.1	5.2	4.2	2.1		Residual Water	IDC
08/21/05	10.3	5.6	5.8	4.6	2.1		Residual Water	63%
08/22/05	8.3	6.1	6.4	5.0	2.2		Residual Water	62%
08/23/05	6.4	6.7	6.9	5.3	2.3		Residual Water	61%
08/24/05	7.5	6.3	6.6	5.1	2.3		Residual Water	61%
08/25/05	8.7	5.9	6.2	4.9	2.4		Residual Water	61%
08/26/05	9.8	5.5	5.8	4.6	2.4		Residual Water	61%
08/27/05	11.0	5.1	5.5	4.4	2.5		Residual Water	60%
08/28/05	12.1	4.8	5.1	4.2	2.5		Residual Water	58%
08/29/05	13.3	4.4	4.7	3.9	2.6		Residual Water	55%
08/30/05	14.4	4.0	4.3	3.7	2.6		Residual Water	52%
08/31/05	13.96	3.9	4.3	3.6	2.6		Residual Water	51%
09/01/05	13.51	3.8	4.2	3.4	2.6		Residual Water	49%
09/02/05	13.07	3.8	4.1	3.3	2.5		Residual Water	46%
09/03/05	12.63	3.7	4.0	3.2	2.5		Residual Water	44%
09/04/05	12.18	3.6	3.9	3.1	2.5		Residual Water	63%
09/05/05	11.74	3.5	3.8	3.0	2.5		Residual Water	72%
09/06/05	NS-BD	3.5	3.8	2.9	2.5		Residual Water	78%
09/07/05	10.85	3.5	3.7	2.8	2.5		Residual Water	81%
09/08/05	10.41	3.5	3.6	2.8	2.5		Residual Water	84%
09/09/05	9.96	3.6	3.5	2.7	2.5		26%	86%
09/10/05	9.52	3.6	3.5	2.6	2.6		39%	87%
09/11/05	9.08	3.7	3.4	2.6	2.6		45%	86%
09/12/05	8.63	3.7	3.3	2.5	2.6		49%	84%
09/13/05	8.2	3.7	3.2	2.5	2.7		52%	81%
09/14/05	8.4	3.7	3.2	2.5	2.6		52%	79%
09/15/05	8.5	3.6	3.2	2.5	2.5		52%	75%
09/16/05	8.7	3.6	3.1	2.5	2.5		52%	70%
09/17/05	8.9	3.5	3.1	2.5	2.4		52%	62%
09/18/05	9.0	3.5	3.1	2.5	2.3		53%	69%
09/19/05	9.2	3.4	3.0	2.4	2.3		53%	74%
09/20/05	9.4	3.4	3.0	2.4	2.2		53%	78%
09/21/05	9.1	3.5	3.0	2.5	2.2		54%	80%
09/22/05	8.8	3.6	3.1	2.6	2.2		55%	82%
09/23/05	8.4	3.7	3.2	2.7	2.2		56%	84%
09/24/05	8.1	3.7	3.2	2.7	2.2		57%	85%
09/25/05	7.8	3.8	3.3	2.8	2.2		58%	85%
09/26/05	7.5	3.9	3.4	2.9	2.1		59%	84%
09/27/05	7.2	4.0	3.4	2.9	2.1		59%	84%
09/28/05	9.0	4.6	3.5	3.0	2.2		65%	82%
09/29/05	10.8	5.2	3.6	3.0	2.3		71%	81%
09/30/05	12.6	5.8	3.7	3.1	2.4		77%	79%

Table 5-2
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
10/01/05	14.4	6.3	3.8	3.1	2.5		83%	IDC
10/02/05	16.2	6.9	3.8	3.2	2.6		88%	76%
10/03/05	18.0	7.5	3.9	3.2	2.7		94%	74%
10/04/05	19.8	8.1	4.0	3.2	2.8	2.8	100%	71%
10/05/05	18.6	7.8	4.0	3.3	2.8	2.8	100%	71%
10/06/05	17.4	7.5	4.0	3.3	2.7	2.8	100%	70%
10/07/05	16.2	7.2	4.1	3.3	2.6	2.7	100%	69%
10/08/05	15.0	6.9	4.1	3.4	2.6	2.7	100%	68%
10/09/05	13.8	6.6	4.1	3.4	2.5	2.7	100%	70%
10/10/05	12.6	6.3	4.1	3.4	2.5	2.6	100%	71%
10/11/05	11.4	6.0	4.1	3.4	2.4	2.6	100%	73%
10/12/05	10.2	5.7	4.1	3.5	2.3	2.6	100%	74%
10/13/05	9.0	5.4	4.1	3.5	2.3	2.5	100%	75%
10/14/05	9.4	5.0	3.9	3.3	2.3	2.5	100%	75%
10/15/05	9.7	4.6	3.6	3.1	2.3	2.5	100%	76%
10/16/05	10.0	4.1	3.4	2.9	2.3	2.5	100%	75%
10/17/05	10.3	3.7	3.1	2.7	2.3	2.5	100%	74%
10/18/05	10.6	3.3	2.9	2.5	2.3	2.5	100%	73%
10/19/05	10.7	3.3	2.8	2.4	2.4	2.5	100%	70%
10/20/05	10.9	3.3	2.8	2.4	2.6	2.5	100%	67%
10/21/05	11.0	3.3	2.7	2.3	2.7	2.5	100%	64%
10/22/05	11.1	3.4	2.7	2.3	2.8	2.5	100%	61%
10/23/05	11.2	3.4	2.6	2.2	3.0	2.5	100%	67%
10/24/05	11.4	3.4	2.6	2.2	3.1	2.5	100%	71%
10/25/05	11.5	3.5	2.5	2.1	3.2	2.6	100%	74%
10/26/05	11.0	3.3	2.4	2.1	3.1	2.6	100%	79%
10/27/05	10.6	3.2	2.4	2.1	2.9	2.6	100%	82%
10/28/05	10.1	3.1	2.3	2.0	2.7	2.6	100%	85%
10/29/05	9.7	3.0	2.3	2.0	2.5	2.6	100%	87%
10/30/05	9.2	2.8	2.2	2.0	2.4	2.6	100%	87%
10/31/05	8.8	2.7	2.1	2.0	2.2	2.6	100%	87%
11/01/05	8.3	2.6	2.1	2.0	2.0	2.6	100%	88%
11/02/05	8.3	2.6	2.1	1.9	2.0	2.5	100%	87%
11/03/05	8.2	2.6	2.1	1.9	1.9	2.5	100%	86%
11/04/05	8.1	2.6	2.1	1.9	1.9	2.5	100%	85%
11/05/05	8.1	2.5	2.1	1.9	1.8	2.5	100%	84%
11/06/05	8.0	2.5	2.1	1.9	1.8	2.5	100%	83%
11/07/05	8.0	2.5	2.1	1.9	1.7	2.4	100%	81%
11/08/05	7.9	2.5	2.1	1.8	1.7	2.4	100%	82%
11/09/05	8.2	2.4	2.0	1.8	1.7	2.4	100%	82%
11/10/05	8.5	2.3	1.9	1.7	1.8	2.4	100%	82%
11/11/05	8.7	2.2	1.8	1.6	1.8	2.4	99%	82%
11/12/05	9.0	2.1	1.7	1.5	1.9	2.4	99%	82%
11/13/05	9.3	1.9	1.6	1.5	2.0	2.3	99%	82%
11/14/05	9.6	1.8	1.5	1.4	2.0	2.3	99%	81%
11/15/05	10.5	2.6	5.3	1.8	2.1	2.3	98%	81%
11/16/05	9.2	2.4	4.7	1.8	2.0	2.3	98%	82%
11/17/05	7.9	2.2	4.1	1.9	1.9	2.3	98%	83%
11/18/05	6.5	2.0	3.5	1.9	1.8	2.3	98%	84%
11/19/05	5.2	1.8	2.9	1.9	1.7	2.3	97%	85%
11/20/05	3.9	1.6	2.3	1.9	1.6	2.3	97%	86%
11/21/05	2.6	1.4	1.7	1.9	1.5	2.3	97%	86%
11/22/05	7.9	1.8	1.4	1.3	1.4	2.2	97%	86%
11/23/05	7.8	1.8	1.5	1.3	1.3	2.2	96%	86%
11/24/05	7.7	1.8	1.5	1.3	1.3	2.2	96%	86%
11/25/05	7.6	1.9	1.5	1.4	1.3	2.2	96%	85%
11/26/05	3.1	1.6	1.4	2.0	1.4	2.2	96%	84%
11/27/05	4.6	1.9	1.4	1.7	1.4	2.2	95%	83%
11/28/05	6.2	2.2	1.5	1.5	1.5	2.2	95%	82%
11/29/05	7.8	2.4	1.6	1.2	1.6	2.1	95%	81%
11/30/05	7.8	2.4	1.7	1.3	1.5	2.1	95%	82%

Table 5-2
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
12/01/05	7.8	2.4	1.8	1.3	1.4	2.1	94%	83%
12/02/05	7.8	2.4	1.9	1.3	1.3	2.1	94%	83%
12/03/05	8.3	2.2	1.8	1.3	1.3	2.1	94%	84%
12/04/05	8.9	2.1	1.8	1.3	1.3	2.1	94%	84%
12/05/05	9.4	2.0	1.8	1.3	1.3	2.1	93%	85%
12/06/05	10.0	1.9	1.7	1.3	1.2	2.1	93%	86%
12/07/05	10.0	1.8	1.6	1.3	1.3	2.0	93%	86%
12/08/05	9.9	1.8	1.5	1.3	1.3	2.0	93%	86%
12/09/05	9.9	1.7	1.4	1.3	1.3	2.0	93%	87%
12/10/05	10.3	1.9	1.4	1.4	1.3	2.0	94%	87%
12/11/05	10.8	2.0	1.5	1.4	1.4	2.0	94%	85%
12/12/05	11.2	2.2	1.5	1.5	1.4	2.0	94%	82%
12/13/05	11.7	2.4	1.5	1.6	1.5	2.0	94%	77%
12/14/05	10.9	2.2	1.4	1.4	1.4	2.0	94%	74%
12/15/05	10.1	2.1	1.4	1.3	1.2	2.0	94%	69%
12/16/05	9.3	2.0	1.3	1.1	1.1	2.0	94%	58%
12/17/05	9.3	2.1	1.3	1.2	1.1	1.9	95%	86%
12/18/05	9.3	2.3	1.3	1.2	1.2	1.9	95%	85%
12/19/05	9.3	2.4	1.4	1.2	1.2	1.9	95%	85%
12/20/05	9.3	2.6	1.4	1.2	1.2	1.9	95%	84%
12/21/05	9.6	2.4	1.4	1.2	1.2	1.9	95%	62%
12/22/05	9.9	2.3	1.3	1.2	1.1	1.9	95%	75%
12/23/05	10.2	2.2	1.3	1.2	1.1	1.9	95%	82%
12/24/05	9.6	2.2	1.3	1.2	1.1	1.9	96%	85%
12/25/05	9.0	2.1	1.3	1.2	1.2	1.9	96%	85%
12/26/05	8.5	2.1	1.3	1.2	1.2	1.9	96%	84%
12/27/05	7.9	2.0	1.4	1.2	1.3	1.9	96%	84%
12/28/05	8.2	2.1	1.4	1.2	1.2	1.8	96%	85%
12/29/05	8.5	2.2	1.5	1.2	1.2	1.8	96%	86%
12/30/05	8.8	2.3	1.6	1.3	1.2	1.8	96%	85%
12/31/05	8.6	2.2	1.6	1.2	1.2	1.8	97%	86%
01/01/06	8.4	2.2	1.5	1.2	1.2	1.8	97%	86%
01/02/06	8.1	2.1	1.5	1.2	1.2	1.8	97%	86%
01/03/06	7.9	2.0	1.4	1.2	1.2	1.8	97%	87%
01/04/06	7.8	2.0	1.4	1.2	1.2	1.8	97%	87%
01/05/06	7.8	2.1	1.5	1.2	1.2	1.8	97%	87%
01/06/06	7.7	2.1	1.5	1.2	1.2	1.8	97%	88%
01/07/06	7.7	2.1	1.5	1.2	1.3	1.8	98%	88%
01/08/06	7.6	2.1	1.5	1.3	1.3	1.8	98%	89%
01/09/06	7.5	2.2	1.5	1.3	1.3	1.8	98%	89%
01/10/06	7.5	2.2	1.5	1.3	1.3	1.8	98%	88%
01/11/06	8.1	2.2	1.5	1.3	1.3	1.8	98%	88%
01/12/06	8.6	2.1	1.5	1.3	1.2	1.8	98%	87%
01/13/06	9.2	2.1	1.4	1.3	1.2	1.7	98%	87%
01/14/06	9.7	2.1	1.4	1.3	1.2	1.7	99%	87%
01/15/06	10.3	2.1	1.4	1.3	1.2	1.7	99%	87%
01/16/06	10.9	2.1	1.4	1.3	1.2	1.7	99%	88%
01/17/06	11.4	2.1	1.4	1.3	1.1	1.7	99%	88%
01/18/06	10.8	2.0	1.5	1.3	1.1	1.7	99%	89%
01/19/06	10.2	2.0	1.7	1.3	1.1	1.7	99%	89%
01/20/06	9.6	2.0	1.8	1.3	1.1	1.7	99%	89%
01/21/06	9.0	2.0	2.0	1.3	1.1	1.7	100%	88%
01/22/06	8.4	2.0	2.2	1.3	1.1	1.7	100%	87%
01/23/06	7.8	2.0	2.3	1.3	1.1	1.7	100%	86%
01/24/06	7.2	2.0	2.5	1.3	1.1	1.7	100%	88%
01/25/06	7.3	2.1	2.4	1.3	1.1	1.7	100%	88%
01/26/06	7.5	2.2	2.3	1.3	1.1	1.7	100%	87%
01/27/06	7.6	2.4	2.2	1.2	1.1	1.7	100%	87%
01/28/06	7.8	2.5	2.1	1.2	1.1	1.7	100%	86%
01/29/06	7.9	2.7	2.0	1.2	1.1	1.7	100%	86%
01/30/06	8.0	2.8	1.9	1.2	1.1	1.7	100%	86%
01/31/06	8.2	2.9	1.8	1.2	1.1	1.7	100%	86%

Table 5-2
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Total Organic Carbon (mg/L)

Date	Surface Water	Lysimeter Samples (ft bgs)					Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25	25 - Running Average		
02/01/06	8.2	3.0	1.8	1.3	1.1	1.6	100%	86%
02/02/06	8.1	3.1	1.8	1.3	1.1	1.6	100%	85%
02/03/06	8.1	3.2	1.9	1.4	1.1	1.6	100%	85%
02/04/06	8.1	3.3	1.9	1.4	1.2	1.6	100%	84%
02/05/06	8.1	3.3	1.9	1.5	1.2	1.6	100%	85%
02/06/06	8.1	3.4	1.9	1.5	1.2	1.6	100%	86%
02/07/06	8.0	3.5	2.0	1.6	1.2	1.6	100%	87%
02/08/06	8.0	3.5	2.1	1.7	1.2	1.6	100%	87%
02/09/06	8.0	3.6	2.2	1.7	1.3	1.6	100%	88%
02/10/06	8.0	3.6	2.4	1.8	1.3	1.6	100%	88%
02/11/06	7.9	3.6	2.5	1.9	1.3	1.6	100%	89%
02/12/06	7.9	3.7	2.7	2.0	1.3	1.6	100%	88%
02/13/06	7.9	3.7	2.8	2.0	1.3	1.6	100%	87%
02/14/06	7.9	3.8	3.0	2.1	1.3	1.6	100%	86%
02/15/06	7.8	3.7	3.0	2.2	1.5	1.6	100%	84%
02/16/06	7.8	3.7	3.0	2.2	1.6	1.6	100%	81%
02/17/06	7.7	3.7	3.0	2.3	1.7	1.6	100%	78%
02/18/06	7.6	3.7	3.0	2.4	1.9	1.6	100%	74%
02/19/06	7.6	3.6	3.1	2.4	2.0	1.6	100%	73%
02/20/06	7.5	3.6	3.1	2.5	2.1	1.6	100%	72%
02/21/06	7.4	3.6	3.1	2.5	2.2	1.6	100%	71%
02/22/06	7.4	3.5	3.0	2.5	2.2	1.6	100%	71%
02/23/06	7.3	3.5	2.9	2.5	2.2	1.6	100%	72%
02/24/06	7.2	3.4	2.8	2.5	2.2	1.6	100%	72%
02/25/06	7.1	3.3	2.8	2.4	2.2	1.6	100%	73%
02/26/06	7.0	3.2	2.7	2.4	2.2	1.6	100%	73%
02/27/06	6.9	3.2	2.6	2.4	2.2	1.6	100%	73%
02/28/06	6.9	3.1	2.5	2.4	2.2	1.6	100%	73%
03/01/06	6.7	3.0	2.6	2.3	2.1	1.6	100%	74%
03/02/06	6.6	2.9	2.6	2.3	2.1	1.7	100%	74%
03/03/06	6.4	2.8	2.7	2.2	2.0	1.7	100%	75%
03/04/06	6.3	2.8	2.8	2.2	2.0	1.7	100%	75%
03/05/06	6.1	2.7	2.9	2.2	1.9	1.7	100%	76%
03/06/06	6.0	2.6	2.9	2.1	1.9	1.7	100%	76%
03/07/06	5.9	2.5	3.0	2.1	1.8	1.7	100%	77%
03/08/06	5.9		2.9	2.0	1.8	1.7	100%	77%
03/09/06	5.9		2.7	2.0	1.8	1.7	100%	77%
03/10/06	5.9		2.6	1.9	1.8	1.7	100%	78%
03/11/06	5.9		2.5	1.8	1.7	1.7	100%	78%
03/12/06	5.9		2.4	1.8	1.7	1.7	100%	78%
03/13/06	5.9		2.2	1.7	1.7	1.7	100%	78%
03/14/06	5.9	NT	2.1	1.7	1.7	1.7	100%	78%
Average	**9.1**	**3.2**	**2.3**	**1.9**	**1.9**			**81%**

NS-BD: Not Sampled-Basin Dry

NT: Insufficient Sample for Analytical Test

IDC: Insufficient Data for Calculation

Indicates that the sampled water is >75 percent recycled water

2.2 Denotes an interpolated value.

1.9 Denotes an average of individual samples collected at lysimeters HW-25a and HW-25b

Table 5-3
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Summary for Total Nitrogen

Station ID	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25		
06/10/05	1.4	1.0	1.4	NT	1.9	Residual Water	-30%
06/11/05	1.5	0.9			1.6	Residual Water	-6%
06/12/05	1.6	0.8			1.4	Residual Water	16%
06/13/05	1.7	0.7			1.1	Residual Water	36%
06/14/05	1.8	0.6			0.9	Residual Water	53%
06/15/05	1.9	0.5	NT	NT	0.6	Residual Water	68%
06/16/05	1.9	1.0			0.6	Residual Water	67%
06/17/05	2.0	1.5			0.7	Residual Water	67%
06/18/05	2.0	2.0			0.7	Residual Water	66%
06/19/05	2.1	2.4			0.7	Residual Water	65%
06/20/05	2.1	IDC	NT	NT	0.8	Residual Water	64%
06/21/05	2.0	3.4			0.7	Residual Water	53%
06/22/05	1.9	3.9			0.6	Residual Water	61%
06/23/05	NT	IDC	NT	NT	0.5	Residual Water	69%
06/24/05	1.6	4.9			0.7	Residual Water	62%
06/25/05	1.5	5.3			0.8	Residual Water	56%
06/26/05	1.4	5.8			1.0	Residual Water	50%
06/27/05	1.2	6.3	NT	NT	1.1	Residual Water	43%
06/28/05	1.1	4.5			0.9	Residual Water	53%
06/29/05	0.9	2.7			0.8	Residual Water	63%
06/30/05	0.8	0.9	NT	IDC	0.6	Residual Water	72%
07/01/05	0.8	0.8			0.6	Residual Water	71%
07/02/05	0.8	0.8			0.6	Residual Water	68%
07/03/05	0.7	0.8			0.7	Residual Water	65%
07/04/05	0.7	0.8			0.7	Residual Water	IDC
07/05/05	0.7	0.7	NT	NT	0.7	Residual Water	56%
07/06/05	0.7	0.7			0.7	Residual Water	50%
07/07/05	0.6	0.7	NT	NT	0.8	Residual Water	43%
07/08/05	0.8	0.7			0.7	Residual Water	40%
07/09/05	1.0	0.6			0.7	Residual Water	36%
07/10/05	1.3	0.6			0.7	Residual Water	30%
07/11/05	1.5	0.6			0.6	Residual Water	22%
07/12/05	1.7	0.5	NT	NT	0.6	Residual Water	25%
07/13/05	1.5	0.5			0.6	Residual Water	16%
07/14/05	1.2	0.5			0.7	Residual Water	8%
07/15/05	1.0	0.4	NT	NT	0.7	Residual Water	-1%
07/16/05	1.0	0.5			0.7	Residual Water	-6%
07/17/05	1.0	0.5			0.7	Residual Water	-14%
07/18/05	1.0	0.6			0.8	Residual Water	-23%
07/19/05	1.0	0.6	NT	NT	0.8	Residual Water	8%
07/20/05	1.0	0.6			0.7	Residual Water	29%
07/21/05	0.9	0.5			0.7	Residual Water	43%
07/22/05	0.9	0.5	NT	NT	0.7	Residual Water	53%
07/23/05	1.0	0.5			0.6	Residual Water	63%
07/24/05	1.2	0.5			0.6	Residual Water	61%
07/25/05	1.3	0.5			0.5	Residual Water	58%
07/26/05	1.4	0.5	NT	NT	0.4	Residual Water	54%
07/27/05	1.2	0.5			0.5	Residual Water	52%
07/28/05	1.1	0.6			0.5	Residual Water	50%
07/29/05	0.9	0.6	NT	NT	0.5	Residual Water	48%
07/30/05	0.9	0.6			0.5	Residual Water	44%
07/31/05	0.9	0.5			0.6	Residual Water	39%

Table 5-3
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Summary for Total Nitrogen

Station ID	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25		
08/01/05	0.9	0.5			0.6	Residual Water	33%
08/02/05	1.0	0.4	NT	NT	0.7	Residual Water	28%
08/03/05	1.0	0.5			0.7	Residual Water	35%
08/04/05	1.1	0.5			0.7	Residual Water	40%
08/05/05	1.1	0.6	NT	NT	0.7	Residual Water	45%
08/06/05	1.0	0.5			0.7	Residual Water	51%
08/07/05	0.8	0.5			0.7	Residual Water	47%
08/08/05	0.7	0.5			0.6	Residual Water	43%
08/09/05	0.5	0.4	NT	NT	0.6	Residual Water	36%
08/10/05	0.5	0.4			0.6	Residual Water	37%
08/11/05	0.5	0.3			0.6	Residual Water	39%
08/12/05	0.5	0.3	NT	NT	0.6	Residual Water	40%
08/13/05	1.0	0.3			0.6	Residual Water	41%
08/14/05	1.5	0.4			0.5	Residual Water	46%
08/15/05	1.9	0.4			0.5	Residual Water	50%
08/16/05	2.4	0.4	NT	NT	0.5	Residual Water	54%
08/17/05	2.0	0.5			0.5	Residual Water	49%
08/18/05	1.7	0.6			0.5	Residual Water	44%
08/19/05	1.3	0.6	NT	NT	0.4	Residual Water	36%
08/20/05	1.1	0.6			0.5	Residual Water	5%
08/21/05	1.0	0.5			0.6	Residual Water	-10%
08/22/05	0.8	0.5			0.7	Residual Water	-26%
08/23/05	0.6	0.5	NT	NT	0.7	Residual Water	-43%
08/24/05	0.6	0.6			0.7	Residual Water	32%
08/25/05	0.5	0.7			0.6	Residual Water	59%
08/26/05	0.5	0.8	NT	NT	0.5	Residual Water	72%
08/27/05	0.6	0.7			0.6	Residual Water	76%
08/28/05	0.7	0.6			0.6	Residual Water	70%
08/29/05	0.7	0.5			0.6	Residual Water	61%
08/30/05	0.8	0.4	NT	NT	0.7	Residual Water	48%
08/31/05	0.9	0.9			0.9	Residual Water	16%
09/01/05	1.1	1.4			1.2	Residual Water	-28%
09/02/05	NT	2.0	NT	NT	1.5	Residual Water	-91%
09/03/05	1.5	1.8			1.7	Residual Water	-189%
09/04/05	1.7	1.6			2.0	Residual Water	-247%
09/05/05	1.9	1.4			2.2	Residual Water	-311%
09/06/05	1.7	IDC	NT	NT	2.5	Residual Water	-381%
09/07/05	1.4	0.9			1.9	Residual Water	-228%
09/08/05	1.1	0.7			1.3	Residual Water	-106%
09/09/05	0.8	0.5	NT	NT	0.8	27%	-6%
09/10/05	1.2	0.7			0.8	34%	-7%
09/11/05	1.7	0.8			0.9	41%	0%
09/12/05	2.1	0.9			1.0	48%	8%
09/13/05	2.6	1.0	NT	NT	1.1	54%	IDC
09/14/05	2.0	0.7			0.9	60%	35%
09/15/05	1.3	0.5			0.8	66%	50%
09/16/05	0.7	0.2	NT	NT	0.7	72%	63%
09/17/05	1.7	0.3			0.8	77%	55%
09/18/05	2.8	0.4			0.9	81%	38%
09/19/05	3.8	0.5			1.0	86%	13%
09/20/05	4.9	0.6	NT	NT	1.0	90%	-33%
09/21/05	3.6	0.5			1.0	89%	22%
09/22/05	2.2	0.3			0.9	88%	48%
09/23/05	0.9	0.2	NT	NT	0.8	88%	63%
09/24/05	1.3	0.4			0.8	87%	69%
09/25/05	1.6	0.6			0.8	86%	58%
09/26/05	1.9	0.8			0.8	85%	37%
09/27/05	2.2	1.0	NT	NT	0.9	85%	-23%
09/28/05	2.4	1.0			0.7	85%	58%
09/29/05	2.5	1.0			0.6	85%	78%
09/30/05	IDC	1.1	NT	NT	0.5	85%	87%

Table 5-3
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Summary for Total Nitrogen

Station ID	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25		
10/01/05	2.8	1.0			0.5	86%	90%
10/02/05	3.0	1.0			0.5	86%	86%
10/03/05	3.1	0.9			0.5	86%	79%
10/04/05	3.3	0.9	NT	NT	0.5	86%	48%
10/05/05	3.1	1.8			0.5	89%	58%
10/06/05	2.9	2.8			0.6	91%	64%
10/07/05	2.8	3.8	NT	NT	0.6	93%	68%
10/08/05	2.6	3.4			0.7	94%	66%
10/09/05	2.5	3.0			0.9	95%	63%
10/10/05	2.3	2.6			1.0	97%	60%
10/11/05	2.2	2.2			1.2	98%	IDC
10/12/05	2.1	1.8			1.3	99%	55%
10/13/05	1.9	IDC	NT	NT	1.4	100%	52%
10/14/05	1.7	1.0	NT	NT	1.1	100%	64%
10/15/05	1.9	1.1			1.1	100%	67%
10/16/05	2.0	1.1			1.1	100%	66%
10/17/05	2.2	1.2			1.0	100%	65%
10/18/05	2.3	1.3	NT	NT	1.0	100%	63%
10/19/05	2.7	1.1			1.0	100%	60%
10/20/05	3.1	0.9			1.1	100%	57%
10/21/05	3.5	0.7	NT	NT	1.1	100%	53%
10/22/05	3.9	0.7			1.2	100%	44%
10/23/05	4.3	0.7			1.4	100%	34%
10/24/05	4.6	0.8			1.5	100%	23%
10/25/05	5.0	NT	NT	NT	1.6	100%	5%
10/26/05	4.8	0.8			1.7	100%	10%
10/27/05	4.7	0.8			1.7	100%	14%
10/28/05	4.5	0.8			1.8	100%	18%
10/29/05	4.3	0.8			1.8	100%	21%
10/30/05	4.1	0.8			1.9	100%	30%
10/31/05	3.9	0.8			2.0	100%	37%
11/01/05	NT	NT	NT	NT	2.0	100%	36%
11/02/05	3.5	0.8			2.0	100%	43%
11/03/05	3.4	0.8			2.0	100%	48%
11/04/05	3.2	0.8			2.1	100%	52%
11/05/05	3.0	0.8			2.1	100%	55%
11/06/05	2.8	0.8			2.1	100%	58%
11/07/05	2.6	0.8			2.1	100%	56%
11/08/05	NT	NT	NT	NT	IDC	100%	IDC
11/09/05	2.3	0.8			2.2	100%	51%
11/10/05	2.1	0.8			2.2	100%	49%
11/11/05	1.9	NT	NT	NT	2.2	100%	46%
11/12/05	2.1	0.8			2.2	100%	IDC
11/13/05	2.3	0.8			2.1	100%	41%
11/14/05	2.5	0.9			2.0	100%	40%
11/15/05	IDC	IDC	IDC	IDC	IDC	100%	IDC
11/16/05	3.0	0.9			1.9	100%	37%
11/17/05	3.2	0.9			1.8	100%	35%
11/18/05	3.4	0.9	1.2	IDC	1.8	100%	33%
11/19/05	3.2	0.9	1.1		1.5	100%	IDC
11/20/05	3.0	0.9	1.1		1.3	100%	43%
11/21/05	2.8	0.9	1.0		1.1	100%	49%
11/22/05	2.6	0.9	1.0	1.5	0.8	100%	57%
11/23/05	2.4	0.9	1.0	1.7	1.1	99%	50%
11/24/05	2.2	1.0	1.1	1.8	1.3	99%	44%
11/25/05	2.0	1.0	1.2	2.0	1.5	98%	39%
11/26/05	1.9	1.0	1.2	1.9	1.4	98%	IDC
11/27/05	1.7	1.1	1.2	1.8	1.2	98%	61%
11/28/05	1.6	1.1	1.3	1.7	1.0	97%	69%
11/29/05	1.4	1.1	1.3	IDC	0.8	97%	77%
11/30/05	1.6	1.1	1.2	1.6	0.9	97%	71%

Table 5-3
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Summary for Total Nitrogen

Station ID	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25		
12/01/05	1.7	1.1	1.1	1.5	1.0	98%	65%
12/02/05	1.9	1.1	1.0	1.4	1.2	*98%*	58%
12/03/05	1.7	1.1	1.0	1.4	1.1	99%	59%
12/04/05	1.6	1.1	1.0	1.3	0.9	99%	61%
12/05/05	1.4	1.0	0.9	1.3	0.8	100%	63%
12/06/05	1.2	1.0	0.9	1.2	0.7	100%	65%
12/07/05	1.6	1.0	0.9	1.3	0.8	100%	60%
12/08/05	1.9	1.0	0.9	1.3	0.8	100%	54%
12/09/05	2.3	1.0	0.9	1.3	0.8	100%	47%
12/10/05	2.1	1.0	0.9	1.3	0.8	100%	42%
12/11/05	1.8	1.0	1.0	1.3	0.8	100%	49%
12/12/05	1.6	1.0	1.0	1.3	0.8	100%	54%
12/13/05	1.3	1.0	1.0	1.3	0.8	100%	59%
12/14/05	1.4	1.0	1.0	1.2	0.9	100%	46%
12/15/05	1.5	1.1	1.0	1.2	1.1	100%	31%
12/16/05	1.6	1.1	1.0	1.1	1.2	100%	11%
12/17/05	1.6	1.1	1.0	1.2	1.2	100%	4%
12/18/05	1.6	1.1	1.0	1.2	1.1	100%	30%
12/19/05	1.5	1.1	0.9	1.2	1.0	100%	47%
12/20/05	1.5	1.1	0.9	1.3	1.0	100%	58%
12/21/05	1.6	1.1	1.0	1.4	1.0	100%	53%
12/22/05	1.8	1.1	1.1	1.5	0.9	100%	48%
12/23/05	1.9	1.1	1.2	1.6	0.9	100%	40%
12/24/05	1.8	1.1	1.2	1.7	0.9	100%	29%
12/25/05	1.8	1.1	1.1	1.7	0.9	100%	34%
12/26/05	1.7	1.1	1.0	1.8	0.9	100%	39%
12/27/05	1.7	1.1	1.0	1.8	0.9	100%	43%
12/28/05	1.7	1.0	0.8	1.4	0.8	100%	52%
12/29/05	1.7	0.9	0.6	1.1	0.6	100%	61%
12/30/05	1.7	0.8	0.4	0.7	0.4	100%	71%
12/31/05	1.7	0.8	0.5	0.8	0.5	100%	67%
01/01/06	1.7	0.7	0.6	0.8	0.5	100%	67%
01/02/06	1.6	0.7	0.7	0.9	0.6	100%	66%
01/03/06	1.6	NS	0.8	1.0	0.6	100%	66%
01/04/06	1.6	0.6	0.8	1.1	0.9	93%	50%
01/05/06	1.6	0.6	0.8	1.1	1.2	85%	33%
01/06/06	1.5	0.6	0.8	1.2	1.5	78%	15%
01/07/06	1.4	0.5	0.8	1.1	1.3	72%	25%
01/08/06	1.3	0.5	0.8	1.1	1.1	66%	38%
01/09/06	1.2	0.5	0.8	1.0	0.8	61%	51%
01/10/06	1.1	0.5	0.8	0.9	0.6	55%	64%
01/11/06	1.1	0.4	0.8	0.9	0.6	55%	62%
01/12/06	1.0	0.4	0.8	0.9	0.7	54%	59%
01/13/06	1.0	0.3	0.7	0.9	0.7	54%	57%
01/14/06	1.1	0.4	0.7	0.9	0.6	54%	61%
01/15/06	1.2	0.4	0.7	0.9	0.6	53%	65%
01/16/06	1.2	0.5	0.7	0.9	0.5	53%	69%
01/17/06	1.3	0.5	0.7	0.9	0.4	53%	74%
01/18/06	1.7	0.5	0.7	0.9	0.4	57%	72%
01/19/06	2.1	0.5	0.7	1.0	0.4	61%	70%
01/20/06	2.5	0.5	0.7	1.0	0.4	66%	67%
01/21/06	2.6	0.5	0.8	1.0	0.4	69%	62%
01/22/06	2.8	0.5	0.9	1.0	0.5	72%	58%
01/23/06	3.0	0.6	0.9	1.0	0.5	75%	54%
01/24/06	3.2	0.6	1.0	0.9	0.5	79%	50%
01/25/06	3.2	0.8	0.9	1.0	0.8	78%	26%
01/26/06	3.1	0.9	0.9	1.0	1.1	78%	5%
01/27/06	3.0	1.1	0.8	1.0	1.4	77%	-14%
01/28/06	2.9	1.2	0.8	1.0	1.2	77%	5%
01/29/06	2.8	1.3	0.8	1.0	1.1	76%	36%
01/30/06	2.7	1.4	0.8	1.0	0.9	76%	55%
01/31/06	2.6	1.5	0.8	1.0	0.8	75%	68%

Table 5-3
Basin and Lysimeter Monitoring Results for Hickory Basin West Cell: Summary for Total Nitrogen

Station ID	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
		5	10	15	25		
02/01/06	2.4	1.4	0.8	1.1	0.9	79%	68%
02/02/06	2.1	1.2	0.7	1.3	0.9	84%	67%
02/03/06	1.9	1.1	0.7	1.4	1.0	88%	67%
02/04/06	1.9	1.1	0.7	1.3	1.0	91%	71%
02/05/06	1.9	1.0	0.8	1.1	0.9	94%	72%
02/06/06	1.8	1.0	0.8	1.0	0.9	97%	73%
02/07/06	1.8	0.9	0.8	0.8	0.8	100%	74%
02/08/06	1.6	0.8	0.9	0.8	0.8	100%	72%
02/09/06	1.3	0.8	0.9	0.8	0.9	100%	69%
02/10/06	1.1	0.7	1.0	0.8	0.9	100%	67%
02/11/06	1.3	0.8	0.9	0.8	0.9	100%	68%
02/12/06	1.6	1.0	0.8	0.9	0.8	100%	66%
02/13/06	1.8	1.1	0.7	0.9	0.8	100%	65%
02/14/06	2.0	1.2	0.6	0.9	0.7	100%	63%
02/15/06	2.2	1.2	0.6	0.9	0.8	100%	59%
02/16/06	2.4	1.1	0.6	0.9	0.8	100%	55%
02/17/06	2.6	1.1	0.6	0.9	0.9	100%	51%
02/18/06	2.7	1.1	0.7	0.9	0.9	100%	51%
02/19/06	2.8	1.2	0.7	0.9	0.9	100%	46%
02/20/06	2.8	1.2	0.8	0.9	0.8	100%	38%
02/21/06	2.9	1.2	0.8	0.9	0.8	100%	27%
02/22/06	2.9	1.2	0.8	0.9	0.9	100%	30%
02/23/06	2.9	1.2	0.7	0.8	1.1	100%	31%
02/24/06	2.9	1.2	0.7	0.8	1.2	100%	32%
02/25/06	2.6	1.1	0.7	0.8	1.1	100%	44%
02/26/06	2.3	1.0	0.7	0.8	1.1	100%	52%
02/27/06	2.0	0.9	0.6	0.8	1.0	100%	59%
02/28/06	1.7	0.8	0.6	0.8	0.9	100%	65%
03/01/06	1.7	0.9	0.7	0.8	0.9	69%	66%
03/02/06	1.6	0.9	0.7	0.8	0.9	38%	67%
03/03/06	1.6	1.0	0.8	0.8	0.9	7%	68%
03/04/06	1.6	1.1		0.8	0.8	5%	72%
03/05/06	1.7	1.1		0.8	0.8	4%	74%
03/06/06	1.7	1.2		0.8	0.7	2%	77%
03/07/06	1.7	1.2	IDC	0.8	0.6	0%	79%
03/08/06	1.7	1.2		0.8	0.6	0%	77%
03/09/06	1.8	1.1		0.8	0.6	0%	74%
03/10/06	1.8	1.1	0.9	0.8	0.6	0%	70%
03/11/06	1.5			0.8	0.7	0%	60%
03/12/06	1.3			0.8	0.8	0%	55%
03/13/06	1.0			0.8	0.8	0%	49%
03/14/06	0.7	IDC	IDC	0.8	0.9	0%	44%
03/15/06	0.7			0.9	1.0	0%	41%
03/16/06	0.6			0.9	1.0	0%	37%
03/17/06	0.6	0.9	IDC	1.0	1.1	0%	34%
Average	**2.2**	**1.1**	**0.9**	**1.1**	**1.1**		**49%**

NS-BD: Not Sampled-Basin Dry
NT: Insufficient Sample for Analytical Test
IDC: Insufficient Data for Calculation
Indicates that the sampled water is >75 percent recycled water
1.7 Denotes an interpolated value.

Table 5-4
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Summary for Total Nitrogen

Station ID		Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
				5	10	15	25		
06/10/05		mg/L	0.7	0.8	IDC	3.6	2.2	Residual Water	-203%
06/11/05	0.20 0.80		0.9	1.0		3.6	2.5	Residual Water	-190%
06/12/05	0.40 0.60		1.0	1.3		3.7	2.8	Residual Water	-181%
06/13/05	0.60 0.40		1.1	1.5		3.8	3.1	Residual Water	-173%
06/14/05	0.80 0.20		1.3	1.7		3.8	3.4	Residual Water	-168%
06/15/05		mg/L	NT	IDC	1.1	3.9	3.7	Residual Water	IDC
06/16/05	0.20 0.80		1.6	2.1	1.2	3.7	3.7	Residual Water	-139%
06/17/05	0.40 0.60		1.7	2.3	1.3	3.5	3.7	Residual Water	-119%
06/18/05	0.60 0.40		1.8	2.5	1.5	3.3	3.7	Residual Water	-102%
06/19/05	0.80 0.20		2.0	2.7	1.6	3.0	3.7	Residual Water	-88%
06/20/05		mg/L	NT	IDC	1.7	2.8	3.7	Residual Water	IDC
06/21/05	0.33 0.67		2.2	3.1	1.6	2.5	3.7	Residual Water	-65%
06/22/05	0.67 0.33		2.4	3.3	1.5	2.3	3.7	Residual Water	-56%
06/23/05		mg/L	2.5	IDC	1.4	2.0	3.7	Residual Water	-48%
06/24/05	0.25 0.75		2.2	3.7	1.4	1.8	3.6	Residual Water	-66%
06/25/05	0.50 0.50		1.8	3.9	1.3	1.7	3.5	Residual Water	-91%
06/26/05	0.75 0.25		1.5	4.1	1.3	1.6	3.4	Residual Water	-127%
06/27/05		mg/L	1.2	IDC	1.3	1.4	3.4	Residual Water	-182%
06/28/05	0.33 0.67		1.0	4.5	1.1	1.4	3.3	Residual Water	-235%
06/29/05	0.67 0.33		0.8	4.8	1.0	1.4	3.2	Residual Water	-316%
06/30/05		mg/L	0.6	5.0	0.8	IDC	3.2	Residual Water	-456%
07/01/05	0.20 0.80		0.7	4.2	0.8	1.3	3.0	Residual Water	-346%
07/02/05	0.40 0.60		0.8	3.4	0.8	1.3	2.9	Residual Water	-266%
07/03/05	0.60 0.40		0.9	2.5	0.8	1.2	2.7	Residual Water	-206%
07/04/05	0.80 0.20		1.0	1.7	0.8	1.2	2.6	Residual Water	-158%
07/05/05		mg/L	1.1	0.9	0.8	1.2	2.4	Residual Water	-226%
07/06/05	0.50 0.50		0.9	0.7	1.8	1.5	3.1	Residual Water	-256%
07/07/05		mg/L	0.6	0.5	2.8	1.8	3.8	Residual Water	-278%
07/08/05	0.20 0.80		0.7	0.5	3.1	1.8	3.8	Residual Water	-231%
07/09/05	0.40 0.60		0.7	0.5	3.4	1.8	3.8	Residual Water	-194%
07/10/05	0.60 0.40		0.8	0.5	3.6	1.8	3.7	Residual Water	IDC
07/11/05	0.80 0.20		0.8	0.5	3.9	1.8	3.7	Residual Water	-140%
07/12/05		mg/L	0.9	0.5	IDC	1.8	3.7	Residual Water	-119%
07/13/05	0.33 0.67		0.9	0.6	4.5	1.8	3.9	Residual Water	-116%
07/14/05	0.67 0.33		0.8	0.7	4.8	1.8	4.2	Residual Water	-114%
07/15/05		mg/L	0.8	0.8	5.0	1.8	4.4	Residual Water	IDC
07/16/05	0.25 0.75		0.7	0.8	5.2	1.7	4.2	Residual Water	-90%
07/17/05	0.50 0.50		0.7	0.7	5.3	1.6	4.1	Residual Water	-71%
07/18/05	0.75 0.25		0.6	0.6	5.4	1.6	3.9	Residual Water	-54%
07/19/05		mg/L	0.6	0.6	5.5	1.5	3.7	Residual Water	-68%
07/20/05	0.33 0.67		0.7	0.5	5.7	1.6	3.1	Residual Water	-67%
07/21/05	0.67 0.33		0.8	0.5	5.8	1.7	2.5	Residual Water	-64%
07/22/05		mg/L	1.0	0.4	5.9	1.8	1.9	Residual Water	-60%
07/23/05	0.25 0.75		1.0	0.4	5.8	1.7	2.4	Residual Water	-144%
07/24/05	0.50 0.50		1.1	0.3	5.7	1.7	2.9	Residual Water	-273%
07/25/05	0.75 0.25		1.2	0.3	5.5	1.6	3.4	Residual Water	-496%
07/26/05		mg/L	NT	0.3	5.4	1.6	3.9	Residual Water	-477%
07/27/05	0.33 0.67		1.3	0.3	5.1	1.6	3.3	Residual Water	-321%
07/28/05	0.67 0.33		1.3	0.3	4.8	1.7	2.7	Residual Water	-202%
07/29/05		mg/L	1.4	0.3	4.5	1.7	2.1	Residual Water	-108%
07/30/05	0.25 0.75		1.3	0.5	3.9	1.7	2.6	Residual Water	-132%
07/31/05	0.50 0.50		1.3	0.6	3.4	1.7	3.0	Residual Water	-258%

Table 5-4
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Summary for Total Nitrogen

Station ID			Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
					5	10	15	25		
08/01/05	0.75	0.25		1.2	0.8	2.8	1.7	3.5	Residual Water	-488%
08/02/05			mg/L	1.1	0.9	NT	1.7	4.0	Residual Water	-511%
08/03/05	0.33	0.67		1.0	0.8	1.7	2.1	3.1	Residual Water	-339%
08/04/05	0.67	0.33		0.9	0.7	1.2	2.5	2.2	Residual Water	-192%
08/05/05			mg/L	0.8	0.6	0.7	2.8	1.4	Residual Water	-65%
08/06/05	0.25	0.75		0.8	0.7	0.6	2.4	1.2	Residual Water	-39%
08/07/05	0.50	0.50		0.7	0.8	0.5	1.9	1.1	Residual Water	-27%
08/08/05	0.75	0.25		0.7	0.9	0.5	1.4	0.9	Residual Water	-15%
08/09/05			mg/L	0.6	1.0	0.4	0.9	0.8	Residual Water	-1%
08/10/05	0.33	0.67		0.6	0.8	0.4	0.9	0.8	Residual Water	-15%
08/11/05	0.67	0.33		0.5	0.7	0.5	0.8	0.9	Residual Water	-31%
08/12/05			mg/L	0.5	0.5	0.5	0.7	0.9	Residual Water	-50%
08/13/05	0.25	0.75		1.1	0.5	0.5	0.7	0.9	Residual Water	-57%
08/14/05	0.50	0.50		1.7	0.5	0.5	0.6	0.8	Residual Water	-20%
08/15/05	0.75	0.25		2.4	0.5	0.5	0.6	0.8	Residual Water	5%
08/16/05			mg/L	3.0	0.5	0.5	0.5	0.8	Residual Water	23%
08/17/05	0.33	0.67		2.8	0.7	0.7	0.7	0.7	Residual Water	38%
08/18/05	0.67	0.33		2.7	0.9	0.9	0.8	0.6	Residual Water	50%
08/19/05			mg/L	2.6	1.0	1.1	1.0	0.5	Residual Water	61%
08/20/05	0.25	0.75		2.1	0.9	1.0	1.0	0.5	Residual Water	IDC
08/21/05	0.50	0.50		1.6	0.8	1.0	0.9	0.6	Residual Water	56%
08/22/05	0.75	0.25		1.1	0.7	1.0	0.9	0.6	Residual Water	54%
08/23/05			mg/L	0.6	0.6	1.0	0.8	0.7	Residual Water	52%
08/24/05	0.33	0.67		0.7	0.6	1.0	0.9	0.8	Residual Water	43%
08/25/05	0.67	0.33		0.7	0.7	1.0	0.9	0.8	Residual Water	33%
08/26/05			mg/L	0.8	0.7	0.9	0.9	0.9	Residual Water	23%
08/27/05	0.25	0.75		1.1	0.8	1.0	1.2	1.1	Residual Water	3%
08/28/05	0.50	0.50		1.4	0.9	1.1	1.4	1.3	Residual Water	-23%
08/29/05	0.75	0.25		1.8	1.0	1.1	1.6	1.4	Residual Water	-55%
08/30/05			mg/L	2.1	NT	1.2	1.9	1.6	Residual Water	-96%
08/31/05	0.33	0.67		2.3	1.2	1.4	1.8	1.4	Residual Water	-86%
09/01/05	0.67	0.33		2.4	1.3	1.5	1.7	1.3	Residual Water	-75%
09/02/05			mg/L	2.6	1.4	1.6	1.6	1.1	Residual Water	-62%
09/03/05	0.25	0.75		2.4	1.6	1.7	1.5	1.4	Residual Water	-126%
09/04/05	0.50	0.50		2.2	1.8	1.7	1.5	1.7	Residual Water	-197%
09/05/05	0.75	0.25		2.0	2.0	1.7	1.5	2.0	Residual Water	-278%
09/06/05			mg/L	NS-BD	NT	1.7	1.5	2.4	Residual Water	-372%
09/07/05	0.33	0.67		1.5	2.4	1.8	1.5	2.1	Residual Water	-86%
09/08/05	0.67	0.33		1.3	2.6	1.8	1.6	1.8	Residual Water	-3%
09/09/05			mg/L	1.1	2.8	1.8	1.6	1.5	27%	36%
09/10/05	0.25	0.75		1.3	2.8	1.4	1.5	1.5	34%	49%
09/11/05	0.50	0.50		1.6	2.9	1.0	1.4	1.6	41%	45%
09/12/05	0.75	0.25		1.8	2.9	0.6	1.3	1.6	48%	41%
09/13/05			mg/L	2.0	3.0	0.2	1.2	1.6	54%	37%
09/14/05	0.33	0.67		1.6	2.9	0.7	1.2	1.6	54%	24%
09/15/05	0.67	0.33		1.2	2.9	1.1	1.3	1.5	54%	4%
09/16/05			mg/L	0.8	2.8	1.5	1.3	1.5	54%	-34%
09/17/05	0.25	0.75		1.2	2.6	1.5	1.3	1.4	54%	-124%
09/18/05	0.50	0.50		1.6	2.3	1.6	1.3	1.4	53%	-100%
09/19/05	0.75	0.25		2.0	2.1	1.6	1.3	1.3	53%	-78%
09/20/05			mg/L	2.4	1.9	1.7	1.3	1.2	53%	-59%
09/21/05	0.33	0.67		2.2	1.8	2.4	1.8	1.5	54%	-32%
09/22/05	0.67	0.33		2.1	1.7	3.1	2.2	1.7	55%	-17%
09/23/05			mg/L	1.9	1.6	3.8	2.7	1.9	56%	-7%
09/24/05	0.25	0.75		2.0	1.5	3.3	2.5	2.1	57%	1%
09/25/05	0.50	0.50		2.1	1.4	2.8	2.2	2.3	58%	1%
09/26/05	0.75	0.25		2.1	1.3	2.3	2.0	2.4	58%	0%
09/27/05			mg/L	2.2	1.2	1.7	1.7	2.6	59%	0%
09/28/05	0.33	0.67		2.2	1.1	1.5	1.7	2.2	64%	8%
09/29/05	0.67	0.33		2.1	1.0	1.3	1.7	1.8	68%	17%
09/30/05			mg/L	2.0	0.9	1.0	1.6	1.4	73%	28%

Table 5-4
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Summary for Total Nitrogen

Station ID			Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
					5	10	15	25		
10/01/05	0.25	0.75		2.1	0.8	1.0	1.5	1.3	76%	IDC
10/02/05	0.50	0.50		2.1	0.7	1.0	1.4	1.3	79%	17%
10/03/05	0.75	0.25		2.2	0.7	1.0	1.2	1.2	83%	8%
10/04/05			mg/L	2.2	0.6	1.0	1.1	1.2	86%	-5%
10/05/05	0.33	0.67		2.1	0.6	1.0	1.0	1.1	89%	19%
10/06/05	0.67	0.33		2.1	0.6	1.0	1.0	1.0	91%	37%
10/07/05			mg/L	2.0	0.6	1.0	1.0	0.9	93%	49%
10/08/05	0.17	0.83		2.1	0.6	1.0	0.9	0.8	94%	
10/09/05	0.33	0.67		2.1	0.6	0.9	0.9	0.8	95%	
10/10/05	0.50	0.50		2.2	0.6	0.9	0.9	0.7	97%	
10/11/05	0.67	0.33		2.2	0.6	0.9	0.9	0.6	98%	
10/12/05	0.83	0.17		2.3	0.6	0.9	0.9	0.5	99%	
10/13/05			mg/L	2.3	0.6	0.9	0.8	6.2	100%	-291%
10/14/05			mg/L	1.4	1.1	0.9	0.5	0.5	100%	77%
10/15/05	0.25	0.75		2.3	0.9	0.8	0.6	0.5	100%	78%
10/16/05	0.50	0.50		3.2	0.8	0.7	0.7	0.6	100%	73%
10/17/05	0.75	0.25		4.0	0.7	0.7	0.7	0.7	100%	68%
10/18/05			mg/L	4.9	0.6	0.6	0.8	0.7	100%	62%
10/19/05	0.33	0.67		4.1	0.7	1.0	0.9	0.7	100%	65%
10/20/05	0.67	0.33		3.3	0.9	1.4	0.9	0.7	100%	68%
10/21/05			mg/L	2.5	1.0	1.8	1.0	0.6	100%	71%
10/22/05	0.25	0.75		2.4	1.0	1.6	0.9	0.7	100%	70%
10/23/05	0.50	0.50		2.3	0.9	1.4	0.8	0.7	100%	67%
10/24/05	0.75	0.25		2.1	0.9	1.2	0.8	0.8	100%	63%
10/25/05			mg/L	2.0	0.9	0.9	0.7	0.8	100%	60%
10/26/05	0.33	0.67		2.1	1.1	1.0	0.7	0.7	100%	67%
10/27/05	0.67	0.33		2.1	1.3	1.1	0.8	0.5	100%	74%
10/28/05			mg/L	NT	IDC	1.3	0.8	0.4	100%	81%
10/29/05	0.25	0.75		2.2	1.7	1.3	1.1	0.7	100%	69%
10/30/05	0.50	0.50		2.2	1.9	1.4	1.4	1.0	100%	55%
10/31/05	0.75	0.25		2.3	2.2	1.4	1.7	1.2	100%	41%
11/01/05			mg/L	2.3	2.4	1.5	2.0	1.5	100%	25%
11/02/05	0.33	0.67		2.1	3.5	1.5	1.9	1.5	100%	25%
11/03/05	0.67	0.33		1.8	4.6	1.5	1.7	1.6	100%	24%
11/04/05			mg/L	1.6	5.8	1.6	1.6	IDC	100%	IDC
11/05/05	0.25	0.75		1.6	5.1	1.6	1.6	1.7	100%	23%
11/06/05	0.50	0.50		1.6	4.5	1.6	1.6	1.7	100%	23%
11/07/05	0.75	0.25		1.6	3.9	1.6	1.6	1.8	100%	22%
11/08/05			mg/L	IDC	IDC	IDC	IDC	IDC	100%	IDC
11/09/05	0.33	0.67		1.6	2.6	1.6	1.7	1.9	100%	18%
11/10/05	0.67	0.33		1.7	2.0	1.6	1.7	1.9	100%	39%
11/11/05			mg/L	1.7	1.4	1.6	IDC	IDC	100%	IDC
11/12/05	0.25	0.75		2.0	1.6	1.6	1.7	2.0	100%	59%
11/13/05	0.50	0.50		2.3	1.9	1.5	1.7	2.1	100%	49%
11/14/05	0.75	0.25		2.6	2.1	1.5	1.7	2.1	100%	36%
11/15/05			mg/L	IDC	IDC	IDC	IDC	NS	100%	IDC
11/16/05	0.33	0.67		3.2	2.6	1.4	1.7	2.2	100%	7%
11/17/05	0.67	0.33		3.5	2.8	1.3	1.7	2.3	100%	0%
11/18/05			mg/L	3.8	3.1	1.3	1.8	2.3	100%	-8%
11/19/05	0.25	0.75		3.6	3.1	1.1	2.0	2.3	100%	
11/20/05	0.50	0.50		3.4	3.2	0.9	2.2	2.2	100%	
11/21/05	0.75	0.25		3.1	3.2	0.7	2.5	2.2	100%	
11/22/05			mg/L	2.9	IDC	0.6	2.7	IDC	100%	IDC
11/23/05	0.33	0.67		2.5	3.3	0.8	2.3	2.1	100%	6%
11/24/05	0.67	0.33		2.1	3.4	1.0	1.8	2.0	99%	10%
11/25/05			mg/L	1.7	3.4	1.3	1.4	IDC	99%	IDC
11/26/05	0.25	0.75		1.7	3.6	1.2	1.3	1.9	98%	18%
11/27/05	0.50	0.50		1.7	3.7	1.1	1.3	1.8	98%	11%
11/28/05	0.75	0.25		1.6	3.8	1.1	1.2	1.8	97%	2%
11/29/05			mg/L	1.6	4.0	1.0	1.1	IDC	97%	IDC
11/30/05	0.33	0.67		1.7	3.3	2.0	1.2	1.7	96%	

Table 5-4
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Summary for Total Nitrogen

Station ID			Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
					5	10	15	25		
12/01/05	0.67	0.33		1.8	2.6	3.0	1.2	1.6	96%	
12/02/05			mg/L	1.9	1.9	4.1	1.3	IDC	95%	IDC
12/03/05	0.25	0.75		1.8	1.8	4.2	1.3	1.5	95%	IDC
12/04/05	0.50	0.50		1.8	1.7	4.3	1.4	1.5	94%	10%
12/05/05	0.75	0.25		1.7	1.6	4.4	1.5	1.4	94%	13%
12/06/05			mg/L	1.6	1.5	4.6	1.6	1.4	93%	17%
12/07/05	0.33	0.67		2.0	1.5	4.1	1.8	1.6	93%	21%
12/08/05	0.67	0.33		2.3	1.5	3.6	2.0	1.7	93%	24%
12/09/05			mg/L	2.7	1.5	3.1	2.1	1.9	93%	26%
12/10/05	0.25	0.75		2.6	1.7	3.2	2.2	1.9	94%	IDC
12/11/05	0.50	0.50		2.5	1.8	3.3	2.2	1.8	94%	43%
12/12/05	0.75	0.25		2.4	2.0	3.4	2.2	1.8	94%	49%
12/13/05			mg/L	2.3	2.2	3.5	2.3	IDC	94%	IDC
12/14/05	0.33	0.67		2.4	2.3	3.3	2.3	1.7	94%	52%
12/15/05	0.67	0.33		2.6	2.5	3.2	2.4	1.7	94%	50%
12/16/05			mg/L	2.7	2.7	3.0	2.4	1.6	94%	48%
12/17/05	0.25	0.75		2.4	2.7	3.0	2.5	1.7	95%	41%
12/18/05	0.50	0.50		2.1	2.6	2.9	2.7	1.8	95%	28%
12/19/05	0.75	0.25		1.8	2.6	2.8	2.8	1.9	95%	11%
12/20/05			mg/L	1.5	2.6	2.8	2.9	IDC	95%	IDC
12/21/05	0.33	0.67		1.7	2.5	2.9	3.2	2.0	95%	
12/22/05	0.67	0.33		1.9	2.4	3.1	3.5	2.1	95%	
12/23/05			mg/L	2.1	2.4	3.3	3.8	IDC	95%	IDC
12/24/05	0.25	0.75		1.9	2.2	3.3	3.7	2.2	96%	
12/25/05	0.50	0.50		1.7	2.1	3.3	3.7	2.3	96%	
12/26/05	0.75	0.25		1.4	1.9	3.3	3.7	2.4	96%	
12/27/05			mg/L	1.2	1.8	3.3	3.6	IDC	96%	IDC
12/28/05	0.33	0.67		1.2	1.4	2.3	2.5	2.5	96%	
12/29/05	0.67	0.33		1.2	1.1	1.3	1.4	2.6	96%	
12/30/05			mg/L	1.2	0.7	0.4	0.3	IDC	96%	IDC
12/31/05	0.25	0.75		1.3	1.2	1.2	1.2	2.7	97%	
01/01/06	0.50	0.50		1.4	1.7	2.0	2.1	2.8	97%	
01/02/06	0.75	0.25		1.5	2.1	2.9	3.1	2.9	97%	
01/03/06			mg/L	1.6	2.6	3.7	4.0	IDC	97%	IDC
01/04/06	0.33	0.67		1.5	2.4	3.6	3.9	3.0	97%	
01/05/06	0.67	0.33		1.5	2.2	3.4	3.8	3.1	97%	
01/06/06			mg/L	1.4	2.0	3.3	3.7	IDC	97%	IDC
01/07/06	0.25	0.75		1.3	1.8	3.2	3.6	3.3	98%	
01/08/06	0.50	0.50		1.1	1.5	3.1	3.6	3.3	98%	
01/09/06	0.75	0.25		1.0	1.3	3.0	3.6	3.4	98%	
01/10/06			mg/L	0.8	1.1	3.0	3.6	IDC	98%	IDC
01/11/06	0.33	0.67		1.0	1.1	2.9	3.5	3.5	98%	
01/12/06	0.67	0.33		1.2	1.1	2.8	3.4	3.6	98%	
01/13/06			mg/L	1.4	1.1	2.8	3.3	3.7	98%	-105%
01/14/06	0.25	0.75		1.7	1.2	2.8	3.3	3.5	99%	
01/15/06	0.50	0.50		1.9	1.3	2.8	3.3	3.4	99%	
01/16/06	0.75	0.25		2.2	1.3	2.7	3.3	3.3	99%	
01/17/06			mg/L	2.5	IDC	2.7	3.2	IDC	99%	IDC
01/18/06	0.33	0.67		3.5	1.5	2.8	3.1	3.0	99%	
01/19/06	0.67	0.33		4.5	1.5	2.9	3.1	2.8	99%	
01/20/06			mg/L	5.5	1.6	3.0	3.0	2.7	99%	-88%
01/21/06	0.25	0.75		5.1	2.1	3.4	2.9	2.7	100%	
01/22/06	0.50	0.50		4.7	2.5	3.7	2.9	2.7	100%	
01/23/06	0.75	0.25		4.3	3.0	4.1	2.8	2.7	100%	
01/24/06			mg/L	3.9	3.5	4.4	2.8	2.7	100%	-128%
01/25/06	0.33	0.67		3.8	3.3	4.2	2.6	2.5	100%	
01/26/06	0.67	0.33		3.7	3.1	3.9	2.5	2.2	100%	
01/27/06			mg/L	3.6	2.9	3.6	2.4	2.0	100%	-30%
01/28/06	0.25	0.75		3.1	2.8	3.4	2.4	2.1	100%	
01/29/06	0.50	0.50		2.7	2.8	3.2	2.4	2.3	100%	
01/30/06	0.75	0.25		2.3	2.7	3.0	2.4	2.5	100%	
01/31/06			mg/L	1.8	2.7	IDC	2.4	IDC	100%	IDC

Table 5-4
Basin and Lysimeter Monitoring Results for Hickory Basin East Cell: Summary for Total Nitrogen

Station ID		Units	Surface Water	Lysimeter Samples (ft bgs)				Percentage RW at 25 ft bgs Lysimeter	Percent Reduction
				5	10	15	25		
02/01/06	0.33 0.67		1.8	2.2	2.6	2.3	2.8	100%	
02/02/06	0.67 0.33		1.7	1.7	2.4	2.2	2.9	100%	
02/03/06		mg/L	1.7	1.2	2.2	2.1	3.1	100%	-216%
02/04/06	0.25 0.75		1.7	1.2	2.1	2.1	2.9	100%	
02/05/06	0.50 0.50		1.7	1.1	2.0	2.1	2.7	100%	
02/06/06	0.75 0.25		1.6	1.1	1.9	2.1	2.5	100%	
02/07/06		mg/L	1.6	1.0	1.8	2.1	2.3	100%	-62%
02/08/06	0.33 0.67		2.0	1.0	1.6	2.0	2.1	100%	
02/09/06	0.67 0.33		2.5	1.0	1.5	1.9	2.0	100%	
02/10/06		mg/L	2.9	1.0	1.3	1.8	1.8	100%	18%
02/11/06	0.25 0.75		3.0	1.0	1.3	1.7	1.7	100%	32%
02/12/06	0.50 0.50		3.2	1.1	1.4	1.6	1.6	100%	55%
02/13/06	0.75 0.25		3.3	1.1	1.4	1.5	1.4	100%	68%
02/14/06		mg/L	3.4	1.1	1.4	1.4	1.3	100%	76%
02/15/06	0.33 0.67		4.1	1.6	1.8	1.3	1.2	100%	76%
02/16/06	0.67 0.33		4.7	2.2	2.1	1.3	1.1	100%	77%
02/17/06		mg/L	5.4	2.7	2.5	1.2	1.0	100%	77%
02/18/06	0.25 0.75		4.8	2.9	2.8	1.5	1.1	100%	73%
02/19/06	0.50 0.50		4.2	3.0	3.1	1.8	1.1	100%	71%
02/20/06	0.75 0.25		3.6	3.2	3.3	2.1	1.2	100%	69%
02/21/06		mg/L	3.0	3.3	3.6	2.4	1.2	100%	66%
02/22/06	0.33 0.67		3.2	2.9	3.3	2.6	1.5	100%	52%
02/23/06	0.67 0.33		3.4	2.4	3.0	2.8	1.8	100%	33%
02/24/06		mg/L	3.6	2.0	2.7	3.0	2.1	100%	7%
02/25/06	0.25 0.75		3.1	1.7	2.8	2.9	2.1	100%	
02/26/06	0.50 0.50		2.6	1.5	2.9	2.8	2.1	100%	
02/27/06	0.75 0.25		2.0	1.2	2.9	2.7	2.1	100%	
02/28/06		mg/L	1.5	0.9	3.0	2.6	2.1	100%	-24%
03/01/06	0.33 0.67		1.6	0.8	2.9	2.4	2.0	100%	
03/02/06	0.67 0.33		1.8	0.6	2.9	2.3	2.0	100%	
03/03/06		mg/L	1.9	0.5	2.8	2.1	1.9	100%	-17%
03/04/06	0.25 0.75		1.9	0.5	2.7	2.1	1.8	100%	-13%
03/05/06	0.50 0.50		1.9	0.5	2.6	2.0	1.7	100%	16%
03/06/06	0.75 0.25		1.9	0.5	2.5	2.0	1.6	100%	35%
03/07/06		mg/L	1.9	IDC	2.4	1.9	IDC	100%	IDC
03/08/06	0.33 0.67		2.8	0.4	2.1	1.7	1.4	100%	54%
03/09/06	0.67 0.33		3.6	0.4	1.8	1.6	1.3	100%	59%
03/10/06		mg/L	4.5	0.4	1.5	1.4	1.2	100%	63%
03/11/06	0.25 0.75		3.8	0.7	1.4	1.3	1.1	100%	68%
03/12/06	0.50 0.50		3.1	0.9	1.4	1.3	1.0	100%	77%
03/13/06	0.75 0.25		2.3	1.2	1.3	1.2	0.8	100%	83%
03/14/06		mg/L	1.6	IDC	1.2	1.1	0.7	100%	87%
03/15/06	0.33 0.67		1.8	1.7	0.8	1.2	1.0	100%	79%
03/16/06	0.67 0.33		2.1	1.9	1.3	1.3	1.3	100%	69%
03/17/06		mg/L	2.3	2.2	1.3	1.4	1.6	100%	56%
Average		**mg/L**	**2.4**	**1.9**	**2.3**	**2.0**	**1.5**		**35%**

NS-BD: Not Sampled-Basin Dry
NT: Insufficient Sample for Analytical Test
IDC: Insufficient Data for Calculation
Indicates that the sampled water is >75 percent recycled water
1.2 Denotes an interpolated value.

Table 7-1
Recycled Water Management Plan for Hickory Basin
Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	DW (AF)	DW 60-Month Total (AF)	RW (AF)	RW 60-Month Total (AF)	DW + RW 60-Month Total (AF)	RWC	Source
2000/01	JUL	-60	0		0.				HISTORICAL DILUENT MODEL
	AUG	-59	0		0.				
	SEP	-58	0		0.				
	OCT	-57	1.7		0.				
	NOV	-56	0		0.				
	DEC	-55	0		0.				
	JAN	-54	10.4		0.				
	FEB	-53	12.6		0.				
	MAR	-52	6.1		0.				
	APR	-51	6.1		0.				
	MAY	-50	0		0.				
	JUN	-49	0		0.				
2001/02	JUL	-48	1.5		0.				
	AUG	-47	0		0.				
	SEP	-46	0		0.				
	OCT	-45	0		0.				
	NOV	-44	61		0.				
	DEC	-43	2		0.				
	JAN	-42	35.4		0.				
	FEB	-41	0		0.				
	MAR	-40	3.7		0.				
	APR	-39	1.5		0.				
	MAY	-38	0.1		0.				
	JUN	-37	0		0.				
2002/03	JUL	-36	0		0.				
	AUG	-35	0		0.				
	SEP	-34	0		0.				
	OCT	-33	0		0.				
	NOV	-32	81.7		0.				
	DEC	-31	121.5		0.				
	JAN	-30	0		0.				
	FEB	-29	146.3		0.				
	MAR	-28	105.6		0.				
	APR	-27	89		0.				
	MAY	-26	7		0.				
	JUN	-25	0		0.				
2003/04	JUL	-24	0		0.				
	AUG	-23	0		0.				
	SEP	-22	0		0.				
	OCT	-21	0		0.				
	NOV	-20	4.5		0.				
	DEC	-19	35.2		0.				
	JAN	-18	0.5		0.				
	FEB	-17	128.8		0.				
	MAR	-16	54.9		0.				
	APR	-15	0		0.				
	MAY	-14	0		0.				
	JUN	-13	0		0.				
2004/05	JUL	-12	0		0.				
	AUG	-11	0		0.				
	SEP	-10	0		0.				
	OCT	-9	117.6		0.				
	NOV	-8	2		0.				
	DEC	-7	39		0.				
	JAN	-6	149.8		0.				
	FEB	-5	127.5		0.				
	MAR	-4	27		0.				
	APR	-3	4.1		0.				
	MAY	-2	51.7		0.				
	JUN	-1	219.4	1655	0.	0.	1655	0.0%	

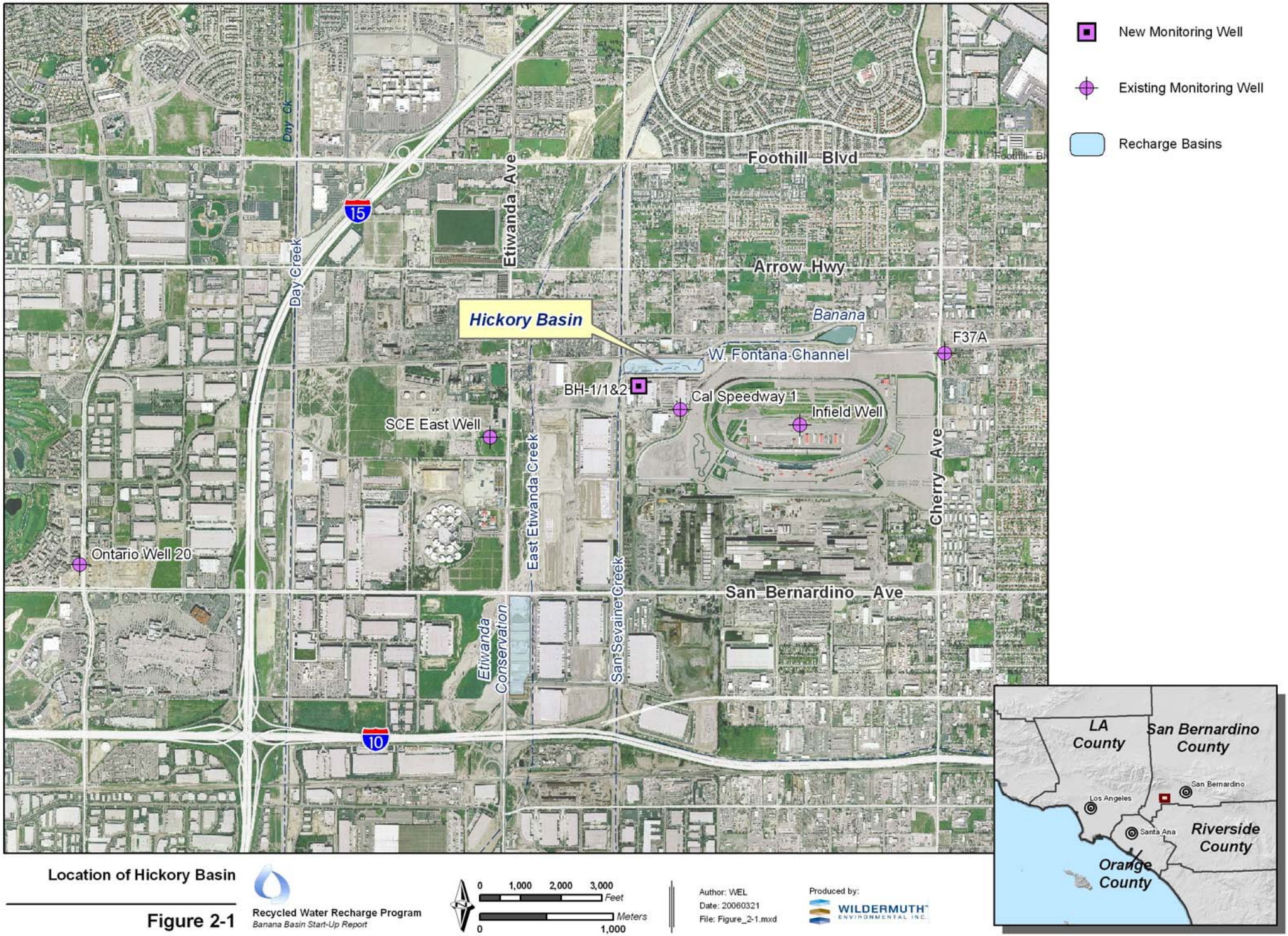
Table 7-1

Recycled Water Management Plan for Hickory Basin

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	DW (AF)	DW 60-Month Total (AF)	RW (AF)	RW 60-Month Total (AF)	DW + RW 60-Month Total (AF)	RWC	Source
2005/06	JUL	1	265.3	1921	0.	0.	1921	0.0%	ACTUAL
	AUG	2	487.1	2408	0.	0.	2408	0.0%	
	SEP	3	130.4	2538	138.8	138.8	2677	5.2%	
	OCT	4	21.8	2558	92.7	231.5	2790	8.3%	
	NOV	5	0	2558	92.2	323.7	2882	11.2%	
	DEC	6	20.4	2579	31.6	355.3	2934	12.1%	
	JAN	7	12.6	2581	82.9	438.2	3019	14.5%	
	FEB	8	34.6	2603	79.2	517.4	3120	16.6%	
	MAR	9	107	2704	25.	542.4	3246	16.7%	PROJECTED
	APR	10	76	2774	35.	577.4	3351	17.2%	
	MAY	11	0	2774	45.	622.4	3396	18.3%	
	JUN	12	0	2774	55.	677.4	3451	19.6%	
2006/07	JUL	13	175	2947	125.	802.4	3749	21.4%	
	AUG	14	154	3101	125.	927.4	4028	23.0%	
	SEP	15	258	3359	0.	927.4	4286	21.6%	
	OCT	16	237	3596	0.	927.4	4523	20.5%	
	NOV	17	216	3751	0.	927.4	4678	19.8%	
	DEC	18	195	3944	0.	927.4	4871	19.0%	
	JAN	19	174	4083	0.	927.4	5010	18.5%	
	FEB	20	153	4236	0.	927.4	5163	18.0%	
	MAR	21	132	4364	0.	927.4	5291	17.5%	
	APR	22	111	4473	0.	927.4	5401	17.2%	
	MAY	23	0	4473	0.	927.4	5401	17.2%	
	JUN	24	0	4473	0.	927.4	5401	17.2%	
2007/08	JUL	25	175	4648	125.	1052.4	5701	18.5%	
	AUG	26	154	4802	125.	1177.4	5980	19.7%	
	SEP	27	133	4935	125.	1302.4	6238	20.9%	
	OCT	28	237	5172	0.	1302.4	6475	20.1%	
	NOV	29	216	5307	0.	1302.4	6609	19.7%	
	DEC	30	195	5380	0.	1302.4	6683	19.5%	
	JAN	31	174	5554	0.	1302.4	6857	19.0%	
	FEB	32	153	5561	0.	1302.4	6863	19.0%	
	MAR	33	132	5587	0.	1302.4	6890	18.9%	
	APR	34	111	5609	0.	1302.4	6912	18.8%	
	MAY	35	0	5602	0.	1302.4	6905	18.9%	
	JUN	36	0	5602	0.	1302.4	6905	18.9%	
2008/09	JUL	37	175	5777	125.	1427.4	7205	19.8%	
	AUG	38	154	5931	125.	1552.4	7484	20.7%	
	SEP	39	133	6064	125.	1677.4	7742	21.7%	
	OCT	40	237	6301	0.	1677.4	7979	21.0%	
	NOV	41	216	6513	0.	1677.4	8190	20.5%	
	DEC	42	195	6673	0.	1677.4	8350	20.1%	
	JAN	43	174	6846	0.	1677.4	8523	19.7%	
	FEB	44	153	6870	0.	1677.4	8548	19.6%	
	MAR	45	132	6947	0.	1677.4	8625	19.4%	
	APR	46	111	7058	0.	1677.4	8736	19.2%	
	MAY	47	0	7058	0.	1677.4	8736	19.2%	
	JUN	48	0	7058	0.	1677.4	8736	19.2%	
2009/10	JUL	49	175	7233	125.	1802.4	9036	19.9%	
	AUG	50	154	7387	125.	1927.4	9315	20.7%	
	SEP	51	133	7520	125.	2052.4	9573	21.4%	
	OCT	52	237	7640	0.	2052.4	9692	21.2%	
	NOV	53	216	7854	0.	2052.4	9906	20.7%	
	DEC	54	195	8010	0.	2052.4	10062	20.4%	
	JAN	55	174	8034	0.	2052.4	10086	20.3%	
	FEB	56	153	8059	0.	2052.4	10112	20.3%	
	MAR	57	132	8164	0.	2052.4	10217	20.1%	
	APR	58	111	8271	0.	2052.4	10324	19.9%	
	MAY	59	0	8220	0.	2052.4	10272	20.0%	
	JUN	60	0	8000	0.	2052.4	10053	20.4%	

RWC = 60-month running total of recycled water / 60-month running total of all recharged water.
All recharged water includes recycled water and diluent water (imported and storm water)
RWC Limit = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC)



Location of Hickory Basin

Figure 2-1

Recycled Water Recharge Program
Banana Basin Start-Up Report

Main Features

- Lysimeter Cluster Location
- Water Inlet Structures
- Groundwater Monitoring Well

Produced by:
WILDERMUTH ENVIRONMENTAL INC.
23692 Birtcher Drive
Lake Forest, CA 92630
949.420.3030
www.WildermuthEnvironmental.com

Author: WEL
Date: 20060322
File: Figure_2-2.mxd

0 100 200 300 Feet
0 50 100 Meters

Inland Empire UTILITIES AGENCY

Location of Lysimeters in Hickory Basin

Chino Basin Groundwater Recharge Program

Figure 2-2

Figure 5-1
Hickory Basin West Cell: Average Total Organic Carbon versus Depth
Start-Up Period: 09/09/05 through 03/08/06
Values are Average of Samples Where the Recycled Water Component was Greater than 75 Percent

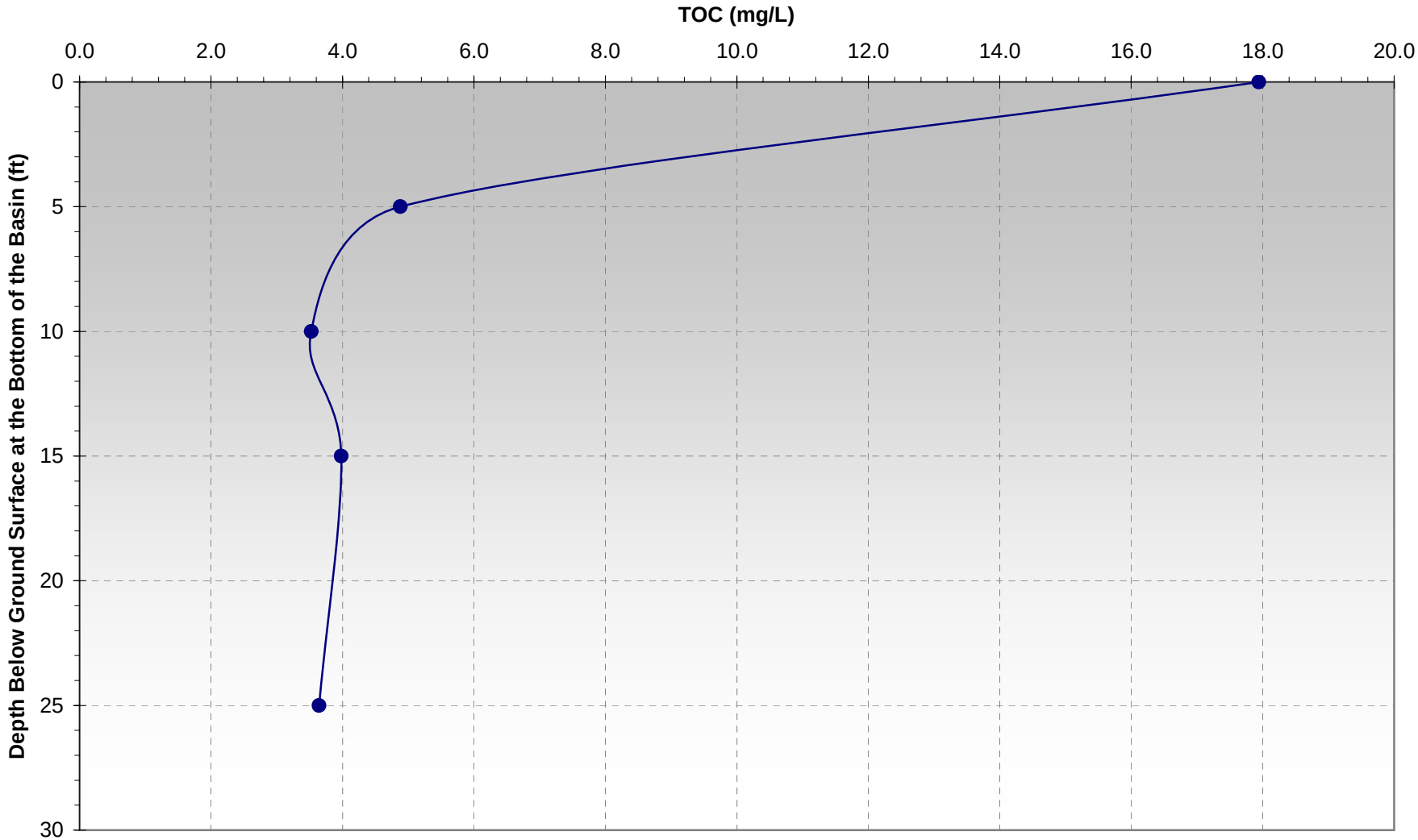


Figure 5-2
Hickory Basin East Cell: Average Total Organic Carbon versus Depth

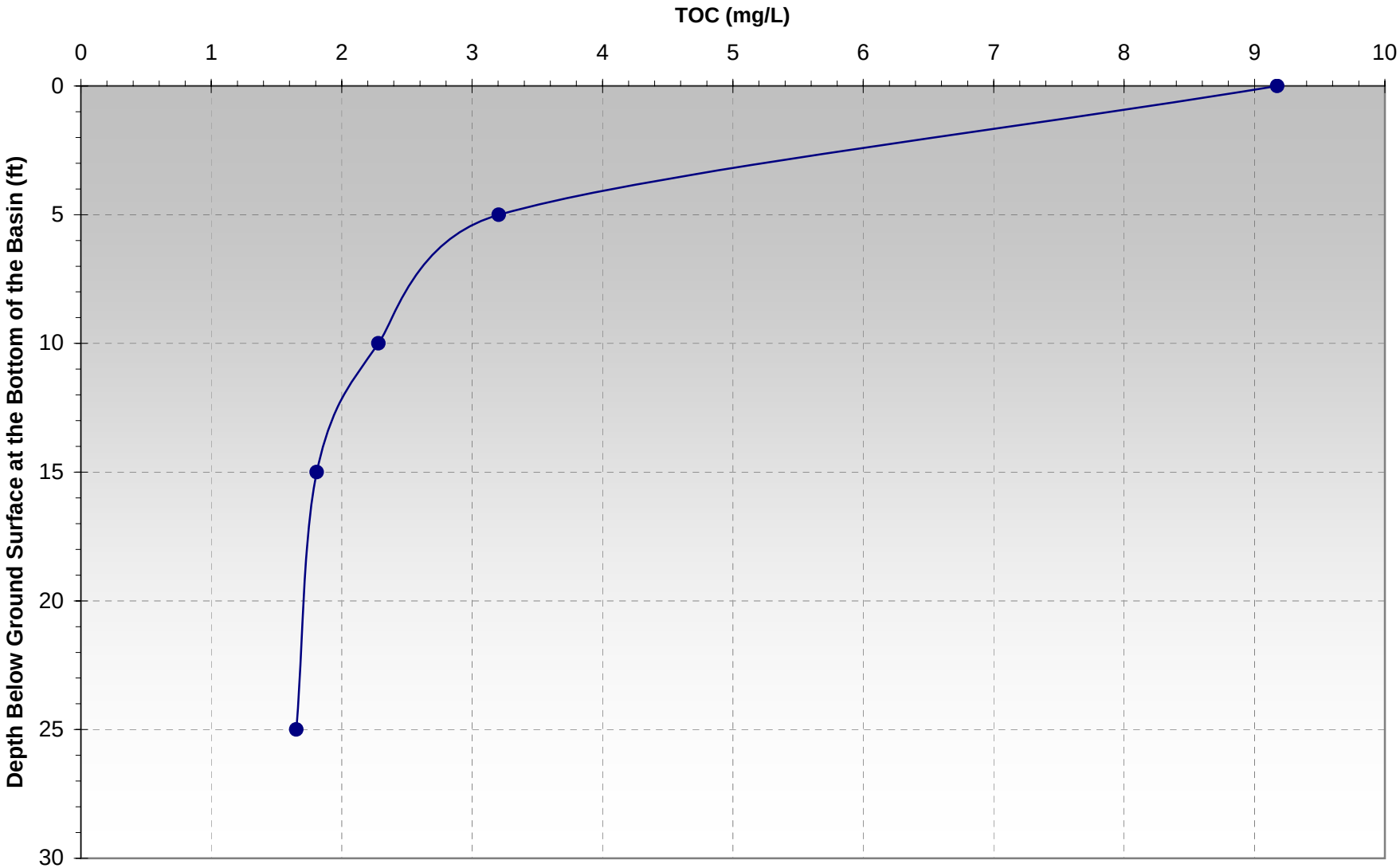


Figure 5-3
Hickory Basin West Cell: Total Organic Carbon Time History

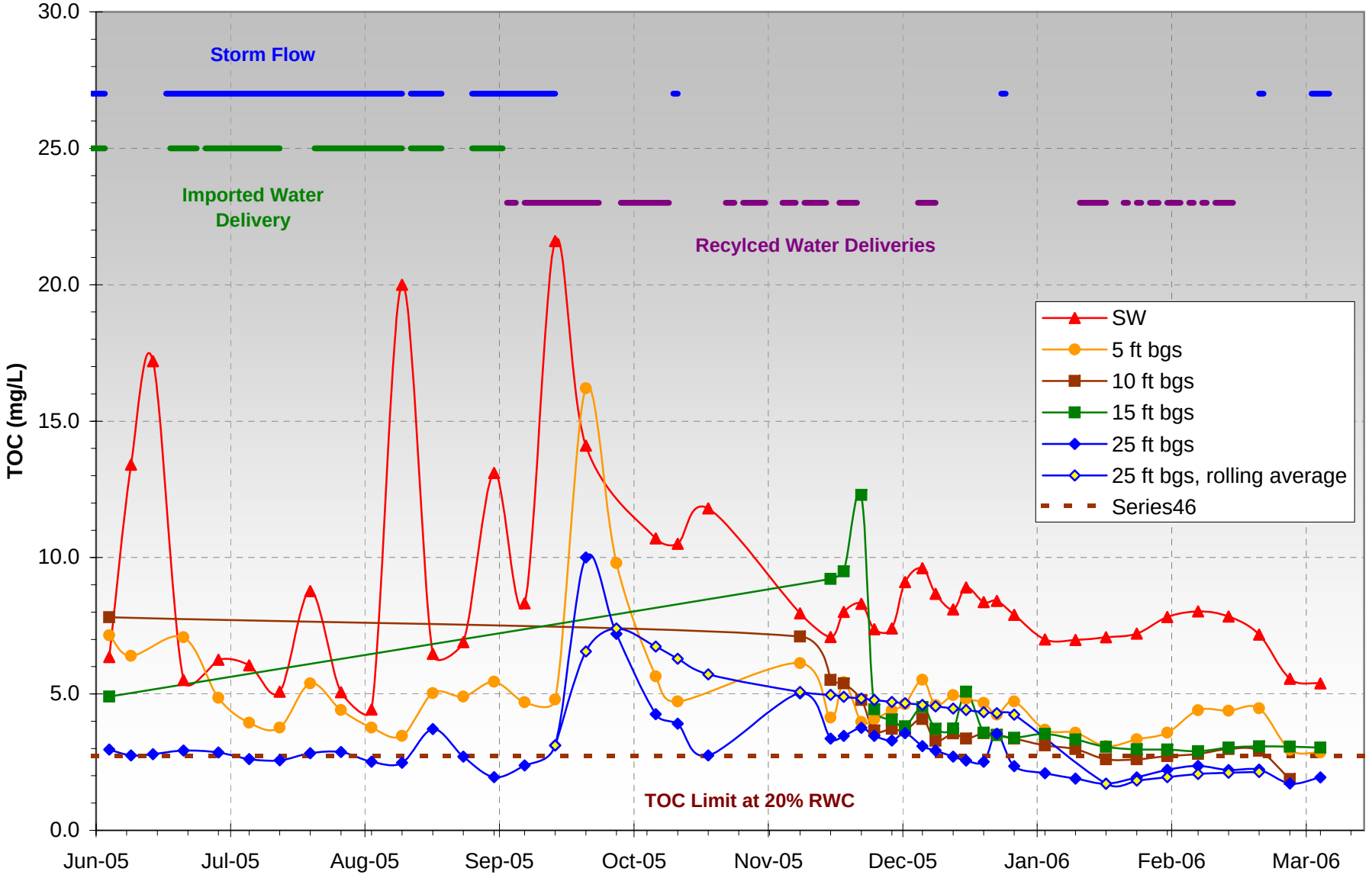


Figure 5-4
Hickory Basin East Cell: Total Organic Carbon Time History

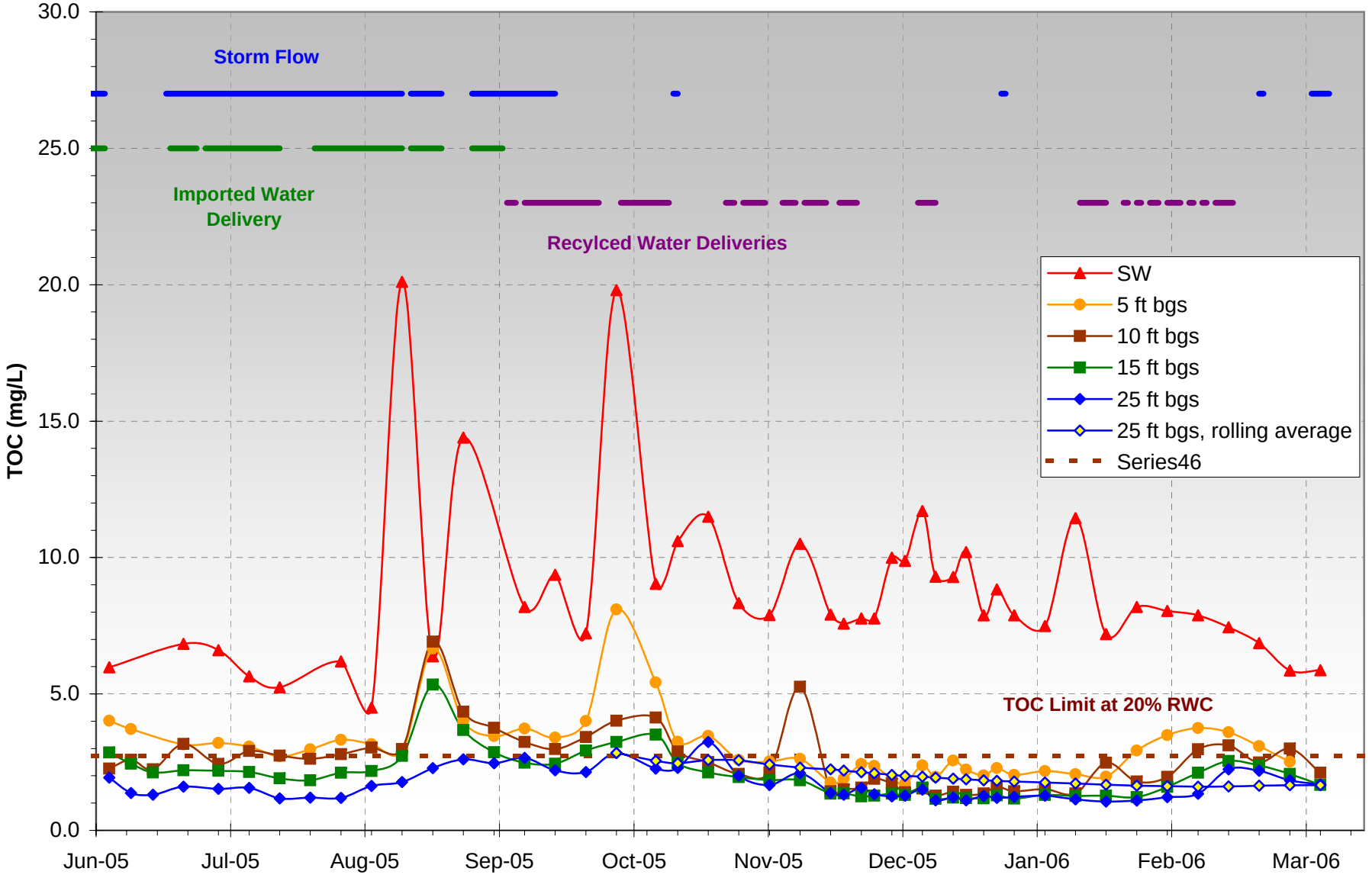


Figure 5-5
Hickory Basin West Cell: Average Total Nitrogen versus Depth

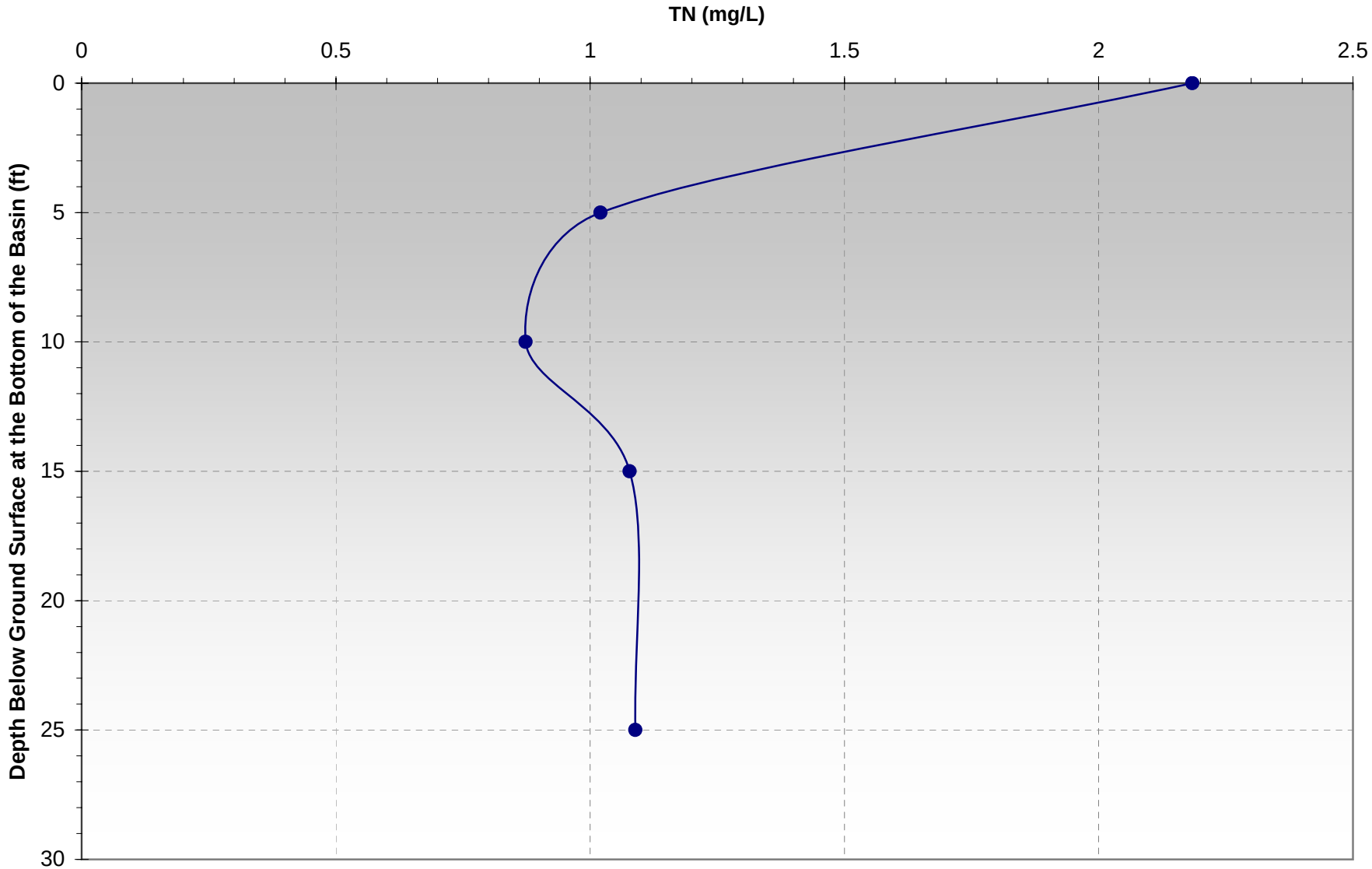


Figure 5-6
Hickory Basin East Cell: Average Total Nitrogen versus Depth

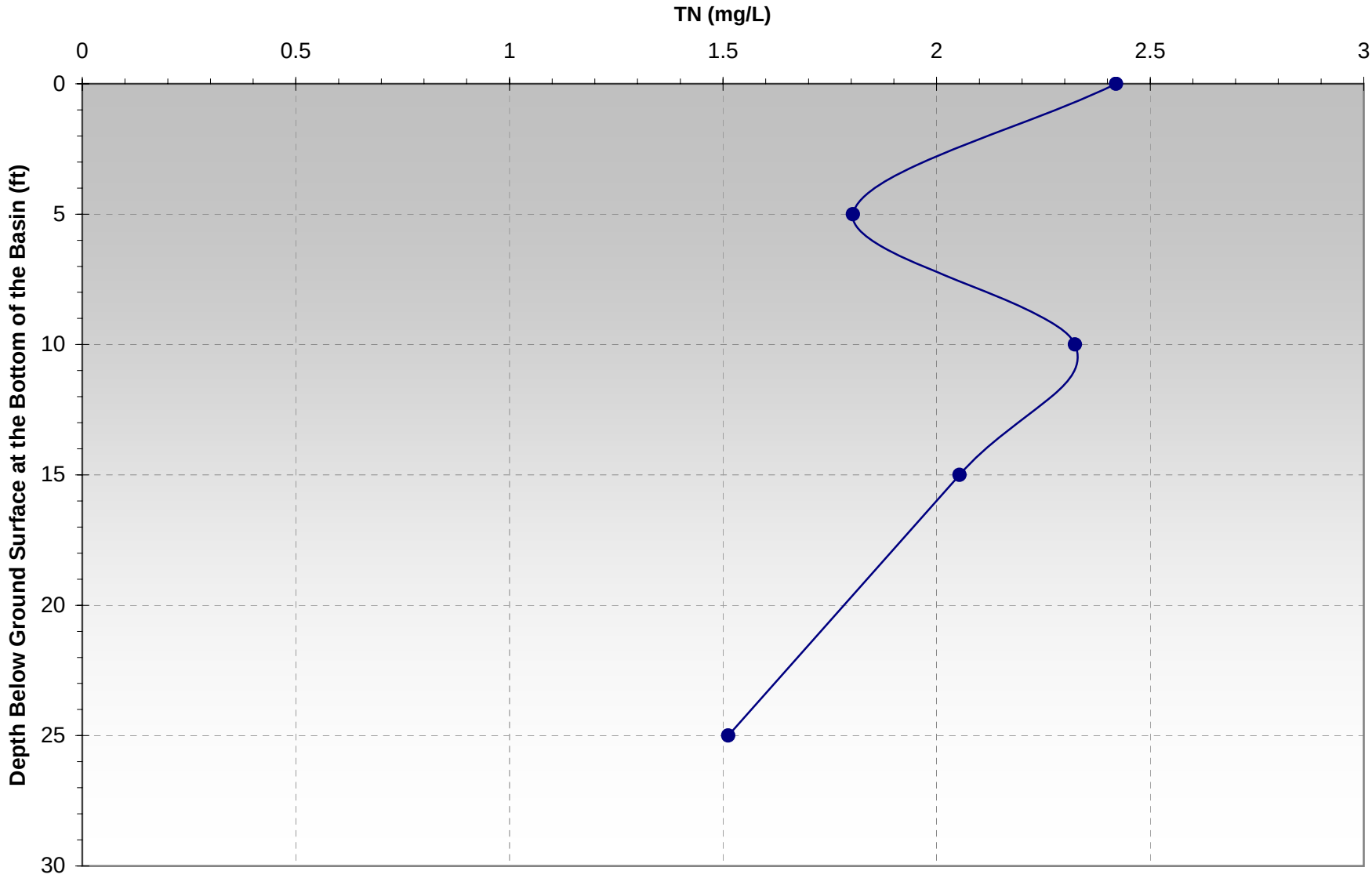


Figure 5-7
Hickory Basin West Cell: Total Nitrogen Time History

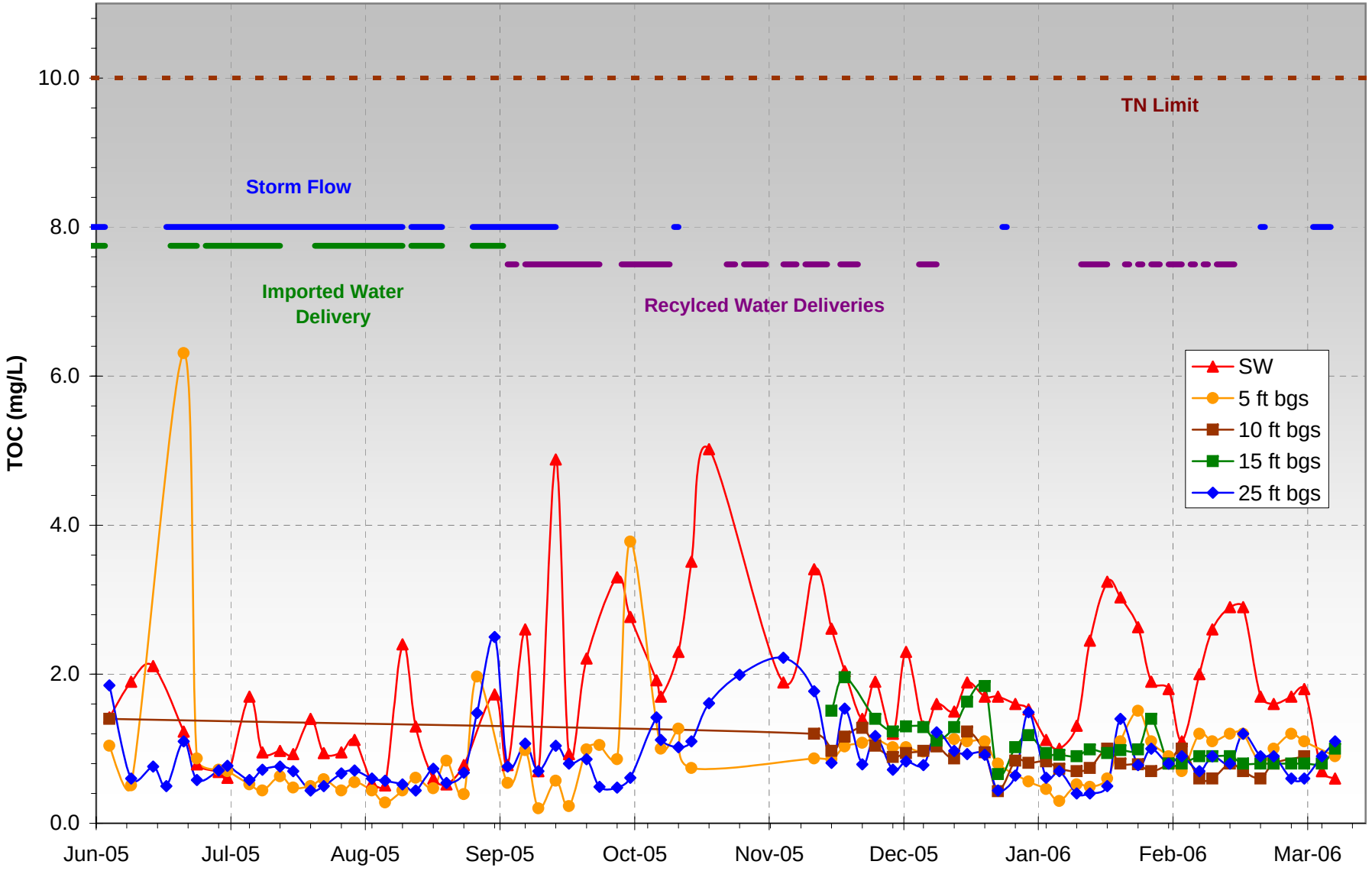


Figure 5-8
Hickory Basin East Cell: Total Nitrogen Time History

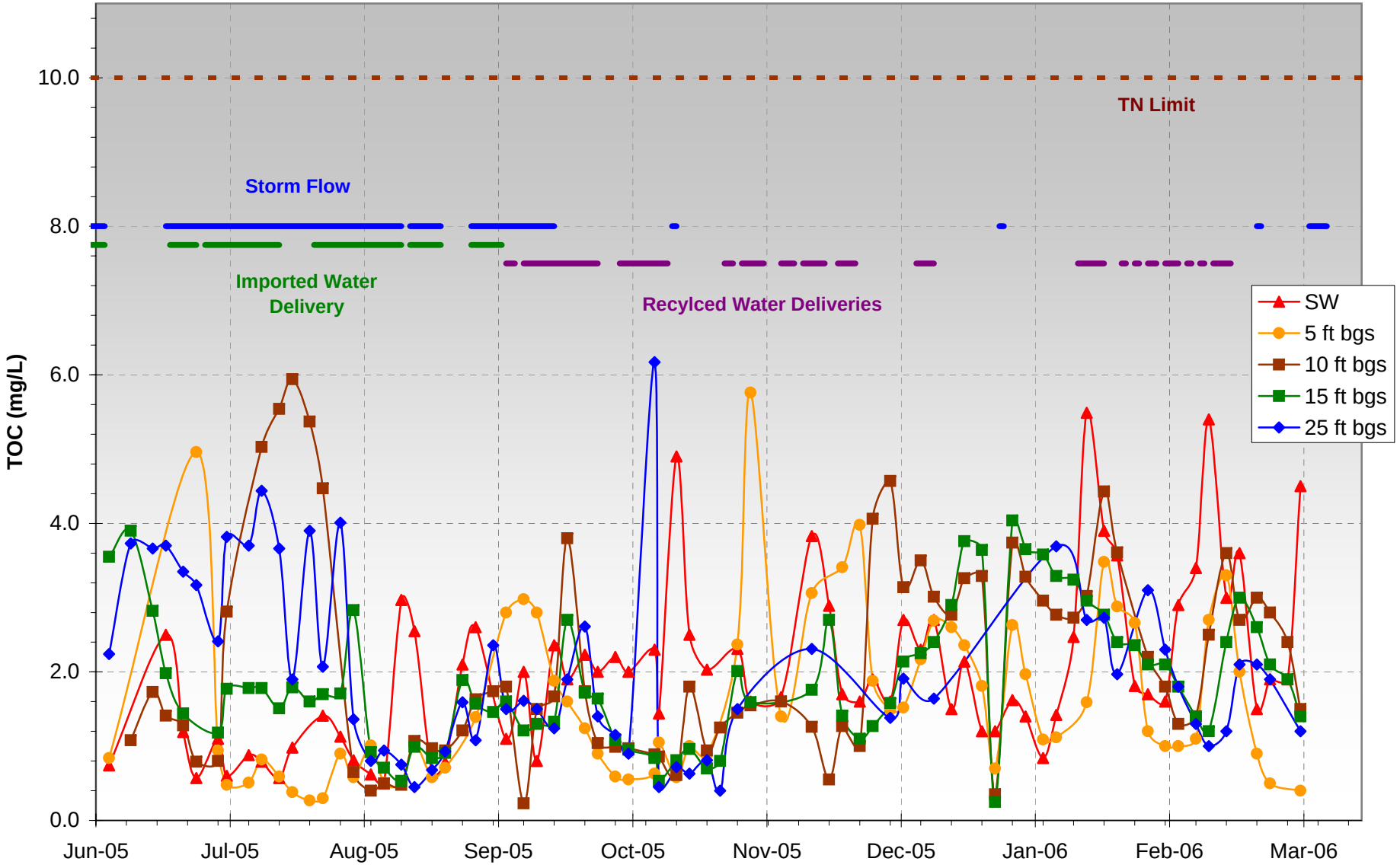


Figure 5-9
Hickroy Basin West Cell: Total Organic Carbon Reduction and Local Runoff/Storm Flow Time History

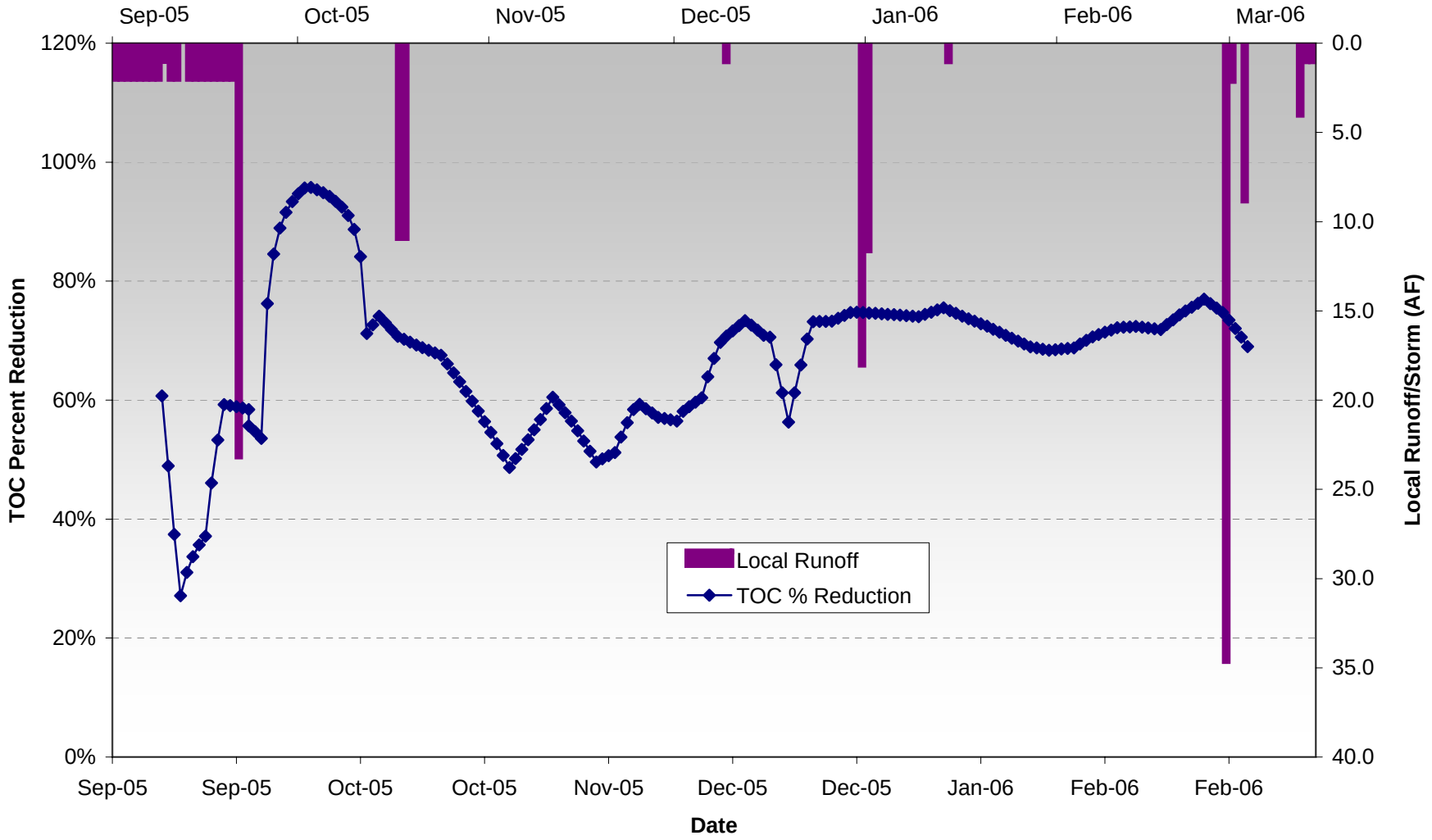


Figure 5-10
Hickroy Basin East Cell: Total Organic Carbon Reduction and Local Runoff/Storm Flow Time History

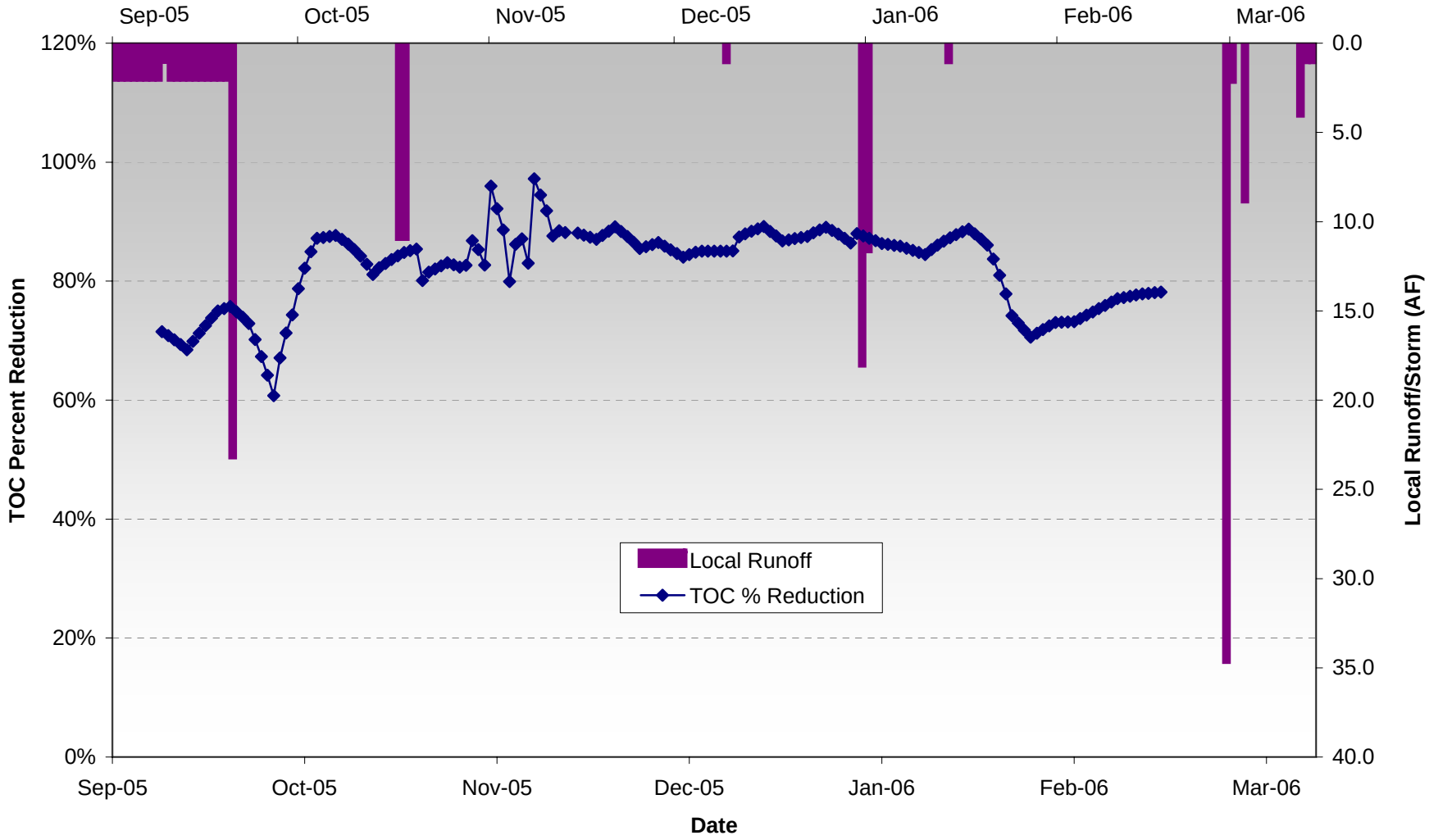


Figure 5-11
Hickroy Basin West Cell: Total Nitrogen Reduction and Local Runoff/Storm Flow Time History

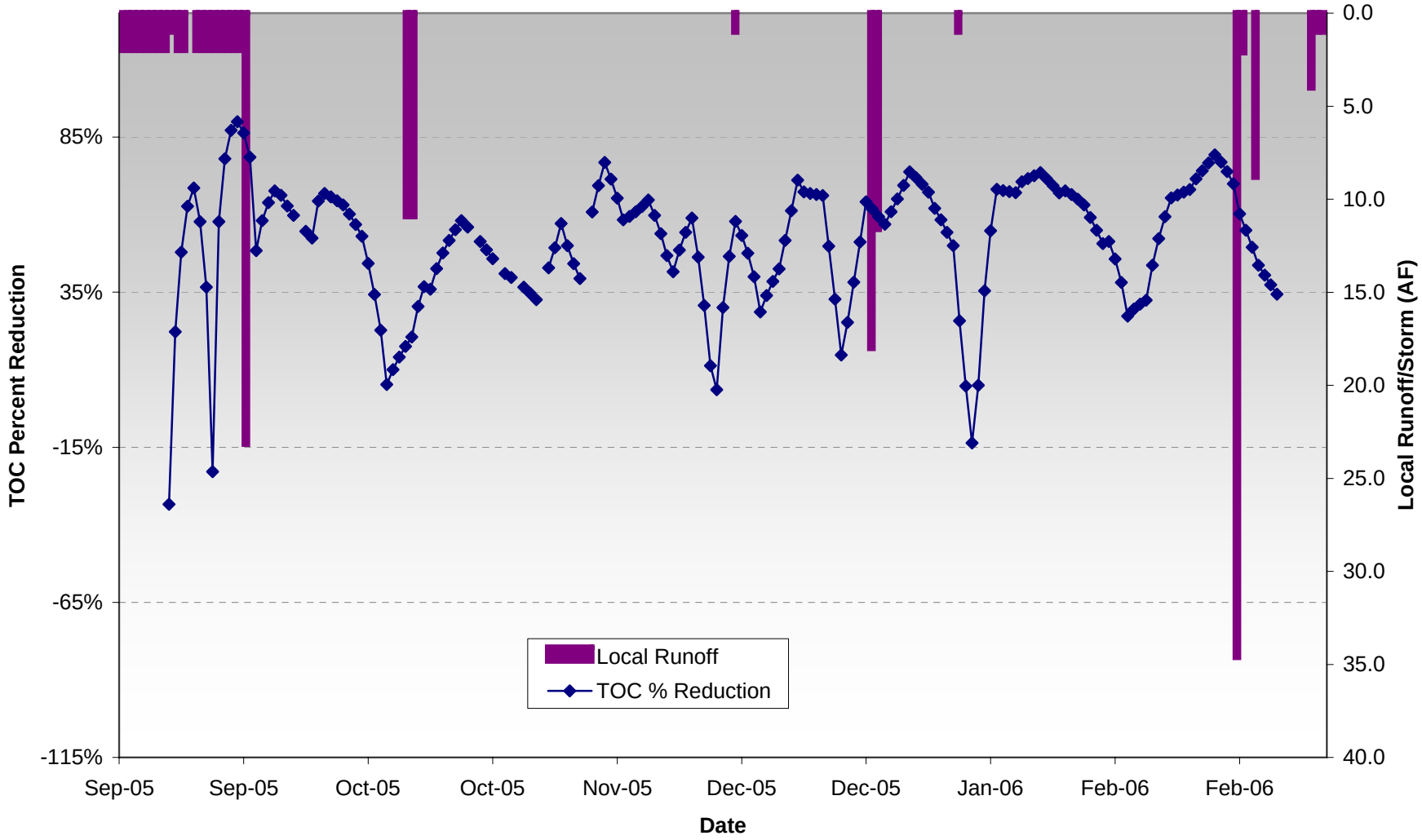


Figure 5-12
Hickroy Basin East Cell: Total Nitrogen Reduction and Local Runoff/Storm Flow Time History

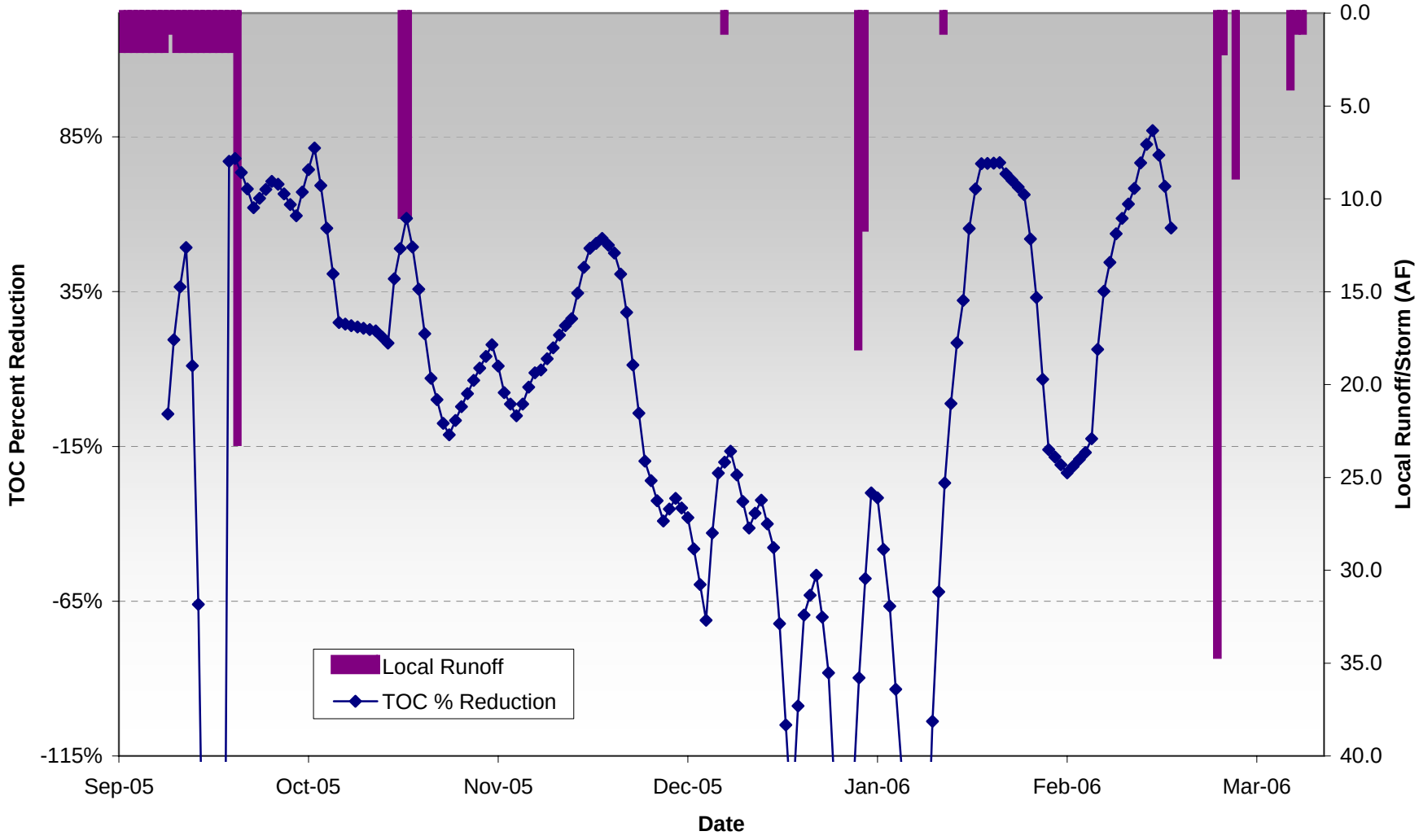


Figure 5-13
Hickory Basin, RP-1, and RP-4: Total Organic Carbon Time History

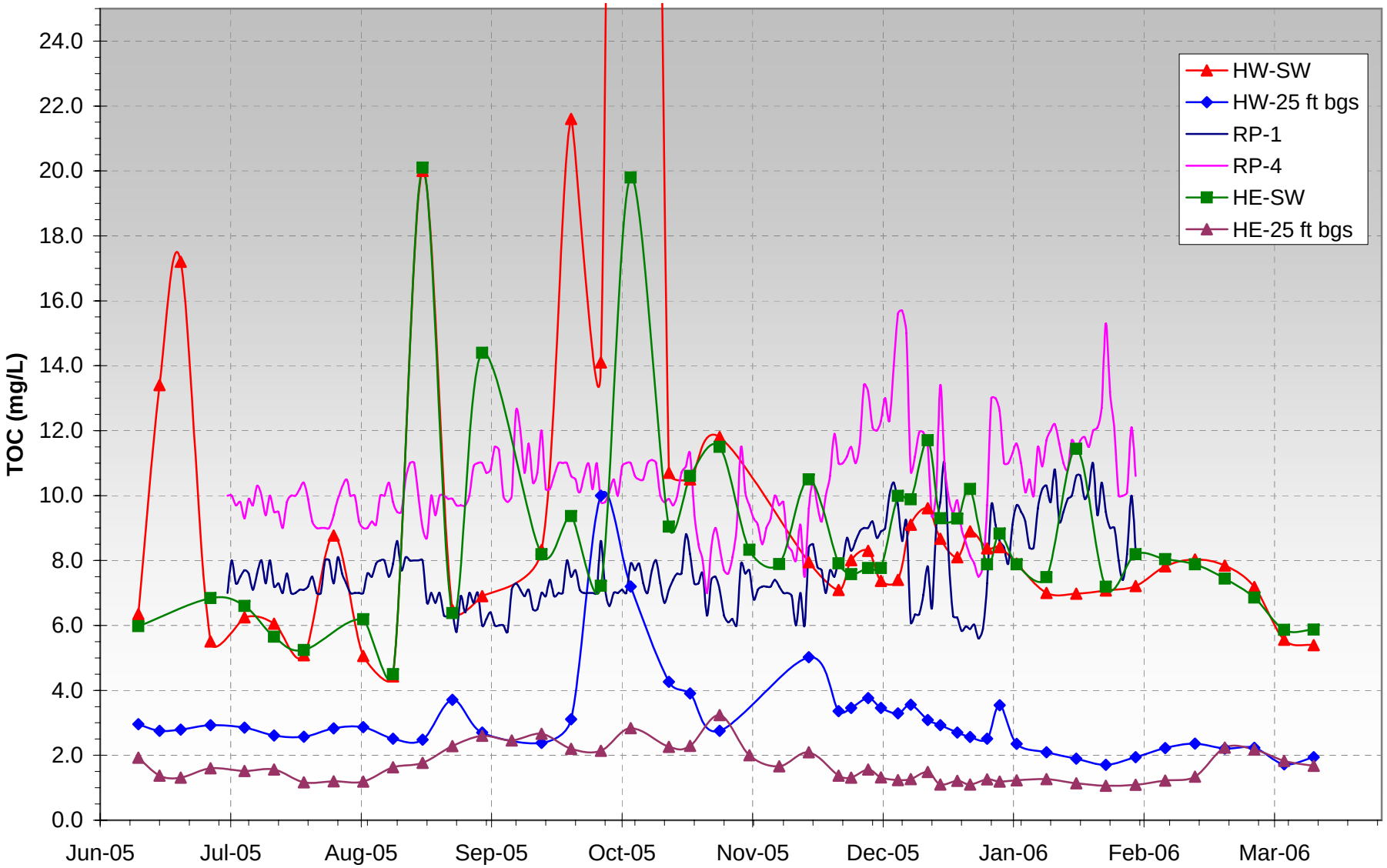


Figure 5-14
Hickory Basin, RP-1, and RP-4: Total Nitrogen Time History

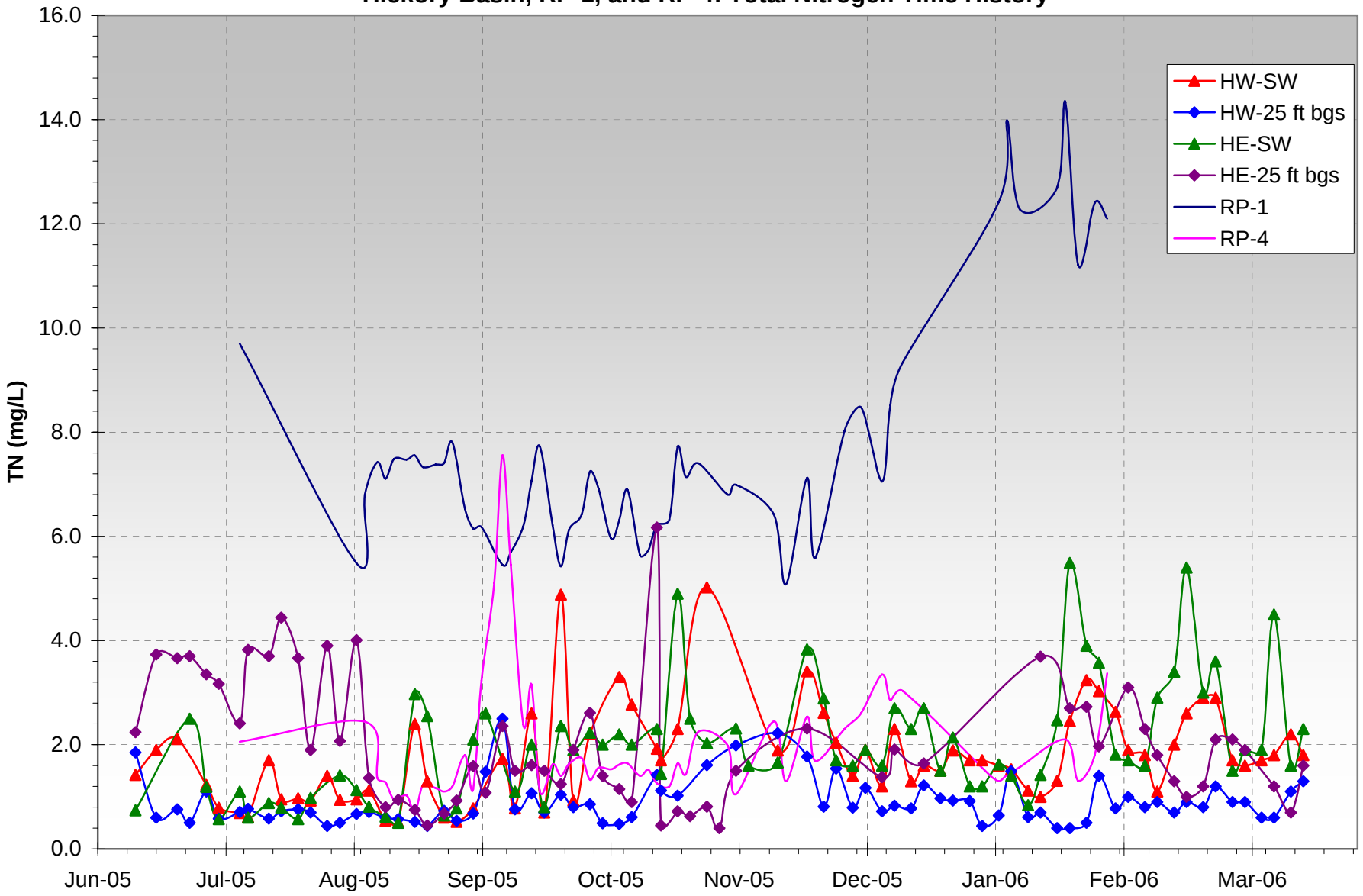


Figure 6-2
Hickory Basin East Cell: Electrical Conductivity Time History

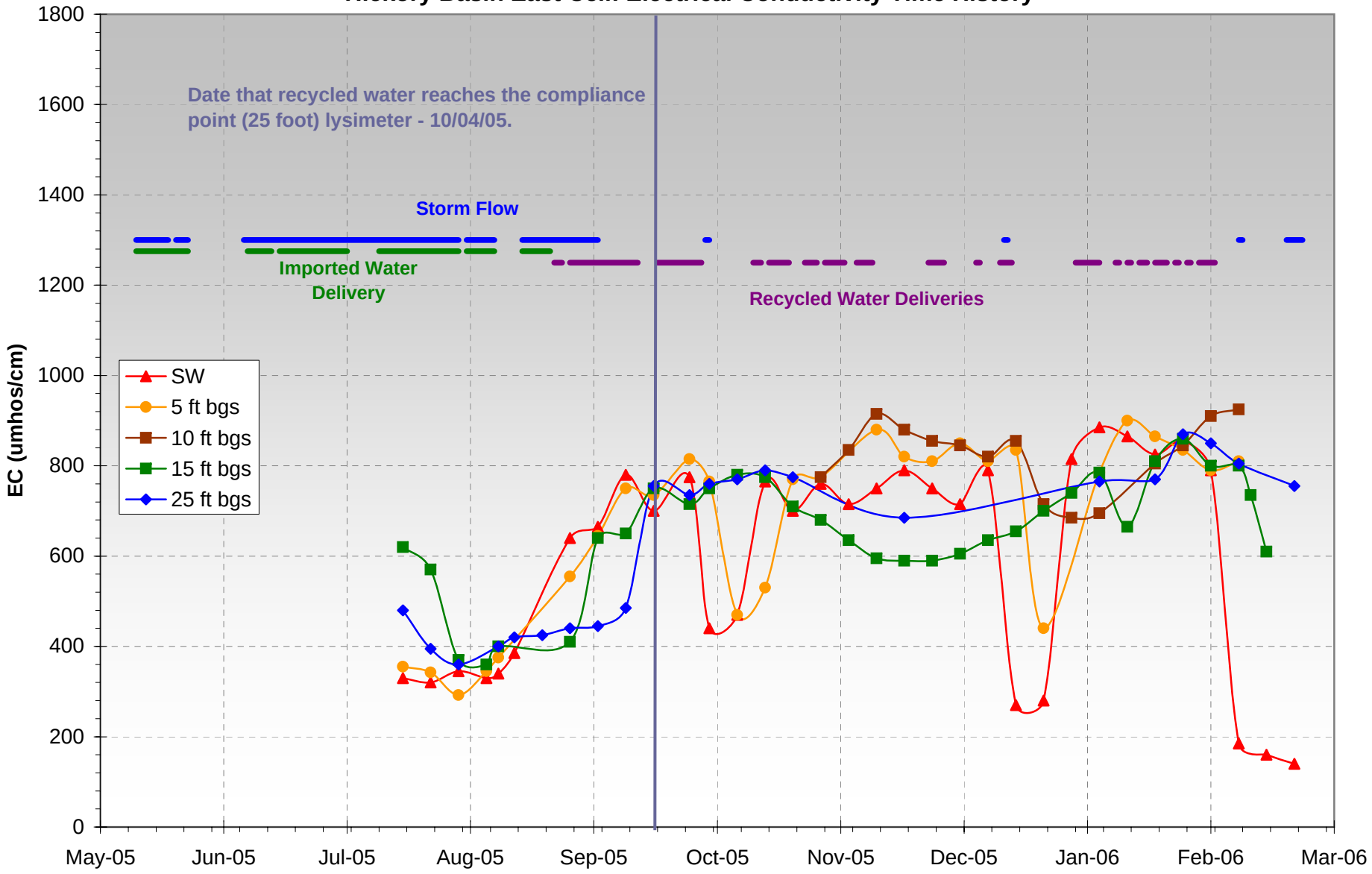


Figure 6-1
Hickory Basin West Cell: Electrical Conductivity Time History

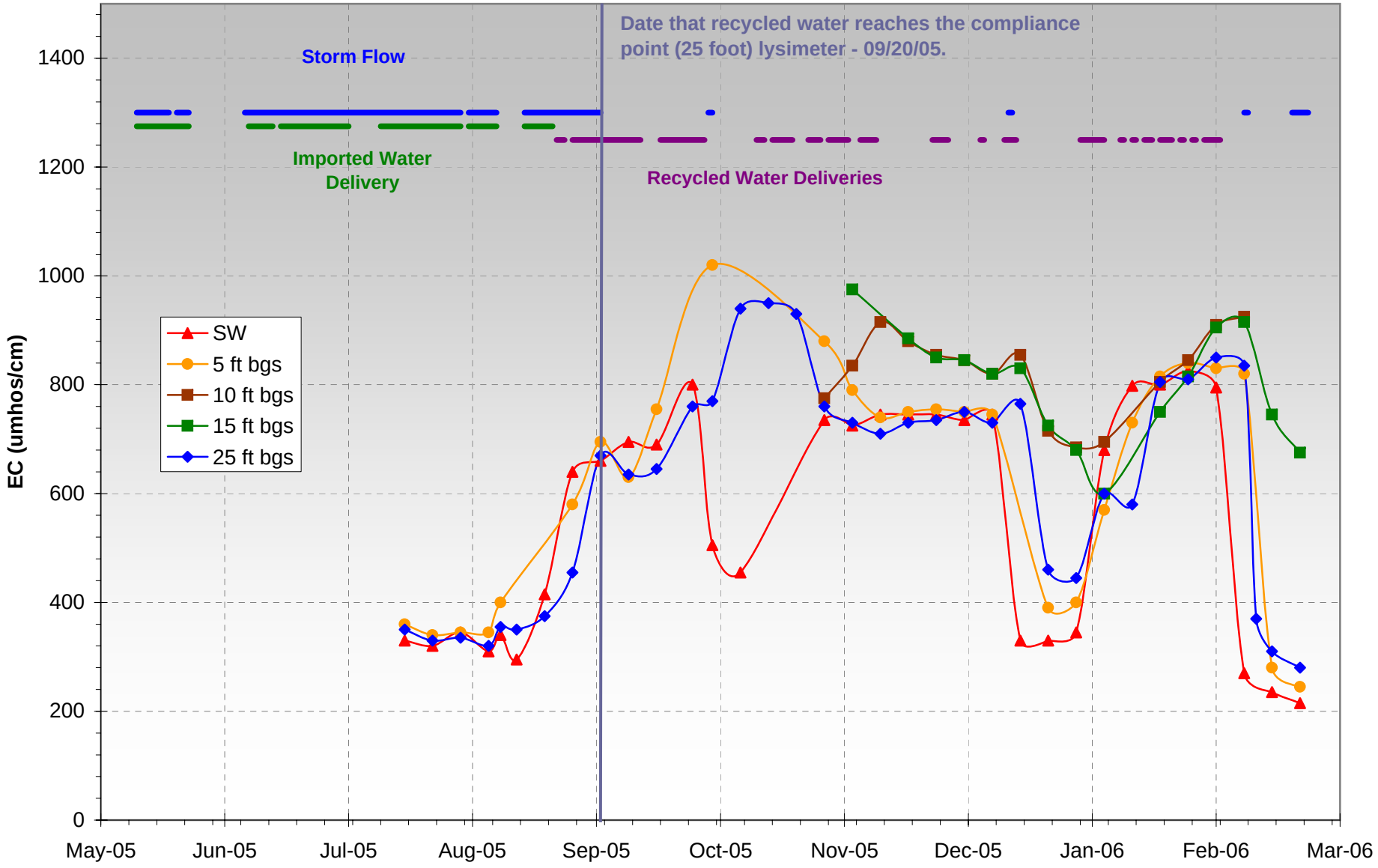
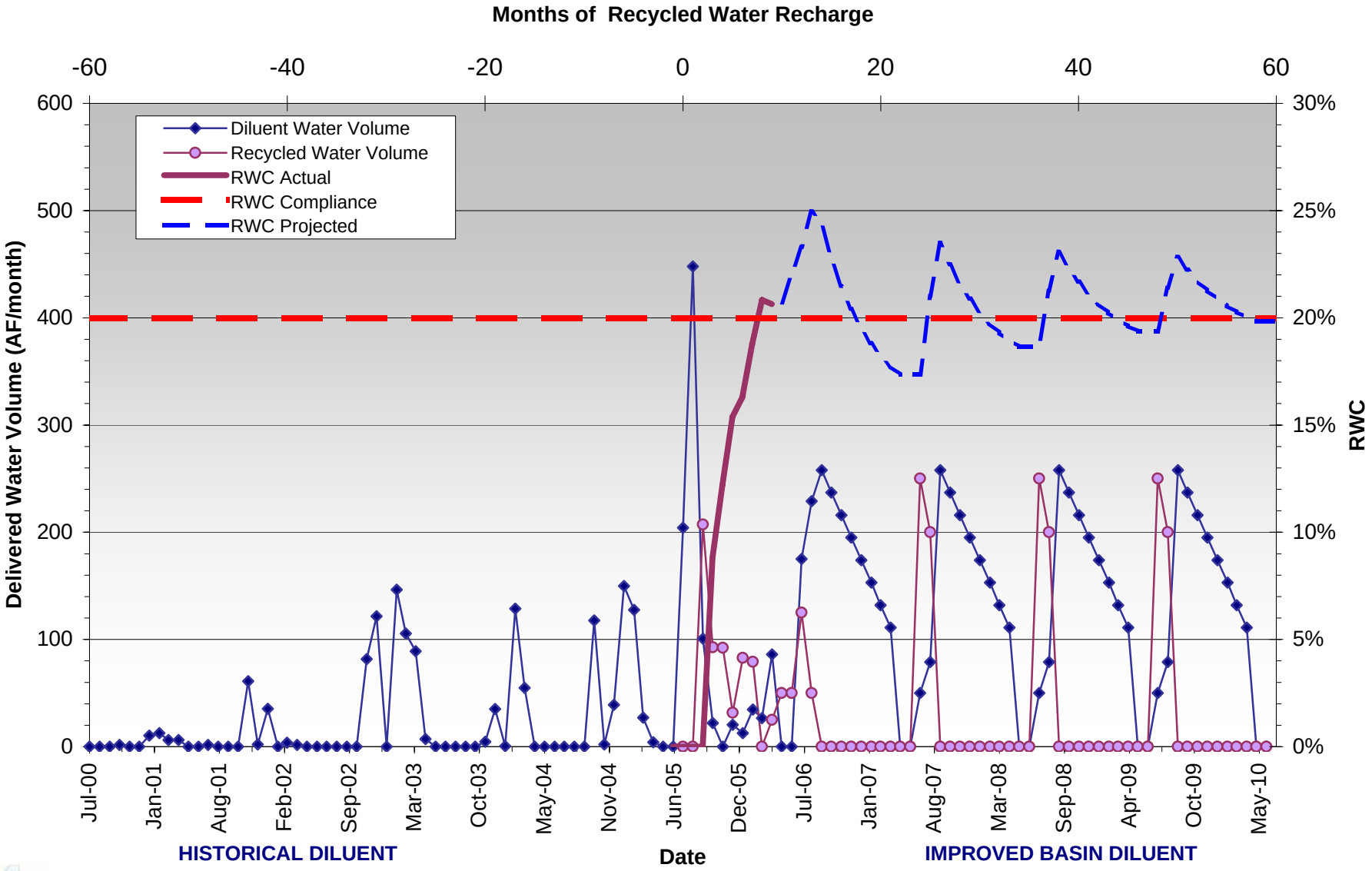


Figure 7-1
Recycled Water Management Plan
Hickory Basin



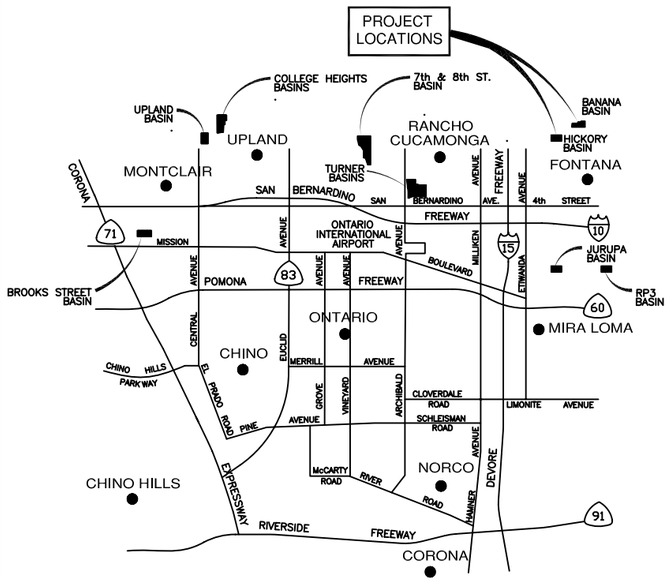
Appendix A.
Soil Boring Logs and
Lysimeter Construction Asbuilts

AS-BUILTS OF THE

HICKORY AND BANANA BASIN LYSIMETER INSTALLATION

PROJECT NO.: 007-002-062

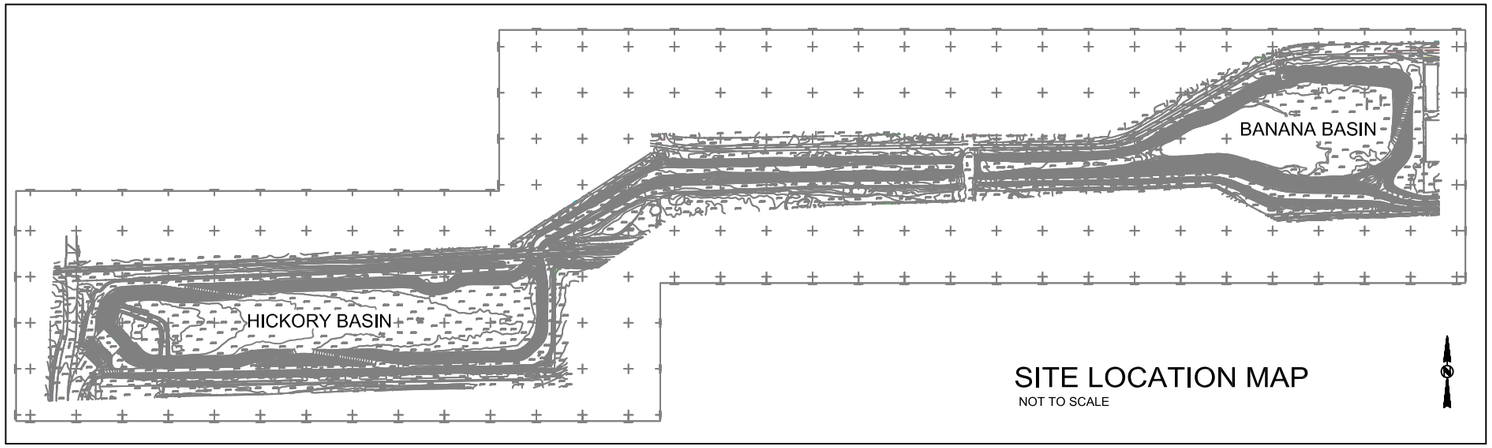
PREPARED FOR THE INLAND EMPIRE UTILITIES AGENCY
BY WILDERMUTH ENVIRONMENTAL, INC.



VICINITY MAP
NOT TO SCALE

LIST OF DRAWINGS		
DRAWING NO.	SHEET TITLE	SHEET NO.
	GENERAL	
A - 1	COVER SHEET	1 OF 5
A - 2	BANANA BASIN	2 OF 5
A - 3	HICKORY BASIN	3 OF 5
A - 4	AS-BUILT DETAILS 1 AND 2	4 OF 5
A - 5	AS-BUILT DETAILS 3 AND 4	5 OF 5

CONTACT PERSONNEL		
NAME	ADDRESS	PHONE NO.
ANDY CAMPBELL, PG, CHG	INLAND EMPIRE UTILITIES AGENCY 6075 KIMBALL AVENUE CHINO, CALIFORNIA 91710	(909) 993-1600
MARK WILDERMUTH, PE	WILDERMUTH ENVIRONMENTAL, INC. 23692 BIRTCHER DRIVE LAKE FOREST, CALIFORNIA 92630	(949) 420-3030
BILL LEEVER, PG, CHG	WILDERMUTH ENVIRONMENTAL, INC. 23692 BIRTCHER DRIVE LAKE FOREST, CALIFORNIA 92630	(949) 420-3030



SITE LOCATION MAP
NOT TO SCALE

Underground Service Alert
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

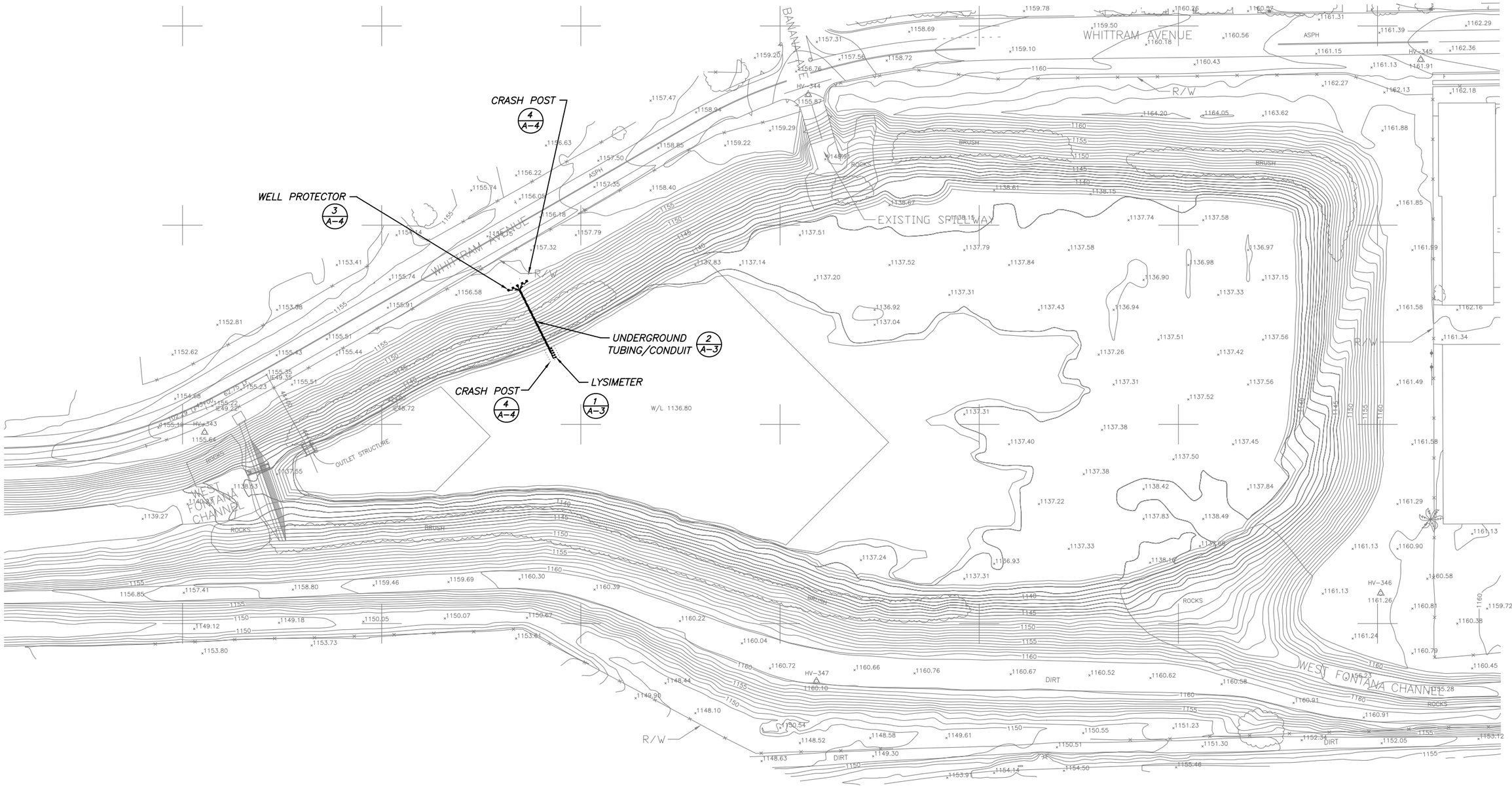
REVISIONS				
NO.	DATE	INITIAL	DESCRIPTION:	APPROVED/DATE
DESIGNED:		DRAWN:	CHECKED:	

WILDERMUTH ENVIRONMENTAL INC.
Inland Empire UTILITIES AGENCY

REVIEWED BY:	DRAWN BY:	START DATE:	DRAWING NO.
AEM	WEL	03/28/06	A-1

COVER SHEET

SHEET NO. 1 OF 5



0 100' 200'

Scale: 1" = 100 FEET

North

Underground Service Alert

Call: TOLL FREE 1-800 227-2600

TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	INITIAL	DESCRIPTION:	APPROVED/DATE

DESIGNED: DRAWN: CHECKED:

WILDERMUTH ENVIRONMENTAL INC.

Inland Empire UTILITIES AGENCY

REVIEWED BY:	DRAWN BY:	START DATE:
AEM	WEL	03/28/06

BANANA BASIN

DRAWING NO. A-2

SHEET NO. 2 OF 5

WEST CELL

EAST CELL

LYSIMETER 1 A-3

CRASH POST 4 A-4

UNDERGROUND TUBING/CONDUIT 2 A-3

WELL PROTECTOR 3 A-4

E 6,709,200 E 6,709,400 E 6,709,600 E 6,709,800 E 6,710,000 E 6,710,200 E 6,710,400 E 6,710,600

0 100' 200'

Scale: 1" = 100 FEET

North

Underground Service Alert

Call: TOLL FREE 1-800 227-2600

TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	INITIAL	DESCRIPTION:	APPROVED/DATE

DESIGNED: DRAWN: CHECKED:

WILDERMUTH ENVIRONMENTAL INC.

Inland Empire UTILITIES AGENCY

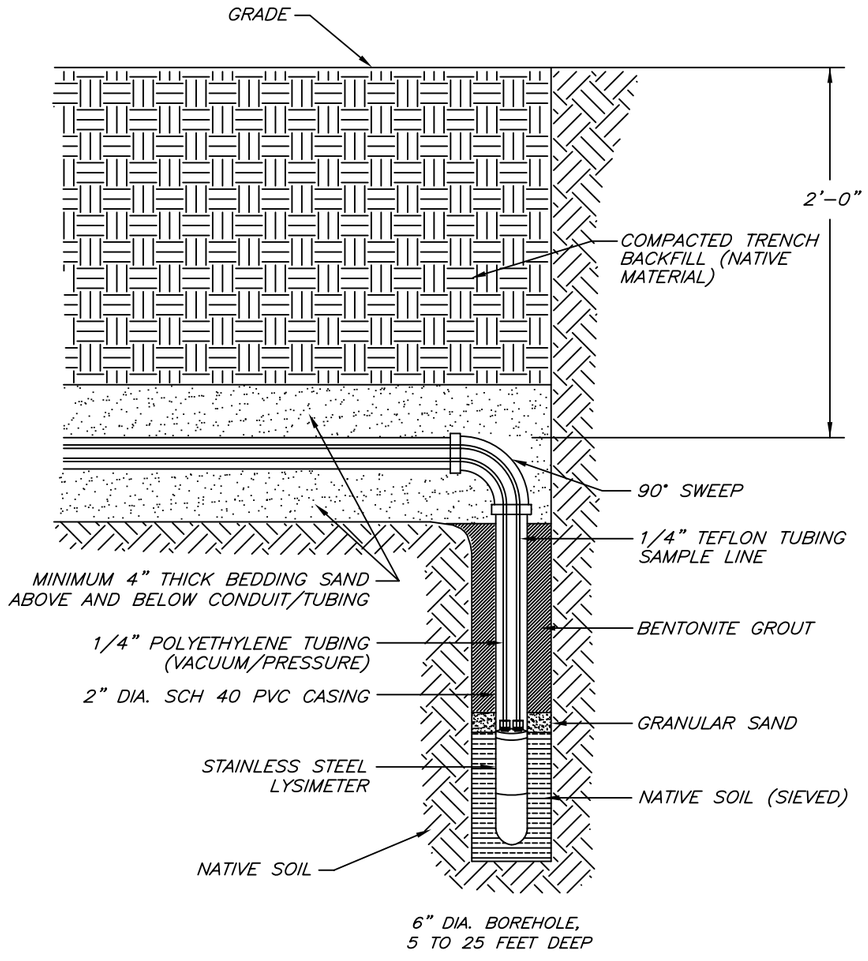
REVIEWED BY:	DRAWN BY:	START DATE:
AEM	WEL	03/28/06

HICKORY BASIN

DRAWING NO. A-3

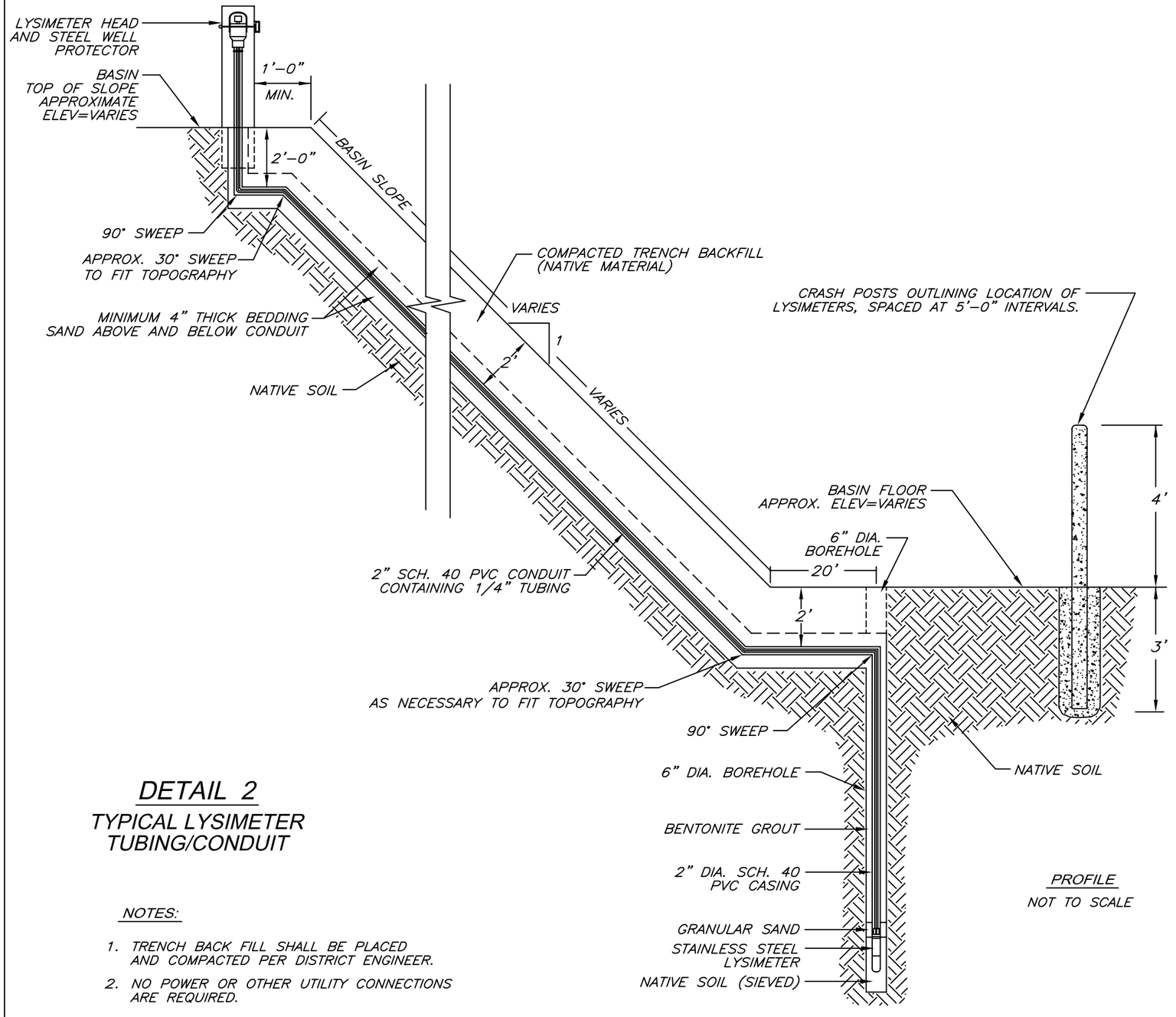
SHEET NO. 3 OF 5

A-3 HICKORY BASIN v02.dwg 5/5/2005 4:40 PM Bill Leever, Wildermuth Environmental, Inc.



DETAIL 1
TYPICAL LYSIMETER

PROFILE
NOT TO SCALE



DETAIL 2
TYPICAL LYSIMETER TUBING/CONDUIT

PROFILE
NOT TO SCALE

NOTES:

1. TRENCH BACK FILL SHALL BE PLACED AND COMPACTED PER DISTRICT ENGINEER.
2. NO POWER OR OTHER UTILITY CONNECTIONS ARE REQUIRED.

Underground Service Alert
Call: TOLL FREE 1–800 227–2600
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	INITIAL	DESCRIPTION:	APPROVED/DATE

DESIGNED: | DRAWN: | CHECKED:

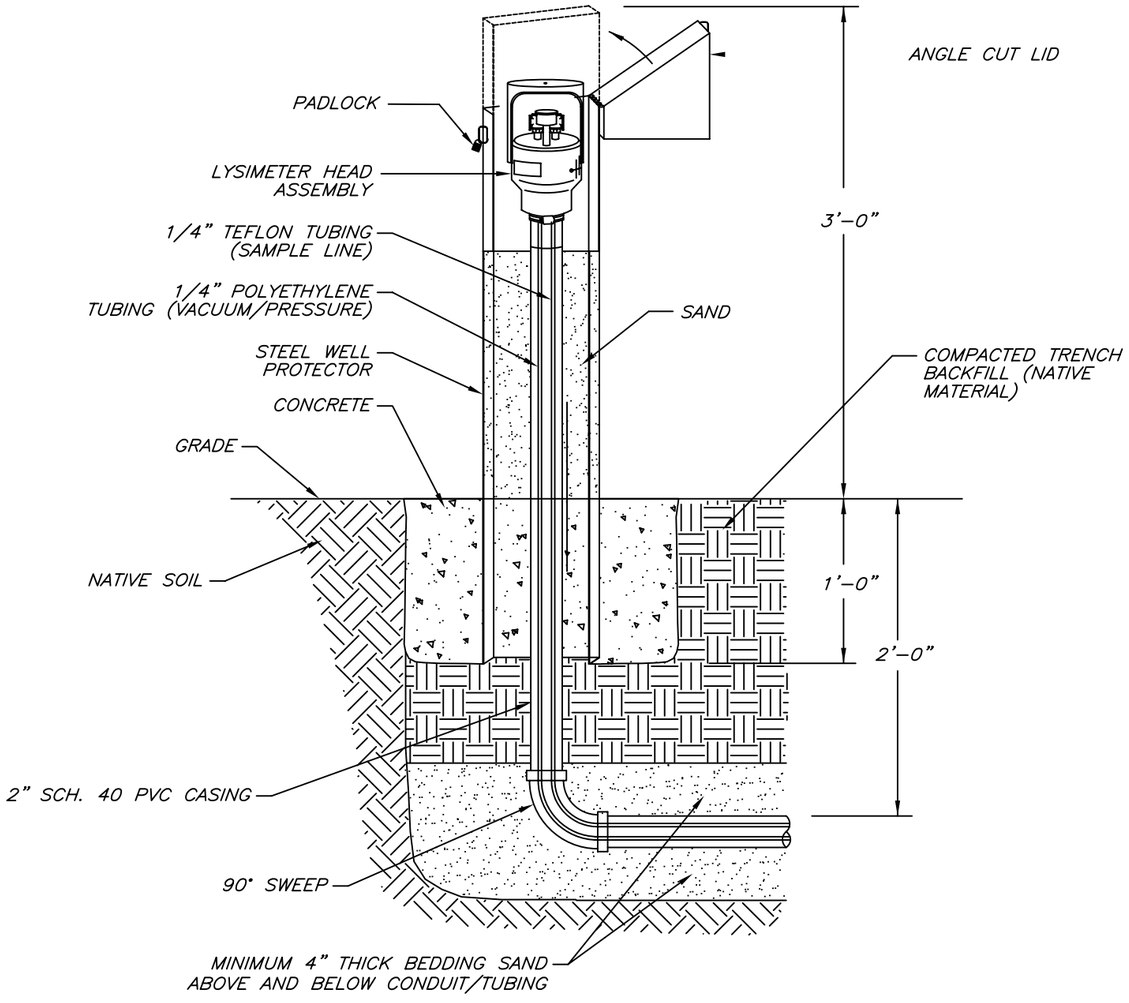
WILDERMUTH ENVIRONMENTAL INC.
Inland Empire UTILITIES AGENCY

REVIEWED BY:	DRAWN BY:	START DATE:
AEM	WEL	03/28/06

AS-BUILT DETAILS 1 AND 2 BANANA AND HICKORY BASINS

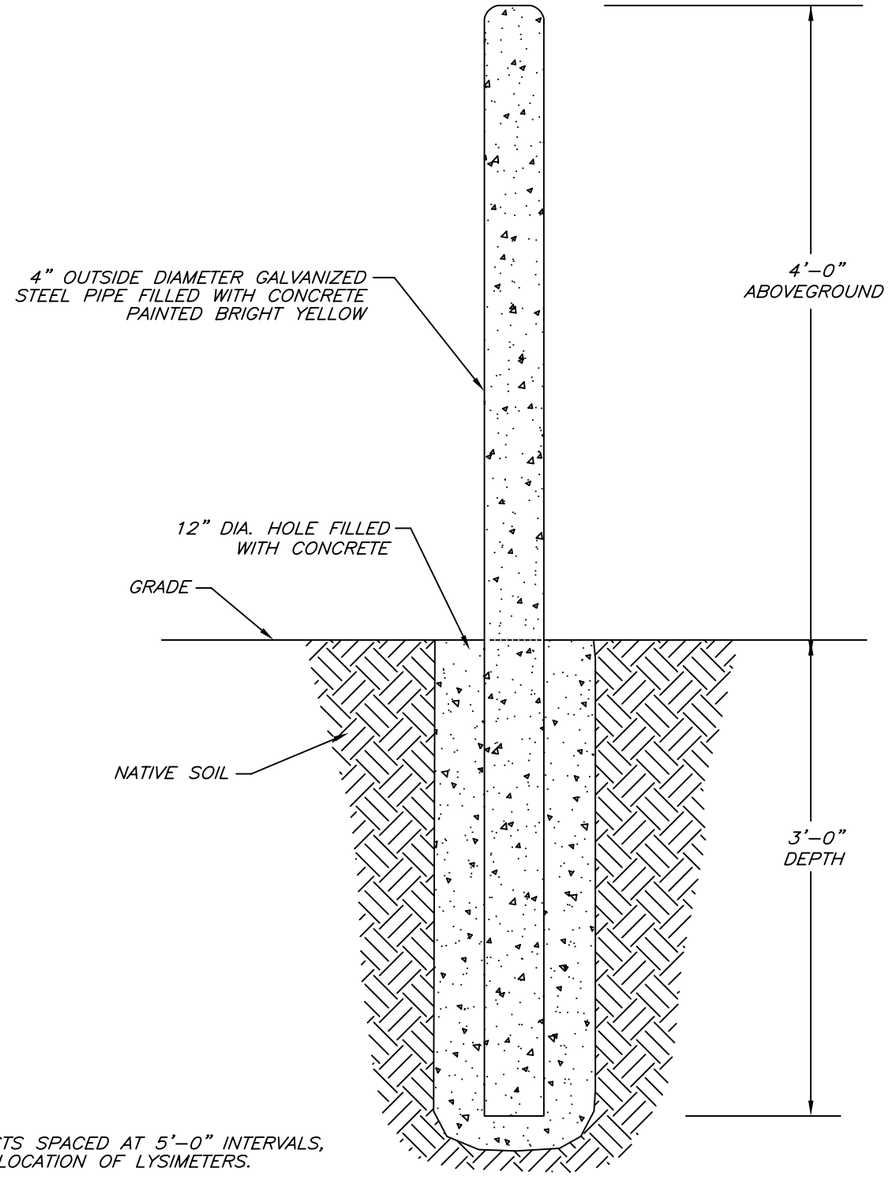
DRAWING NO. A–4

SHEET NO. 4 OF 5



PROFILE
NOT TO SCALE

DETAIL 3
TYPICAL STEEL WELL PROTECTOR AND LYSIMETER HEAD ASSEMBLY



NOTES:
CRASH POSTS SPACED AT 5'-0" INTERVALS, OUTLINING LOCATION OF LYSIMETERS.

PROFILE
NOT TO SCALE

DETAIL 4
TYPICAL CRASH POST

Underground Service Alert
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

NO.	DATE	INITIAL	DESCRIPTION:	APPROVED/DATE

DESIGNED: | DRAWN: | CHECKED:

WILDERMUTH ENVIRONMENTAL INC.
Inland Empire UTILITIES AGENCY

REVIEWED BY:	DRAWN BY:	START DATE:
AEM	WEL	03/28/06

AS-BUILT DETAILS 3 AND 4
BANANA AND HICKORY BASINS

DRAWING NO. A-5

SHEET NO. 5 OF 5

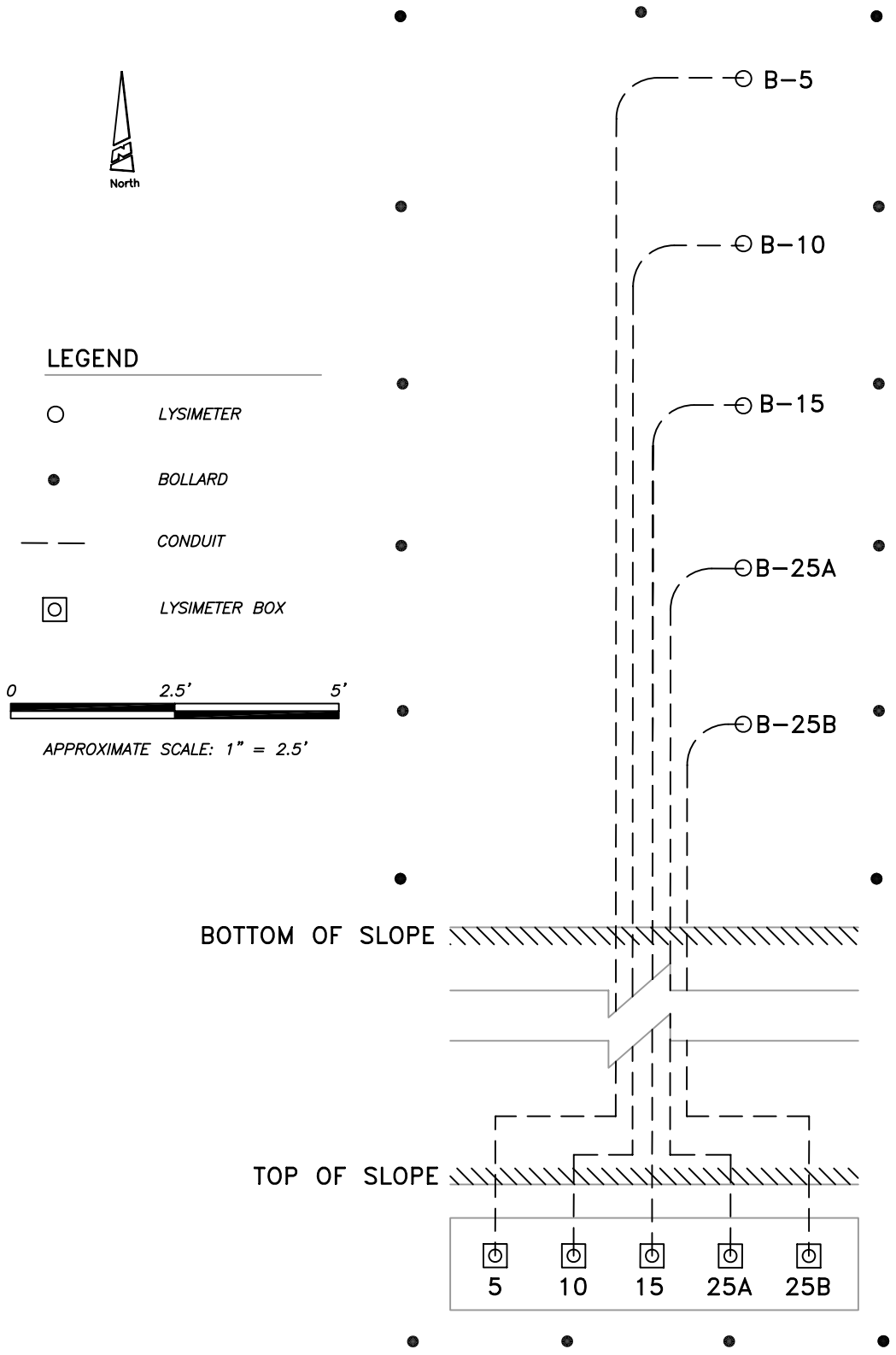


FIGURE A-6
HICKORY BASIN EAST LYSIMETER AS-BUILT

WILDERMUTH ENVIRONMENTAL INC.

Bill Leever, Wildermuth Environmental, Inc. 04/03/2006 he_detail.dwg

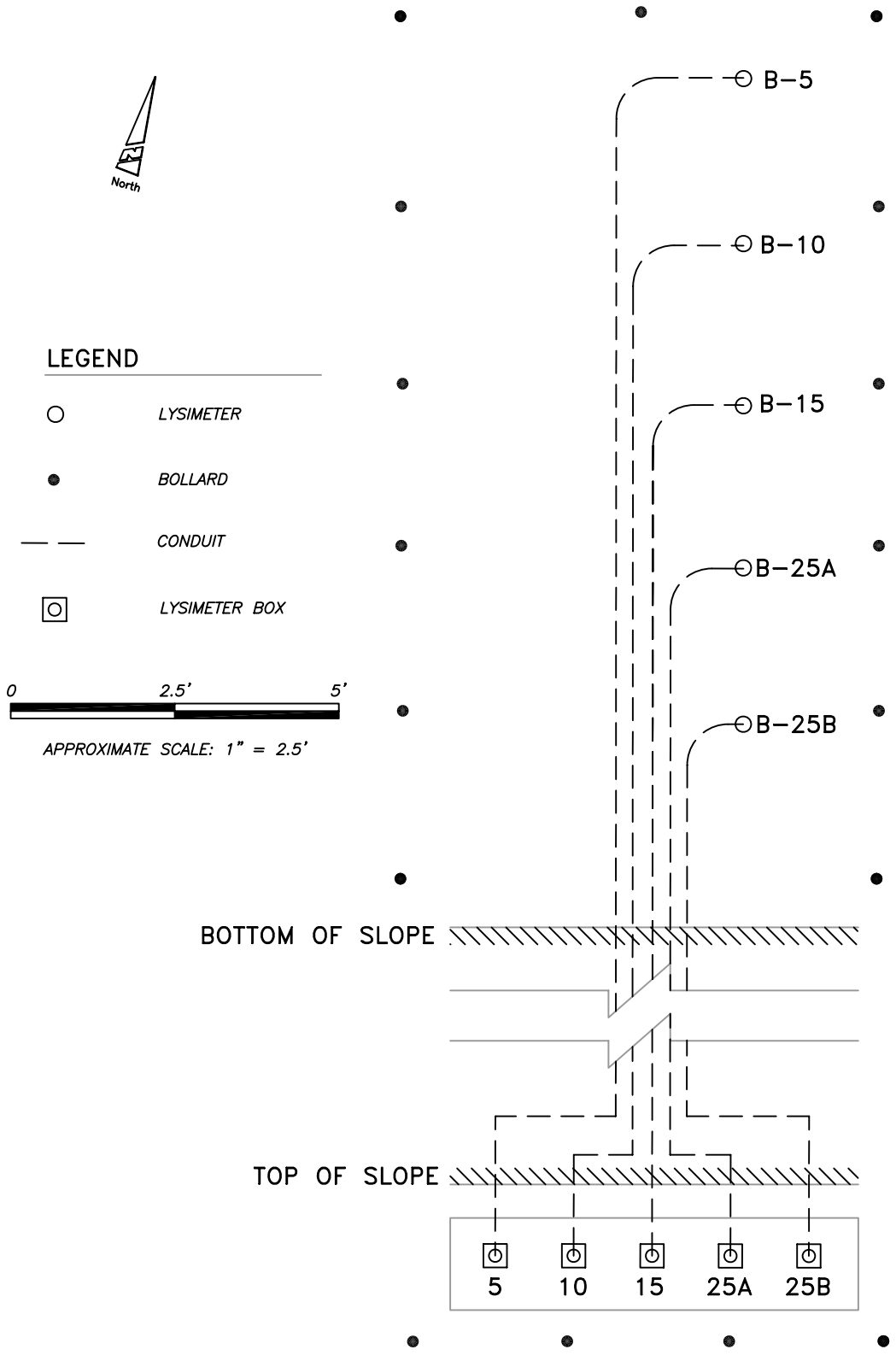


FIGURE A-7
HICKORY BASIN WEST LYSIMETER AS-BUILT

WILDERMUTH ENVIRONMENTAL INC.

Bill Leever, Wildermuth Environmental, Inc. 04/03/2006 hw_detail.dwg

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HE-05

Date Started	**5/5/05**	Date Finished	**5/5/05**	Borehole Depth	**5.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.2"**	Long.	**117° 30' 34.35"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			SAND (SW): dark brown, moist, fine to coarse sand with some fine gravel		
1130	5				Sch. 40 PVC (1.9") Bentonite Chips No. 60 Transition Sand Lysimeter Body (500 mL) 10-mesh Native Sand Lysimeter Porous Tip	
1125	10					
1120	15					
1115	20					
1110	25					

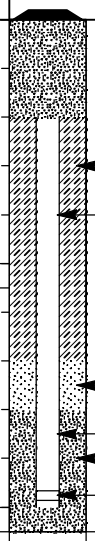
WILDERMUTH™
ENVIRONMENTAL INC.

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HE-10

Date Started	**5/5/05**	Date Finished	**5/5/05**	Borehole Depth	**10.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.2"**	Long.	**117° 30' 34.35"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			SAND (SW): dark brown, moist, fine to coarse sand with some fine gravel		
1130	5			Gravelly SAND (SW-GW): light grayish brown, moist, fine to coarse sand with gravel		
1125	10					
1120	15					
1115	20					
1110	25					



WILDERMUTH™
ENVIRONMENTAL INC.

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HE-15

Date Started	**5/5/05**	Date Finished	**5/5/05**	Borehole Depth	**15.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.2"**	Long.	**117° 30' 34.35"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			SAND (SW): dark brown, moist, fine to coarse sand with some fine gravel	Bentonite Chips; Sch. 40 PVC Conduit (1.9")	
1130	5			Gravelly SAND (SW-GW): light grayish brown, moist, fine to coarse sand with gravel		
1125	10				No. 60 Transition Sand; Lysimeter Body (500 mL)	
1120	15			same as above	10-mesh Native Sand; Lysimeter Porous Tip	
1115	20					
1110	25					

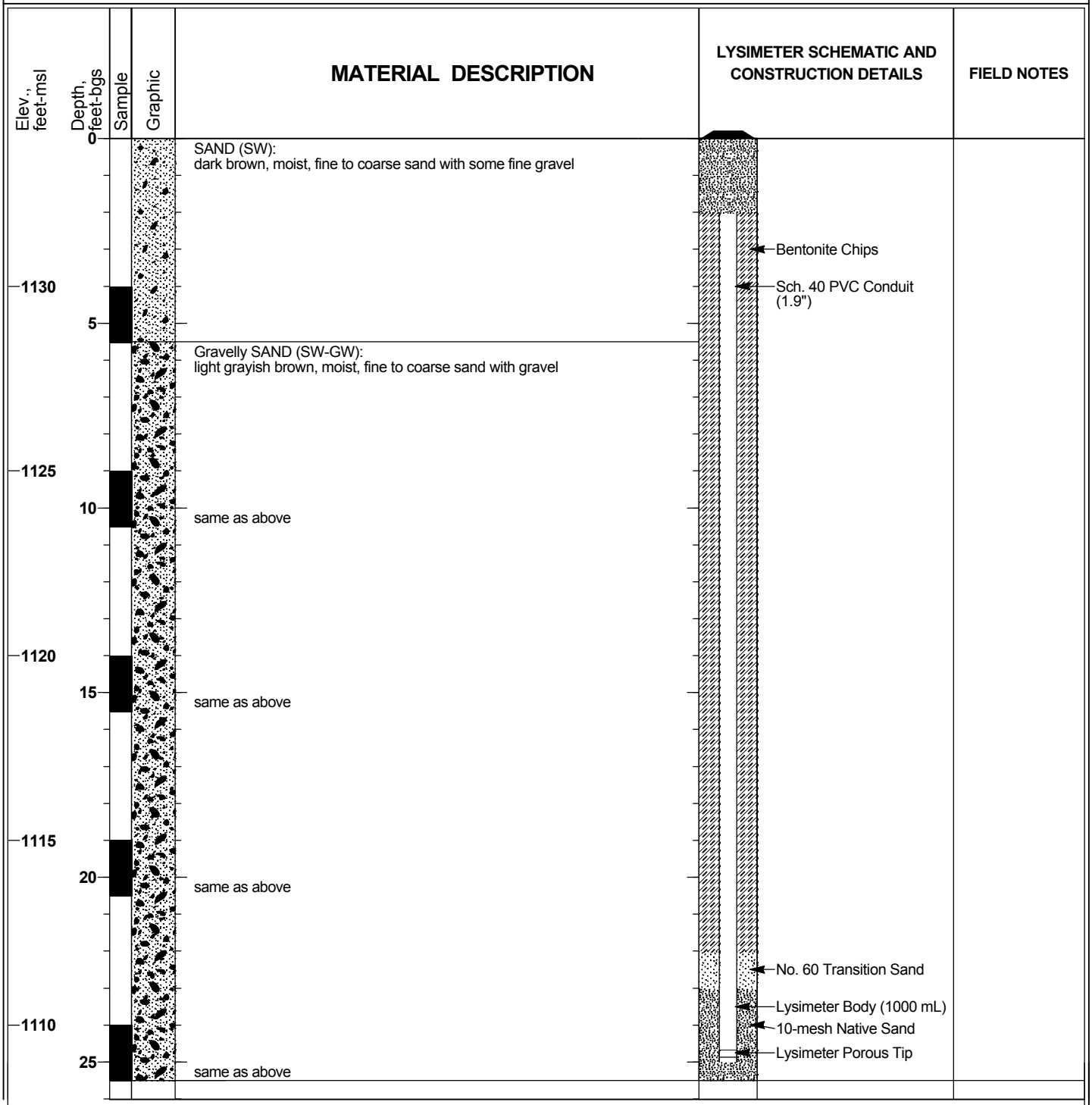
Report: LYSIMETER LOG; File: IEUA_GRRP.GPJ; 3/30/2006

WILDERMUTH™ ENVIRONMENTAL INC.

Project Name: Recycled Water Groundwater Recharge Project
Project Location: Chino Basin, California
Project Number: 007-003
Client: Inland Empire Utilties Agency/Chino Basin Watermaster

LYSIMETER: HE-25A

Date Started	5/4/05	Date Finished	5/4/05	Borehole Depth	25.5 feet	Drilling Contractor	Gregg Drilling
Lat.	34° 5' 31.2"	Long.	117° 30' 34.35"	Drill Bit Size/Type	6" Dia./Hollow Stem Bit	Driller	Greg
Ground Surface Elevation	1134.0 feet			Porous Interval	4.6-5 ft_bgs	Drill Rig Type	Marl 5T
Top of Casing Elevation	NA			Depth to Groundwater	Not Encountered	Drilling Method	Hollow Stem Auger
Logged By	F. LaValle			Reviewed By	B. Leever, PG, CHG	Sampling Method	Split Spoon



WILDERMUTH™
ENVIRONMENTAL INC.

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HE-25B

Date Started	**5/4/05**	Date Finished	**5/4/05**	Borehole Depth	**25.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.2"**	Long.	**117° 30' 34.35"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			SAND (SW): dark brown, moist, fine to coarse sand with some fine gravel		
1130	5			Gravelly SAND (SW-GW): light grayish brown, moist, fine to coarse sand with gravel		
1125	10			same as above		
1120	15			same as above		
1115	20			same as above		
1110	25			same as above		

Bentonite Chips

Sch. 40 PVC Conduit (1.9")

No. 60 Transition Sand

Lysimeter Body (1000 mL)

10-mesh Native Sand

Lysimeter Porous Tip

Report: LYSIMETER LOG; File: IEUA_GRRP.GPJ; 3/30/2006

WILDERMUTH™ ENVIRONMENTAL INC.

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HW-5

Date Started	**5/6/05**	Date Finished	**5/6/05**	Borehole Depth	**5.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.11"**	Long.	**117° 30' 44.63"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

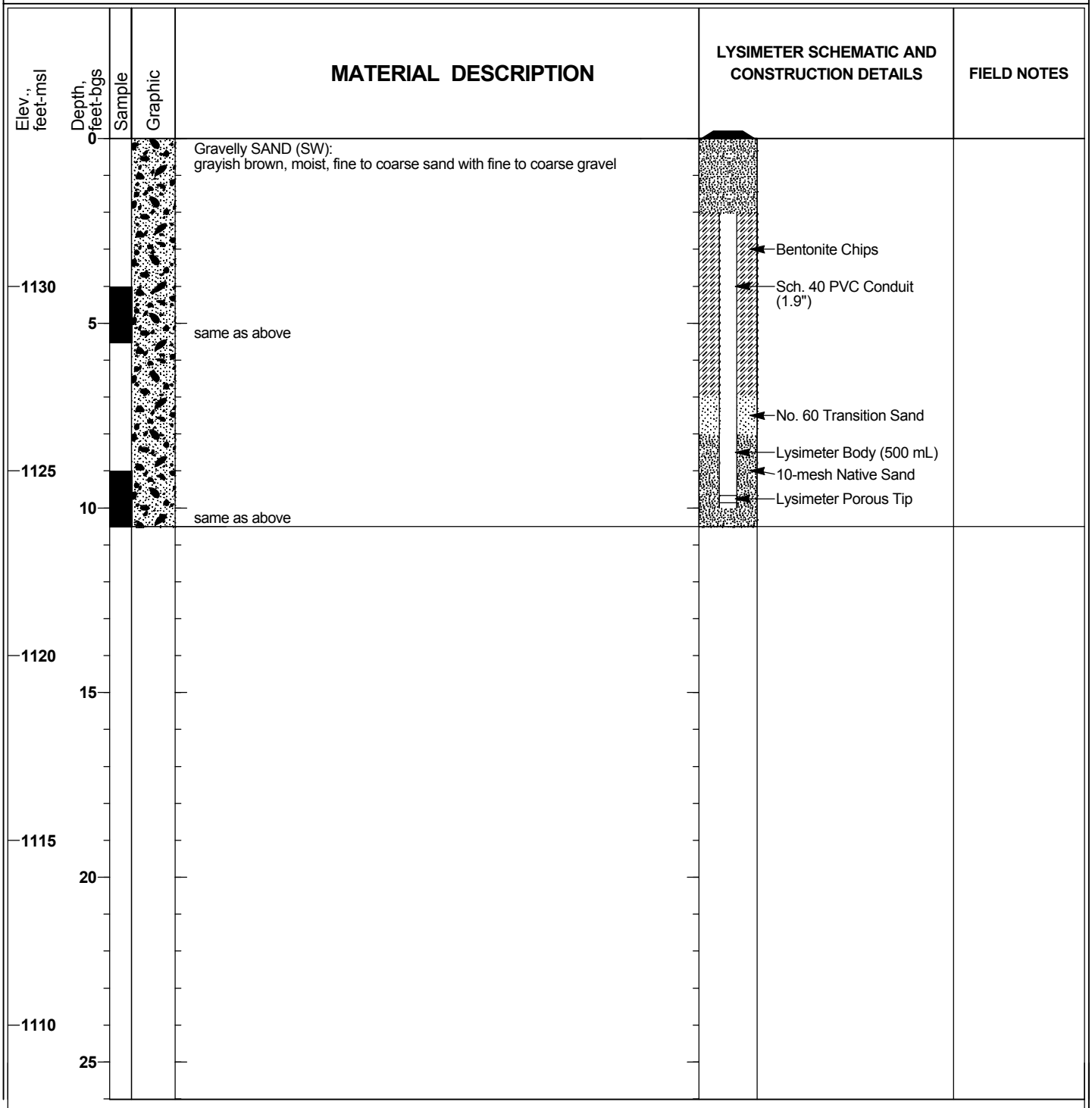
Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			Gravelly SAND (SW): grayish brown, moist, fine to coarse sand with fine to coarse gravel		
1130	5				Sch. 40 PVC Conduit (1.9")	
					Bentonite Chips	
					No. 60 Transition Sand	
					Lysimeter Body (500 mL)	
					10-mesh Native Sand	
					Lysimeter Porous Tip	
1125	10					
1120	15					
1115	20					
1110	25					

WILDERMUTH™
ENVIRONMENTAL INC.

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HW-10

Date Started	**5/6/05**	Date Finished	**5/6/05**	Borehole Depth	**10.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.11"**	Long.	**117° 30' 44.63"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**



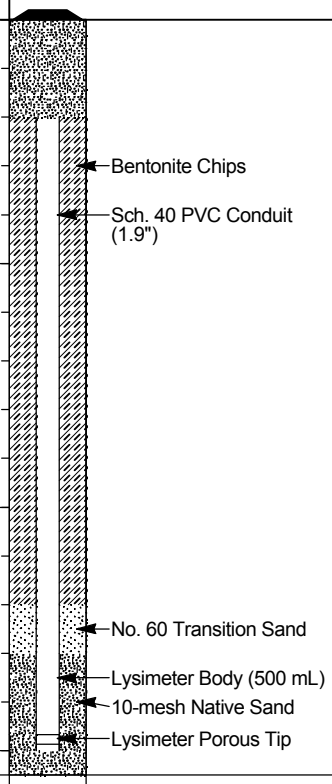
WILDERMUTH™
ENVIRONMENTAL INC.

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HW-15

Date Started	**5/6/05**	Date Finished	**5/6/05**	Borehole Depth	**15.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.11"**	Long.	**117° 30' 44.63"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			Gravelly SAND (SW): grayish brown, moist, fine to coarse sand with fine to coarse gravel		
1130	5			same as above		
1125	10			same as above		
1120	15			same as above		
1115	20					
1110	25					



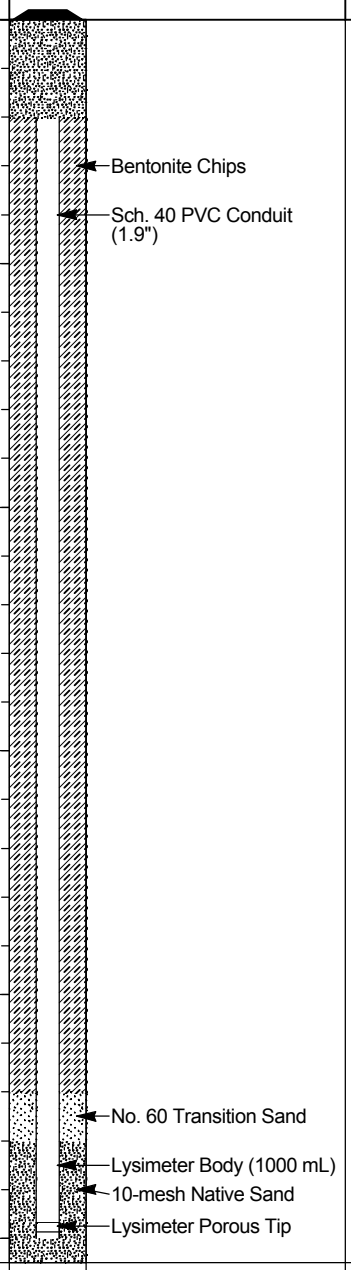
WILDERMUTH™ ENVIRONMENTAL INC.

Project Name:	**Recycled Water Groundwater Recharge Project**
Project Location:	**Chino Basin, California**
Project Number:	**007-003**
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**

LYSIMETER: HW-25A

Date Started	**5/5/05**	Date Finished	**5/5/05**	Borehole Depth	**25.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.11"**	Long.	**117° 30' 44.63"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			Gravelly SAND (SW): grayish brown, moist, fine to coarse sand with fine to coarse gravel		
1130	5			same as above		
1125	10			same as above		
1120	15			same as above		
1115	20			same as above		
1110	25			same as above		



Report: LYSIMETER LOG; File: IEUA_GRRP.GPJ; 3/30/2006

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Project Name:	**Recycled Water Groundwater Recharge Project**	**LYSIMETER: HW-25B**	
Project Location:	**Chino Basin, California**		
Project Number:	**007-003**	Sheet 1 of 1	
Client:	**Inland Empire Utilties Agency/Chino Basin Watermaster**		

Date Started	**5/6/05**	Date Finished	**5/6/05**	Borehole Depth	**25.5 feet**	Drilling Contractor	**Gregg Drilling**
Lat.	**34° 5' 31.11"**	Long.	**117° 30' 44.63"**	Drill Bit Size/Type	**6" Dia./Hollow Stem Bit**	Driller	**Greg**
Ground Surface Elevation	**1134.0 feet**			Porous Interval	**4.6-5 ft_bgs**	Drill Rig Type	**Marl 5T**
Top of Casing Elevation	**NA**			Depth to Groundwater	**Not Encountered**	Drilling Method	**Hollow Stem Auger**
Logged By	**F. LaValle**			Reviewed By	**B. Leever, PG, CHG**	Sampling Method	**Split Spoon**

Elev., feet-msl	Depth, feet-bgs	Sample	Graphic	MATERIAL DESCRIPTION	LYSIMETER SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
	0			Gravelly SAND (SW): grayish brown, moist, fine to coarse sand with fine to coarse gravel		
1130	5			same as above	Bentonite Chips; Sch. 40 PVC Conduit (1.9")	
1125	10			same as above		
1120	15			same as above		
1115	20			same as above	No. 60 Transition Sand; Lysimeter Body (1000 mL); 10-mesh Native Sand	
1110	25			same as above	Lysimeter Porous Tip	

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