

7.0 CONCLUSIONS & RECOMMENDATIONS

The Technical Memorandum evaluated the potential impact of inorganic contaminants, particularly arsenic, in Aberjona River surface water and Wells G and H wetland sediments on potable water supply development in the Wells G and H Central Area aquifer. This analysis was based on relevant technical papers, site-specific reports, and existing data available for the Wells G and H site.

Conceptual Model

A conceptual model for arsenic migration at the Wells G and H site is illustrated in Figure 20. The conceptual model reflects elevated levels of arsenic present in the shallow wetland peat deposits (source layer) and depicts the principal direction of groundwater flow in an East-West cross-section (toward the center of the river valley). Figure 21 provides representative groundwater elevation contours in plan view. The peat deposit source (see Zones A and the Sp and P2 layers of Zone B in Figure 20) was likely caused by historic releases of arsenic, mainly from the Industri-Plex Superfund Site to the north. Wetland sediment in the specific area of Wells G and H may have as much as 700 kilograms (kg) of arsenic present (Aurilio, 1992), with concentrations ranging from about 500 to 1000 milligrams per kilogram (mg/kg) (Knox, 1991). These concentrations are consistent with the recent Aberjona River Study (M&E, 2004), which documented arsenic concentrations in sediment ranging from 2.4 mg/kg to 4,550 mg/kg in Aberjona River sediments. The Aberjona River Study (M&E, 2004) documented nearly 100-percent detection frequency of arsenic in 325 sediment samples collected along six miles of the river from Route 128 in Woburn to the Mystic Lakes in Arlington and Medford. At the Wells G and H wetland, the median and average arsenic sediment concentrations measured were approximately 105.5 mg/kg and 415 mg/kg, respectively. The major source of arsenic in the Wells G and H wetland appears to be the former industrial activities and contaminant releases at the Industri-Plex Superfund Site.

In the vicinity of the Wells G and H wetland near the Aberjona River, arsenic is highly persistent in the peat with the greatest proportion of arsenic in the upper 80 centimeters of peat. Arsenic is also found in interbedded sand layers within the peat and in deeper peat sediments to a depth of at least 120 to 160 centimeters (Zeeb, 1996). Beneath the peat is a thick (up to 15 feet) diatomaceous silt layer thickening to the east near well H (Zone B, layer D). In other locations within the wetland the peat is directly underlain by glacial drift. The thickness of the peat is variable. For example, in 2002 EPA collected four-foot sediment core samples from 4 locations in the Wells G and H wetland. One of the cores encountered sand and gravel at approximately 2 to 3 feet. The remaining cores encountered peat as deep as 4 feet.

The peat layer has the properties of high organic content, variable oxidation state (aerobic to anaerobic), and relatively high levels of iron (1 to 25-percent by weight; Keon et al, 2001) and sulfur (0.2 to 11-percent by weight) (Ford, 2004b) as well as very low hydraulic conductivity 2×10^{-6} and 6×10^{-4} cm/sec (Bialon, 1995) (see Zone A and the Sp and P2 layers of Zone B in Figure 20). The diatomaceous silt layer should also have a low hydraulic conductivity in the range of 3×10^{-5} cm/sec based on comparable values for other silt layers (McWhorter and Sunada, 1977). Results for iron from the above-mentioned EPA 2002 sediment cores were relatively

consistent with Keon et al (2001), with maximum concentrations of 12-percent by weight (average 3.1-percent by weight). In addition, peat from the EPA cores demonstrated high TOC concentrations (concentration range of 17 to 32-percent with an average concentration of 23-percent by weight).

Below this arsenic rich peat layer is a thick (82 feet) glacial deposit aquifer consisting of stratified drift sediments and till the aquifer is underlain by bedrock (see Zones C and D in Figure 20). The glacial sediments are much lower in organic carbon, iron, and sulfur compared to the peat sediments in Zones A and B (Figure 20). The glacial aquifer is highly permeable with a hydraulic conductivity ranging from 5×10^{-2} to 8×10^{-2} cm/sec (USGS, 1987). The aquifer is well flushed and the groundwater is expected to be relatively young throughout due to the highly permeable nature of the glacial drift sediments, the high recharge rate, and the discharge of groundwater from the bedrock valley basin. The Phase IA report (GeoTrans, 1994) drew few conclusions about tritiated groundwater data. The presence of tritiated groundwater at 480 feet bgs after only 41 years since tritium entered the atmosphere during atomic weapons testing suggests that the groundwater must be relatively young. The DO levels and ORP readings indicate mildly reducing to well oxygenated conditions. The deep groundwater is typified by arsenic groundwater concentrations ranging from 0.22 to 60 ug/L, with a median value of less than 3 ug/L.

Interaction of Surface Water, Sediment and Groundwater

There is evidence to suggest that past pumping at municipal wells G and H caused some induced infiltration drainage of surface water from the Aberjona River to the well field. Specific conditions reported for Wells G & H may have enhanced the potential for induced infiltration from the Aberjona, i.e., a) the shallow gravel packing of these wells, and b) the excavation of peat surrounding these wells and subsequent emplacement of sand and gravel in a 30 foot radius around the wells. Thus, the wells may have induced infiltration of river water, or experienced preferential flow from the river. This would account for the rapid decline in water levels in the wetland observed by the USGS during the 1985/1986 aquifer pump test. It is unlikely that the wetlands could have experienced so sudden a decline given the relatively low permeability of the peat without having a preferential pathway conduit to the well field. In some places the peat and silt sediments may be thinner; in these locations, preferential flow may also be contributing to a more rapid decline in the wetland layers. Furthermore, the USGS (1987) determined that approximately 51-percent of the water received at the wells was derived from Aberjona River streamflow. The other 49-percent would be derived from the large cone of influence (3,000 feet by 1,700 feet oblong shape). The zone of influence of Wells G and H after 30-days of pumping was illustrated previously in Figure 10.

Hypothesis for Arsenic Transport from the Aberjona River

Arsenic concentrations in the water contributed to Wells G and H directly from the river would be affected by filtration of the aquifer material (both mechanical filtration of particulates and sorption reactions with aquifer solids) and geochemical interactions. In the vicinity of Wells G and H, the dissolved arsenic concentration in river water is about 6 ug/L on average as noted during baseflow at Aberjona River sampling stations TT#4 (located at HBHA discharge control

structure at Mishawum Road) and TT#5 (located downstream of Wells G and H at the Salem Street bridge) [TTNUS, 2002]. However, arsenic concentrations may also change through the degree of filtering and geochemical interactions that occur in the aquifer. The water that enters the wells would contain a mix of water infiltrating through the peat layer to the underlying aquifer as well as glacial drift aquifer water that has not passed through the peat deposits. Note that the induced infiltration of the peat would likely diminish over time as the peat layer becomes partially dewatered under the influence of pumping, which would result in significant dilution of any chemicals released from the peat layer. The high flow rate of the aquifer would also promote the migration of more recent meteoric water with higher oxygen levels to the well, which would tend to attenuate the mobility of arsenic because conditions would favor the less mobile and more readily adsorbed As(V) form. Induced infiltration under pumping would also introduce dilute (relative to arsenic) and well oxygenated/highly oxidized river water to the aquifer, leading to a shift in redox equilibria in the aquifer along flow paths toward less reducing/more oxidized conditions. Thus, under extended pumping conditions, arsenic concentrations in the pumped water would be expected to decline due to a combination of dilution and increased adsorption of arsenic.

It is possible that the peat layer may serve as a source of arsenic through direct drainage to the wells. Although additional contributions of arsenic could be derived from any water within the capture zone of the wells that pass through the arsenic-rich sediments, where arsenic has been deposited from upstream industrial activity since the 1800s. The peat layer has high levels of dissolved arsenic in pore water (215 to 674 ug/L) as noted by Ford (2004b). The high levels of arsenic in the peat layer are attributed to anaerobic conditions, which cause dissolution of iron oxides and release of arsenic. (Under aerobic conditions arsenic, especially As(V), tends to strongly sorb to iron oxyhydroxide solids.) If a hydraulic gradient is placed on the pore water, then the arsenic may begin to migrate especially as arsenite (As[III]).

Ford (2004b) conducted oxic leaching tests to assess arsenic release under oxic conditions using a leaching solution with a chemical composition consistent with surface water. Sediment pore water measurements and oxic leach test results indicate that sediments may be a long-term source of arsenic to groundwater at Wells G and H. Arsenic concentrations released from sediments collected from the Wells G and H wetland ranged from 23 µg/L to 341 µg/L. Ford (2005a) notes that the batch tests may not represent a continuous flow system and do not capture conditions potentially induced by microbial activity. Ford (2004b) also notes, however, that the greatest risk of arsenic release from sediments occurs under reducing conditions. Under a pumping scenario where aqueous geochemical conditions become increasingly dependent on the influence of surface water infiltration, the aquifer becomes more oxidized; as a result, steady concentrations like that found in the batch oxic leach tests are unlikely to be sustainable. This outcome is dependent, however, on the degree of mixing of various water sources within the aquifer and would be influenced by microbial activity (Ford 2005a).

Studies regarding arsenite mobility indicate that arsenite is more mobile than arsenate and that under anaerobic conditions both are more mobile than under aerobic conditions (Isenbeck-Schroter et al, 2003). The peat layer contamination could therefore be transported through more transmissive silt layers or possibly through interbedded sand layers provided a window of favorable redox conditions exist.

However, it is unlikely that movement from the shallow peat would lend to any significant arsenic transport. The presence of elevated sulfur and iron conditions in the shallow peat layer sediment may lead to the formation of iron sulfide solids (precipitate) under anaerobic conditions. If the pore water from the peat traveled to the diatomaceous silt or stratified glacial drift aquifer, then under the more oxidizing conditions below the peat, the presence of iron oxide solids would hinder the mobilization of arsenic. Under anerobic conditions the As(III) migration would dominate and could potentially leach at concentrations greater than the MCL, but the relative quantity of flow would be limited due to the low conductivity of the peat.

The glacial aquifer likely has conditions favoring formation of As(V) which is less mobile and more highly sorbed than other forms. Within the glacial aquifer, organic material is limited and was likely deposited by fluvial processes during the glacial retreat (see Zone D in Figure 20). The limited organic material has likely been oxidized, leaving less reactive cellulose materials, which are not an ideal driver for microbial metabolism. (Iron oxyhydroxide reduction and dissolution is facilitated by microbial activity.) Also, the ORP readings are never more than mildly reducing (-94 mV to -168 mV) in the shallow aquifer, with areas of groundwater exhibiting oxidizing conditions ranging as high as 270 to 556 mV in upland areas approaching the sides of the buried bedrock valley and in the middle and deep portions of the aquifer. Under the Eh-pH conditions generally present in the Central Area Aquifer (see Figure 5), the majority of arsenic is expected to be present as the less mobile, more readily adsorbed As(V) species. In addition, without significant organic material present, only limited microbial reduction of iron oxyhydroxides can take place, which should leave significant iron oxyhydroxide-related adsorptive capacity throughout the aquifer to provide an arsenic sink. Further, Eh-pH conditions favor a significant fraction of iron oxyhydroxy solids (see Figure 3) and the concentration of iron in groundwater is several orders of magnitude greater than that of arsenic, suggesting the potential for a significant presence of iron solids. Hydrous iron oxides have high adsorptive capacity for arsenic and high specific surface area, and therefore are exceptional sinks for arsenic. Consequently, iron oxyhydroxides are a major control on arsenic solubility and mobility.

Summary of Findings

Despite the absence of arsenic data for the period when wells G and H were continuously pumped for potable water supply, there is evidence that the arsenic flux from the Aberjona River, peat sediment infiltration, and the larger glacial drift aquifer were not significant. Data are available for the wells shortly after pumping stopped and during the reactivation of the wells by the USGS in 1985/1986 for completion of an aquifer pump test. Arsenic was detected in the analysis of September 1979 groundwater samples from wells G and H, but at concentrations nearly an order of magnitude lower than the current EPA MCL of 10 ug/L. Also, no sampling of municipal Wells G and H conducted since has detected any arsenic, including sampling conducted during, and at the conclusion of, the USGS 30-day pump test.

Arsenic is relatively persistent once it migrates to an area, since it does not degrade or volatilize. If a high concentration of arsenic (e.g., 50 ug/L, Welch et al, 2000) were detected in the wells during pumping, then it is likely that the arsenic would still be present in the wells. Other

contaminants such as chlorinated solvents, which do degrade, were still present in the wells shortly after the pumping was completed and were again detected during the USGS 1985/1986 aquifer pump test. Arsenic would have been expected to follow a similar pattern had it been present at elevated levels as a result of pumping. Further evidence supporting this supposition that arsenic concentrations were not significant in Wells G and H comes from the J.J. Riley Tannery production wells, which are also located in the Wells G and H area, and were sampled for arsenic during their operational period and arsenic was not detected.

A comprehensive review of arsenic contamination in groundwater was compiled by Smedley and Kinniburgh (2004), who determined concentration ranges for seven water quality parameters that are indicative of high arsenic concentrations. Evaluating the Wells G and H data in comparison to these parameters showed that unfavorable conditions were present in Well G (all 7 parameters unfavorable) and in Well H (5 of 7 parameters unfavorable) for the presence of high arsenic levels (above drinking water standards). The parameters evaluated included iron, manganese, alkalinity, chloride, sulfate, nitrate, and pH. This comparative analysis was previously summarized in Table 2. The widespread presence of sulfate in groundwater at relatively high concentrations (>1,000 mg/L) suggests generally oxidizing conditions, which are not conducive to arsenic mobility.

In addition, under nonpumping conditions, the vertical gradients between the peat and underlying aquifer are variable. During storm events or periods of high evapotranspiration there may be a downward gradient through the peat. However, most of the time there is an upward gradient with glacial aquifer groundwater discharging to the Aberjona River. Under these conditions the shallow sediments and peat layer would slowly purge arsenic to the surface water as dissolved and particulate matter. Countering this effect is the downstream transport of arsenic from the Industri-Plex site which slowly adds about 0.1 centimeter per year of contaminated sediment to the river bottom in the Wells G and H area (Zeeb, 1996).

A study by Rogers et al (1997) analyzed archived human hair samples extending back to 1938 and showed that arsenic content in hair was not correlated with exposure to Wells G and H water. It was anticipated that if high concentrations of arsenic were present in drinking water then the hair analysis would also show elevated levels. The lack of strong correlation indicates that arsenic may not have been present in high concentrations in the water supply. However, there were likely several opportunities for direct or indirect arsenic removal from the water supply system prior to delivery to individual taps.

Based on the collective data, the current weight of the evidence indicates that arsenic contamination in the Wells G and H wetland sediments and Aberjona River surface water and related arsenic contamination in the aquifer would not preclude the use of the aquifer for potable water uses.

OTHER METALS

The other metal contaminants considered in the preparation of this Technical Memorandum (chromium, lead, copper, and mercury) are much less mobile than arsenic and tend to show strong partitioning behavior with aquifer solids and/or organic material. Available data from monitoring wells support this conclusion, as summarized below:

Chromium. In the general Eh-pH regime of the Central Area aquifer, chromium is expected to be in the Cr(III) state and will likely exist as Cr_2O_3 solid. In addition, aqueous partitioning coefficients (K_d) for Cr (III) are significantly greater than comparable values for As(V), which is not very mobile. This information suggests that chromium will be relatively immobile in Central Area groundwater.

Lead. Lead is relatively immobile in all matrices due to its strong tendency to be sorbed by iron and manganese oxides and the insolubility of many lead minerals. Lead is effectively removed from water by adsorption to organic matter and clay minerals, precipitation as insoluble salt, and the reaction with hydrous iron and manganese oxide.

In the general Eh-pH regime of the Central Area aquifer, lead is expected to be in the soluble Pb(II) state, but should be readily adsorbed given the extent of Fe and Mn oxides in the Central Area aquifer and the adsorption tendencies expressed by the Langmuir constants.

The anomalous detections of lead at Wells G and H are inconsistent with the known fate and transport behavior of lead and may reflect sampling or analytical error or contamination by pump materials (e.g., bronze or brass parts).

Copper. Copper is strongly adsorbed by organic matter, Fe(III) and Mn oxides, and secondarily by clays. Bodek et al (1988) state that copper exceeds lead in its tendency to be sorbed to solids. Sorption is probably the most important controlling mechanism in determining copper mobility in the environment.

In the general Eh-pH regime of the Central Area aquifer, copper will largely exist in a precipitated phase, and available soluble Cu(II) species should be readily adsorbed to Fe and Mn oxides given the extent of Fe and Mn oxides in the Central Area aquifer. Copper groundwater data collected on behalf of EPA in 2002 using low stress (low flow) purging protocols set forth by EPA Region 1 showed that copper was detected in Central Area groundwater at concentrations approximately 3 orders of magnitude lower than the EPA drinking water action level of 1,300 ug/L.

Mercury. In the general Eh-pH regime of the Central Area aquifer, mercury will largely exist in low solubility phases, and available soluble mercury species should be readily adsorbed to Fe and Mn oxides given the extent of Fe and Mn oxides in the Central Area aquifer. In addition, mercury groundwater data collected on behalf of EPA in 2002 using low stress (low flow) purging protocols show that mercury was rarely detected in Central Area groundwater. Detected concentrations, and laboratory reporting limits for non-detect results, were typically more than an order of magnitude lower than the EPA MCL of 2 ug/L (generally 0.1 ug/L). The detections of

mercury in Wells G and H at the end of the USGS 30-day aquifer pump test are anomalous and are not consistent with mercury concentrations in the aquifer based on recent (2002) low stress (low flow) groundwater sampling conducted on behalf of EPA.

RECOMMENDATIONS

The foregoing analysis is not an endorsement by EPA or EPA's supporting contractors that treatment for arsenic, or other metals, is not required in the event there is a decision to resume using the aquifer as a potable water supply for public distribution. There is some uncertainty in the analysis since the study relied on existing data and studies in a "weight of evidence" approach to evaluate the possible effects of arsenic and heavy metal contaminated sediment on future potable water development in the Central Area aquifer. If the aquifer is utilized in the future for drinking water purposes, then water quality geochemical parameters and metals (e.g., arsenic, chromium, lead) should be monitored and any detected contaminant levels should be dealt with in accordance with current local, state, and federal policies and regulation, which may include treatment during design, startup, and long-term operation to ensure metals do not migrate to the production well(s) above drinking water standards (e.g., arsenic greater than 10 ug/L). If arsenic does migrate to the production well(s), then treatment options would need to be considered for the extracted water prior to public distribution. Note that treatment may need to be considered regardless due to the elevated levels of manganese, as noted by Dufresne-Henry (1978).

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TABLES

Table 5A
Maximum Arsenic Groundwater Data From 0 - 20 Feet
Plotted in Figure 12A

Well	Sample Date	Concentration (ug/L)
AB-1	9/2/1993	13
AB-4SS	12/18/2002	2.5
AB-6SS	12/16/2002	<2.5
B3A	3/14/2002	1.1
BOW13	9/10/1992	13.9
BOW14	9/15/1992	<3
BOW9	9/14/1992	<3
BSSW5	10/1/1992	8.6
BSSW6	10/22/1987	20
BSW2	9/28/1992	<3
BSW7	9/3/1992	3.4
BW-7	3/12/2002	30.6
DP10	5/28/1992	6.4
DP11	5/29/1992	<1.1
DP12	5/29/1992	4.58
DP13	6/2/1992	<1.1
DP14	6/5/1992	3.5
DP18S	6/5/1992	<1.1
DP19	6/5/1992	4.98
DP20	6/8/1992	<1.1
DP21S	6/5/1992	6
DP22	6/4/1992	5.8
DP24S	6/1/1992	1.1
DP26	6/2/1992	14.8
DP29	5/27/1992	6
DP31	6/3/1992	<1.2
DP32	6/8/1992	<1.1
DP35	6/2/1992	<1.1
DP36	5/29/1992	6.5
DP37S	5/27/1992	1.9
DP38	6/1/1992	<1.1
DP39	6/5/1992	<1.1
DP40	6/1/1992	2.4
DP41	6/8/1992	<1.1
DP6S	6/3/1992	<1.1
DP9S	5/26/1992	1.9
EN-1	4/24/2002	0.82
EN-2	4/24/2002	0.91
EN-4	4/24/2002	2.2
GO1S	2/28/1991	2
IUS1	2/15/1991	<1.1
IUS2C	2/14/1991	59.2
IUS3C	2/13/1991	<2.8
MR-1SS	8/31/1993	<4
MR-2SS	8/31/1993	<2
MR-MW-1	11/8/2001	<4.4

Table 5A Continued		
MR-MW-14	11/8/2001	13.2
MR-MW-15	11/6/2001	<4.6
MR-MW-16	11/9/2001	<4.4
MR-MW-17	11/7/2001	<4.6
MR-MW-18S	11/8/2001	4.6
MR-MW-2	11/7/2001	<4.6
MR-MW-20	11/6/2001	<4.6
MR-MW-21	11/9/2001	5.9
MR-MW-4S	10/17/1998	<10
MR-MW-5S	11/5/2001	<4.6
MR-MW-6	11/6/2001	<4.6
MR-MW-7	11/9/2001	7.9
MR-MW-8	11/7/2001	<4.6
MW-001S	4/16/2002	0.95
MW-002S	4/17/2002	2.5
MW-003	4/18/2002	20
MW-004	4/19/2002	44.2
MW-005	4/18/2002	1.9
MW-006	4/22/2002	37.9
MW-007	4/19/2002	15
MW-008	4/18/2002	3.4
MW-009S	4/23/2002	8
MW-010S	4/22/2002	142
MW-011S	4/26/2002	49.2
MW-012	7/10/2002	69.1
MW-013	7/9/2002	8.7
MW-014S	7/10/2002	4
OL-001	3/12/2002	8
OL-002	12/15/1987	574
OL-003	12/15/1987	15
OL-004	12/15/1987	258
OL-005	12/16/1987	24
OL-006	3/15/2002	267
OL-007	3/14/2002	371
OL-008	3/14/2002	87
OL-015	3/14/2002	5
RMW1	12/12/1991	<10
RMW2	12/12/1991	<10
RMW3	12/12/1991	<10
S21	2/25/1991	12
S44	12/2/1980	<10
S63S	2/26/1991	9.6
S64S	2/22/1991	73.4
S7	12/3/1981	49
S71S	2/21/1991	3.1
S77SS	9/22/1992	105
S78S	10/26/1987	<3
S81S	2/21/1991	14.1
S83SS	8/30/1993	<2
S84S	8/20/1991	<10
S87S	8/23/1991	<10

Table 5A Continued		
S88S	3/7/2002	83.6
S90S	8/22/1991	<10
S91S	9/1/1993	6.2
S92S	3/11/2002	10.6
S93S	3/8/2002	0.55
S94S	8/20/1991	<10
S95S	9/24/1992	3.9
TEST-1	7/9/2002	1.9
UC5	2/27/1991	1.8
UG2	8/26/1991	<10
UG4	8/23/1991	<10
W-MW-1S	10/17/1998	11
W-MW-2S	10/17/1998	3
W-MW-3S	10/17/1998	62
W-MW-4S	11/7/2001	<4.4
W-MW-4SS	9/1/1993	<2
W-MW-5S	12/19/2002	<3
W-MW-6S	12/16/2002	<2.5
WB-1SS	12/18/2002	3.5
EPA3	12/16/1987	6.8
S65S	2/15/1991	2.9
Minimum Detected		0.55
Maximum Detected		574
Median		< 4.6
Average		24.04

Table 5B
Maximum Arsenic Groundwater Data From > 20 - 50 Feet
Plotted in Figure 12B

Well	Sample Date	Concentration (ug/L)
AB-6M	12/17/2002	<2.5
BCW13	9/9/1992	<3
BOW15	9/30/1992	<3
BOW16	9/16/1992	<3
BSW1	9/18/1992	<3
BSW12	9/8/1992	<3
BSW14	9/15/1992	<3
BSW6	10/2/1992	59.6
BSW9	9/14/1992	3
BUG1	8/31/1993	11.2
BW1	9/18/1992	<3
BW2	9/28/1992	<3
BW3	11/6/2001	<4.6
BW4	11/6/2001	<4.6
BW5	9/30/1992	<3
BW6R	10/5/1992	<3
BW9	9/11/1992	4.4
DP8	6/2/1992	12.6
EPA1	12/16/1987	9.5
EPA2	12/16/1987	18.7
G15D	11/13/1987	10
G3S	5/15/1985	<10
GO1D	5/15/1985	<10
IUS2B	2/14/1991	<5.2
IUS3B	2/12/1991	9.5
MW-001M	4/15/2002	0.92
MW-002M	4/16/2002	0.71
MW-009M	4/23/2002	2.9
MW-010M	4/25/2002	1.9
MW-011M	4/26/2002	1.7
MW-014M	7/10/2002	0.33
OL-2M	7/9/2002	0.89
OL-3M	7/10/2002	0.55
RW3	3/1/1991	3.6
S10	12/3/1991	<10
S11	12/3/1981	<10
S22	2/19/1991	34.2
S38	1/25/1981	<10
S4	12/3/1981	15
S46	11/14/1980	<10
S47	11/14/1980	<10
S5	12/3/1981	<10
S6	12/3/1981	<10
S60	12/3/1981	<10
S63D	2/26/1991	3.9
S64D	5/14/1985	<10
S64M	2/22/1991	2.3

Table 5B Continued		
S65DR	2/25/1991	1.4
S65M	2/20/1991	<1
S66D	8/30/1993	<1.4
S67M	2/19/1991	23.9
S67S	2/19/1991	16.3
S68S	8/21/1991	<10
S69D	2/13/1991	<1
S71D	4/22/1985	<4
S72S	8/21/1991	10
S73D	2/20/1991	4
S73S	2/20/1991	17.9
S74S	4/23/1985	13
S76S(R)	4/17/2002	1.7
S80S	4/8/1985	<6.1
S81M	6/25/1985	10
S82	2/22/1991	21.7
S84M	8/20/1991	<10
S85S	5/14/1985	<10
S86D	8/26/1991	<10
S86S	8/26/1991	<10
S87M	8/23/1991	<10
S88M	3/7/2002	4.3
S89S	10/16/2002	0.49
S90M	8/22/1991	<10
S91M	8/22/1991	50
S92M	3/11/2002	0.4
S93M	3/8/2002	1.4
S94M	8/20/1991	<10
S95M	9/24/1992	4.4
S97D	9/2/1993	<1.4
UC18	2/27/1991	<1
UC6	2/20/1991	10.7
UG2	8/26/1991	<10
UG4	8/22/1991	<10
W-MW-4M	11/7/2001	<4.6
WB-1M	12/19/2002	<2.5
BSW13	9/11/1992	<3
DP7	6/3/1992	2.7
S38A	1/25/1981	<10
Minimum Detected		0.33
Maximum Detected		59.6
Median		< 4.6
Average		5.2

Table 5C
Maximum Arsenic Groundwater Data From > 50 Feet
Plotted in Figure 12C

Well	Sample Date	Concentration (ug/L)
AB-2M	12/17/2002	<2.5
AB-2R	8/31/1993	<6
AB-4M	12/19/2002	<2.5
BCW14	9/29/1992	<3
BUG1	8/31/1993	<1.4
BW12	9/4/1992	<3
BW13	9/9/1992	<3
BW14	9/29/1992	<3
BW2R	9/28/1992	<3
BW5R	10/1/1992	3.8
G36DB	3/1/1991	<1
G3D	5/15/1985	<10
G3DB	4/24/1985	<4
GEO-1	3/18/2002	0.73
GEO-2	3/15/2002	1.7
GO1DB	2/28/1991	3
IUS2A	2/14/1991	42.6
IUS3A	2/12/1991	<4.3
MR-MW-18D	11/8/2001	<4.4
MR-MW-3BR	11/12/2001	<4.4
MR-MW-5D	11/6/2001	<4.6
MW-009D	4/23/2002	0.68
MW-010D	4/25/2002	2
MW-011D	4/26/2002	0.57
MW-01D	4/15/2002	0.75
MW-02D	4/16/2002	0.41
NEP2	11/6/1987	<2.8
NEP3	12/16/1987	<2.8
S39	9/24/1979	1.5
S40	9/24/1979	2
S41	1/25/1981	<10
S67D	2/19/1991	<1
S68D	10/16/2002	0.26
S72D	8/21/1991	10
S72M	8/21/1991	60
S74D	9/2/1993	<1.4
S76D	3/15/2002	3.3
S76M	3/20/2002	0.8
S77D	9/23/1992	<3
S79D	4/18/1985	32
S8	12/3/1981	<10
S80M	4/8/1985	<6.1
S81D	2/21/1991	4.6
S83	4/1/1985	<10
S83M	8/30/1993	<2

Table 5C Continued		
S84D	8/20/1991	<10
S85M	8/23/1991	<10
S87D	10/15/2002	0.63
S88D	3/7/2002	1.4
S89M	8/26/1991	<10
S90D	8/22/1991	<10
S91D	8/21/1991	<10
S92D	3/12/2002	0.7
S93D	8/20/1993	2.8
S94D	8/20/1991	<10
S95D	9/24/1992	<3
UC11	10/17/2002	0.22
UC12	2/14/1991	<10
UC13	2/20/1991	2.1
UC14	2/19/1991	1.5
UC23	2/27/1991	<5
UC7	2/25/1991	1.5
UG4	8/23/1991	<10
W-MW-4D	11/8/2001	<4.4
WB-1R	12/16/2002	<2.5
Minimum Detected		0.22
Maximum Detected		60
Median		< 3
Average		4.37

Table 5D
Maximum Arsenic Low Flow Groundwater Data From 0 - 20 Feet
Plotted in Figure 12D

Well	Sample Date	Concentration (ug/L)
AB-1	12/16/2002	2.5
AB-2SS	12/17/2002	2.5
AB-4SS	12/18/2002	2.5
AB-6SS	12/16/2002	0.37
B3A	3/14/2002	1.1
BW-7	3/12/2002	30.6
EN-1	4/24/2002	0.82
EN-2	4/24/2002	0.91
EN-4	4/24/2002	2.2
MR-MW-1	11/8/2001	4.4
MR-MW-14	11/8/2001	13.2
MR-MW-15	11/6/2001	4.6
MR-MW-16	11/9/2001	4.4
MR-MW-17	11/7/2001	4.6
MR-MW-18S	11/8/2001	4.6
MR-MW-2	11/7/2001	4.6
MR-MW-20	11/6/2001	4.6
MR-MW-21	11/9/2001	5.9
MR-MW-5S	11/5/2001	4.6
MR-MW-6	11/6/2001	4.6
MR-MW-7	11/9/2001	7.9
MR-MW-8	11/7/2001	4.6
MW-001S	4/16/2002	0.95
MW-002S	4/17/2002	2.5
MW-003	4/18/2002	20
MW-004	4/19/2002	44.2
MW-005	4/18/2002	1.9
MW-006	4/22/2002	37.9
MW-007	4/19/2002	15
MW-008	4/18/2002	3.4
MW-009S	4/23/2002	8
MW-010S	4/22/2002	142
MW-011S	4/26/2002	49.2
MW-012	7/10/2002	69.1
MW-013	7/9/2002	8.7
MW-014S	7/10/2002	4
OL-001	3/12/2002	8
OL-002	3/18/2002	3
OL-003	3/18/2002	9
OL-004	3/13/2002	2
OL-005	3/19/2002	9
OL-006	3/15/2002	267
OL-007	3/14/2002	371
OL-008	3/14/2002	87
OL-015	3/14/2002	5

Table 5D Continued		
S63S	10/17/2002	0.78
S83SS	12/19/2002	2.5
S88S	3/7/2002	83.6
S92S	3/11/2002	10.6
S93S	3/8/2002	0.55
TEST-1	7/9/2002	1.9
WB-1SS	12/18/2002	3.5
W-MW-1S	12/18/2002	2.5
W-MW-4S	11/7/2001	4.4
W-MW-5S	12/19/2002	3
W-MW-6S	12/16/2002	2.5
Minimum Detected		0.37
Maximum Detected		371
Median		4.6
Average		25.00

Table 5E
Maximum Arsenic Low Flow Groundwater Data From 20 - 50 Feet
Plotted in Figure 12E

Well	Sample Date	Concentration (ug/L)
AB-6M	12/17/2002	2.5
BW3	11/6/2001	4.6
BW4	11/6/2001	4.6
MW-001M	4/15/2002	0.92
MW-002M	4/16/2002	0.71
MW-009M	4/23/2002	2.9
MW-010M	4/25/2002	1.9
MW-011M	4/26/2002	1.7
MW-014M	7/10/2002	0.33
OL-2M	7/9/2002	1
OL-3M	7/10/2002	1
S72S	3/13/2002	4.9
S73D	3/6/2002	3.2
S73S	3/6/2002	3
S76S(R)	4/17/2002	1.7
S82	10/15/2002	0.13
S85S	10/15/2002	0.1
S86S	10/16/2002	0.9
S88M	3/7/2002	4.3
S89S	10/16/2002	0.49
S92M	3/11/2002	0.4
S93M	3/8/2002	1.4
WB-1M	12/19/2002	2.5
W-MW-4M	11/7/2001	4.6
Minimum Detected		0.1
Maximum Detected		4.9
Median		0.81
Average		2.07

Table 5F
Maximum Arsenic Low Flow Groundwater Data From > 50 Feet
Plotted in Figure 12F

Well	Sample Date	Concentration (ug/L)
AB-4M	12/19/2002	2.5
AB-2M	12/17/2002	2.5
AB-2R	12/17/2002	2.5
GEO-1	3/18/2002	0.73
GEO-2	3/15/2002	1.7
MR-MW-18D	11/8/2001	4.4
MR-MW-3BR	11/12/2001	4.4
MR-MW-5D	11/6/2001	4.6
MW-001D	4/15/2002	0.75
MW-002D	4/16/2002	0.41
MW-009D	4/23/2002	0.68
MW-010D	4/25/2002	2
MW-011D	4/26/2002	0.57
MW-01D	4/15/2002	0.75
MW-02D	4/16/2002	0.41
S68D	10/16/2002	0.26
S72D	3/13/2002	2.6
S72M	3/13/2002	4
S76D	3/15/2002	3.3
S76M	3/20/2002	0.8
S83	12/19/2002	2.5
S87D	10/15/2002	0.63
S88D	3/7/2002	1.4
S91D	3/11/2002	1.2
S92D	3/12/2002	0.7
S93D	3/8/2002	0.87
UC-11	10/17/2002	0.22
WB-1R	12/16/2002	2.5
Minimum Detected		0.22
Maximum Detected		4.6
Median		1.3
Average		1.78

Table 6A
Maximum Chromium Data From 0 - 20 Feet
Plotted in Figure 13A

Well	Sample Date	Concentration (ug/L)
AB-1	12/17/1987	23
AB-2SS	12/17/2002	<2.2
AB-4SS	12/18/2002	5.9
AB-6SS	12/16/2002	1.2
B3A	3/14/2002	<2.5
BOW13	10/20/1987	<3.6
BOW14	9/15/1992	<3.6
BOW9	9/14/1992	<3.6
BSSW5	10/1/1992	17.7
BSSW6	10/22/1987	22
BSW2	9/28/1992	9
BSW7	9/3/1992	4
BW-7	3/12/2002	<2.5
DP10	5/28/1992	12
DP11	5/29/1992	4.4
DP12	5/29/1992	6.7
DP13	6/2/1992	<1
DP14	6/5/1992	<1.4
DP18S	6/5/1992	<1
DP19	6/5/1992	3.6
DP20	6/8/1992	<0.99
DP21S	6/5/1992	19.4
DP22	6/4/1992	15.6
DP24S	6/1/1992	<1
DP26	6/2/1992	52.7
DP29	5/27/1992	1.1
DP31	6/3/1992	<1.1
DP32	6/8/1992	<1
DP35	6/2/1992	<1.1
DP36	5/29/1992	2.2
DP37S	5/27/1992	<1
DP38	6/1/1992	<1
DP39	6/5/1992	<1
DP40	6/1/1992	2.5
DP41	6/8/1992	1
DP6S	6/3/1992	<0.99
DP9S	5/26/1992	3.3
EN-1	4/24/2002	<2.5
EN-2	4/24/2002	<2.5
EN-4	4/24/2002	<2.5
GO1S	2/28/1991	15
IUS1	2/15/1991	<9.4
IUS2C	2/14/1991	21
IUS3C	2/13/1991	15
MR-1SS	8/31/1993	<2

Table 6A Continued

MR-2SS	8/31/1993	<2
MR-MW-1	12/12/2002	0.72
MR-MW-14	11/8/2001	22.6
MR-MW-15	11/6/2001	<1
MR-MW-16	11/9/2001	<4.4
MR-MW-17	11/7/2001	<2.5
MR-MW-18S	12/18/2002	10.3
MR-MW-2	11/7/2001	<2.7
MR-MW-20	11/6/2001	<3.4
MR-MW-21	11/9/2001	24.4
MR-MW-5S	11/5/2001	<1
MR-MW-6	11/6/2001	30.3
MR-MW-7	11/9/2001	<1
MR-MW-8	11/7/2001	<1.1
MW-001S	4/16/2002	<2.5
MW-002S	4/17/2002	11
MW-003	4/18/2002	<2.5
MW-004	4/19/2002	3.7
MW-005	4/18/2002	<2.5
MW-006	4/22/2002	<2.5
MW-007	4/19/2002	<2.5
MW-008	4/18/2002	<2.5
MW-009S	4/23/2002	<2.5
MW-010S	4/22/2002	2.7
MW-011S	4/26/2002	5.8
MW-012	7/10/2002	<2.5
MW-013	7/9/2002	<2.5
MW-014S	7/10/2002	<2.5
OL-001	12/15/1987	281
OL-002	12/15/1987	1220
OL-003	12/15/1987	19
OL-004	12/15/1987	399
OL-005	12/16/1987	12
OL-006	3/15/2002	<3
OL-007	3/14/2002	<3
OL-008	3/14/2002	<3
OL-015	3/14/2002	<3
RMW1	12/12/1991	<10
RMW2	12/12/1991	<10
RMW3	12/12/1991	<10
S21	2/25/1991	93
S4	12/3/1981	16
S44	12/2/1980	53
S63S	2/26/1991	100
S64S	2/22/1991	326
S65S	2/15/1991	71
S7	12/3/1981	22
S71S	2/21/1991	162
S77SS	9/22/1992	7
S78S	10/26/1987	10
S81S	2/21/1991	104

Table 6A Continued		
S83SS	8/30/1993	<4
S84S	8/20/1991	<20
S87S	8/23/1991	<20
S88S	10/7/1992	8
S90S	8/22/1991	<24
S91S	8/21/1991	<20
S92S	3/11/2002	<2.5
S94S	8/20/1991	<25
S95S	9/24/1992	<3.6
TEST-1	7/9/2002	<2.5
UC5	2/27/1991	14
UG2	8/26/1991	<20
UG4	8/23/1991	<20
W-MW-1S	12/18/2002	5.5
W-MW-4S	12/13/2002	3.1
W-MW-4SS	9/1/1993	<4
W-MW-5S	12/19/2002	22
W-MW-6S	12/16/2002	7.4
WB-1SS	9/1/1993	<2
EPA3	12/16/1987	20
S93S	8/27/1991	<21
Minimum Detected		0.72
Maximum Detected		1220
Median		3.85
Average		29.9

Table 6B
Maximum Chromium Groundwater Data From > 20 - 50 Feet
Plotted in Figure 13B

Well	Sample Date	Concentration (ug/L)
AB-6M	12/17/2002	<1.5
BCW13	9/9/1992	5
BOW15	9/30/1992	<3.6
BOW16	9/16/1992	<3.6
BSW1	9/18/1992	11
BSW12	9/8/1992	4
BSW14	9/15/1992	<3.6
BSW6	10/20/1987	31
BSW9	9/14/1992	13.4
BUG1	8/31/1993	4.7
BW1	9/18/1992	10
BW2	9/28/1992	9
BW3	9/17/1992	9
BW4	12/19/2002	6.1
BW5	9/30/1992	<3.6
BW6R	10/5/1992	10
BW9	9/11/1992	<3.6
DP8	6/2/1992	14.6
EPA1	12/16/1987	24
EPA2	12/16/1987	12
G15D	11/13/1987	<0.99
G3S	10/29/1987	24
GO1D	2/28/1991	16.8
IUS2B	2/14/1991	37
IUS3B	2/12/1991	50
MW-001M	4/15/2002	<2.5
MW-002M	4/16/2002	<2.5
MW-009M	4/23/2002	<2.5
MW-010M	4/25/2002	<2.5
MW-011M	4/26/2002	<2.5
MW-014M	7/10/2002	<2.5
OL-2M	7/9/2002	<3
OL-3M	7/10/2002	<3
RW3	3/1/1991	5.9
S10	12/3/1991	22
S11	12/3/1981	<10
S22	2/19/1991	148
S38	1/25/1981	<10
S46	11/14/1980	<10
S47	11/14/1980	<10
S5	12/3/1981	<10
S6	12/3/1981	71
S60	12/3/1981	10
S63D	2/26/1991	38
S64D	5/14/1985	34

Table 6B Continued		
S64M	5/14/1985	106
S65DR	2/25/1991	23.3
S65M	2/20/1991	242
S66D	8/30/1993	<2.7
S67M	2/19/1991	102
S67S	2/19/1991	172
S68S	4/23/1985	7.4
S69D	2/13/1991	38
S71D	2/27/1991	16
S72S	11/18/1987	26
S73D	2/20/1991	19
S73S	2/20/1991	93
S74S	4/23/1985	25
S76S(R)	4/17/2002	<2.5
S80S	4/8/1985	<10
S81M	5/14/1985	339
S82	2/22/1991	62
S84M	8/20/1991	<20
S85S	8/23/1991	<20
S86D	8/26/1991	<20
S86S	8/26/1991	<20
S87M	8/23/1991	<20
S88M	10/7/1992	<3.6
S89S	8/26/1991	<21
S90M	8/22/1991	<23
S91M	8/22/1991	40
S92M	3/11/2002	<2.5
S93M	8/27/1991	<20
S94M	8/20/1991	<24
S95M	9/24/1992	12.2
S97D	9/2/1993	8.5
UC18	2/27/1991	<10
UC6	2/20/1991	13
UG2	8/26/1991	<20
UG4	8/22/1991	90
W-MW-4M	9/1/1993	<2
WB-1M	12/19/2002	<2.2
BSW13	9/11/1992	<3.6
DP7	6/3/1992	3.1
Minimum Detected		3.1
Maximum Detected		339
Median		< 10
Average		26.2

Table 6C
Maximum Chromium Data From > 50 Feet
Plotted in Figure 13C

Well	Sample Date	Concentration (ug/L)
AB-2M	8/31/1993	<2
AB-2R	12/17/2002	7
AB-4M	12/19/2002	<1.3
BCW14	9/29/1992	<3.6
BUG1	8/31/1993	2.7
BW12	9/4/1992	<3.6
BW13	9/9/1992	5
BW14	9/29/1992	<3.6
BW2R	9/28/1992	13
BW5R	10/1/1992	<3.6
G36DB	3/1/1991	12
G3D	5/15/1985	<10
G3DB	5/15/1985	10
GEO-1	3/18/2002	<2.5
GEO-2	3/15/2002	<2.5
GO1DB	5/15/1985	<10
IUS2A	2/14/1991	35
IUS3A	2/12/1991	23
MR-MW-18D	11/8/2001	<0.9
MR-MW-3BR	11/12/2001	<1
MR-MW-5D	11/6/2001	133
MW-001D	4/15/2002	<2.5
MW-002D	4/16/2002	<2.5
MW-009D	4/23/2002	<2.5
MW-010D	4/25/2002	<2.5
MW-011D	4/26/2002	<2.5
NEP2	11/6/1987	<9.4
NEP3	12/16/1987	<9.4
S39	8/26/1991	<20
S40	12/24/1985	<25
S41	11/6/1987	<10
S67D	2/19/1991	14
S72D	8/30/1993	8.8
S72M	3/13/2002	<2.5
S74D	2/4/1992	2.7
S76D	3/15/2002	<2.5
S76M	3/20/2002	<2.5
S77D	9/23/1992	10
S79D	4/18/1985	<10
S8	12/3/1981	26
S80M	4/8/1985	<10
S81D	2/21/1991	16
S83	12/19/2002	11
S83M	8/30/1993	<2
S84D	8/20/1991	<20

Table 6C Continued		
S85M	8/23/1991	<20
S87D	8/23/1991	<20
S89D	8/26/1991	<20
S89M	8/26/1991	<20
S90D	8/22/1991	<22
S91D	8/21/1991	<25
S92D	3/12/2002	<2.5
S93D	3/8/2002	<2.5
S94D	8/20/1991	<23
S95D	9/24/1992	<3.6
UC11	2/21/1991	131
UC12	2/14/1991	10600
UC13	2/20/1991	304
UC14	2/19/1991	9040
UC23	2/27/1991	26
UG4	8/23/1991	60
W-MW-4D	11/8/2001	<9.7
WB-1R	12/16/2002	7.8
S68D	4/23/1985	5.7
UC7	2/25/1991	<10
Minimum Detected		2.7
Maximum Detected		10600
Median		< 9.85
Average		304.3

Table 6D
Maximum Chromium Low Flow Groundwater Data From 0 - 20 Feet
Plotted in Figure 13D

Well	Sample Date	Concentration (ug/L)
AB-1	12/16/2002	13
AB-2SS	12/17/2002	2.2
AB-4SS	12/18/2002	5.9
AB-6SS	12/16/2002	1.9
B3A	3/14/2002	2.5
BW-7	3/12/2002	2.5
EN-1	4/24/2002	2.5
EN-2	4/24/2002	2.5
EN-4	4/24/2002	2.5
MR-MW-1	11/8/2001	0.9
MR-MW-14	11/8/2001	22.6
MR-MW-15	11/6/2001	1
MR-MW-16	11/9/2001	4.4
MR-MW-17	11/7/2001	2.5
MR-MW-18S	12/18/2002	10.3
MR-MW-2	11/7/2001	2.7
MR-MW-20	11/6/2001	3.4
MR-MW-21	11/9/2001	24.4
MR-MW-5S	11/5/2001	1
MR-MW-6	11/6/2001	30.3
MR-MW-7	11/9/2001	1
MR-MW-8	11/7/2001	1.1
MW-001S	4/16/2002	2.5
MW-002S	4/17/2002	11
MW-003	4/18/2002	2.5
MW-004	4/19/2002	3.7
MW-005	4/18/2002	2.5
MW-006	4/22/2002	2.5
MW-007	4/19/2002	2.5
MW-008	4/18/2002	2.5
MW-009S	4/23/2002	2.5
MW-010S	4/22/2002	2.7
MW-011S	4/26/2002	5.8
MW-012	7/10/2002	2.5
MW-013	7/9/2002	2.5
MW-014S	7/10/2002	2.5
OL-001	3/12/2002	3
OL-002	3/18/2002	3
OL-003	3/18/2002	3
OL-004	3/13/2002	3
OL-005	3/19/2002	3
OL-006	3/15/2002	3
OL-007	3/14/2002	3
OL-008	3/14/2002	3
OL-015	3/14/2002	3

Table 6D Continued		
S63S	10/17/2002	2.5
S83SS	12/19/2002	1.8
S88S	3/7/2002	2.5
S92S	3/11/2002	2.5
S93S	3/8/2002	2.5
TEST-1	7/9/2002	2.5
WB-1SS	12/18/2002	1.6
W-MW-1S	12/18/2002	5.5
W-MW-4S	12/13/2002	3.1
W-MW-5S	12/19/2002	22
W-MW-6S	12/16/2002	7.4
Minimum Detected		0.9
Maximum Detected		30.3
Median		2.5
Average		4.83

Table 6E
Maximum Chromium Low Flow Groundwater Data From 20 - 50 Feet
Plotted in Figure 13E

Well	Sample Date	Concentration (ug/L)
AB-6M	12/17/2002	1.5
BW3	11/6/2001	4.8
BW4	12/19/2002	6.1
MW-001M	4/15/2002	2.5
MW-002M	4/16/2002	2.5
MW-009M	4/23/2002	2.5
MW-010M	4/25/2002	2.5
MW-011M	4/26/2002	2.5
MW-014M	7/10/2002	2.5
OL-2M	7/9/2002	3
OL-3M	7/10/2002	3
S72S	3/13/2002	2.5
S73D	3/6/2002	2.5
S73S	3/6/2002	2.5
S76S(R)	4/17/2002	2.5
S82	10/15/2002	2.5
S85S	10/15/2002	2.5
S86S	10/16/2002	2.5
S88M	3/7/2002	2.5
S89S	10/16/2002	2.5
S92M	3/11/2002	2.5
S93M	3/8/2002	2.5
WB-1M	12/19/2002	2.2
W-MW-4M	11/7/2001	1.5
Minimum Detected		1.5
Maximum Detected		6.1
Median		2.5
Average		2.69

Table 6F		
Maximum Chromium Low Flow Groundwater Data From > 50 Feet		
Plotted in Figure 13F		
Well	Sample Date	Concentration (ug/L)
AB-2M	12/17/2002	1.6
AB-2R	12/17/2002	7
AB-4M	12/19/2002	1.3
GEO-1	3/18/2002	2.5
GEO-2	3/15/2002	2.5
MR-MW-18D	11/8/2001	0.9
MR-MW-3BR	11/12/2001	1
MR-MW-5D	11/6/2001	133
MW-001D	4/15/2002	2.5
MW-002D	4/16/2002	2.5
MW-009D	4/23/2002	2.5
MW-010D	4/25/2002	2.5
MW-011D	4/26/2002	2.5
MW-01D	4/15/2002	2.5
MW-02D	4/16/2002	2.5
S68D	10/16/2002	2.5
S72D	3/13/2002	2.5
S72M	3/13/2002	2.5
S76D	3/15/2002	2.5
S76M	3/20/2002	2.5
S83	12/19/2002	11
S87D	10/15/2002	2.5
S88D	3/7/2002	2.5
S91D	3/11/2002	2.5
S92D	3/12/2002	2.5
S93D	3/8/2002	2.5
UC-11	10/17/2002	12.8
WB-1R	12/16/2002	7.8
Minimum Detected		0.9
Maximum Detected		133
Median		2.5
Average		8.00