

ARTIFICIAL STORAGE AND RECOVERY (ASR) PROTOTYPE WELLS

**SITES INCLUDE: DW-TW-01 (380329097334601), DW-TW-02 (380333097335001), DW-TW-03 (380336097335801), DW-TW-04 (380338097340201), DW-TW-05 (380344097340401),
DW-TW-06 (380356097340901), DW-TW-07 (380358097341301), DW-TW-08 (380404097342101), DW-TW-09 (380405097342501),
RRW-01 (380329097363703), RRW-02 (380235097363801), RRW-03 (380142097363601)**

**STATISTICAL SUMMARY FOR FIELD PARAMETERS, MAJOR AND TRACE ELEMENTS, NUTRIENTS, BACTERIA, SEDIMENT, AND RADIONUCLIDE
DATA COLLECTED FROM DEC 2002 TO NOV 2007**

WATER-QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	95%	75%	(MEDIAN) 50%	25%	5%
72020 Elevation above NGVD ft	38	1420	1380	1390	1410	1410	1390	1380	1380
72019 WaterLevel, BelowLSD ft	161	56.6	-0.59	19.7	42.4	30.9	16.1	8.83	3.71
00010 Temperature, water deg C	174	18.1	14.9	16	16.9	16.1	15.9	15.7	15.4
00020 Temperature, air deg C	171	40	-0.5	21.1	35.5	30	22	14	3
00025 Air pressure mm/Hg	160	737	430	723	732	728	725	723	714
00300 Dissolved oxygen mg/l	173	2.86	0.03	0.12	0.233	0.12	0.09	0.07	0.05
00400 pH std units	174	7.72	6.36	7.35	7.57	7.49	7.42	7.3	6.87
00403 pH, wu,lab std units	150	7.8	6.5	7.43	7.7	7.56	7.48	7.4	6.96
00095 Specific cond at 25C uS/cm @25C	174	671	280	385	513	386	375	366	289
90095 SpecCond,wu25degCLab uS/cm @25C	150	644	278	373	435	379	372	364	290
63001 Redox potential, raw mV	174	320	-170	35.5	263	90	14.5	-37.8	-89.5
63002 Redox potential, SHE mV	174	530	40	246	473	300	225	170	120
63675 Turbidity, Nephelom NTU	147	9.53	--	0.692*	*3.874	*0.475	*0.222	*0.126	*0.042
63676 Turbidity, NephRatio NTRU	174	12.7	--	1.264*	*4.910	*1.400	*0.635	*0.268	*0.073
00901 Carbonate hardness, wu mg/l CaCO3	148	246	104	136	154	138	133	129	113
00900 Hardness, water mg/l CaCO3	151	247	104	137	154	138	134	130	113
00915 Calcium, wf mg/l	151	78.4	35.1	45.1	49.7	45.9	44.5	42.8	38.9
00925 Magnesium, wf mg/l	151	16.8	3.76	5.74	7.41	5.87	5.55	5.09	4.13
00935 Potassium, wf mg/l	151	2.98	1.44	2.08	2.77	2.19	2.01	1.9	1.73
00930 Sodium, wf mg/l	151	44.4	14.9	30.2	36.3	32.1	30.7	29.1	18.3
39086 Alkalinity, wf,inflect,field mg/l CaCO3	3	182	156	--	--	--	--	--	--
39087 Alkalinity, wf,inflect pt,lab mg/l CaCO3	149	192	106	170	185	178	175	170	134
00453 Bicarbonate,wf,inflect pt,fld mg/l	3	222	190	--	--	--	--	--	--
29806 HCO3, wf, inflection pt, lab mg/l	149	234	129	207	225	217	213	207	163
00452 Carbonate, wf,inflect pt,fld mg/l	3	0	--	--	--	--	--	--	--
29809 CO3, wf, inflection pt, lab mg/l	149	0	--	--	--	--	--	--	--
00940 Chloride, wf mg/l	152	98.8	--	9.553*	*38.450	*7.950	*6.000	*5.000	*1.932
00950 Fluoride, wf mg/l	147	0.56	0.1	0.276	0.416	0.31	0.27	0.24	0.13
00955 Silica, wf mg/l	151	27.5	19.1	23.5	25.6	24.1	23.4	22.9	21.1
00945 Sulfate, wf mg/l	152	135	5	16.5	24.9	17.5	14.4	11.8	8.2
00500 ROE at 105C, wu mg/l	105	428	152	239	304	249	234	222	191
70300 Residue, ROE@180C,wf mg/l	152	424	146	232	263	238	229	221	178
70301 Residue, wf, sum mg/l	114	404	185	242	297	243	237	231	191

00530	Residue,total nonflt mg/l	149	12.4	--	1.329*	*4.400	*1.525	*0.703	*0.324	*0.107
00623	Ammonia + organic-N, wf mg/l as N	3	0.223	0.133	--	--	--	--	--	--
00625	NH3+orgN, wu mg/l as N	3	0.364	0.237	--	--	--	--	--	--
00608	Ammonia, wf mg/l as N	152	0.36	0.03	0.151	0.214	0.19	0.16	0.12	0.05
00618	Nitrate, wf mg/l as N	145	1.81	--	0.080*	*0.332	*0.050	*0.010	*0.003	*0.000
00631	NO3+NO2, wf mg/l as N	152	2.65	--	0.131*	*0.849	*0.050	*0.017	*0.005	*0.001
00613	Nitrite, wf mg/l as N	147	--	--	--	--	--	--	--	--
00671	Orthophosphate, wf mg/l as P	147	1.57	0.01	0.17	0.256	0.19	0.15	0.12	0.07
00666	Phosphorus, wf mg/l	152	1.35	0.075	0.207	0.316	0.23	0.183	0.148	0.1
00665	Phosphorus, wu mg/l	3	0.229	0.21	--	--	--	--	--	--
00680	Organic carbon, wu mg/l	108	7.05	0.29	0.583	0.79	0.52	0.48	0.44	0.33
90903	Coliphage,E coli,C13 pfu/100ml	25	--	--	--	--	--	--	--	--
90904	Coliphage,E coli,FAM pfu/100ml	25	--	--	--	--	--	--	--	--
90902	E. coli, modif m-TEC cfu/100ml	2	--	--	--	--	--	--	--	--
31625	Fecal coliform, M-FC MF, 0.7u cfu/100ml	151	--	--	--	--	--	--	--	--
31504	Total coliform, LES Endo,imm cfu/100ml	149	224	--	4.285*	*11.000	*0.205	*0.013	*0.001	*0.000
01106	Aluminum, wf ug/l	104	--	--	--	--	--	--	--	--
01095	Antimony, wf ug/l	106	--	--	--	--	--	--	--	--
01000	Arsenic, wf ug/l	144	21.4	1	6.82	13.3	9.44	6.73	3.96	1.53
01005	Barium, wf ug/l	104	207	35.6	99.6	198	120	91.1	74.1	42.5
01010	Beryllium, wf ug/l	104	--	--	--	--	--	--	--	--
01020	Boron, wf ug/l	104	58	--	28.038*	*44.250	*33.000	*27.000	*21.450	*14.728
71870	Bromide, wf mg/l	144	0.53	--	0.036*	*0.168	*0.030	*0.012	*0.004	*0.001
01025	Cadmium, wf ug/l	106	--	--	--	--	--	--	--	--
01030	Chromium, wf ug/l	104	4.13	--	0.844*	*2.232	*1.206	*0.570	*0.302	*0.133
01035	Cobalt, wf ug/l	3	0.301	0.12	--	--	--	--	--	--
01040	Copper, wf ug/l	104	--	--	--	--	--	--	--	--
00723	Cyanide, wf mg/l	105	--	--	--	--	--	--	--	--
01046	Iron, wf ug/l	151	660	--	32.827*	*189.800	*13.966	*2.709	*0.519	*0.060
01049	Lead, wf ug/l	106	--	--	--	--	--	--	--	--
01056	Manganese, wf ug/l	151	443	44	202	311	246	191	161	124
71890	Mercury, wf ug/l	104	--	--	--	--	--	--	--	--
01060	Molybdenum, wf ug/l	3	4.89	3.05	--	--	--	--	--	--
01065	Nickel, wf ug/l	106	2.48	--	0.874*	*1.437	*1.035	*0.824	*0.649	*0.457
01145	Selenium, wf ug/l	106	--	--	--	--	--	--	--	--
01075	Silver, wf ug/l	104	--	--	--	--	--	--	--	--
01080	Strontium, wf ug/l	101	1040	181	288	371	288	278	260	202
01057	Thallium, wf ug/l	103	--	--	--	--	--	--	--	--
01085	Vanadium, wf ug/l	101	--	--	--	--	--	--	--	--
01090	Zinc, wf ug/l	104	12	--	2.103*	*7.250	*2.510	*1.143	*0.499	*0.169
75987	Alpha 2scu, wf,Th230 pCi/L	10	2.85	1.15	1.99	2.85	2.3	2.1	1.57	1.15
04126	Alpha activity, wf, Th-230 pCi/L	35	3.44	-0.15	1.14	2.23	1.56	1.12	0.68	0.074
75989	Beta 2scu, wf,Cs137 pCi/L	10	3.95	1.38	2.68	3.95	3.55	3.19	1.42	1.38
03515	Gross beta, wf,Cs-137 pCi/L	35	5.4	1.57	2.68	4.48	3.21	2.45	1.94	1.59
22703	Uranium, wf ug/l	3	1.06	0.214	--	--	--	--	--	--

* - VALUE IS ESTIMATED BY USING A LOG-PROBABILITY REGRESSION TO PREDICT THE VALUES OF DATA BELOW THE DETECTION LIMIT

STATISTICAL SUMMARY OF ARSENIC SPECIATION DATA COLLECTED FROM DEC 2002 TO NOV 2007

WATER-QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	95%	75%	(MEDIAN) 50%	25%	5%
62453 Arsenate, wf ug/L as As	113	13.9	--	4.781*	*11.739	*6.691	*3.760	*1.493	*0.623
62452 Arsenite, wf ug/L as As	113	9.94	--	1.735*	*5.191	*2.354	*0.940	*0.569	*0.304
62455 Dimethylarsinate, wf ug/L as As	115	0.371	--	0.119*	*0.257	*0.151	*0.104	*0.072	*0.043
62454 Monomethylarsonate, wf ug/L as As	115	--	--	--	--	--	--	--	--

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STATISTICAL SUMMARY OF TRIAZINE HERBICIDE SCREEN DATA COLLECTED FROM DEC 2002 TO NOV 2007

WATER-QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	95%	75%	(MEDIAN) 50%	25%	5%
00095 Specific cond at 25C uS/cm @25C	141	671	280	380	446	386	374	366	289
34756 Triazines, ELISA, wf ugAtrazn/L	144	0.31	--	0.037*	*0.135	*0.044	*0.022	*0.011	*0.004

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04036	Prometryn, wf ug/l	36	--	--	--	--	--	--	--	--
82676	Propyzamide,w,gf<.7u ug/l	45	--	--	--	--	--	--	--	--
62767	Propachlor OA, w,gf<.7u ug/l	10	--	--	--	--	--	--	--	--
04024	Propachlor, wf ug/l	9	--	--	--	--	--	--	--	--
82679	Propanil, w,gf<.7u ug/l	9	--	--	--	--	--	--	--	--
82685	Propargite, w,gf<.7u ug/l	9	--	--	--	--	--	--	--	--
49236	Propham, w,gf<.7u ug/l	31	--	--	--	--	--	--	--	--
38538	Propoxur, w,gf<.7u ug/l	31	--	--	--	--	--	--	--	--
39762	Silvex, wf ug/l	10	--	--	--	--	--	--	--	--
04035	Simazine, wf ug/l	45	--	--	--	--	--	--	--	--
82670	Tebuthiuron,w,gf<.7u ug/l	45	--	--	--	--	--	--	--	--
82665	Terbacil, w,gf<.7u ug/l	9	--	--	--	--	--	--	--	--
61674	Terbufos oxon sulfone, wf ug/l	36	--	--	--	--	--	--	--	--
82675	Terbufos, w,gf<.7u ug/l	45	--	--	--	--	--	--	--	--
04022	Terbuthylazine, wf ug/l	36	--	--	--	--	--	--	--	--
82681	Thiobencarb,w,gf<.7u ug/l	9	--	--	--	--	--	--	--	--
82678	Triallate, w,gf<.7u ug/l	9	--	--	--	--	--	--	--	--
61610	Tribuphos, wf ug/l	13	--	--	--	--	--	--	--	--
49235	Triclopyr, w,gf<.7u ug/l	31	--	--	--	--	--	--	--	--
82661	Trifluralin,w,gf<.7u ug/l	45	--	--	--	--	--	--	--	--
39702	Hexachlorobutadiene, wu ug/l	21	--	--	--	--	--	--	--	--
38775	Dichlorvos, wf ug/l	36	--	--	--	--	--	--	--	--

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STATISTICAL SUMMARY OF ANTIBIOTIC DATA COLLECTED FROM DEC 2002 TO DEC 2002

WATER-QUALITY CONSTITUENT	DESCRIPTIVE STATISTICS				PERCENT OF SAMPLES IN WHICH VALUES WERE LESS THAN OR EQUAL TO THOSE SHOWN				
	SAMPLE SIZE	MAXIMUM	MINIMUM	MEAN	95%	75%	(MEDIAN) 50%	25%	5%
62650 Anhydrochlortetracycline, gf.7 ug/l	9	--	--	--	--	--	--	--	--
62651 Anhydrotetracycline, w, gf<0.7u ug/l	9	--	--	--	--	--	--	--	--
61744 Chlorotetracycline, wf ug/l	9	--	--	--	--	--	--	--	--
62680 Demeclocycline, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
62694 Doxycycline, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
62717 Flumequine, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
62751 Minocycline, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
62757 Norfloxacin, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
62759 Oxolinic acid, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
61759 Oxytetracycline, wf ug/l	9	--	--	--	--	--	--	--	--
62771 Sarafloxacin, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
62774 Sulfachlorpyridazine, gf<0.7u ug/l	9	--	--	--	--	--	--	--	--
62776 Sulfadimethoxine, w, gf<0.7u ug/l	9	--	--	--	--	--	--	--	--
62777 Sulfamerazine, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
61762 Sulfamethazine, wf ug/l	9	--	--	--	--	--	--	--	--
62778 Sulfathiazole, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--
62781 Tetracycline, w, gf<.7u ug/l	9	--	--	--	--	--	--	--	--

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32105	Dibromochloromethane, wu ug/l	21	--	--	--	--	--	--	--	--
30217	Dibromomethane, wu ug/l	21	--	--	--	--	--	--	--	--
34668	CFC-12, wu ug/l	21	--	--	--	--	--	--	--	--
34423	Dichloromethane, wu ug/l	21	--	--	--	--	--	--	--	--
34371	Ethylbenzene, wu ug/l	21	--	--	--	--	--	--	--	--
39702	Hexachlorobutadiene, wu ug/l	45	--	--	--	--	--	--	--	--
34396	Hexachloroethane, wu ug/l	24	--	--	--	--	--	--	--	--
77223	Isopropylbenzene, wu ug/l	21	--	--	--	--	--	--	--	--
34696	Naphthalene, wu ug/l	45	--	--	--	--	--	--	--	--
77342	n-Butylbenzene, wu ug/l	21	--	--	--	--	--	--	--	--
77224	n-Propylbenzene, wu ug/l	21	--	--	--	--	--	--	--	--
77350	sec-Butylbenzene, wu ug/l	21	--	--	--	--	--	--	--	--
77128	Styrene, wu ug/l	21	--	--	--	--	--	--	--	--
78032	MTBE, wu ug/l	21	--	--	--	--	--	--	--	--
77353	t-Butylbenzene, wu ug/l	21	--	--	--	--	--	--	--	--
34475	Tetrachloroethene, wu ug/l	21	--	--	--	--	--	--	--	--
32102	Tetrachloromethane, wu ug/l	21	--	--	--	--	--	--	--	--
34010	Toluene, wu ug/l	21	--	--	--	--	--	--	--	--
34546	trans-1,2-Dichloroethene, wu ug/l	21	--	--	--	--	--	--	--	--
34699	trans-1,3-Dichloropropene, wu ug/l	21	--	--	--	--	--	--	--	--
32104	Tribromomethane, wu ug/l	21	--	--	--	--	--	--	--	--
39180	Trichloroethene, wu ug/l	21	--	--	--	--	--	--	--	--
34488	CFC-11, wu ug/l	21	--	--	--	--	--	--	--	--
32106	Trichloromethane, wu ug/l	21	--	--	--	--	--	--	--	--
39175	Vinyl chloride, wu ug/l	21	--	--	--	--	--	--	--	--

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