

Z-AREA GROUNDWATER MONITORING REPORT FOR 2007 (U)
WSRC-TR-2008-00001
January 9, 2008

Introduction

In accordance with SRS Z-Area Saltstone Industrial Solid Waste Permit, #025500-1603, eight Z Area monitoring wells (figure 1) were sampled during the first and third quarters of 2007. Samples taken during the first quarter were analyzed for:

pH
Specific Conductance
Water level
Nitrate/nitrite as Nitrogen
Gross alpha
Beta/photon emitters
I-129
Tritium
Radium 226
Radium 228
Technetium 99
Benzene
Toluene
Tetrachloroethylene
Trichloroethylene

Samples taken during the third quarter were analyzed for:

pH
Specific Conductance
Water level
Nitrate/nitrite as Nitrogen
Gross alpha
Beta/photon emitters
I-129
Tritium

The 2007 analytical results are presented in table 1. The sampling did not reveal any evidence of any previously unknown releases from the Saltstone vaults.

Flow Direction and Rate

Potentiometric surface maps for the water table aquifer were constructed using first and third quarter data. Flow rates for both sampling events can be estimated using the following equation:

$$\text{Flow(ft/day)} = \frac{\text{Hydraulic Conductivity (ft/day)}}{\text{Porosity (unitless)}} \times \frac{dh(ft)}{dl(ft)}$$

where the hydraulic conductivity is 1.7 ft/day, the effective porosity value is 30 percent, the change in head is dh, and the horizontal distance is simply the distance between the 220' and 230' potentiometric contour (figures 2 and 3).

The calculation is as follows:

$$\frac{1.7 \text{ ft/day}}{0.30} \times \frac{10 \text{ ft}}{500 \text{ ft}} = 0.1 \text{ ft/day or } 36.5 \text{ ft/year}$$

This estimate is roughly double that from previous years. This is because the addition of water level data from wells ZBG 6 through 8 altered the previous interpretation of the water table surface below Z Area. As shown in figure 4, the old interpretation had ZBG 1 directly upgradient of Z Area. The new data indicates that there is a groundwater divide between ZBG 1 and the vaults. That being the case, the water table contours within Z Area have to be closer together than previously reported. The result is a steeper gradient.

Analytical results

The nitrate/nitrite results are considered particularly important in determining whether or not an unexpected release is occurring. This is because nitrate is a very mobile constituent that is likely to leach from saltstone. As in past years, nitrate/nitrite was detected in the downgradient wells, but higher concentrations were found in background well ZBG-1. Therefore, the downgradient detections do not represent evidence of a release from the vaults.

New well ZBG 6 yielded unexpectedly high results for tritium (5.36 pCi/ml in March and 5.06 pCi/ml in September). The drinking water standard for tritium is 20 pCi/ml. It is possible that the tritium in ZBG 6 came from an upgradient source. In years past, activities much higher than this were present in the background samples at Z Area. However, background levels have been steadily falling due to radioactive decay, dispersion and diffusion, and the highest 2007 result at background well ZBG-1 was only 2.9 pCi/ml. The tritium in ZBG 6 is more likely a result of well-documented (and thoroughly reported) leaks that occurred at Vault 1 in 1994. The leaking water was contaminated with tritium, and ZBG 6 is located close to the leak site.

Conclusions

The ZBG well series was sampled twice during 2007. The sampling did not reveal evidence of new releases from the saltstone vaults. Tritium in one well, ZBG 6, may be evidence that contamination from a 1994 leak at Vault 1 has now reached the watertable. This was not unexpected. If the tritium is from that leak, nitrate concentrations should begin to rise in the well soon. Observing the arrival time of the nitrate may help increase our understanding of contaminant transport at Z-Area.

The estimate of groundwater flow velocity in the area is higher than in previous years. This is because water level data from new wells indicate that the watertable gradient is steeper than previously thought.

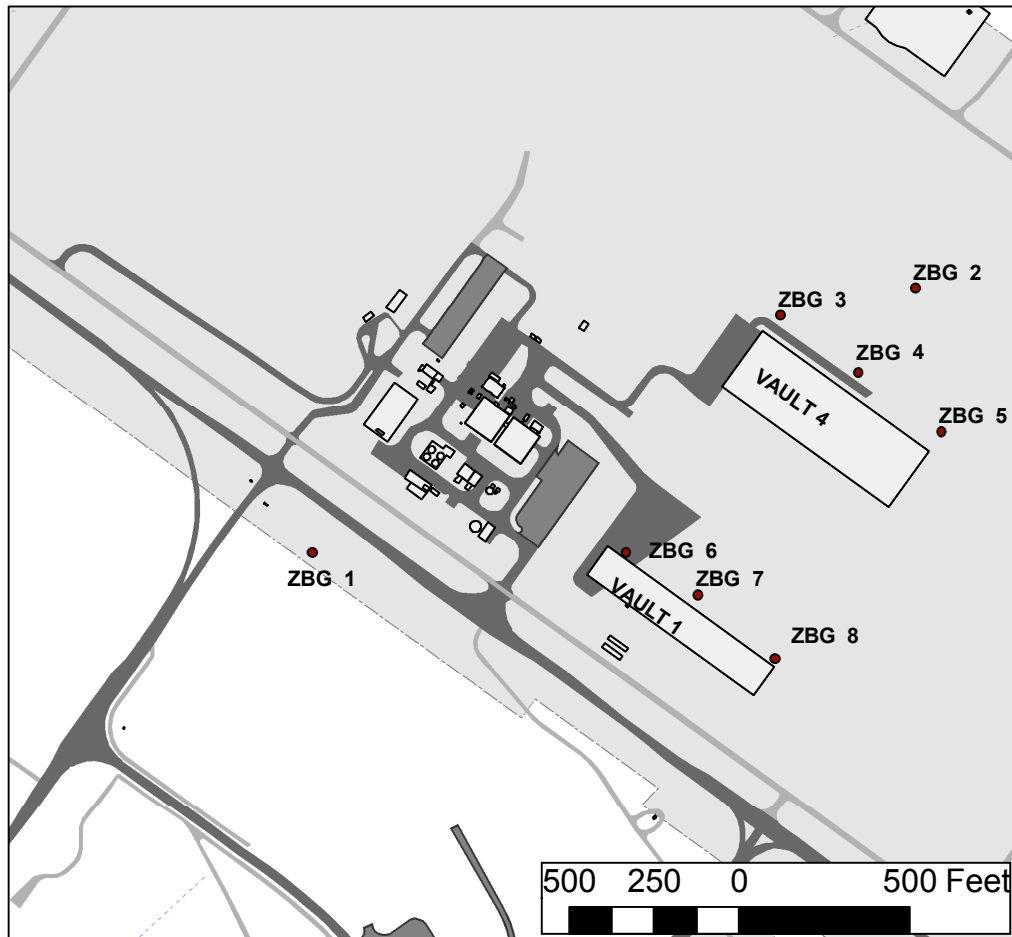


Figure 1. Locations of Z Area wells.

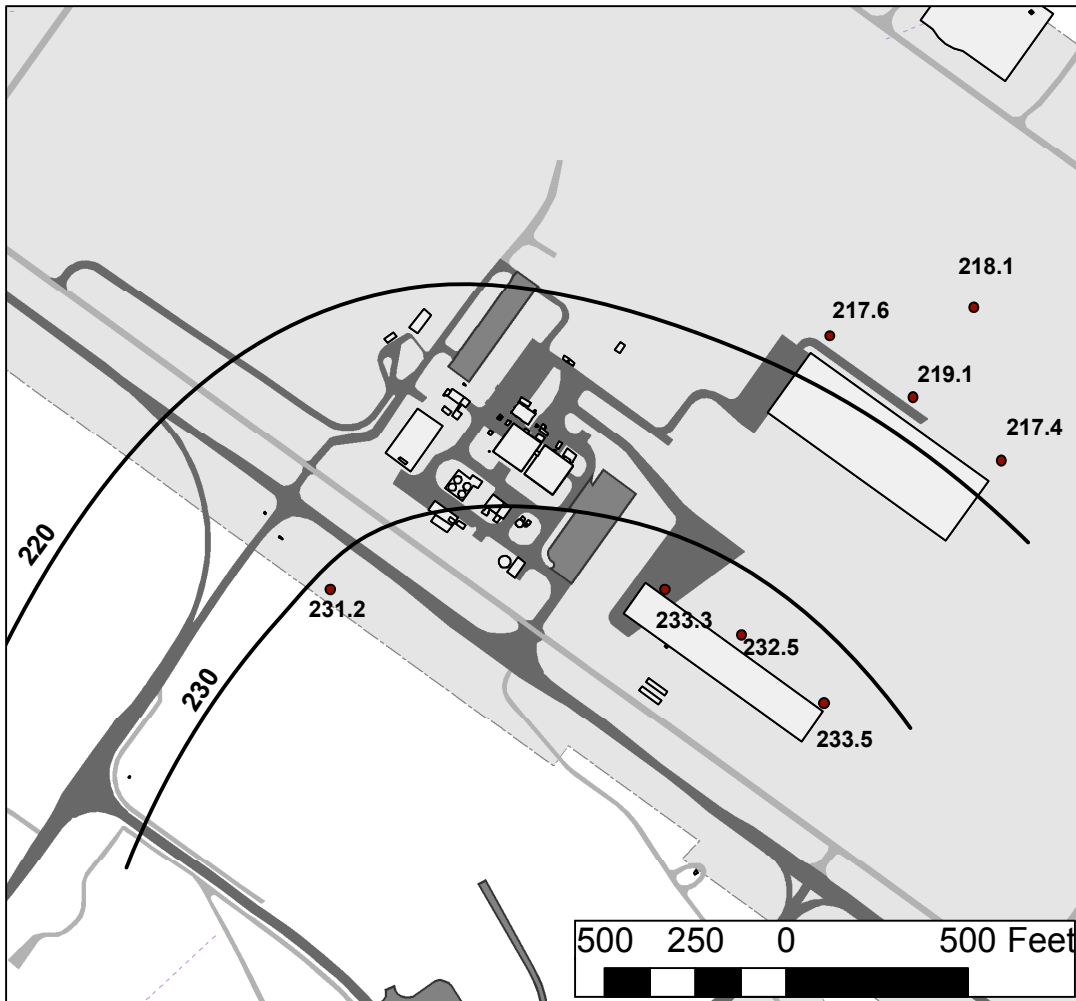


Figure 2. Water elevation data in Z-Area for first quarter of 2007.

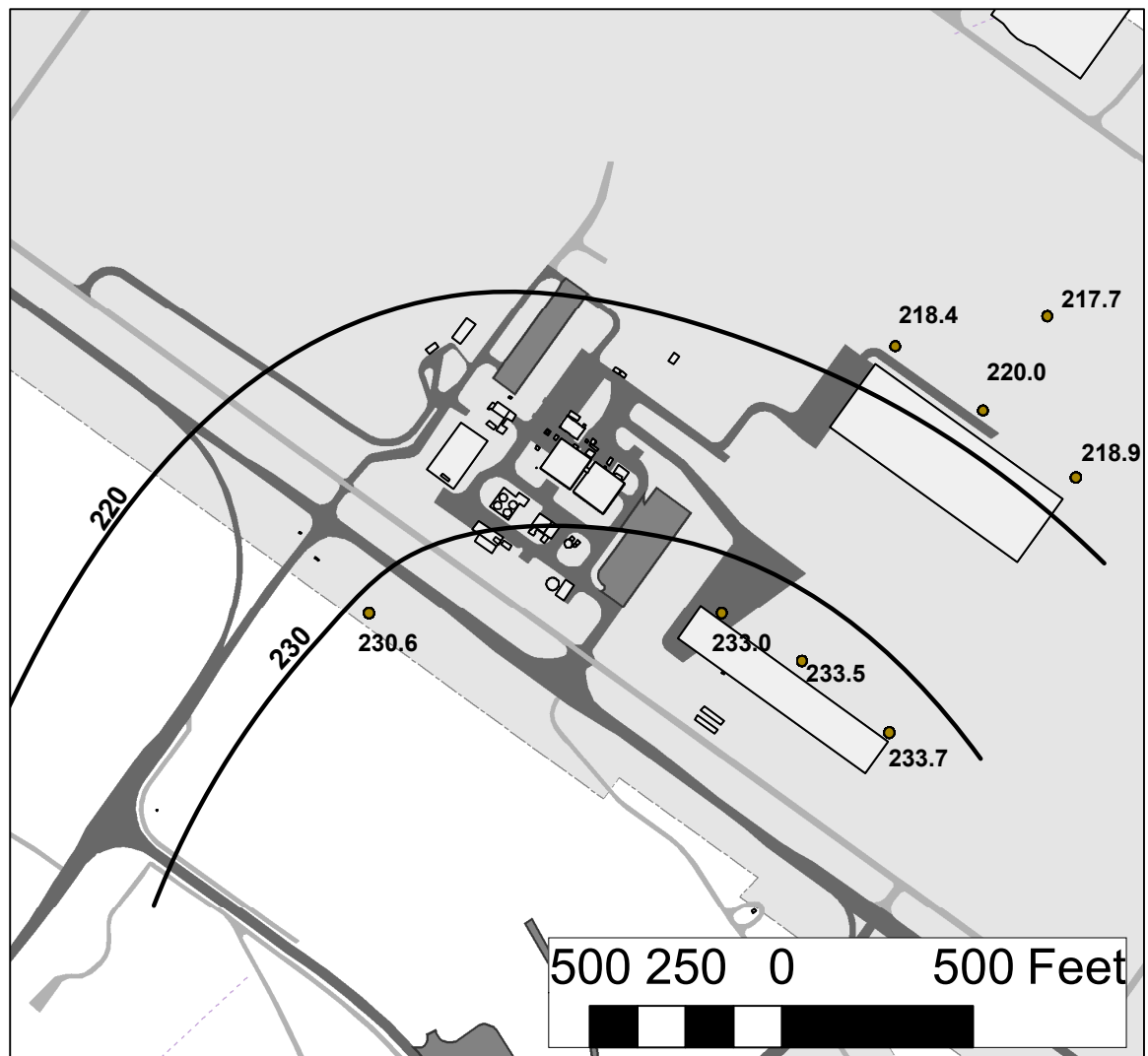


Figure 3. Water elevation data in Z-Area for third quarter of 2007.

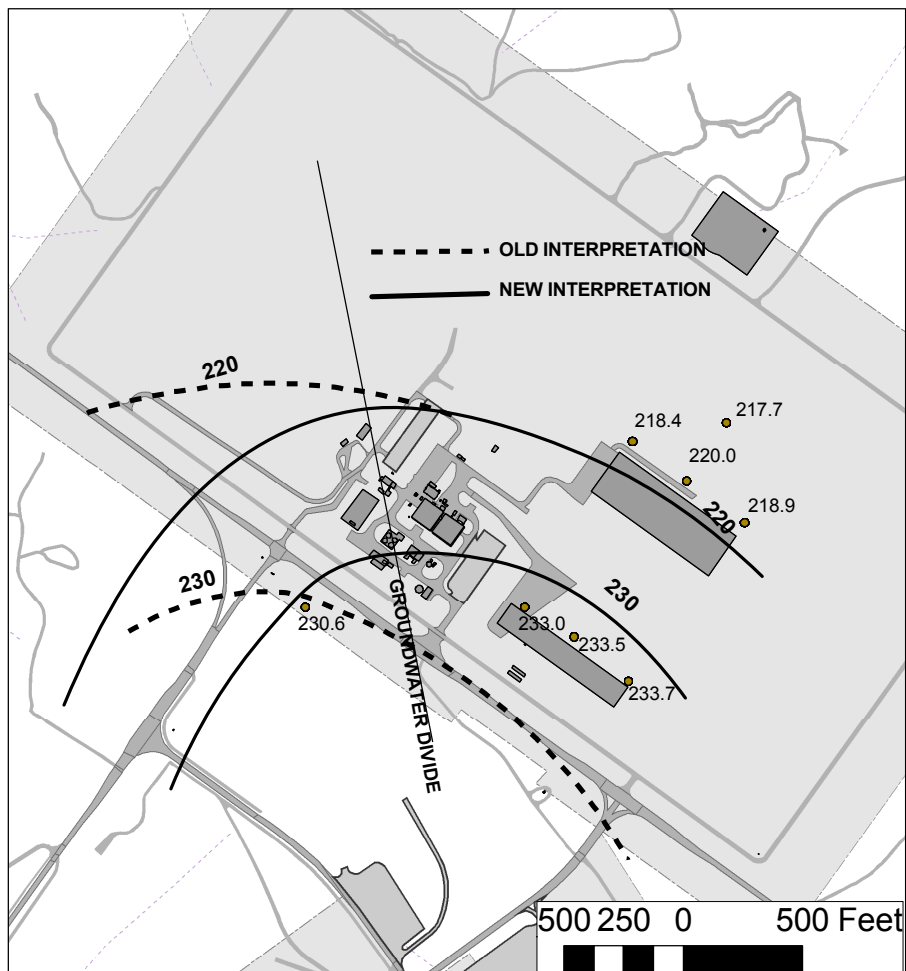


Figure 4. Map showing different interpretations of water table surface. The older (dashed) interpretation did not include data from new wells near Vault 1

Table 1. Monitoring data.

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 1	3/26/2007	ACTINIUM-228	L3.21-10021	36.2	75.8	U	-8	pCi/L
ZBG 2	3/26/2007	ACTINIUM-228	L3.21-10021	39.3	83.8	U	-12.1	pCi/L
ZBG 3	3/26/2007	ACTINIUM-228	L3.21-10021	40.2	79.6	U	18.3	pCi/L
ZBG 4	3/26/2007	ACTINIUM-228	L3.21-10021	39.1	89.2	U	31.8	pCi/L
ZBG 5	3/26/2007	ACTINIUM-228	L3.21-10021	38	78.3	U	-0.36	pCi/L
ZBG 5	3/26/2007	ACTINIUM-228	L3.21-10021	32.2	69.8	U	-20.1	pCi/L
ZBG 6	3/27/2007	ACTINIUM-228	L3.21-10021	39.7	81.6	U	7.37	pCi/L
ZBG 7	3/27/2007	ACTINIUM-228	L3.21-10021	42.1	88.3	U	-0.289	pCi/L
ZBG 8	3/27/2007	ACTINIUM-228	L3.21-10021	44.7	93.3	U	5.01	pCi/L
ZBG 8	3/27/2007	ACTINIUM-228	L3.21-10021	44.8	94.5	U	-0.93	pCi/L
ZBG 2	9/5/2007	ACTINIUM-228	L3.21-10021	37.5	78.2	U	-1.93	pCi/L
ZBG 2	9/5/2007	ACTINIUM-228	L3.21-10021	43.6	91	U	3.11	pCi/L
ZBG 3	9/5/2007	ACTINIUM-228	L3.21-10021	42.2	85.8	U	14.8	pCi/L
ZBG 5	9/5/2007	ACTINIUM-228	L3.21-10021	33.4	70.8	U	-10.1	pCi/L
ZBG 6	9/5/2007	ACTINIUM-228	L3.21-10021	40.7	80.7	U	23.4	pCi/L
ZBG 7	9/5/2007	ACTINIUM-228	L3.21-10021	39.4	80.5	U	8.12	pCi/L
ZBG 8	9/5/2007	ACTINIUM-228	L3.21-10021	40.2	81.7	U	11.9	pCi/L
ZBG 1	9/11/2007	ACTINIUM-228	L3.21-10021	35.9	72.3	U	9.01	pCi/L
ZBG 1	9/11/2007	ACTINIUM-228	L3.21-10021	39.4	80.1	U	10	pCi/L
ZBG 4	9/24/2007	ACTINIUM-228	L3.21-10021	47.1	96.5	U	17.4	pCi/L
ZBG 1	3/26/2007	ANTIMONY-125	L3.21-10021	27.8	57.8	U	17.1	pCi/L
ZBG 2	3/26/2007	ANTIMONY-125	L3.21-10021	26.9	58.2	U	-0.0416	pCi/L
ZBG 3	3/26/2007	ANTIMONY-125	L3.21-10021	23.4	52.2	U	-10.5	pCi/L
ZBG 4	3/26/2007	ANTIMONY-125	L3.21-10021	25.2	54.3	U	-0.467	pCi/L
ZBG 5	3/26/2007	ANTIMONY-125	L3.21-10021	24.8	53.1	U	2.11	pCi/L
ZBG 5	3/26/2007	ANTIMONY-125	L3.21-10021	23.4	50.5	U	-0.852	pCi/L
ZBG 6	3/27/2007	ANTIMONY-125	L3.21-10021	27	57.4	U	5.07	pCi/L
ZBG 7	3/27/2007	ANTIMONY-125	L3.21-10021	25.3	55.4	U	-6.27	pCi/L
ZBG 8	3/27/2007	ANTIMONY-125	L3.21-10021	29.6	63.3	U	5.15	pCi/L
ZBG 8	3/27/2007	ANTIMONY-125	L3.21-10021	31	66.1	U	7.64	pCi/L
ZBG 2	9/5/2007	ANTIMONY-125	L3.21-10021	29	62.1	U	4.76	pCi/L
ZBG 2	9/5/2007	ANTIMONY-125	L3.21-10021	28.9	63.1	U	-4.67	pCi/L
ZBG 3	9/5/2007	ANTIMONY-125	L3.21-10021	25.8	55.5	U	0.285	pCi/L
ZBG 5	9/5/2007	ANTIMONY-125	L3.21-10021	22.6	49.1	U	-3.25	pCi/L
ZBG 6	9/5/2007	ANTIMONY-125	L3.21-10021	26.2	57.7	U	-8	pCi/L
ZBG 7	9/5/2007	ANTIMONY-125	L3.21-10021	23.8	51	U	1.3	pCi/L
ZBG 8	9/5/2007	ANTIMONY-125	L3.21-10021	25.4	53.8	U	6.17	pCi/L
ZBG 1	3/26/2007	BARIUM-133	L3.21-10021	11.7	28	U	-4.19	pCi/L
ZBG 2	3/26/2007	BARIUM-133	L3.21-10021	11.8	27.2	U	0.652	pCi/L
ZBG 3	3/26/2007	BARIUM-133	L3.21-10021	11.6	27.5	U	-3.17	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 4	3/26/2007	BARIUM-133	L3.21-10021	11.2	25.8	U	-0.373	pCi/L
ZBG 5	3/26/2007	BARIUM-133	L3.21-10021	10.8	24.4	U	2.1	pCi/L
ZBG 5	3/26/2007	BARIUM-133	L3.21-10021	10.8	24.2	U	2.93	pCi/L
ZBG 6	3/27/2007	BARIUM-133	L3.21-10021	10.9	26	U	-5.86	pCi/L
ZBG 7	3/27/2007	BARIUM-133	L3.21-10021	12.5	28.8	U	-0.269	pCi/L
ZBG 8	3/27/2007	BARIUM-133	L3.21-10021	13.2	30.6	U	-1.31	pCi/L
ZBG 8	3/27/2007	BARIUM-133	L3.21-10021	13.3	30.1	U	3.98	pCi/L
ZBG 2	9/5/2007	BARIUM-133	L3.21-10021	13.2	30.6	U	-0.0156	pCi/L
ZBG 2	9/5/2007	BARIUM-133	L3.21-10021	12.4	29.3	U	-3.82	pCi/L
ZBG 3	9/5/2007	BARIUM-133	L3.21-10021	11.9	26.6	U	4.55	pCi/L
ZBG 5	9/5/2007	BARIUM-133	L3.21-10021	10.7	24.9	U	-1.76	pCi/L
ZBG 6	9/5/2007	BARIUM-133	L3.21-10021	12.1	27.5	U	2.81	pCi/L
ZBG 7	9/5/2007	BARIUM-133	L3.21-10021	12.1	27.4	U	3.07	pCi/L
ZBG 8	9/5/2007	BARIUM-133	L3.21-10021	11.8	27.5	U	-1.41	pCi/L
ZBG 1	9/11/2007	BARIUM-133	L3.21-10021	10.9	24.1	U	-4.84	pCi/L
ZBG 1	9/11/2007	BARIUM-133	L3.21-10021	9.84	22.5	U	-8.79	pCi/L
ZBG 1	3/26/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 2	3/26/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 2	3/26/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 3	3/26/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 4	3/26/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 5	3/26/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 6	3/27/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 7	3/27/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 8	3/27/2007	BENZENE	EPA8260B	0.2	2	U	2	ug/L
ZBG 1	3/26/2007	BISMUTH-214	L3.21-10021	16	69.1		148	pCi/L
ZBG 2	3/26/2007	BISMUTH-214	L3.21-10021	19.6	98.7		306	pCi/L
ZBG 3	3/26/2007	BISMUTH-214	L3.21-10021	18.4	68.8		153	pCi/L
ZBG 4	3/26/2007	BISMUTH-214	L3.21-10021	17.3	69.7		127	pCi/L
ZBG 5	3/26/2007	BISMUTH-214	L3.21-10021	16.7	58.7	J	51.8	pCi/L
ZBG 5	3/26/2007	BISMUTH-214	L3.21-10021	16.3	64.6	J	59.9	pCi/L
ZBG 6	3/27/2007	BISMUTH-214	L3.21-10021	18.6	70.1		150	pCi/L
ZBG 7	3/27/2007	BISMUTH-214	L3.21-10021	17.8	74.4		179	pCi/L
ZBG 8	3/27/2007	BISMUTH-214	L3.21-10021	19.2	129		518	pCi/L
ZBG 8	3/27/2007	BISMUTH-214	L3.21-10021	21.3	127		482	pCi/L
ZBG 2	9/5/2007	BISMUTH-214	L3.21-10021	16.8	108		397	pCi/L
ZBG 2	9/5/2007	BISMUTH-214	L3.21-10021	17.4	111		394	pCi/L
ZBG 3	9/5/2007	BISMUTH-214	L3.21-10021	17.2	76.8		208	pCi/L
ZBG 5	9/5/2007	BISMUTH-214	L3.21-10021	16.2	67.8		115	pCi/L
ZBG 6	9/5/2007	BISMUTH-214	L3.21-10021	17.1	80.5		211	pCi/L
ZBG 7	9/5/2007	BISMUTH-214	L3.21-10021	14.4	58.5		74.3	pCi/L
ZBG 8	9/5/2007	BISMUTH-214	L3.21-10021	19	85.7		211	pCi/L
ZBG 1	9/11/2007	BISMUTH-214	L3.21-10021	21.3	44.9	U	1.68	pCi/L
ZBG 1	9/11/2007	BISMUTH-214	L3.21-10021	21.4	45.3	U	1.28	pCi/L
ZBG 1	3/26/2007	CESIUM-134	L3.21-10021	7.84	17.9	U	-0.668	pCi/L
ZBG 2	3/26/2007	CESIUM-134	L3.21-10021	8.61	19.9	U	-1.38	pCi/L
ZBG 3	3/26/2007	CESIUM-134	L3.21-10021	9.79	22.3	U	0.0503	pCi/L
ZBG 4	3/26/2007	CESIUM-134	L3.21-10021	8.4	18.5	U	2.11	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 5	3/26/2007	CESIUM-134	L3.21-10021	7.78	18.2	U	-2.14	pCi/L
ZBG 5	3/26/2007	CESIUM-134	L3.21-10021	8.04	18.5	U	-1.01	pCi/L
ZBG 6	3/27/2007	CESIUM-134	L3.21-10021	8.61	19.9	U	0.842	pCi/L
ZBG 7	3/27/2007	CESIUM-134	L3.21-10021	8.7	20.2	U	0.815	pCi/L
ZBG 8	3/27/2007	CESIUM-134	L3.21-10021	9.19	22	U	-1.86	pCi/L
ZBG 8	3/27/2007	CESIUM-134	L3.21-10021	10.2	23	U	4.82	pCi/L
ZBG 2	9/5/2007	CESIUM-134	L3.21-10021	9.35	21.6	U	1.52	pCi/L
ZBG 2	9/5/2007	CESIUM-134	L3.21-10021	8.29	20.3	U	-3.84	pCi/L
ZBG 3	9/5/2007	CESIUM-134	L3.21-10021	8.49	19.5	U	1.25	pCi/L
ZBG 5	9/5/2007	CESIUM-134	L3.21-10021	7.89	18.1	U	1.02	pCi/L
ZBG 6	9/5/2007	CESIUM-134	L3.21-10021	7.95	19.2	U	-2.43	pCi/L
ZBG 7	9/5/2007	CESIUM-134	L3.21-10021	7.29	16.9	U	-0.139	pCi/L
ZBG 8	9/5/2007	CESIUM-134	L3.21-10021	8.62	20.6	U	-1.97	pCi/L
ZBG 1	9/11/2007	CESIUM-134	L3.21-10021	8.15	18.4	U	-4.41	pCi/L
ZBG 1	9/11/2007	CESIUM-134	L3.21-10021	7.62	17.6	U	-5.88	pCi/L
ZBG 1	3/26/2007	CESIUM-137	L3.21-10021	9.48	20	U	-0.0383	pCi/L
ZBG 2	3/26/2007	CESIUM-137	L3.21-10021	9.48	21	U	-5.91	pCi/L
ZBG 3	3/26/2007	CESIUM-137	L3.21-10021	8.94	20	U	-6.53	pCi/L
ZBG 4	3/26/2007	CESIUM-137	L3.21-10021	9.59	19.5	U	3.51	pCi/L
ZBG 5	3/26/2007	CESIUM-137	L3.21-10021	9.6	20.7	U	-2.85	pCi/L
ZBG 5	3/26/2007	CESIUM-137	L3.21-10021	7.53	16.3	U	-2.66	pCi/L
ZBG 6	3/27/2007	CESIUM-137	L3.21-10021	9.19	20.3	U	-5.24	pCi/L
ZBG 7	3/27/2007	CESIUM-137	L3.21-10021	9.41	19.4	U	1.8	pCi/L
ZBG 8	3/27/2007	CESIUM-137	L3.21-10021	10.3	23.5	U	-10.8	pCi/L
ZBG 8	3/27/2007	CESIUM-137	L3.21-10021	9.8	20.6	U	0.216	pCi/L
ZBG 2	9/5/2007	CESIUM-137	L3.21-10021	10.7	22.8	U	-1.94	pCi/L
ZBG 2	9/5/2007	CESIUM-137	L3.21-10021	10.2	21.4	U	0.269	pCi/L
ZBG 3	9/5/2007	CESIUM-137	L3.21-10021	8.72	20.2	U	-2.08	pCi/L
ZBG 5	9/5/2007	CESIUM-137	L3.21-10021	8.41	22.8	U	7.28	pCi/L
ZBG 6	9/5/2007	CESIUM-137	L3.21-10021	9.21	19.5	U	-0.852	pCi/L
ZBG 7	9/5/2007	CESIUM-137	L3.21-10021	9.08	18.4	U	3.11	pCi/L
ZBG 8	9/5/2007	CESIUM-137	L3.21-10021	10	21.2	U	-0.756	pCi/L
ZBG 1	9/11/2007	CESIUM-137	L3.21-10021	8.18	16.6	U	2.36	pCi/L
ZBG 1	9/11/2007	CESIUM-137	L3.21-10021	7.8	16.6	U	-1.88	pCi/L
ZBG 4	9/24/2007	CESIUM-137	L3.21-10021	10.4	21.5	U	1.92	pCi/L
ZBG 1	3/26/2007	COBALT-60	L3.21-10021	9.63	19.8	U	2	pCi/L
ZBG 2	3/26/2007	COBALT-60	L3.21-10021	9.84	20.6	U	0.93	pCi/L
ZBG 3	3/26/2007	COBALT-60	L3.21-10021	9.21	19.4	U	0.304	pCi/L
ZBG 4	3/26/2007	COBALT-60	L3.21-10021	8.26	19	U	-5.12	pCi/L
ZBG 5	3/26/2007	COBALT-60	L3.21-10021	6.91	14.2	U	0.338	pCi/L
ZBG 5	3/26/2007	COBALT-60	L3.21-10021	8.62	17.7	U	1.43	pCi/L
ZBG 6	3/27/2007	COBALT-60	L3.21-10021	8.79	19.2	U	-4.13	pCi/L
ZBG 7	3/27/2007	COBALT-60	L3.21-10021	10.2	21.1	U	0.707	pCi/L
ZBG 8	3/27/2007	COBALT-60	L3.21-10021	10.7	22.6	U	-0.961	pCi/L
ZBG 8	3/27/2007	COBALT-60	L3.21-10021	9.92	20.9	U	-1.3	pCi/L
ZBG 2	9/5/2007	COBALT-60	L3.21-10021	10	20.6	U	1.98	pCi/L
ZBG 2	9/5/2007	COBALT-60	L3.21-10021	10.3	21.1	U	3.21	pCi/L
ZBG 3	9/5/2007	COBALT-60	L3.21-10021	9.61	20.3	U	-0.0285	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 5	9/5/2007	COBALT-60	L3.21-10021	9.59	20.3	U	-0.0858	pCi/L
ZBG 6	9/5/2007	COBALT-60	L3.21-10021	10	20.7	U	2.08	pCi/L
ZBG 7	9/5/2007	COBALT-60	L3.21-10021	8.95	18.9	U	-0.429	pCi/L
ZBG 8	9/5/2007	COBALT-60	L3.21-10021	9.83	21	U	-0.962	pCi/L
ZBG 1	9/11/2007	COBALT-60	L3.21-10021	6.81	16.1	U	-5.93	pCi/L
ZBG 1	9/11/2007	COBALT-60	L3.21-10021	7.5	15.5	U	0.311	pCi/L
ZBG 4	9/24/2007	COBALT-60	L3.21-10021	9.19	20.2	U	-2.22	pCi/L
ZBG 2	9/5/2007	COND					66	uS/cm
ZBG 3	9/5/2007	COND					19	uS/cm
ZBG 5	9/5/2007	COND					100	uS/cm
ZBG 6	9/5/2007	COND					16	uS/cm
ZBG 7	9/5/2007	COND					19	uS/cm
ZBG 8	9/5/2007	COND					25	uS/cm
ZBG 1	9/11/2007	COND					26	uS/cm
ZBG 4	9/24/2007	COND					31	uS/cm
ZBG 2	9/5/2007	DEPTH TO WATER					60.4	ft
ZBG 3	9/5/2007	DEPTH TO WATER					54.2	ft
ZBG 5	9/5/2007	DEPTH TO WATER					53.4	ft
ZBG 6	9/5/2007	DEPTH TO WATER					55	ft
ZBG 7	9/5/2007	DEPTH TO WATER					53.9	ft
ZBG 8	9/5/2007	DEPTH TO WATER					54.7	ft
ZBG 1	9/11/2007	DEPTH TO WATER					60.8	ft
ZBG 4	9/24/2007	DEPTH TO WATER					54.1	ft
ZBG 3	3/26/2007	DEPTH TO WATER					55	ft
ZBG 4	3/26/2007	DEPTH TO WATER					55	ft
ZBG 2	3/26/2007	DEPTH TO WATER					60	ft
ZBG 5	3/26/2007	DEPTH TO WATER					54.9	ft
ZBG 1	3/26/2007	DEPTH TO WATER					60.2	ft
ZBG 8	3/27/2007	DEPTH TO WATER					54.9	ft
ZBG 7	3/27/2007	DEPTH TO WATER					54.9	ft
ZBG 6	3/27/2007	DEPTH TO WATER					54.7	ft
ZBG 1	3/26/2007	EUROPIUM-152	L3.21-10021	92	214	U	-19.6	pCi/L
ZBG 2	3/26/2007	EUROPIUM-152	L3.21-10021	100	232	U	-11	pCi/L
ZBG 3	3/26/2007	EUROPIUM-152	L3.21-10021	97.8	227	U	-16	pCi/L
ZBG 4	3/26/2007	EUROPIUM-152	L3.21-10021	99.7	229	U	3.75	pCi/L
ZBG 5	3/26/2007	EUROPIUM-152	L3.21-10021	91.2	200	U	-46.5	pCi/L
ZBG 5	3/26/2007	EUROPIUM-152	L3.21-10021	87.5	195	U	37.3	pCi/L
ZBG 6	3/27/2007	EUROPIUM-152	L3.21-10021	97.5	227	U	23.3	pCi/L
ZBG 7	3/27/2007	EUROPIUM-152	L3.21-10021	101	235	U	25	pCi/L
ZBG 8	3/27/2007	EUROPIUM-152	L3.21-10021	116	267	U	76.1	pCi/L
ZBG 8	3/27/2007	EUROPIUM-152	L3.21-10021	116	271	U	40.1	pCi/L
ZBG 2	9/5/2007	EUROPIUM-152	L3.21-10021	110	252	U	8.07	pCi/L
ZBG 2	9/5/2007	EUROPIUM-152	L3.21-10021	115	258	U	61.6	pCi/L
ZBG 3	9/5/2007	EUROPIUM-152	L3.21-10021	104	234	U	35.8	pCi/L
ZBG 5	9/5/2007	EUROPIUM-152	L3.21-10021	97.8	225	U	-1.94	pCi/L
ZBG 6	9/5/2007	EUROPIUM-152	L3.21-10021	99.1	227	U	6.83	pCi/L
ZBG 7	9/5/2007	EUROPIUM-152	L3.21-10021	87.6	193	U	-50.8	pCi/L
ZBG 8	9/5/2007	EUROPIUM-152	L3.21-10021	103	231	U	41.6	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 1	9/11/2007	EUROPIUM-152	L3.21-10021	86.5	185	U	22.9	pCi/L
ZBG 1	9/11/2007	EUROPIUM-152	L3.21-10021	91.1	193	U	18.4	pCi/L
ZBG 1	3/26/2007	EUROPIUM-154	L3.21-10021	17.2	37.5	U	2.85	pCi/L
ZBG 2	3/26/2007	EUROPIUM-154	L3.21-10021	18.7	41.4	U	-1.87	pCi/L
ZBG 3	3/26/2007	EUROPIUM-154	L3.21-10021	17.9	39.6	U	-2.69	pCi/L
ZBG 4	3/26/2007	EUROPIUM-154	L3.21-10021	17.5	37.7	U	10.3	pCi/L
ZBG 5	3/26/2007	EUROPIUM-154	L3.21-10021	16	36.2	U	-10.6	pCi/L
ZBG 5	3/26/2007	EUROPIUM-154	L3.21-10021	16.4	36.1	U	-0.876	pCi/L
ZBG 6	3/27/2007	EUROPIUM-154	L3.21-10021	17.6	37.8	U	5.35	pCi/L
ZBG 7	3/27/2007	EUROPIUM-154	L3.21-10021	17	37	U	-1.44	pCi/L
ZBG 8	3/27/2007	EUROPIUM-154	L3.21-10021	19.8	43.2	U	1.12	pCi/L
ZBG 8	3/27/2007	EUROPIUM-154	L3.21-10021	20.4	44.1	U	6.6	pCi/L
ZBG 2	9/5/2007	EUROPIUM-154	L3.21-10021	19.8	43.5	U	3.96	pCi/L
ZBG 2	9/5/2007	EUROPIUM-154	L3.21-10021	18.8	41.5	U	-2.13	pCi/L
ZBG 3	9/5/2007	EUROPIUM-154	L3.21-10021	17.6	38.6	U	2.17	pCi/L
ZBG 5	9/5/2007	EUROPIUM-154	L3.21-10021	16.4	36.5	U	-4.27	pCi/L
ZBG 6	9/5/2007	EUROPIUM-154	L3.21-10021	18.3	40.8	U	-6.25	pCi/L
ZBG 7	9/5/2007	EUROPIUM-154	L3.21-10021	16.2	35.1	U	4.6	pCi/L
ZBG 8	9/5/2007	EUROPIUM-154	L3.21-10021	17.1	38.3	U	-8.47	pCi/L
ZBG 1	9/11/2007	EUROPIUM-154	L3.21-10021	16.3	35.4	U	6.46	pCi/L
ZBG 1	9/11/2007	EUROPIUM-154	L3.21-10021	15.9	34.9	U	0.464	pCi/L
ZBG 1	3/26/2007	EUROPIUM-155	L3.21-10021	26.8	56.2	U	13.8	pCi/L
ZBG 2	3/26/2007	EUROPIUM-155	L3.21-10021	30.9	78.8	R	41.3	pCi/L
ZBG 3	3/26/2007	EUROPIUM-155	L3.21-10021	28.1	67.4	U	22.2	pCi/L
ZBG 4	3/26/2007	EUROPIUM-155	L3.21-10021	28.4	76.3	U	24.1	pCi/L
ZBG 5	3/26/2007	EUROPIUM-155	L3.21-10021	24.5	55.1	U	-9.14	pCi/L
ZBG 5	3/26/2007	EUROPIUM-155	L3.21-10021	24	52.8	U	2.21	pCi/L
ZBG 6	3/27/2007	EUROPIUM-155	L3.21-10021	24.5	57.2	U	18.5	pCi/L
ZBG 7	3/27/2007	EUROPIUM-155	L3.21-10021	26.2	55.6	U	17.2	pCi/L
ZBG 8	3/27/2007	EUROPIUM-155	L3.21-10021	33.2	81.8	R	63.8	pCi/L
ZBG 8	3/27/2007	EUROPIUM-155	L3.21-10021	33.2	81.4	R	59.6	pCi/L
ZBG 2	9/5/2007	EUROPIUM-155	L3.21-10021	33.5	85.9	R	57.2	pCi/L
ZBG 2	9/5/2007	EUROPIUM-155	L3.21-10021	32.9	83.4	R	51.1	pCi/L
ZBG 3	9/5/2007	EUROPIUM-155	L3.21-10021	27.6	61.7	U	20.5	pCi/L
ZBG 5	9/5/2007	EUROPIUM-155	L3.21-10021	26.8	71.5	U	20.6	pCi/L
ZBG 6	9/5/2007	EUROPIUM-155	L3.21-10021	27.7	71	R	30.2	pCi/L
ZBG 7	9/5/2007	EUROPIUM-155	L3.21-10021	24.1	51.9	U	10.5	pCi/L
ZBG 8	9/5/2007	EUROPIUM-155	L3.21-10021	28.8	68.8	U	26	pCi/L
ZBG 1	9/11/2007	EUROPIUM-155	L3.21-10021	23.2	50.1	U	5.79	pCi/L
ZBG 1	9/11/2007	EUROPIUM-155	L3.21-10021	22	48.2	U	-3.31	pCi/L
ZBG 1	3/26/2007	GROSS ALPHA	L3.21-10001	2.22	7.04	J	2.92	pCi/L
ZBG 2	3/26/2007	GROSS ALPHA	L3.21-10001	2.21	5.9	U	1.58	pCi/L
ZBG 3	3/26/2007	GROSS ALPHA	L3.21-10001	2.22	3.13	U	-0.209	pCi/L
ZBG 4	3/26/2007	GROSS ALPHA	L3.21-10001	2.22	8.25	J	4.71	pCi/L
ZBG 4	3/26/2007	GROSS ALPHA	L3.21-10001	2.22	5.45	U	1.13	pCi/L
ZBG 5	3/26/2007	GROSS ALPHA	L3.21-10001	2.64	12.2	J	10.4	pCi/L
ZBG 6	3/27/2007	GROSS ALPHA	L3.21-10001	2.21	6.68	J	2.47	pCi/L
ZBG 7	3/27/2007	GROSS ALPHA	L3.21-10001	2.23	5.47	U	1.14	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 8	3/27/2007	GROSS ALPHA	L3.21-10001	2.25	7.75	J	3.85	pCi/L
ZBG 2	9/5/2007	GROSS ALPHA	L3.21-10001	2.49	7.36	U	2.46	pCi/L
ZBG 3	9/5/2007	GROSS ALPHA	L3.21-10001	2.5	6.18	U	1.08	pCi/L
ZBG 3	9/5/2007	GROSS ALPHA	L3.21-10001	2.5	4.3	U	-0.308	pCi/L
ZBG 5	9/5/2007	GROSS ALPHA	L3.21-10001	2.73	9.72	J	5.22	pCi/L
ZBG 6	9/5/2007	GROSS ALPHA	L3.21-10001	2.5	7.73	J	2.94	pCi/L
ZBG 7	9/5/2007	GROSS ALPHA	L3.21-10001	2.5	5.68	U	0.618	pCi/L
ZBG 8	9/5/2007	GROSS ALPHA	L3.21-10001	2.53	8.43	J	3.9	pCi/L
ZBG 1	9/11/2007	GROSS ALPHA	L3.21-10001	1.55	5.53	J	3.91	pCi/L
ZBG 1	9/11/2007	GROSS ALPHA	L3.21-10001	1.55	4.98	J	2.78	pCi/L
ZBG 4	9/24/2007	GROSS ALPHA	L3.21-10001	2.65	7.57	J	2.73	pCi/L
ZBG 1	3/26/2007	IODINE-129	L3.21-10021	1.36	2.95	U	0.253	pCi/L
ZBG 2	3/26/2007	IODINE-129	L3.21-10021	1.33	2.91	U	-0.0379	pCi/L
ZBG 3	3/26/2007	IODINE-129	L3.21-10021	1.36	2.99	U	-0.159	pCi/L
ZBG 4	3/26/2007	IODINE-129	L3.21-10021	1.34	2.97	U	-0.519	pCi/L
ZBG 4	3/26/2007	IODINE-129	L3.21-10021	1.33	2.91	U	-0.0901	pCi/L
ZBG 5	3/26/2007	IODINE-129	L3.21-10021	0.50 5	1.08	U	0.0398	pCi/L
ZBG 6	3/27/2007	IODINE-129	L3.21-10021	0.51 6	1.12	U	-0.0423	pCi/L
ZBG 7	3/27/2007	IODINE-129	L3.21-10021	0.54 6	1.18	U	-0.025	pCi/L
ZBG 8	3/27/2007	IODINE-129	L3.21-10021	0.53 3	1.19	U	-0.265	pCi/L
ZBG 8	3/27/2007	IODINE-129	L3.21-10021	0.58 1	1.22	U	0.265	pCi/L
ZBG 8	3/27/2007	IODINE-129	L3.21-10021	0.53 3	1.19	U	-0.265	pCi/L
ZBG 8	3/27/2007	IODINE-129	L3.21-10021	0.58 1	1.22	U	0.265	pCi/L
ZBG 2	9/5/2007	IODINE-129	L3.21-10021	0.53 4	1.18	U	-0.181	pCi/L
ZBG 6	9/5/2007	IODINE-129	L3.21-10021	0.49 2	1.08	U	-0.125	pCi/L
ZBG 6	9/5/2007	IODINE-129	L3.21-10021	0.56 4	1.19	U	0.225	pCi/L
ZBG 8	9/5/2007	IODINE-129	L3.21-10021	0.59 1	1.23	U	0.436	pCi/L
ZBG 1	3/26/2007	LEAD-214	L3.21-10021	19.7	71.5	U	132	pCi/L
ZBG 2	3/26/2007	LEAD-214	L3.21-10021	20	101	U	326	pCi/L
ZBG 3	3/26/2007	LEAD-214	L3.21-10021	19.5	81.5	U	208	pCi/L
ZBG 4	3/26/2007	LEAD-214	L3.21-10021	18.9	74.6	U	143	pCi/L
ZBG 5	3/26/2007	LEAD-214	L3.21-10021	17.1	60.3	J	85.8	pCi/L
ZBG 5	3/26/2007	LEAD-214	L3.21-10021	18.6	64.6	J	61.3	pCi/L
ZBG 6	3/27/2007	LEAD-214	L3.21-10021	18.6	72.3	U	174	pCi/L
ZBG 7	3/27/2007	LEAD-214	L3.21-10021	22.6	81.1	U	198	pCi/L
ZBG 8	3/27/2007	LEAD-214	L3.21-10021	22.7	138	U	518	pCi/L
ZBG 8	3/27/2007	LEAD-214	L3.21-10021	22.8	133	U	519	pCi/L
ZBG 2	9/5/2007	LEAD-214	L3.21-10021	21	119		436	pCi/L
ZBG 2	9/5/2007	LEAD-214	L3.21-10021	20.8	119		426	pCi/L
ZBG 3	9/5/2007	LEAD-214	L3.21-10021	18.8	84.7		209	pCi/L
ZBG 5	9/5/2007	LEAD-214	L3.21-10021	18.5	70.6		99	pCi/L
ZBG 6	9/5/2007	LEAD-214	L3.21-10021	20	91.7		221	pCi/L
ZBG 7	9/5/2007	LEAD-214	L3.21-10021	19.7	62.4	J	55	pCi/L
ZBG 8	9/5/2007	LEAD-214	L3.21-10021	20.5	88		229	pCi/L
ZBG 1	9/11/2007	LEAD-214	L3.21-10021	20.4	44.6	U	-2.75	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 1	9/11/2007	LEAD-214	L3.21-10021	18.8	40.7	U	1.02	pCi/L
ZBG 4	9/24/2007	LEAD-214	L3.21-10021	23.7	79.8		106	pCi/L
ZBG 1	3/26/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.1	0.5		1.01	mg/L
ZBG 1	3/26/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.1	0.5		1.24	mg/L
ZBG 2	3/26/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.01	0.05		1.01	mg/L
ZBG 3	3/26/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.01	0.05		1.01	mg/L
ZBG 4	3/26/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.01	0.05		0.749	mg/L
ZBG 5	3/26/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.1	0.5	J	0.29	mg/L
ZBG 5	3/26/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.1	0.5	J	0.27	mg/L
ZBG 6	3/27/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.1	0.5		0.61	mg/L
ZBG 6	3/27/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.1	0.5		0.53	mg/L
ZBG 7	3/27/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.01	0.05		0.839	mg/L
ZBG 8	3/27/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.01	0.05		0.79	mg/L
ZBG 2	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.555	mg/L
ZBG 2	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.51	mg/L
ZBG 2	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.555	mg/L
ZBG 2	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.51	mg/L
ZBG 3	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.78	mg/L
ZBG 5	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25	J	0.085	mg/L
ZBG 6	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.555	mg/L
ZBG 7	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.545	mg/L
ZBG 8	9/5/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25		0.685	mg/L
ZBG 1	9/11/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.1	0.5		1.75	mg/L
ZBG 4	9/24/2007	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.01	0.05		0.719	mg/L
ZBG 1	3/26/2007	NONVOLATILE BETA	L3.21-10001	4.69	11.3	U	2.36	pCi/L
ZBG 2	3/26/2007	NONVOLATILE BETA	L3.21-10001	4.54	10.9	U	1.92	pCi/L
ZBG 3	3/26/2007	NONVOLATILE BETA	L3.21-10001	4.33	9.87	U	0.0819	pCi/L
ZBG 4	3/26/2007	NONVOLATILE BETA	L3.21-10001	4.49	10.7	U	1.52	pCi/L
ZBG 4	3/26/2007	NONVOLATILE BETA	L3.21-10001	4.89	11.6	U	1.94	pCi/L
ZBG 5	3/26/2007	NONVOLATILE BETA	L3.21-10001	5.3	13.5	J	6.19	pCi/L
ZBG 6	3/27/2007	NONVOLATILE BETA	L3.21-10001	4.64	11	U	1.71	pCi/L
ZBG 7	3/27/2007	NONVOLATILE BETA	L3.21-10001	4.49	10.3	U	0.521	pCi/L
ZBG 8	3/27/2007	NONVOLATILE BETA	L3.21-10001	4.79	12.1	U	4.41	pCi/L
ZBG 2	9/5/2007	NONVOLATILE BETA	L3.21-10001	6.23	14.4	U	4.03	pCi/L
ZBG 3	9/5/2007	NONVOLATILE BETA	L3.21-10001	6.12	12.3	U	-2.62	pCi/L
ZBG 3	9/5/2007	NONVOLATILE BETA	L3.21-10001	6	11.4	U	-4.37	pCi/L
ZBG 5	9/5/2007	NONVOLATILE BETA	L3.21-10001	6.45	14.4	U	2.25	pCi/L
ZBG 6	9/5/2007	NONVOLATILE BETA	L3.21-10001	6.27	14.2	U	2.89	pCi/L
ZBG 7	9/5/2007	NONVOLATILE BETA	L3.21-10001	6.08	13.2	U	0.581	pCi/L
ZBG 8	9/5/2007	NONVOLATILE BETA	L3.21-10001	6.35	14.8	U	4.49	pCi/L
ZBG 1	9/11/2007	NONVOLATILE BETA	L3.21-10001	3.2	8.44	U	2.49	pCi/L
ZBG 1	9/11/2007	NONVOLATILE BETA	L3.21-10001	3.11	8.33	U	2.75	pCi/L
ZBG 4	9/24/2007	NONVOLATILE BETA	L3.21-10001	4.57	9.29	U	-0.797	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 1	3/26/2007	PH	EPA9040B	0.01	0.1	J	4.78	pH
ZBG 2	3/26/2007	PH	EPA9040B	0.01	0.1	J	3.2	pH
ZBG 3	3/26/2007	PH	EPA9040B	0.01	0.1	J	4.71	pH
ZBG 4	3/26/2007	PH	EPA9040B	0.01	0.1	J	5.33	pH
ZBG 5	3/26/2007	PH	EPA9040B	0.01	0.1	J	5.98	pH
ZBG 5	3/26/2007	PH	EPA9040B	0.01	0.1	J	6.18	pH
ZBG 3	3/26/2007	PH					5	pH
ZBG 4	3/26/2007	PH					5.8	pH
ZBG 2	3/26/2007	PH					5.5	pH
ZBG 5	3/26/2007	PH					6.4	pH
ZBG 1	3/26/2007	PH					6.3	pH
ZBG 6	3/27/2007	PH	EPA9040B	0.01	0.1	J	4.73	pH
ZBG 7	3/27/2007	PH	EPA9040B	0.01	0.1	J	4.16	pH
ZBG 8	3/27/2007	PH	EPA9040B	0.01	0.1	J	5.12	pH
ZBG 8	3/27/2007	PH					6.8	pH
ZBG 7	3/27/2007	PH					4.8	pH
ZBG 6	3/27/2007	PH					5.2	pH
ZBG 2	9/5/2007	PH					5.2	pH
ZBG 3	9/5/2007	PH					5	pH
ZBG 5	9/5/2007	PH					7	pH
ZBG 6	9/5/2007	PH					5.6	pH
ZBG 7	9/5/2007	PH					5.9	pH
ZBG 8	9/5/2007	PH					6.3	pH
ZBG 1	9/11/2007	PH					5.8	pH
ZBG 4	9/24/2007	PH					6.8	pH
ZBG 1	3/26/2007	POTASSIUM-40	L3.21-10021	178	342	U	-16.3	pCi/L
ZBG 2	3/26/2007	POTASSIUM-40	L3.21-10021	167	331	U	-95.7	pCi/L
ZBG 3	3/26/2007	POTASSIUM-40	L3.21-10021	181	351	U	-24.4	pCi/L
ZBG 4	3/26/2007	POTASSIUM-40	L3.21-10021	172	340	U	-81.7	pCi/L
ZBG 5	3/26/2007	POTASSIUM-40	L3.21-10021	177	344	U	-33.9	pCi/L
ZBG 5	3/26/2007	POTASSIUM-40	L3.21-10021	174	331	U	1.59	pCi/L
ZBG 6	3/27/2007	POTASSIUM-40	L3.21-10021	88.6	326	J	130	pCi/L
ZBG 7	3/27/2007	POTASSIUM-40	L3.21-10021	196	381	U	1.38	pCi/L
ZBG 8	3/27/2007	POTASSIUM-40	L3.21-10021	195	381	U	-9.41	pCi/L
ZBG 8	3/27/2007	POTASSIUM-40	L3.21-10021	211	417	U	5.36	pCi/L
ZBG 2	9/5/2007	POTASSIUM-40	L3.21-10021	197	384	U	-62.1	pCi/L
ZBG 2	9/5/2007	POTASSIUM-40	L3.21-10021	186	361	U	-86.8	pCi/L
ZBG 3	9/5/2007	POTASSIUM-40	L3.21-10021	203	390	U	-15.8	pCi/L
ZBG 5	9/5/2007	POTASSIUM-40	L3.21-10021	187	363	U	-76.9	pCi/L
ZBG 6	9/5/2007	POTASSIUM-40	L3.21-10021	188	368	U	-93.7	pCi/L
ZBG 7	9/5/2007	POTASSIUM-40	L3.21-10021	185	357	U	-77.1	pCi/L
ZBG 8	9/5/2007	POTASSIUM-40	L3.21-10021	191	372	U	-82.9	pCi/L
ZBG 1	9/11/2007	POTASSIUM-40	L3.21-10021	188	364	U	-69.5	pCi/L
ZBG 1	9/11/2007	POTASSIUM-40	L3.21-10021	193	369	U	-32.5	pCi/L
ZBG 4	9/24/2007	POTASSIUM-40	L3.21-10021	102	376	U	109	pCi/L
ZBG 1	3/26/2007	PROMETHIUM-146	L3.21-10021	11.9	25.1	U	3.33	pCi/L
ZBG 2	3/26/2007	PROMETHIUM-146	L3.21-10021	11.9	26.2	U	-3.47	pCi/L
ZBG 3	3/26/2007	PROMETHIUM-146	L3.21-10021	11.4	24.7	U	-0.824	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 4	3/26/2007	PROMETHIUM-146	L3.21-10021	11.2	24.9	U	-4.47	pCi/L
ZBG 5	3/26/2007	PROMETHIUM-146	L3.21-10021	10.4	23.1	U	-4.43	pCi/L
ZBG 5	3/26/2007	PROMETHIUM-146	L3.21-10021	12	25.3	U	3.78	pCi/L
ZBG 6	3/27/2007	PROMETHIUM-146	L3.21-10021	11.6	24.4	U	4.11	pCi/L
ZBG 7	3/27/2007	PROMETHIUM-146	L3.21-10021	11.4	25.2	U	-4.18	pCi/L
ZBG 8	3/27/2007	PROMETHIUM-146	L3.21-10021	14.4	30.7	U	4.23	pCi/L
ZBG 8	3/27/2007	PROMETHIUM-146	L3.21-10021	14	29.2	U	8.23	pCi/L
ZBG 2	9/5/2007	PROMETHIUM-146	L3.21-10021	12.9	27.7	U	0.631	pCi/L
ZBG 2	9/5/2007	PROMETHIUM-146	L3.21-10021	12.7	27.7	U	-2.85	pCi/L
ZBG 3	9/5/2007	PROMETHIUM-146	L3.21-10021	11.4	24.4	U	1.07	pCi/L
ZBG 5	9/5/2007	PROMETHIUM-146	L3.21-10021	11.9	25.6	U	0.956	pCi/L
ZBG 6	9/5/2007	PROMETHIUM-146	L3.21-10021	10.6	23.2	U	-2.67	pCi/L
ZBG 7	9/5/2007	PROMETHIUM-146	L3.21-10021	10.5	23	U	-2.26	pCi/L
ZBG 8	9/5/2007	PROMETHIUM-146	L3.21-10021	10.8	24.1	U	-5.76	pCi/L
ZBG 1	9/11/2007	PROMETHIUM-146	L3.21-10021	10.3	21.4	U	3.83	pCi/L
ZBG 1	9/11/2007	PROMETHIUM-146	L3.21-10021	10.6	23.1	U	-1.63	pCi/L
ZBG 1	3/26/2007	RADIUM-226	RADA-008	0.52 9	1.44	J	0.904	pCi/L
ZBG 2	3/26/2007	RADIUM-226	RADA-008	0.67 3	1.65	J	0.833	pCi/L
ZBG 2	3/26/2007	RADIUM-226	RADA-008	0.67 8	1.52	U	0.42	pCi/L
ZBG 3	3/26/2007	RADIUM-226	RADA-008	0.85 6	1.88	U	0.447	pCi/L
ZBG 4	3/26/2007	RADIUM-226	RADA-008	0.70 7	1.86	J	1.18	pCi/L
ZBG 5	3/26/2007	RADIUM-226	RADA-008	0.57 6	1.65	J	1.4	pCi/L
ZBG 6	3/27/2007	RADIUM-226	RADA-008	0.59 7	1.5	J	0.648	pCi/L
ZBG 7	3/27/2007	RADIUM-226	RADA-008	0.67 2	1.65	J	0.832	pCi/L
ZBG 8	3/27/2007	RADIUM-226	RADA-008	0.47 7	1.25	J	0.647	pCi/L
ZBG 1	3/26/2007	RADIUM-228	RADA-009	0.67 7	1.54	U	0.551	pCi/L
ZBG 2	3/26/2007	RADIUM-228	RADA-009	0.55	1.17	U	0.168	pCi/L
ZBG 3	3/26/2007	RADIUM-228	RADA-009	0.66 6	1.51	U	0.527	pCi/L
ZBG 4	3/26/2007	RADIUM-228	RADA-009	0.69 2	1.6	U	0.635	pCi/L
ZBG 5	3/26/2007	RADIUM-228	RADA-009	0.64 5	1.85		1.96	pCi/L
ZBG 5	3/26/2007	RADIUM-228	RADA-009	0.55 2	1.58		1.6	pCi/L
ZBG 6	3/27/2007	RADIUM-228	RADA-009	0.66 9	1.6	J	0.83	pCi/L
ZBG 7	3/27/2007	RADIUM-228	RADA-009	0.72 5	1.76	J	0.934	pCi/L
ZBG 8	3/27/2007	RADIUM-228	RADA-009	0.60 7	1.33	U	0.307	pCi/L
ZBG 1	3/26/2007	SODIUM-22	L3.21-10021	8.13	17.5	U	-2.72	pCi/L
ZBG 2	3/26/2007	SODIUM-22	L3.21-10021	9.46	21.1	U	0.161	pCi/L
ZBG 3	3/26/2007	SODIUM-22	L3.21-10021	8.34	17	U	0.124	pCi/L
ZBG 4	3/26/2007	SODIUM-22	L3.21-10021	9.53	19.4	U	1	pCi/L
ZBG 5	3/26/2007	SODIUM-22	L3.21-10021	7.14	16	U	-4.31	pCi/L
ZBG 5	3/26/2007	SODIUM-22	L3.21-10021	7.18	15.7	U	-3.19	pCi/L
ZBG 6	3/27/2007	SODIUM-22	L3.21-10021	9.15	19.3	U	-1.37	pCi/L
ZBG 7	3/27/2007	SODIUM-22	L3.21-10021	9.74	20.3	U	-0.149	pCi/L
ZBG 8	3/27/2007	SODIUM-22	L3.21-10021	10.1	21.6	U	-2.59	pCi/L
ZBG 8	3/27/2007	SODIUM-22	L3.21-10021	10.1	21.7	U	0.244	pCi/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 2	9/5/2007	SODIUM-22	L3.21-10021	10.1	23	U	0.495	pCi/L
ZBG 2	9/5/2007	SODIUM-22	L3.21-10021	11.8	24.4	U	3.69	pCi/L
ZBG 3	9/5/2007	SODIUM-22	L3.21-10021	7.11	16.4	U	-4.41	pCi/L
ZBG 5	9/5/2007	SODIUM-22	L3.21-10021	8	18.8	U	-6.5	pCi/L
ZBG 6	9/5/2007	SODIUM-22	L3.21-10021	10.5	21.2	U	3.79	pCi/L
ZBG 7	9/5/2007	SODIUM-22	L3.21-10021	8.06	16.8	U	-0.0677	pCi/L
ZBG 8	9/5/2007	SODIUM-22	L3.21-10021	9.97	22.2	U	1.52	pCi/L
ZBG 1	9/11/2007	SODIUM-22	L3.21-10021	8.74	17.1	U	3.45	pCi/L
ZBG 1	9/11/2007	SODIUM-22	L3.21-10021	7.9	15.4	U	2.73	pCi/L
ZBG 3	3/26/2007	SPECIFIC CONDUCTANCE					23	uS/cm
ZBG 4	3/26/2007	SPECIFIC CONDUCTANCE					30	uS/cm
ZBG 2	3/26/2007	SPECIFIC CONDUCTANCE					17	uS/cm
ZBG 5	3/26/2007	SPECIFIC CONDUCTANCE					97	uS/cm
ZBG 1	3/26/2007	SPECIFIC CONDUCTANCE					31	uS/cm
ZBG 8	3/27/2007	SPECIFIC CONDUCTANCE					33	uS/cm
ZBG 7	3/27/2007	SPECIFIC CONDUCTANCE					17	uS/cm
ZBG 6	3/27/2007	SPECIFIC CONDUCTANCE					16	uS/cm
ZBG 1	3/26/2007	TECHNETIUM-99	L3.21-10015	0.00 44	0.009 67	U	-0.00083	pCi/mL
ZBG 1	3/26/2007	TECHNETIUM-99	L3.21-10015	0.00 45	0.009 65	U	-0.00123	pCi/mL
ZBG 2	3/26/2007	TECHNETIUM-99	L3.21-10015	0.00 45	0.009 61	U	-0.00187	pCi/mL
ZBG 3	3/26/2007	TECHNETIUM-99	L3.21-10015	0.00 44	0.009 58	U	-0.00213	pCi/mL
ZBG 4	3/26/2007	TECHNETIUM-99	L3.21-10015	0.00 45	0.009 69	U	-0.00088	pCi/mL
ZBG 5	3/26/2007	TECHNETIUM-99	L3.21-10015	0.00 45	0.009 62	U	-0.00182	pCi/mL
ZBG 6	3/27/2007	TECHNETIUM-99	L3.21-10015	0.00 44	0.009 61	U	-0.0017	pCi/mL
ZBG 7	3/27/2007	TECHNETIUM-99	L3.21-10015	0.00 44	0.009 58	U	-0.00189	pCi/mL
ZBG 8	3/27/2007	TECHNETIUM-99	L3.21-10015	0.00 44	0.009 64	U	-0.00095	pCi/mL
ZBG 2	9/5/2007	TEMPERATURE					21.3	degC
ZBG 3	9/5/2007	TEMPERATURE					21.4	degC
ZBG 5	9/5/2007	TEMPERATURE					24.8	degC
ZBG 6	9/5/2007	TEMPERATURE					22.3	degC
ZBG 7	9/5/2007	TEMPERATURE					22	degC
ZBG 8	9/5/2007	TEMPERATURE					22.6	degC
ZBG 1	9/11/2007	TEMPERATURE					19.9	degC
ZBG 4	9/24/2007	TEMPERATURE					21.8	degC
ZBG 3	3/26/2007	TEMPERATURE					19.2	degC
ZBG 4	3/26/2007	TEMPERATURE					19.5	degC
ZBG 2	3/26/2007	TEMPERATURE					22	degC
ZBG 5	3/26/2007	TEMPERATURE					20	degC
ZBG 1	3/26/2007	TEMPERATURE					19.3	degC
ZBG 8	3/27/2007	TEMPERATURE					19.1	degC
ZBG 7	3/27/2007	TEMPERATURE					19.7	degC
ZBG 6	3/27/2007	TEMPERATURE					21.1	degC
ZBG 1	3/26/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 2	3/26/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 2	3/26/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 3	3/26/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 4	3/26/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 5	3/26/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 6	3/27/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 7	3/27/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 8	3/27/2007	TETRACHLOROETHYLENE (PCE)	EPA8260B	0.3	2	U	2	ug/L
ZBG 1	3/26/2007	THALLIUM-208	L3.21-10021	9.85	21.1	U	-1.79	pCi/L
ZBG 2	3/26/2007	THALLIUM-208	L3.21-10021	11.3	23.8	U	1.07	pCi/L
ZBG 3	3/26/2007	THALLIUM-208	L3.21-10021	10.8	22.9	U	0.324	pCi/L
ZBG 4	3/26/2007	THALLIUM-208	L3.21-10021	10.4	21.8	U	0.856	pCi/L
ZBG 5	3/26/2007	THALLIUM-208	L3.21-10021	11.2	23.4	U	2.53	pCi/L
ZBG 5	3/26/2007	THALLIUM-208	L3.21-10021	10.5	23.4	U	0.891	pCi/L
ZBG 6	3/27/2007	THALLIUM-208	L3.21-10021	11.6	24.6	U	3.93	pCi/L
ZBG 7	3/27/2007	THALLIUM-208	L3.21-10021	12	25.6	U	2.31	pCi/L
ZBG 8	3/27/2007	THALLIUM-208	L3.21-10021	12.6	27.4	U	-0.599	pCi/L
ZBG 8	3/27/2007	THALLIUM-208	L3.21-10021	12.5	27.4	U	-1.63	pCi/L
ZBG 2	9/5/2007	THALLIUM-208	L3.21-10021	11.3	24.4	U	-1.3	pCi/L
ZBG 2	9/5/2007	THALLIUM-208	L3.21-10021	12	25.3	U	2.01	pCi/L
ZBG 3	9/5/2007	THALLIUM-208	L3.21-10021	10.7	23.2	U	-2.61	pCi/L
ZBG 5	9/5/2007	THALLIUM-208	L3.21-10021	11.1	23.3	U	1.75	pCi/L
ZBG 6	9/5/2007	THALLIUM-208	L3.21-10021	11.5	24.5	U	0.817	pCi/L
ZBG 7	9/5/2007	THALLIUM-208	L3.21-10021	8.63	23.4	U	6.88	pCi/L
ZBG 8	9/5/2007	THALLIUM-208	L3.21-10021	10.7	23.2	U	-2.51	pCi/L
ZBG 1	9/11/2007	THALLIUM-208	L3.21-10021	10.1	21.9	U	-3.48	pCi/L
ZBG 1	9/11/2007	THALLIUM-208	L3.21-10021	9.14	19.8	U	-3.61	pCi/L
ZBG 4	9/24/2007	THALLIUM-208	L3.21-10021	11.6	24.9	U	-1.32	pCi/L
ZBG 1	3/26/2007	TOLUENE	EPA8260B	0.3	2	U	2	ug/L
ZBG 2	3/26/2007	TOLUENE	EPA8260B	0.3	2	U	2	ug/L
ZBG 2	3/26/2007	TOLUENE	EPA8260B	0.3	2	U	2	ug/L
ZBG 3	3/26/2007	TOLUENE	EPA8260B	0.3	2		2.59	ug/L
ZBG 4	3/26/2007	TOLUENE	EPA8260B	0.3	2		2.81	ug/L
ZBG 5	3/26/2007	TOLUENE	EPA8260B	0.3	2		5.18	ug/L
ZBG 6	3/27/2007	TOLUENE	EPA8260B	0.3	2		3.13	ug/L
ZBG 7	3/27/2007	TOLUENE	EPA8260B	0.3	2		2.77	ug/L
ZBG 8	3/27/2007	TOLUENE	EPA8260B	0.3	2		4.28	ug/L
ZBG 1	3/26/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 2	3/26/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 2	3/26/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 3	3/26/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 4	3/26/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 5	3/26/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 6	3/27/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 7	3/27/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L
ZBG 8	3/27/2007	TRICHLOROETHYLENE (TCE)	EPA8260B	0.2	2	U	2	ug/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
ZBG 1	3/26/2007	TRITIUM	L3.21-10015	0.45 1	1.25		2.7	pCi/mL
ZBG 1	3/26/2007	TRITIUM	L3.21-10015	0.44 7	1.25		2.9	pCi/mL
ZBG 2	3/26/2007	TRITIUM	L3.21-10015	0.44 9	1.19		2.11	pCi/mL
ZBG 3	3/26/2007	TRITIUM	L3.21-10015	0.44 6	1.28		3.2	pCi/mL
ZBG 4	3/26/2007	TRITIUM	L3.21-10015	0.45	1.19		2.13	pCi/mL
ZBG 5	3/26/2007	TRITIUM	L3.21-10015	0.45	1.07	J	0.899	pCi/mL
ZBG 6	3/27/2007	TRITIUM	L3.21-10015	0.44 8	1.44		5.36	pCi/mL
ZBG 7	3/27/2007	TRITIUM	L3.21-10015	0.45 2	1.35		4.05	pCi/mL
ZBG 8	3/27/2007	TRITIUM	L3.21-10015	0.46 5	1.29		2.86	pCi/mL
ZBG 2	9/5/2007	TRITIUM	L3.21-10015	0.50 4	1.31		2.19	pCi/mL
ZBG 3	9/5/2007	TRITIUM	L3.21-10015	0.50 1	1.37		3.08	pCi/mL
ZBG 5	9/5/2007	TRITIUM	L3.21-10015	0.50 2	1.25		1.65	pCi/mL
ZBG 6	9/5/2007	TRITIUM	L3.21-10015	0.49 7	1.51		5.06	pCi/mL
ZBG 7	9/5/2007	TRITIUM	L3.21-10015	0.50 3	1.43		3.78	pCi/mL
ZBG 8	9/5/2007	TRITIUM	L3.21-10015	0.50 7	1.38		3.03	pCi/mL
ZBG 1	9/11/2007	TRITIUM	L3.21-10015	0.50 3	1.44		3.85	pCi/mL
ZBG 4	9/24/2007	TRITIUM	L3.21-10015	0.61 6	1.49		1.73	pCi/mL
ZBG 2	9/5/2007	TURBIDITY					13	NTU
ZBG 3	9/5/2007	TURBIDITY					1.7	NTU
ZBG 5	9/5/2007	TURBIDITY					80	NTU
ZBG 6	9/5/2007	TURBIDITY					2.7	NTU
ZBG 7	9/5/2007	TURBIDITY					28	NTU
ZBG 8	9/5/2007	TURBIDITY					280	NTU
ZBG 1	9/11/2007	TURBIDITY					15	NTU
ZBG 4	9/24/2007	TURBIDITY					38	NTU
ZBG 3	3/26/2007	TURBIDITY					22	NTU
ZBG 4	3/26/2007	TURBIDITY					90	NTU
ZBG 2	3/26/2007	TURBIDITY					3.1	NTU
ZBG 1	3/26/2007	TURBIDITY					14	NTU
ZBG 8	3/27/2007	TURBIDITY					230	NTU
ZBG 7	3/27/2007	TURBIDITY					4.9	NTU
ZBG 6	3/27/2007	TURBIDITY					4.7	NTU

Definitions:

MDL	method detection limit
PQL	practical quantitation limit
LAB QUALIFIER	USEPA Functional Guideline Codes applied by labs.

USEPA Functional Guideline Codes

- J The detected analyte was positively identified but the result is approximate.
- NJ The detected analyte was only tentatively identified and the result is approximate. All usable TIC results receive this code.
- U The analyte was analyzed for, but not detected. The sample detection and quantitation limits (MDL & SQL) are valid unless blank contamination is indicated.
- UJ The analyte was analyzed for, but not detected. The MDL & SQL are approximate, and may be inaccurate or imprecise.
- R The sample result is rejected as unusable due to serious deficiencies in meeting quality control criteria. The analyte may be present or absent.