Q5

Los Alamos
NATIONAL LABORATORY
EST. 1943

Environmental Programs
P.O. Box 1663, MS M991
Los Alamos, New Mexico 87545
(505) 606-2337/FAX (505) 665-1812

ENTERED

National Nuclear Security Administration
Los Alamos Site Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
(505) 667-4255/FAX (505) 606-2132

Date: AUG 27 2012
Refer To: EP2012-0173

John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of Replacement Appendix B of the R-62 Well Completion Report

Dear Mr. Kieling:

Enclosed please find two hard copies with electronic files of the replacement Appendix B of the R-62 well completion report, which includes the results from samples GW62-11-25564, GW62-11-25565, GW62-11-25566, and GW62-11-25567. The analytical results for these four samples were missing from the original submittal. In addition, several other samples collected for the analysis of anions, cations, and total organic carbon were not included in the original tables; these have been added to the appendix.

Because of the above additions to Appendix B, several clarifications for the main text of the report should be noted:

- Section 4.2, para. 1: Three samples were collected from the perched horizon encountered at a depth of 628 ft rather than one sample as originally indicated. These samples were analyzed for total metals, cations, and anions.
- Section 4.2, para. 2: A single sample was collected from the perched horizon encountered at a depth of 920 ft. This sample was analyzed for total metals, cations, and anions.

Los Alamos National Laboratory regrets any inconvenience the omission may have caused.

If you have any questions, please contact Ted Ball at (505) 665-3996 (tedball@lanl.gov) or Lance (Woody) Woodworth at (505) 665-5820 (lance.woodworth@nnsa.doe.gov).

Sincerely,

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

Peter Maggiore, Assistant Manager
Environmental Projects Office
Los Alamos Site Office

MG/PM/CD/TB:sm

Enclosures: Two hard copies with electronic files – Replacement Appendix B of the R-62 Well Completion Report (LA-UR-12-23326)

Cy: (w/enc.)
Lance Woodworth, DOE-LASO, MS A316
Ted Ball, MNGRFCT-DO, MS J590
Public Reading Room, MS M992 (hard copy)
RPF, MS M707 (electronic copy)

Cy: (Letter and CD and/or DVD)
Laurie King, EPA Region 6, Dallas, TX
Steve Rydeen, San Ildefonso Pueblo
Joe Chavarria, Santa Clara Pueblo
Steve Yanicak, NMED-DOE-OB, MS M894
Eberline (w/ MS Word files on CD)
William Alexander, EP-BPS, MS M992

Cy: (w/o enc.)
Tom Skibitski, NMED-OB, Santa Fe, NM (date-stamped letter emailed)
Annette Russell, DOE-LASO (date-stamped letter emailed)
Craig Douglass, EP-CAP, MS M996 (date-stamped letter emailed)
Michael J. Graham, ADEP, MS M991 (date-stamped letter emailed)

Appendix B

Groundwater Screening Analytical Results

B-1.0 SCREENING GROUNDWATER ANALYSIS AT R-62

Well R-62 is a regional aquifer monitoring well with one screened interval from 1158.4 to 1179.1 ft below ground surface (bgs) in the Miocene pumiceous sediments. Regional aquifer well R-62 is located in Technical Area 05 at Los Alamos National Laboratory (LANL or the Laboratory). This appendix presents the screening analytical results for samples collected during drilling, well development and aquifer testing at R-62.

Laboratory Analyses

Perched water samples were collected during drilling for metals, cations, anions, alkalinity, and pH analysis at depths of 628 ft and 920 ft bgs. Thirty groundwater samples were collected during well development for total organic carbon (TOC) analysis. Twenty-five groundwater samples were collected during well development for metals, cations, anions, alkalinity, and pH analysis. The Laboratory's Earth and Environmental Sciences Group 14 conducted the analyses. Table B-1.0-1 lists samples submitted for analysis from R-62.

Field Analyses

Groundwater samples were also collected from a flow-through cell at regular intervals during well development and aquifer testing and measured for pH, specific conductance (SC), temperature, dissolved oxygen (DO), total dissolved solids (TDS), oxidation-reduction potential (ORP), and turbidity.

B-2.0 SCREENING ANALTICAL RESULTS

This section presents the analytical results and field parameters measured during drilling, well development, and aquifer testing. R-62 will be sampled quarterly for 1 yr, after which the data will be assessed and the well incorporated into the Interim Facility-Wide Groundwater Monitoring Plan. Data from ongoing sampling at R-62 will be analyzed and presented in the appropriate Laboratory periodic monitoring report.

B-2.1 TOC

TOC was detected in 21 of the 30 samples collected during groundwater development in concentrations ranging from 0.2 to 6.6 mg/L (Table B-2.1-1).

B-2.2 Field Parameters

Parameters were collected only during the first, third, fourth and fifth phase of well development. Field parameters were not measured during the aquifer testing and second phase of development because of the high turbidity of the groundwater. Field parameters are presented in Table B-2.2-1.

The field parameter measurements at the end of development were: pH of 7.98, temperature of 19.86°C; SC was not recorded; and turbidity of 27.6 nephelometric turbidity units (NTU). The TOC concentration in sample GW62-12-12282, collected on March 11, 2012, was 0.7 mg/L.

B-2.3 Dissolved Metals, Anions, and Cations

No samples collected during well development or aquifer testing detected values above Section 20.6.2.3103 NMAC groundwater human health, domestic water supply, or irrigation standards. Analytical results are listed in Tables B-2.3-1 and B-2.3-2.

Table B-1.0-1
Samples from R-62 Submitted for Analysis

Location ID	Sample ID	Date Collected	Collection Depth (ft bgs)	Sample Type	Metals[a]	Anions	Cations	TOC	pH/ Alkalinity
Drilling									
R-62	GW62-11-25564	8/9/2011	628	R-62 Perched groundwater sample	X[b]	X	X	—[c]	X
R-62	GW62-11-25565	8/9/2011	628	R-62 Perched groundwater sample	X	X	X	—	X
R-62	GW62-11-25566	8/9/2011	628	R-62 Perched groundwater sample	X	X	X	—	X
R-62	GW62-11-25567	8/26/2011	920	R-62 Perched groundwater sample	X	X	X	—	X
Well Development									
R-62	GW62-11-28118	10/5/2011	n/a[d]	Regional groundwater (bailer)	—	—	—	X	—
R-62	GW62-11-28120	10/9/2011	1180	Regional groundwater (pump lift)	—	—	—	X	—
R-62	GW62-11-28121	10/10/2011	1180	Regional groundwater (pump lift)	—	—	—	X	—
R-62	GW62-11-28122	10/18/2011	1180	Regional groundwater (pump lift)	—	—	—	X	—
R-62	GW62-11-28123	10/26/2011	1180	Regional groundwater (pump lift)	—	—	—	X	—
R-62	GW62-12-2219	1/27/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2205	1/27/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2206	1/27/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2220	1/27/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2207	1/28/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2209	1/28/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2208	1/28/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2210	1/28/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2211	1/29/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2213	1/29/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2212	1/29/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—

Table B-1.0-1 (continued)

Location ID	Sample ID	Date Collected	Collection Depth (ft bgs)	Sample Type	Metals[a]	Anions	Cations	TOC	pH/ Alkalinity
R-62	GW62-12-2214	1/29/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2215	1/30/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2217	1/30/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2216	1/30/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2218	1/30/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2225	1/31/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2224	1/31/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2272	2/7/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2275	2/7/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2270	2/8/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2268	2/9/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2269	2/9/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2266	2/10/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2267	2/10/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2262	2/11/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2264	2/11/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2273	2/12/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2274	2/12/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2261	2/13/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2265	2/13/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2271	2/18/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X

Table B-1.0-1 (continued)

Location ID	Sample ID	Date Collected	Collection Depth (ft bgs)	Sample Type	Metals[a]	Anions	Cations	TOC	pH/ Alkalinity
R-62	GW62-12-2277	3/7/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-2278	3/7/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-12281	3/10/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-12280	3/9/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-12279	3/8/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-12291	3/10/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-12292	3/11/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-12282	3/11/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-12283	3/12/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-12293	3/12/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-12284	3/13/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-12294	3/13/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-12285	3/14/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X
R-62	GW62-12-12295	3/14/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2263	2/6/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-12289	3/8/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-12290	3/9/2012	1180	Regional groundwater (pump lift)	X	X	X	—	—
R-62	GW62-12-2276	2/6/2012	1180	Regional groundwater (pump lift)	—	—	—	X	X

[a] Samples GW62-11-25564, -25565, -25566, and -25567 were unfiltered and analyzed for total metals. The rest of the samples were filtered and analyzed for dissolved metals.

[b] X = Analyzed.

[c] — = Not analyzed.

[d] n/a = Not applicable.

Table B-2.1-1
Analytical Results (TOC) Collected during R-62 Well Development

Sample ID	Analytical Method	Date Analyzed	TOC Concentration (mg/L)	Qualifier
GW62-11-28118	SW-846:9060	10/6/2011	5.3	
GW62-11-28120	SW-846:9060	10/12/2011	0.5	
GW62-11-28121	SW-846:9060	10/12/2011	0.4	
GW62-11-28122	SW-846:9060	10/20/2011	0.3	
GW62-11-28123	SW-846:9060	11/8/2011	0.4	
GW62-12-2205	SW-846:9060	1/30/2012	0.4	
GW62-12-2207	SW-846:9060	1/30/2012	0.2	U
GW62-12-2209	SW-846:9060	1/30/2012	0.4	
GW62-12-2211	SW-846:9060	1/30/2012	0.2	U
GW62-12-2213	SW-846:9060	1/30/2012	0.2	U
GW62-12-2215	SW-846:9060	1/30/2012	0.2	U
GW62-12-2217	SW-846:9060	1/31/2012	0.2	
GW62-12-2219	SW-846:9060	1/30/2012	6.6	
GW62-12-2225	SW-846:9060	1/31/2012	0.2	
GW62-12-2264	SW-846:9060	2/15/2012	1.0	
GW62-12-2265	SW-846:9060	2/15/2012	0.2	U
GW62-12-2267	SW-846:9060	2/15/2012	0.2	
GW62-12-2269	SW-846:9060	2/15/2012	0.2	
GW62-12-2271	SW-846:9060	2/9/2012	0.4	
GW62-12-2274	SW-846:9060	2/15/2012	0.2	U
GW62-12-2275	SW-846:9060	2/8/2012	0.7	
GW62-12-2276	SW-846:9060	2/8/2012	0.2	U
GW62-12-2277	SW-846:9060	3/8/2012	2.7	
GW62-12-12279	SW-846:9060	3/13/2012	0.2	
GW62-12-12280	SW-846:9060	3/13/2012	0.2	U
GW62-12-12281	SW-846:9060	3/13/2012	1.8	
GW62-12-12282	SW-846:9060	3/13/2012	0.7	
GW62-12-12283	SW-846:9060	3/13/2012	0.92	
GW62-12-12284	SW-846:9060	3/16/2012	0.2	U
GW62-12-12285	SW-846:9060	3/21/2012	0.21	

Notes: U = Undetected. Blank cells indicate the analytical results are not qualified.

Table B-2.2-1
Purge Volumes and Field Parameters during Well Development and Aquifer Testing at R-62

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
Well Development (First Phase)											
10/4/2011	13:40–16:30	—*	—	—	—	—	—	—	Bailer	55	55
10/5/2011	12:03–16:55	—	—	—	—	—	—	—	Bailer	110	165
10/6/2011	07:15–15:00	—	—	—	—	—	—	—	Bailer	135	300
10/8/2011	06:10–12:30	—	—	—	—	—	—	—	1157.5	60	360
10/9/2011	12:30	9.07	999.0	Over range of instrument	5.20	18.18	—	-23	1179.7	217	577
	13:00	8.88	999.0	Over range of instrument	3.97	18.61	—	6	1179.7	80	657
	13:30	8.59	925	Over range of instrument	5.16	18.18	—	29	1179.7	75	732
	14:00	8.50	876	Over range of instrument	5.54	18.57	—	39	1179.7	75	807
	14:30	8.47	849	Over range of instrument	5.69	18.54	—	45	1179.7	75	882
	15:00	8.40	817	Over range of instrument	5.81	18.48	—	50	1179.7	75	957
	15:30	8.38	798	Over range of instrument	6.11	19.12	—	51	1179.7	75	1032
	16:00	8.35	790	Over range of instrument	6.06	18.55	—	54	1179.7	75	1107
	16:30	8.30	774	Over range of instrument	6.26	18.53	—	58	1179.7	75	1182
	17:00	8.30	770	Over range of instrument	6.24	18.49	—	59	1179.7	75	1257
	17:30	8.26	761	Over range of instrument	6.22	18.46	—	63	1179.7	75	1332
10/10/2011	6:30	8.00	766	747	5.62	15.15	—	65	1179.7	71	1403
	7:00	8.28	783	Over range of instrument	4.60	14.85	—	80	1179.7	61	1464
	7:30	8.57	862	633	6.29	17.02	—	64	1179.7	67	1531
	8:00	8.16	783	Over range of instrument	6.44	18.22	—	64	1179.7	70	1601
	8:30	8.34	756	Over range of instrument	6.56	18.52	—	67	1179.7	73	1674
	9:00	8.29	744	696.0	6.75	18.59	—	70	1179.7	74	1748
	9:30	8.25	748	674.0	6.76	18.75	—	73	1179.7	73	1821

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
10/10/2011	10:00	8.21	740	523	6.37	18.49	—	74	1179.7	73	1894
	10:30	8.20	733	480	6.42	19.02	—	74	1179.7	73	1967
	11:00	8.19	725	451	6.73	19.14	—	76	1179.7	73	2040
	11:30	8.17	720	420	6.77	19.09	—	77	1179.7	70	2110
	12:00	8.16	716	354	7.14	19.18	—	79	1179.7	73	2183
	12:30	8.15	647	330	6.74	19.33	—	81	1179.7	71	2254
	13:00	8.15	714	371	7.17	19.32	—	80	1179.7	71	2325
	13:30	8.15	714	337	7.30	19.39	—	81	1179.7	73	2398
	14:00	8.10	707	317	7.16	14.38	—	82	1179.7	70	2468
	14:30	8.13	723	295	7.21	19.20	—	84	1179.7	70	2538
	15:00	8.12	711	269	7.27	19.22	—	85	1179.7	70	2608
	15:30	8.10	706	241	7.37	19.30	—	84	1179.7	70	2678
	16:00	8.12	701	283	7.35	19.30	—	86	1179.7	72	2750
	16:30	8.14	640	242	7.41	19.33	—	85	1179.7	73	2823
	17:00	8.10	702	293	7.50	19.41	—	87	1179.7	70	2893
	17:30	8.04	695	515	7.47	17.09	—	91	1179.7	70	2961
10/11/2011	6:30	7.93	699	239	6.28	15.32	—	84	1179.7	75	3036
Aquifer Pump Test											
10/12/11–10/17/11	—	—	—	—	—	—	—	—	—	300	3336
Well Development (Second Phase)											
10/18/11–10/25/11	—	—	—	—	—	—	—	—	—	3096	6432
Well Development (Third Phase)											
1/27/2012	8:00	9.16	91.9	-5	0	14.28	0.59	262	—	—	—
	8:15	9.13	72.4	-5	1.42	17.4	0.46	220	—	—	—
	8:30	9.17	69.1	-5	1.63	17.96	0.44	207	—	—	—
	9:00	8.78	47.8	223	1.77	18.44	0.32	202	—	—	—
	9:30	8.68	43.5	724	3.54	18.30	0.28	200	—	—	—
	9:34	8.57	40.9	398	4.03	19.14	0.25	204	—	—	—
	10:00	8.45	39.1	302	4.73	19.17	0.25	206	—	—	—
	10:30	8.31	37.0	262	5.11	19.19	0.24	207	—	—	—
	11:00	8.16	37.1	213	5.79	19.08	0.24	213	—	—	—
	11:30	7.95	35.4	123	6.05	19.25	0.23	215	—	—	—
	12:00	8.07	35.2	174	5.97	19.22	0.23	198	—	—	—
	12:30	8.17	34.5	74.6	6.11	19.35	0.22	186	—	—	—

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
1/27/2012	13:00	7.74	32.7	67.8	6.72	19.24	0.22	207	—	—	—
	13:30	8.09	33.2	84.0	6.33	19.23	0.22	183	—	—	—
	14:00	7.91	33.3	40.5	6.32	19.64	0.22	198	—	—	—
	14:30	8.14	33.2	143	6.3	19.02	0.22	188	—	—	—
	15:00	8.08	33.1	80.7	5.88	19.3	0.21	190	—	—	—
	15:30	8.17	33.2	45.9	5.99	19.36	0.22	185	—	—	—
	16:00	8.04	32.7	68.3	6.09	19.07	0.21	194	—	—	—
	16:30	8.13	32.9	92.9	6.24	18.51	0.21	194	—	—	—
	17:00	8.09	31.8	48.2	6.13	18.55	0.21	194	—	—	—
	17:30	8.09	31.7	65.9	6.10	18.34	0.21	202	—	—	—
	18:00	8.07	31.5	121.0	5.95	18.3	0.20	204	—	—	—
	18:30	8.05	31.7	46.8	6.09	17.95	0.20	208	—	—	—
	19:00	8.07	31.4	38.7	6.1	18.1	0.20	209	—	—	—
	19:30	8.07	31.6	57.1	6.06	18.14	0.21	209	—	—	—
	20:00	8.07	3.4	38.8	6.36	18.03	0.21	210	—	1914	8346
	20:30	8.08	31.2	87.1	6.27	18.58	0.20	187	—	—	—
	21:00	8.07	31.3	89.8	6.23	18.63	0.20	190	—	—	—
	21:30	8.09	31.0	104.0	6.20	18.70	0.20	191	—	—	—
	22:00	8.07	31.2	112.1	6.30	18.61	0.20	191	—	—	—
	22:30	8.07	31.2	87.2	6.31	18.52	0.20	191	—	—	—
	23:00	8.06	31.2	56.7	6.33	18.45	0.20	191	—	—	—
	23:30	8.05	31.0	122	6.45	18.24	0.20	192	—	—	—
1/28/2012	0:00	8.05	31.2	105.7	6.45	18.24	0.20	192	—	—	—
	0:30	8.05	31.0	98.3	6.45	18.24	0.20	192	—	—	—
	1:00	8.05	31.0	101.3	6.43	18.25	0.20	192	—	—	—
	1:30	8.03	30.8	79.6	6.42	18.29	0.20	193	—	—	—
	2:00	8.03	30.9	217.0	6.42	18.12	0.20	194	—	—	—
	2:30	8.03	30.5	162.0	6.41	18.34	0.20	193	—	—	—
	3:00	8.02	30.9	129	6.42	18.38	0.20	192	—	—	—
	3:30	8.03	30.6	87	6.40	18.33	0.20	193	—	—	—
	4:00	8.01	30.7	146	6.47	18.31	0.20	193	—	—	—
	4:30	8.01	30.7	112	6.62	18.23	0.20	193	—	—	—
	5:00	8.00	30.6	66	6.49	18.27	0.20	193	—	—	—
	5:30	8.02	30.6	75	6.70	18.19	0.20	192	—	—	—
	6:00	7.97	30.6	55	6.72	18.08	0.20	171	—	—	—

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
1/28/2012	6:30	7.99	27.5	35	6.82	17.15	0.18	185	—	—	—
	7:00	8.00	27.2	30	6.77	17.43	0.18	192	—	—	—
	7:30	7.99	30.1	27	6.97	17.45	0.20	198	—	—	—
	8:00	7.86	30.4	98	6.97	18.92	0.20	198	—	—	—
	8:30	8.03	30.6	72	6.40	10.19	0.20	173	—	—	—
	9:00	8.07	30.8	59.9	6.68	19.28	0.20	170	—	—	—
	9:30	8.07	30.0	30.2	6.45	19.72	0.20	172	—	—	—
	10:00	8.08	30.1	25.5	6.57	18.97	0.20	167	—	—	—
	10:30	8.08	30.2	29.0	6.56	18.83	0.20	165	—	—	—
	11:00	8.05	29.8	31.0	6.60	19.21	0.19	163	—	—	—
	11:30	8.02	29.9	24.3	6.63	19.23	0.20	162	—	—	—
	12:00	7.98	30.0	27.1	6.63	19.17	0.19	160	—	—	—
	12:30	8.04	30.0	18.8	7.16	18.04	0.19	164	—	—	—
	13:00	8.01	30.0	32.4	6.93	17.72	0.20	168	—	—	—
	13:30	7.97	30.3	33.7	7.90	19.28	0.20	176	—	—	—
	14:00	7.89	30.6	27.2	6.89	19.75	0.20	186	—	—	—
	14:30	7.97	29.7	27.1	7.31	18.21	0.19	180	—	—	—
	15:00	7.98	29.3	25.1	6.75	19.49	0.19	172	—	—	—
	15:30	7.99	29.4	21.8	6.85	19.62	0.19	175	—	—	—
	16:00	7.99	30.4	25.6	6.62	19.02	0.20	184	—	—	—
	16:30	7.96	31.2	20.2	6.54	.19.49	0.20	200	—	—	—
	17:00	7.74	30.3	15.3	8.09	20.42	0.20	200	—	—	—
	17:30	7.94	30.0	29.1	6.55	19.68	0.20	182	—	—	—
	18:00	7.91	30.1	24	6.71	19.72	0.20	185	—	—	—
	18:30	7.99	30.0	19	6.83	19.71	0.20	186	—	—	—
	19:00	7.99	29.9	22.2	6.60	19.0	0.19	184	—	—	—
	19:30	7.97	30.0	15.3	6.89	19.8	0.19	178	—	—	—
	20:00	7.94	29.6	20.1	6.63	19.61	0.19	183	—	1391	9737
	20:30	7.98	29.8	15.0	6.57	18.87	0.19	188	—	—	—
	21:00	7.98	29.6	18.0	6.63	19.46	0.19	188	—	—	—
	21:30	7.98	29.5	18.3	6.68	19.41	0.19	189	—	—	—
	22:00	7.96	29.7	18.1	6.49	19.23	0.19	197	—	—	—
	22:30	7.97	29.7	17.0	6.43	19.04	0.19	199	—	—	—
	23:00	7.96	29.7	16.5	6.80	18.93	0.19	181	—	—	—
	23:30	7.97	29.7	15.7	7.12	18.99	0.18	185	—	—	—

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
1/29/2012	0:00	7.97	29.6	13.1	7.09	18.81	0.18	208	—	—	—
	0:30	—	29.6	14.1	7.09	18.75	0.19	209	—	—	—
	1:00	7.97	29.5	13.1	7.20	18.46	0.19	212	—	—	—
	1:30	7.97	29.6	13.5	7.21	1850	0.19	210	—	—	—
	2:00	7.98	29.4	13.0	7.52	18.68	0.19	2.16	—	—	—
	2:30	7.98	29.4	13.0	7.52	18.70	0.19	215	—	—	—
	3:00	7.98	29.2	14.1	7.50	18.70	0.19	220	—	—	—
	3:30	7.97	29.0	15.0	7.31	18.02	0.19	220	—	—	—
	4:00	7.97	29.1	14.3	6.93	18.80	0.19	205	—	—	—
	4:30	7.97	29.3	14.8	6.75	18.86	0.19	210	—	—	—
	5:00	7.99	29.3	14.5	6.51	18.66	0.19	203	—	—	—
	5:30	7.96	29.3	14.5	6.86	19.03	0.19	204	—	—	—
	6:00	7.87	30.1	—	7.14	18.45	0.20	216	—	—	—
	6:30	7.99	29.3	13.4	6.70	19.35	0.19	199	—	—	—
	7:00	7.99	29.4	13.2	6.65	19.43	0.19	193	—	—	—
	7:30	7.95	29.8	15.3	6.89	14.26	0.19	193	—	—	—
	8:00	7.99	29.2	14.1	6.52	19.08	0.19	192	—	1017	10,754
	8:30	7.96	29.6	11.3	7.43	20.25	0.19	189	—	—	—
	9:00	8.07	28.9	13.1	7.66	19.62	0.20	191	—	—	—
	9:30	7.97	29.8	13.0	7.64	20.17	0.19	185	—	—	—
	10:00	8.03	29.5	18.3	7.0	26.5	0.19	186	—	—	—
	10:30	8.03	29.6	30	7.06	20.5	0.19	184	—	—	—
	11:00	7.97	29.8	21.5	6.61	19.72	0.19	167	—	—	—
	11:30	7.98	30.0	18.0	6.94	20.05	0.19	166	—	—	—
	12:00	8.01	29.6	15.3	6.82	20.09	0.19	162	—	—	—
	12:30	8.02	29.5	12.8	6.55	20.21	0.19	161	—	—	—
	13:00	7.98	29.4	14.1	7.52	20.21	0.19	170	—	—	—
	13:30	8.02	29.5	13.2	6.72	19.82	0.19	170	—	—	—
	14:00	7.99	29.3	15.3	6.90	20.6	0.19	167	—	—	—
	14:30	8.02	29.2	13.1	6.73	20.5	0.19	164	—	—	—
	15:00	7.95	29.4	10.8	6.75	20.58	0.19	162	—	—	—
	15:30	7.99	29.2	13.3	6.64	19.99	0.19	157	—	—	—
	16:00	7.97	29.2	11.7	6.91	20.24	0.19	162	—	—	—
	16:30	7.96	29.2	13.2	7.28	19.32	0.19	173	—	—	—
	17:00	7.93	29.3	12.0	6.98	20.25	0.19	175	—	—	—

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
1/29/2012	17:30	7.98	29.2	13.3	6.8	19.67	0.19	177	—	—	—
	18:00	7.91	29.4	17.6	6.78	20.07	0.19	180	—	—	—
	18:30	7.91	29.5	14.4	6.9	19.86	0.19	181	—	—	—
	19:00	7.98	29.4	15.7	6.7	19.27	0.19	179	—	—	—
	19:30	7.98	29.4	13.6	6.72	18.95	0.19	185	—	—	—
	20:00	7.96	29.5	15.7	6.92	19.90	0.19	179	—	987	11,741
	20:30	7.96	29.3	15.7	6.72	19.90	0.19	180	—	—	—
	21:00	7.96	29.2	15.4	6.69	19.80	0.19	181	—	—	—
	21:30	7.97	25.4	13.2	6.84	19.37	0.19	183	—	—	—
	22:00	7.97	29.2	13.5	7.42	18.29	0.19	192	—	—	—
	22:30	7.99	29.4	13.1	7.19	19.27	0.19	188	—	—	—
	23:00	7.97	29.4	12.5	7.03	19.25	0.19	188	—	—	—
	23:30	7.97	29.2	12.4	6.83	19.21	0.19	190	—	—	—
1/30/2012	0:00	7.97	29.2	12.5	6.95	19.30	0.19	190	—	—	—
	0:30	7.95	29.3	12.4	7.05	19.34	0.19	200	—	—	—
	1:00	7.95	29.3	13.0	7.05	19.20	0.19	200	—	—	—
	1:30	7.96	29.2	13.4	7.14	19.00	0.19	205	—	—	—
	2:00	7.97	30.2	13.4	7.08	19.01	0.19	203	—	—	—
	2:30	7.95	29.3	12.9	6.72	19.09	0.19	207	—	—	—
	3:00	7.95	29.2	14.0	6.95	18.92	0.19	205	—	—	—
	3:30	7.96	29.2	13.9	7.45	19.11	0.19	210	—	—	—
	4:00	7.95	29.2	12.7	7.15	19.18	0.19	206	—	—	—
	4:30	7.96	29.1	14.7	7.60	20.08	0.19	214	—	—	—
	5:00	7.96	29.2	14.0	6.85	19.75	0.19	190	—	—	—
	5:30	7.95	29.3	14.2	6.95	19.75	0.19	190	—	—	—
	6:00	7.96	29.4	14.6	6.93	19.64	0.19	193	—	—	—
	6:30	7.95	29.1	14.5	6.35	19.42	0.19	196	—	—	—
	7:00	7.96	29.2	13.5	6.87	19.34	0.19	147	—	—	—
	7:30	7.92	29.5	13.8	7.08	19.15	0.19	195	—	—	—
	8:00	7.89	29.5	16.7	7.01	20.47	0.19	182	—	949	12,690
	8:30	8.03	28.8	11.7	6.58	19.80	0.19	176	—	—	—
	8:45	3.93	0.447	0	13.24	9.17	2.9	334	—	—	—
	9:00	7.53	33.5	3.0	10.68	20.17	0.22	209	—	—	—
	9:30	7.78	33.5	3.4	10.41	20.33	0.22	166	—	—	—
	10:00	7.55	33.1	3.1	11.25	20.08	0.22	171	—	—	—

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
1/30/2012	10:30	7.72	33.1	4.8	9.79	20.19	0.22	183	—	—	—
	11:00	7.78	33.6	2.4	9.52	20.15	0.22	192	—	—	—
	11:30	7.77	33.7	1.7	9.97	20.57	0.22	189	—	—	—
	12:00	7.79	33.4	2.5	9.50	20.49	0.22	191	—	—	—
	12:30	7.8	33.5	1.9	11.95	20.92	0.22	208	—	—	—
	13:00	7.82	34.0	3.8	11.37	20.22	0.22	178	—	—	—
	13:30	7.76	34.0	2.2	12.15	20.14	0.22	169	—	—	—
	14:00	7.75	34.2	2.6	10.44	20.31	0.22	178	—	—	—
	14:30	7.75	33.8	1.5	10.51	20.33	0.22	186	—	—	—
	15:00	7.78	33.5	0	10.32	20.26	0.22	187	—	—	—
	15:30	7.79	33.8	1.3	10.38	20.54	0.22	189	—	—	—
	16:00	7.72	33.2	0.6	11.90	20.55	0.22	175	—	—	—
	16:30	7.76	33.1	0	10.70	20.29	0.22	189	—	—	—
	17:00	7.73	33.3	0	11.24	20.54	0.22	175	—	—	—
	17:30	7.73	33.3	0.1	12.11	19.40	0.22	186	—	—	—
	18:00	7.78	33.2	0	12.27	19.12	0.22	183	—	—	—
	18:30	7.78	33.2	0.2	12.17	19.35	0.22	188	—	—	—
	19:00	7.77	33.3	0	12.08	19.41	0.22	187	—	—	—
	19:30	7.77	33.1	0	12.15	19.13	0.22	191	—	—	—
	20:00	7.75	33.3	0	117.3	20.04	0.22	186	—	880	13,570
	20:30	7.78	33.2	2.1	12.26	19.25	0.21	193	—	—	—
	21:00	7.79	33.3	0	11.92	19.20	0.21	189	—	—	—
	21:30	7.78	33.3	0	11.90	19.20	0.22	193	—	—	—
	22:00	7.79	33.2	0	11.00	19.05	0.22	192	—	—	—
	22:30	7.79	33.2	0	11.51	19.53	0.21	193	—	—	—
	23:00	7.8	33.0	0	12.15	19.69	0.21	197	—	—	—
	23:30	7.78	33.1	0	12.35	19.21	0.22	202	—	—	—
1/31/2012	0:00	7.8	33.1	0	12.37	18.90	0.21	198	—	—	—
	0:30	7.76	33.0	0	12.32	19.52	0.21	201	—	—	—
	1:00	7.77	33.0	0	12.39	19.69	0.21	204	—	—	—
	1:30	7.78	33.0	0	12.40	19.52	0.21	204	—	—	—
	2:00	7.78	33.0	0	12.40	19.40	0.21	207	—	—	—
	2:30	7.76	33.0	0	11.72	19.87	0.21	200	—	—	—
	3:00	7.73	33.2	0	11.56	19.88	0.22	199	—	—	—
	3:30	7.78	33.0	0	11.29	19.90	0.22	197	—	—	—

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
1/31/2012	4:00	7.76	33.2	0	11.26	18.37	0.22	195	—	—	—
	4:30	7.79	33.1	0	12.02	19.12	0.22	195	—	—	—
	5:00	7.79	33.2	0	12.32	19.22	0.21	201	—	—	—
	5:30	7.78	33.1	0	12.32	19.22	0.22	200	—	—	—
	6:00	7.76	33.2	0	12.34	19.19	0.22	208	—	—	—
	6:30	7.71	33.2	0	10.34	15.05	0.22	218	—	—	—
	7:00	7.77	33.1	0	11.60	19.83	0.22	205	—	—	—
	7:30	7.80	33.0	0	12.33	19.07	0.21	209	—	—	—
	8:00	7.81	33.1	0	11.30	20.01	0.21	205	—	842	14,412
2/6/2012	11:25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—
	—	4	0.5	0.0	9.39	12.24	2.90	342	—	—	—
	—	4.04	0.5	0.0	8.50	12.19	2.90	340	—	—	—
	11:35	—	—	—	—	—	—	—	—	—	—
	12:40	—	—	—	—	13.70	—	—	—	—	—
	12:45	7.04	32.8	89.0	7.39	13.70	0.21	184	—	—	—
	13:00	7.69	36.4	116.0	8.69	14.51	0.22	142	—	—	—
	13:15	8.49	35.2	63.3	4.54	16.13	0.23	129	—	—	—
	13:30	8.46	34.8	44.2	6.90	19.05	0.22	206	—	—	—
	13:45	8.52	33.9	46.4	7.73	18.79	0.22	188	—	—	—
	14:06	8.29	33.0	24.8	7.80	19.22	0.22	185	—	—	—
	14:45	8.02	32.5	33.6	6.69	18.77	0.21	196	—	—	—
	15:15	7.88	31.6	36.6	7.41	19.11	0.21	198	—	—	—
	15:30	7.88	31.5	10.9	7.48	19.17	0.21	201	—	—	—
	16:00	7.86	29.6	3.3	7.62	18.67	0.20	197	—	—	—
	16:05	—	—	—	—	—	—	—	—	519.9	16726.0
2/7/2012	7:15	—	—	—	—	—	—	—	—	—	—
	15:14	7.73	29.0	53.2	7.89	19.67	0.19	226	—	—	—
	15:15	—	—	—	—	—	—	—	—	1200.0	17926.0
2/8/2012	7:30	—	—	—	—	—	—	—	—	—	—
	16:32	7.68	29.0	24.7	7.90	19.79	0.19	209	—	—	—
	16:40	—	—	—	—	—	—	—	—	—	—
	16:45	7.75	29.1	42.0	7.89	19.76	0.19	198	—	—	—
	17:00	—	—	—	—	—	—	—	—	1398.7	19324.7

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
2/9/2012	7:01	—	—	—	—	—	—	—	—	—	—
	16:33	7.78	28.8	59.4	7.52	19.84	0.18	202	—	—	—
	16:45	—	—	—	—	—	—	—	—	—	—
	16:54	7.78	28.2	113.0	7.52	19.26	0.18	191	—	—	—
	16:55	—	—	—	—	—	—	—	—	1484.0	20808.7
2/10/2012	7:15	—	—	—	—	—	—	—	—	—	—
	17:00	7.92	28.9	44.4	7.34	19.54	0.19	200	—	—	—
	17:15	—	—	—	—	—	—	—	—	1530.2	22338.9
2/11/2012	7:15	—	—	—	—	—	—	—	—	—	—
	17:00	7.89	29.8	71.1	7.54	19.42	0.19	181	—	—	—
	17:15	—	—	—	—	—	—	—	—	1566.9	23905.8
2/12/2012	7:00	—	—	—	—	—	—	—	—	—	—
	16:45	7.99	30.0	28.2	7.44	19.13	0.20	211	—	—	—
	17:00	—	—	—	—	—	—	—	—	1561.4	25467.2
2/13/2012	7:15	—	—	—	—	—	—	—	—	—	—
	15:50	—	—	—	—	—	—	—	—	—	—
	16:21	7.9	29.1	94.7	7.51	18.95	0.19	209	—	—	—
	16:30	—	—	—	—	—	—	—	—	1533.0	27000.2
3/7/2012	7:35	—	—	—	—	—	—	—	—	—	—
	18:20	8.01	29.2	233.0	8.96	19.49	0.19	192	—	—	—
	18:35	—	—	—	—	—	—	—	—	1578.0	28578.2
3/8/2012	7:00	—	—	—	—	—	—	—	—	—	—
	8:00	—	—	—	—	—	—	—	—	—	—
	8:30	—	—	—	—	—	—	—	—	—	—
	18:00	7.98	29.4	4.0	9.36	19.14	0.19	184	—	—	—
	18:12	—	—	—	—	—	—	—	—	1697.8	30276.0
3/9/2012	7:00	—	—	—	—	—	—	—	—	—	—
	17:55	7.99	28.9	51.2	8.38	19.18	0.19	232	—	—	—
	18:00	—	—	—	—	—	—	—	—	1947.8	32223.8
3/10/2012	6:45	—	—	—	—	—	—	—	—	—	—
	11:30	—	—	—	—	—	—	—	—	—	—
	12:00	—	—	—	—	—	—	—	—	—	—
	16:45	4.01	—	0.0	8.48	11.99	2.70	341	—	—	—
	17:00	7.99	—	11.7	7.48	17.49	0.19	272	—	—	—
	17:15	—	—	—	—	—	—	—	—	1569.8	33793.6

Table B-2.2-1 (continued)

Date	Time	pH	Specific Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	TDS (g/L)	ORP (mV)	Pump Intake Depth (ft bgs)	Purge Volume (gal.)	Cumulative Purge Volume (gal.)
3/11/2012	7:49	—	—	—	—	—	—	—	—	—	—
	18:00	—	—	—	—	—	—	—	—	—	—
	18:18	7.89	—	54.5	8.85	14.83	0.19	223	—	1529.6	35323.2
3/12/2012	7:00	—	—	—	—	—	—	—	—	—	—
	18:00	—	—	—	—	—	—	—	—	—	—
	18:40	7.79	—	12.8	8.89	19.68	0.19	196	—	1697.7	37020.9
3/13/2012	7:00	—	—	—	—	—	—	—	—	—	—
	18:45	—	—	—	—	—	—	—	—	—	—
	19:00	7.96	—	13.1	9.80	19.47	0.19	188	—	1786	38806.9
3/14/2012	7:00	—	—	—	—	—	—	—	—	—	—
	17:40	—	—	—	—	—	—	—	—	—	—
	17:50	7.98	—	27.6	9.38	19.86	0.19	203	—	1693.8	40500.7

*— = Data not collected.

Table B-2.3-1
Analytical Results (pH and Alkalinity) Collected during R-62 Well Development

Sample ID	Date Sampled	pH	Alk-CO_3 (ppm)	Qualifier	Alk-CO_3+HCO_3 * (ppm)
GW62-11-25564	8/9/2011	7.1	0.8	U	126
GW62-11-25565	8/9/2011	7.2	0.8	U	128
GW62-11-25566	8/9/2011	7.2	0.8	U	125
GW62-11-25567	8/26/2011	7.6	0.8	U	138
GW62-12-12279	3/10/2012	7.54	0.8	U	78
GW62-12-12280	3/9/2012	7.45	0.8	U	77
GW62-12-12281	3/8/2012	7.46	0.8	U	77
GW62-12-12282	3/11/2012	7.48	0.8	U	76
GW62-12-12283	3/12/2012	7.62	0.8	U	76
GW62-12-12284	3/13/2012	7.40	0.8	U	79
GW62-12-12285	3/14/2012	7.48	0.8	U	76
GW62-12-2205	1/27/2012	7.81	0.8	U	85
GW62-12-2207	1/28/2012	7.59	0.8	U	81
GW62-12-2209	1/28/2012	7.61	0.8	U	79
GW62-12-2211	1/29/2012	7.66	0.8	U	78
GW62-12-2213	1/29/2012	7.68	0.8	U	77
GW62-12-2215	1/30/2012	7.72	0.8	U	77
GW62-12-2217	1/30/2012	7.74	0.8	U	78
GW62-12-2219	1/27/2012	8.77	26.7		174
GW62-12-2225	1/31/2012	7.51	0.8	U	76
GW62-12-2264	2/11/2012	7.77	0.8	U	79
GW62-12-2265	2/13/2012	7.58	0.8	U	76
GW62-12-2267	2/10/2012	7.55	0.8	U	77
GW62-12-2269	2/9/2012	7.54	0.8	U	77
GW62-12-2271	2/8/2012	7.63	0.8	U	76
GW62-12-2274	2/12/2012	7.62	0.8	U	76
GW62-12-2275	2/7/2012	7.53	0.8	U	76
GW62-12-2276	2/6/2012	7.74	0.8	U	78
GW62-12-2277	3/7/2012	7.68	0.8	U	79

Note: U = Undetected.
*None of the Alk-CO_3+HCO_3 results were qualified.

Table B-2.3-2
Analytical Results (Metals, Cations, and Anions) Collected during R-62 Drilling and Well Development

Sample ID	Sample Date	Date Received at EES	Aluminum (µg/L)	Antimony (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Beryllium (µg/L)	Boron (µg/L)	Bromide (mg/L)	Cadmium (µg/L)	Calcium (mg/L)	Cesium (µg/L)	Chloride (mg/L)	Chromium (µg/L)	Cobalt (µg/L)	Copper (µg/L)	Fluoride (mg/L)	Iron (µg/L)	Lead (µg/L)	Lithium (µg/L)	Magnesium (mg/L)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Orthophosphate (mg/L)	Oxalate (mg/L)	Potassium (mg/L)	Selenium (µg/L)	Silicon Dioxide (mg/L)	Silver (µg/L)	Sodium (mg/L)	Strontium (µg/L)	Sulfate (mg/L)	Thallium (µg/L)	Tin (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
GW62-11-25564	8/9/11	8/11/11	179	53.7	0.67	546	< 1	90.2	0.19	< 1	22.3	< 1	37.3	2.3	< 1	12.8	2.4	48.3	< 0.2	57.6	4.2	771	< 0.05	119	9.4	0.03	1.4	< 0.01	< 0.01	3.1	1.6	20.5	< 1	33.4	109	26.2	< 1	< 1	< 2	0.58	1.2	54.7
GW62-11-25565	8/9/11	8/11/11	206	< 1	0.46	537	< 1	83.2	0.21	< 1	22.0	< 1	37.9	1.8	< 1	14.2	2.4	46.2	< 0.2	47.8	4.2	750	0.12	73.5	7.8	0.15	1.5	< 0.01	< 0.01	2.8	1.3	19.5	< 1	33.0	105	26.1	< 1	< 1	< 2	0.43	< 1	48.1
GW62-11-25566	8/9/11	8/11/11	196	< 1	0.64	530	< 1	81.4	0.20	< 1	22.2	< 1	37.1	2.3	< 1	17.8	2.4	47.8	< 0.2	58.3	4.2	766	0.07	64.7	9.5	0.22	1.4	< 0.01	< 0.01	2.9	1.4	19.6	< 1	33.3	106	26.2	< 1	< 1	< 2	0.52	1.2	59.7
GW62-11-25567	8/26/11	8/29/11	< 1	< 1	1.69	657	< 1	376	0.52	< 1	64.8	< 1	54.9	3.6	< 1	1.8	0.75	145	< 0.2	99.0	13.6	456	14.6	20.3	21.8	10.8	0.77	< 0.01	< 0.01	4.2	2.0	52.6	< 1	37.2	303	75.4	< 1	< 1	< 2	1.3	1.4	121
GW62-12-12289	3/8/12	3/12/12	100	< 1	0.63	26.1	< 1	12.0	0.05	< 1	17.7	< 1	11.2	203	1.5	1.1	0.27	39.0	< 0.2	23.2	5.0	6.2	0.12	1.3	2.8	6.4	< 0.01	< 0.01	< 0.01	1.4	1.6	70.7	< 1	12.9	79.2	19.4	< 1	< 1	< 2	0.87	< 1	8.2
GW62-12-12290	3/9/12	3/12/12	64.6	< 1	0.59	26.3	< 1	9.2	0.05	< 1	17.8	< 1	11.4	204	1.6	< 1	0.27	29.5	< 0.2	24.2	5.1	5.1	0.07	1.2	2.8	6.5	< 0.01	< 0.01	< 0.01	1.4	1.7	69.6	< 1	12.7	80.6	19.6	< 1	< 1	< 2	0.87	< 1	7.5
GW62-12-12291	3/10/12	3/12/12	63.1	< 1	0.56	25.2	< 1	7.5	0.07	< 1	17.6	< 1	11.3	200	1.1	< 1	0.28	29.4	< 0.2	25.0	5.0	3.4	0.1	1.3	2.4	6.5	< 0.01	< 0.01	< 0.01	1.4	< 1	69.4	< 1	12.4	75.8	19.3	< 1	< 1	< 2	0.85	1.2	6.5
GW62-12-12292	3/11/12	3/12/12	49.3	< 1	0.59	25.0	< 1	7.0	0.06	< 1	18.0	< 1	11.1	201	1.1	< 1	0.27	23.3	< 0.2	24.6	5.1	3.4	0.07	1.3	2.3	6.5	< 0.01	< 0.01	< 0.01	1.3	< 1	69.2	< 1	12.1	73.5	19.2	< 1	< 1	< 2	0.86	< 1	5.7
GW62-12-12293	3/12/12	3/13/12	52.1	< 1	0.68	24.8	< 1	7.1	0.06	< 1	17.9	< 1	11.2	203	1.7	< 1	0.27	26.8	< 0.2	26.3	5.0	4.3	< 0.05	1.1	2.5	6.5	< 0.01	< 0.01	< 0.01	1.3	< 1	69.5	< 1	12.1	77.1	19.2	< 1	< 1	< 2	0.85	< 1	10.2
GW62-12-12294	3/13/12	3/16/12	36.9	< 1	0.63	23.7	< 1	3.0	0.06	< 1	18.1	< 1	11.3	202	2.6	< 1	0.27	17.7	< 0.2	25.8	5.0	5.5	< 0.05	1.1	2.8	5.9	< 0.01	< 0.01	< 0.01	1.3	< 1	69.4	< 1	11.8	73.3	19.3	< 1	< 1	< 2	0.80	< 1	7.6
GW62-12-12295	3/14/12	3/21/12	47.8	< 1	0.58	24.8	< 1	3.0	0.06	< 1	18.1	< 1	11.3	200	1.6	< 1	0.26	22.1	< 0.2	27.1	5.1	3.9	< 0.05	1.0	2.3	6.6	< 0.01	< 0.01	< 0.01	1.3	< 1	69.9	< 1	12.0	75.3	19.4	< 1	< 1	< 2	0.86	1.2	5.2
GW62-12-2206	1/27/12	1/30/12	62.7	< 1	1.02	34.3	< 1	26.4	0.05	< 1	15.6	< 1	12.5	190	< 1	1.2	0.30	36.3	0.21	24.1	4.5	8.0	< 0.05	3.4	1.9	6.1	< 0.01	< 0.01	< 0.01	1.4	1.5	67.9	< 1	21.0	78.3	20.2	< 1	< 1	< 2	1.9	1.9	10.1
GW62-12-2208	1/28/12	1/30/12	40.9	< 1	0.84	34.9	< 1	9.8	0.05	< 1	16.4	< 1	12.1	201	< 1	< 1	0.29	27.5	< 0.2	23.1	4.7	6.8	< 0.05	2.3	1.8	6.3	< 0.01	< 0.01	< 0.01	1.3	1.5	67.1	< 1	15.8	77.8	19.7	< 1	< 1	< 2	1.5	1.1	9.5
GW62-12-2210	1/28/12	1/30/12	61.9	< 1	0.82	33.6	< 1	5.9	0.05	< 1	16.4	< 1	11.2	188	< 1	1.4	0.27	26.4	< 0.2	23.3	4.8	7.0	< 0.05	2.0	1.5	6.0	< 0.01	< 0.01	< 0.01	1.4	1.5	68.8	< 1	15.5	75.9	18.0	< 1	< 1	< 2	1.4	1.7	11.2
GW62-12-2212	1/29/12	1/30/12	64.9	< 1	0.82	32.1	< 1	2	0.05	< 1	16.5	< 1	11.1	189	< 1	< 1	0.48	25.3	< 0.2	24.2	4.8	7.2	< 0.05	1.9	1.8	6.2	< 0.01	< 0.01	< 0.01	1.3	1.5	68.7	< 1	15.0	76.0	17.8	< 1	< 1	< 2	1.4	1.5	9.5
GW62-12-2214	1/29/12	1/30/12	49.8	< 1	0.82	32.8	< 1	2	0.06	< 1	16.9	< 1	11.2	194	< 1	< 1	0.30	19.5	< 0.2	24.9	4.9	6.6	< 0.05	1.7	1.3	6.2	< 0.01	< 0.01	< 0.01	1.4	1.5	68.5	< 1	14.0	75.5	18.1	< 1	< 1	< 2	1.3	< 1	8.0
GW62-12-2216	1/30/12	1/30/12	45.4	< 1	0.79	32.5	< 1	2	0.05	< 1	16.8	< 1	10.9	191	< 1	< 1	0.36	19.0	< 0.2	26.3	4.9	5.4	< 0.05	1.7	1.3	6.1	< 0.01	< 0.01	< 0.01	1.4	1.5	68.6	< 1	13.8	75.2	17.5	< 1	< 1	< 2	1.2	1.6	7.8
GW62-12-2218	1/31/12	1/31/12	57.2	< 1	0.78	31.6	< 1	2	0.04	< 1	17.2	< 1	10.2	195	2.3	< 1	0.34	25.0	0.24	27.6	5.0	8.5	< 0.05	1.5	1.6	5.9	< 0.01	< 0.01	< 0.01	1.4	1.5	69.5	< 1	13.8	73.5	17.3	< 1	< 1	< 2	1.2	< 1	14.3
GW62-12-2220	1/27/12	1/30/12	144	2.3	5.15	12.7	< 1	131	0.43	< 1	3.1	< 1	42.4	6.7	< 1	6.7	0.57	264	2.7	46.4	0.66	6.2	< 0.05	43.2	31.6	0.27	< 0.01	0.11	< 0.01	1.8	4.0	39.0	< 1	136	29.3	80.0	< 1	< 1	< 2	10.4	4.6	54.9
GW62-12-2224	1/31/12	1/31/12	38.2	< 1	0.79	32.3	< 1	2	0.05	< 1	17.0	< 1	10.2	195	< 1	36.1	0.34	27.7	0.71	31.9	4.9	5.0	< 0.05	1.6	1.5	6.0	< 0.01	< 0.01	< 0.01	1.4	1.4	68.2	< 1	13.3	74.8	17.5	< 1	< 1	< 2	1.2	< 1	34.4
GW62-12-2261	2/13/12	2/15/12	86.8	< 1	0.79	41.7	< 1	26.5	0.05	< 1	18.0	< 1	10.0	199	< 1	< 1	0.29	36.3	< 0.2	23.9	5.4	3.9	< 0.05	1.2	1.9	6.0	< 0.01	< 0.01	< 0.01	1.5	1.4	71.3	< 1	13.4	76.3	17.3	< 1	< 1	< 2	1.3	1.2	4.8
GW62-12-2262	2/11/12	2/15/12	72.7	< 1	0.75	41.0	< 1	21.2	0.05	< 1	18.1	< 1	10.0	198	1.0	< 1	0.26	31.7	< 0.2	24.5	5.4	5.3	< 0.05	1.1	2.0	6.0	< 0.01	< 0.01	< 0.01	1.5	1.4	71.2	< 1	13.8	76.6	17.2	< 1	< 1	< 2	1.2	1.2	4.6
GW62-12-2263	2/6/12	2/8/12	68.9	< 1	0.87	38.1	< 1	22.1	0.03	< 1	17.2	< 1	10.6	196	1.2	2.1	0.48	33.6	< 0.2	25.3	5.1	6.5	0.05	1.8	2.4	6.0	< 0.01	< 0.01	< 0.01	1.8	1.2	70.6	< 1	16.9	73.9	17.6	< 1	< 1	< 2	1.4	< 1	15.7
GW62-12-2266	2/10/12	2/15/12	67.4	< 1	0.79	39.9	< 1	17.4	0.08	< 1	18.1	< 1	10.2	197	1.4	1.3	0.29	30.3	< 0.2	25.1	5.4	6.6	< 0.05	1.2	2.1	5.8	< 0.01	< 0.01	< 0.01	1.8	1.3	72.2	< 1	14.4	77.0	16.8	< 1	< 1	< 2	1.2	1.2	7.0
GW62-12-2268	2/9/12	2/15/12	97.4	< 1	0.76	40.1	< 1	14.9	0.06	< 1	17.7	< 1	9.9	196	< 1	< 1	0.27	41.6	0.25	24.7	5.3	4.9	< 0.05	1.2	1.8	6.0	< 0.01	< 0.01	< 0.01	1.5	1.3	71.8	< 1	14.1	76.5	17.0	< 1	< 1	< 2	1.3	1.3	6.0
GW62-12-2270	2/8/12	2/9/12	114	< 1	0.80	41.6	< 1	24.8	0.05	< 1	17.5	< 1	10.2	194	1.6	1.3	0.23	46.2	< 0.2	26.5	5.1	8.6	0.06	1.3	2.5	6.1	< 0.01	< 0.01	< 0.01	1.6	1.3	69.2	< 1	13.9	73.7	17.1	< 1	< 1	< 2	1.3	< 1	13.5
GW62-12-2272	2/7/12	2/8/12	113	< 1	0.79	39.6	< 1	22.7	0.05	< 1	17.9	< 1	10.2	196	1.4	< 1	0.28	45.6	< 0.2	26.4	5.2	6.9	< 0.05	1.5	1.9	6.3	< 0.01	< 0.01	< 0.01	1.5	1.2	69.8	< 1	14.7	75.0	17.4	< 1	< 1	< 2	1.3	< 1	13.1
GW62-12-2273	2/12/12	2/15/12	79.7	< 1	0.74	39.8	< 1	12.9	0.05	< 1	17.9	< 1	9.9	194	< 1	< 1	0.44	35.0	< 0.2	24.6	5.3	4.8	< 0.05	1.1	1.7	6.0	< 0.01	< 0.01	< 0.01	1.5	1.3	70.5	< 1	13.6	75.6	17.0	< 1	< 1	< 2	1.2	1.2	4.5
GW62-12-2278	3/7/12	3/8/12	97.5	< 1	0.68	27.0	< 1	22.8	0.06	< 1	17.2	< 1	11.7	200	2.4	1.2	0.26	40.3	< 0.2	24.3	4.8	28.2	< 0.05	1.4	3.2	6.4	< 0.01	< 0.01	< 0.01	1.4	1.4	67.4	< 1	13.3	80.0	20.0	< 1	< 1	< 2	0.9	< 1	13.7