BUZZI UNICEM USA

Independence Plant

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February 25, 2015

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Mr. Kenneth Herstowski
Project Manager
RCRA Corrective Action & Permits Branch
EPA Region 7
11201 Renner Blvd.
Lenexa, KS 66219

Subject: Heartland Cement Company, dba Buzzi Unicem USA, Independence, Kansas
RCRA ID #KSD98073999, RCRA HSWA Permit
Correctives Measures Implementation Annual Report

Mr. Herstowski:

Enclosed is a Correctives Measures Implementation Annual Report per section III.L.4 of the RCRA HSWA Permit dated July 18, 2013.

Please contact me at 636-931-2511 if you need additional information or have any questions.

Tom Rader
Corporate Environmental Manager
Buzzi Unicem USA, Inc.
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RCRA
536979

copy: Mostafa Kamal, Chief, Hazardous Waste Permits KDHE w/attachments

February 25, 2015

Corrective Measure Implementation Annual Report
Heartland Cement Company dba Buzzi Unicem USA
RCRA HSWA Permit, ID, KSD980739999

Heartland Cement Company dba Buzzi Unicem USA (Heartland) formerly operated a portland cement manufacturing facility in Independence, Kansas. In the cement manufacturing operations, hazardous waste fuels were burned in the cement kilns. To facilitate the use of the waste fuels, hazardous waste was received, stored and blended prior to use in the kilns as a fuel. A permit to store and handle the waste was issued in 1989. As a condition for the permit a RCRA Facility Assessment (RFA) was completed. As a result of the RFA a number of Solid Waste Management Units (SWMUs) were identified. The permit required that a RCRA Facility Investigation (RFI) be conducted and additional SWMUs were identified. The SWMUs identified in the RFA and RFI are listed in Table 1. Corrective measures were completed on all of the SWMUs and AOC except the SWMU listed in Table 2. Table 2 provides a list of the remaining SWMUs undergoing corrective measures in 2014.

In July 2013, EPA renewed the RCRA HSWA Permit for the purpose of continuing corrective actions that were still in progress. The permit requires an Annual Corrective Measures Implementation Report be submitted each year by March 1. This report covers the reporting period of January 1, 2014 to December 31, 2014.

In 2008, the cement manufacturing facility was permanently shut down and in 2011 demolition of much of the plant was initiated. Demolition of the manufacturing equipment and buildings was completed in May 2012. The remaining facility operates as a cement distribution terminal.

Table 1

SWMU/AOC	Description
SWMU 1	Used Oil Storage Area/Vehicle Maintenance Building
SWMU 2	Grease Interceptor Sump
SWMU 3	Three Settling Ponds
SWMU 4	Former Waste Fuel System
SWMU 5	Process Sewers
SWMU 6	Used Kerosene Drum
SWMU 7	Empty Drum Storage Area
SWMU 8	Machine Shop Parts Cleaning Area

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SMWU 9	Electric Shop Parts Cleaning Area
SWMU 10	Industrial Landfill
SWMU 11	Kiln Dust Landfills A & B (aka Old and New CKD Landfills)
SWMU 12	Raw material settling ponds
SWMU 13	Heavy Crude Fuel Tank
SWMU 14	Refractory Brick Recycle Area
SWMU 15	Water treatment
SWMU 16	Closed Hazardous Waste Management Units
SWMU 17	Old Disposal Area Discovered during Demolition
SWMU 18	Frog Pond
AOC A	Outside Coal Storage Area
AOC B	Junkyard
AOC C	Outside Raw Material/Alternative Material Storage
AOC D	Outside Clinker Storage

TABLE 2

SWMU/AOC	Description
SWMU 10	Industrial Landfill
SWMU 11	Kiln Dust Landfills A & B (aka Old and New CKD Landfills)

Engineering Control

SWMU 11 (CKD Landfill)

In May 2009 a Groundwater Characterization Report for the SWMU 11 was submitted to EPA and Heartland proposed capping the CKD landfill with compacted clay and vegetative layer to limit leaching of constituents of concern into the alluvial groundwater.

Capping of the CKD landfill was initiated in 2010 according to closure plan approved by KDHE. The closure of the landfill was completed in March 2013 and the final closure report was approved by KDHE in July 2013.

SWMU 10 (C&D Landfill)

In January 2013, closure of the C&D landfill was initiated. All capping and seeding was completed in March 2014 and a final closure report was approved by KDHE in September 2014. A copy of the report was submitted to EPA October 6, 2014.

Institutional Control for SWMU 10 and SWMU 11

Restrictive covenants were filed with Montgomery County, Kansas Register of Deeds in September 2011 identifying the parcels of land containing the landfills. The land use restrictions in the covenant require any use of the identified property must be approved by KDHE and that no use can disturb the clay and vegetative soil covers that have been placed over the landfills.

Monitoring and Performance Evaluation

In 2009, groundwater characterization of the old CKD landfill (SWMU 11) was conducted and it was determined that ground water in close proximity to the land fill was impacted but down gradient wells several hundred feet away had no impact. It was recommended that capping the landfill would limit further leaching of constituents and capping was completed in 2013. As required by Section III.K.2-d of the RCRA permit, a Groundwater Monitoring Plan for SWMU 11 was submitted to EPA Region VII, September 24, 2013. Heartland is awaiting approval of the monitoring plan.

Groundwater samples for the New Kiln Dust Landfill and the Industrial Landfill were collected and analyzed quarterly prior to 2014. In 2014, ground water monitoring was changed to semi-annual testing. In May of 2013, the analytical method for antimony, arsenic, cadmium, lead, selenium and thallium was changed from EPA Method 200.7 to Method 200.8 to provide a lower detection limit. An increased concentration was noticed particularly in arsenic in both up gradient and down gradient wells at that time and is thought to be attributed to the change in analytical methods. Also during the period, both landfills had been disturbed to prepare for final cover which may have had a temporary impact on the shallow groundwater near the landfills. The Industrial Landfill Well 2 was damaged in July 2013 and was repaired in May 2014.

Next Actions

Finalize Ground Water Monitoring Plan
Develop cost estimate for post closure maintenance and groundwater monitoring after monitoring plan is finalized.

BUZZI UNICEM USA,
Independence, Kansas

Groundwater Monitoring

Sample Date	Static Level ft	Total Depth ft	pH SU	Conductivity µmho/cm	Temp ° C	Sb µg/l	As µg/l	Ba µg/l	Be µg/l	Cd µg/l	Ca µg/l	Cr µg/l	Co µg/l	Cu µg/l	Pb µg/l	Ni µg/l	K µg/l	Se µg/l	Ag µg/l	Na µg/l	Th µg/l	Vn µg/l	Zn µg/l	TDS µg/l	Chloride mg/l	Sulfate mg/l	Alkalinity mg/l
New Kiln Dust Landfill Well 1																											
2/12/2010	11.12	27.26	6.7	3400	12.4	ND	ND	99.9	ND	ND	485000	10	ND	41	ND	6.8	1060	ND	ND	164000	ND	ND	ND	2070	681	475	368
5/25/2010	14.15		6.6	3100	14	ND	ND	95	ND	ND	539000	16.1	ND	ND	ND	5.1	947	ND	ND	162000	ND	ND	ND	2980	738	460	375
8/20/2010	14.34		6.6	2880	18	ND	ND	88.4	ND	ND	611000	ND	ND	ND	ND	ND	ND	ND	ND	168000	ND	ND	ND	3460	792	453	359
10/22/2010	14.86		6.6	2900	17.8	ND	ND	89	ND	ND	470000	16	ND	ND	ND	6	1420	ND	ND	155000	ND	ND	ND	2710	736	415	339
2/18/2011	11.62		6.6	2800	14.8	ND	ND	102	ND	ND	560000	14	ND	ND	ND	12	1200	ND	ND	159000	ND	ND	ND	2360	775	540	357
4/29/2011	9.7		6.4	2850	15	ND	ND	96.4	ND	ND	566000	6	ND	ND	ND	8	1280	ND	ND	176000	ND	ND	ND	2890	876	518	376
8/23/11	17.57		6.4	3000	17	ND	ND	82.5	ND	ND	1240000	9	ND	ND	5.7	8.5	867	ND	ND	175000	ND	ND	ND	3620	796	439	386
10/21/11	15.98		6.7	2700	15.5	ND	ND	76.6	ND	ND	551000	9	ND	ND	ND	9	787	ND	ND	159000	ND	ND	ND	2110	777	390	376
1/31/12	13.35	27.23	6.6	2750	14.7	ND	ND	108	ND	ND	477000	6.7	ND	ND	5.1	9	854	ND	ND	145000	ND	ND	ND	2350	678	367	332
5/4/2012	13.19		6.5	2900	15.5	ND	ND	94.7	ND	ND	555000	11	ND	ND	7	11	1050	ND	ND	183000	ND	ND	ND	2720	775	395	359
8/17/12	16.31		6.5	2900	16.2	ND	ND	69.7	ND	ND	298000	ND	ND	ND	ND	7.3	986	ND	ND	170000	ND	ND	ND	3000	973	428	360
10/19/12	15.65		6.6	2500	15.7	ND	ND	247	ND	ND	523000	121	5.2	22	9.5	35.3	3050	ND	ND	159000	ND	14.5	ND	2940	789	316	342
2/8/2013	16		6.4	2450	14.1	ND	ND	134	ND	ND	511000	19	ND	ND	ND	8	1440	ND	ND	134000	ND	ND	ND	2180	795	283	354
5/17/2013	10.1		6.6	3300	15.3	ND	117	130	ND	ND	607000	46	ND	ND	3	34	1060	ND	ND	156000	ND	ND	ND	3350	761	433	329
8/16/2013	7.45		6.6	3500	20.5	ND	158	143	ND	ND	498000	6	ND	ND	ND	5	842	ND	ND	168000	ND	ND	ND	3310	781	380	355
10/18/2013	10.43		6.5	4100	16.5	ND	141	98.8	ND	ND	631000	ND	ND	ND	ND	6	637	ND	ND	203000	ND	ND	ND	3460	952	492	360
2/21/2014	11.57		6.4	4500	13.6	ND	210	85.2	ND	ND	687000	5	ND	ND	ND	25	989	ND	ND	214000	ND	ND	ND	3200	1010	471	372
8/22/2014	13.87		6.5	4000	18.5	ND	131	64.8	ND	ND	551000	ND	ND	ND	ND	10	613	ND	ND	170000	ND	ND	ND	725	977	373	373
New Kiln Dust Landfill Well 2																											
2/12/2010	17.98	33.86	6.9	2700	15.4	ND	ND	69	ND	ND	575000	ND	ND	ND	ND	7.0	878	ND	ND	111000	ND	ND	ND	2160	205	1010	554
5/25/2010	17.91		6.7	2500	18.1	ND	ND	69.1	ND	ND	496000	ND	ND	ND	ND	6.1	908	ND	ND	113000	ND	ND	ND	2380	191	845	686
8/20/2010	20.61		6.7	2500	18.7	ND	ND	96.9	ND	ND	600000	13	ND	16	9.8	14.9	1660	ND	ND	118000	ND	ND	ND	2490	200	963	596
10/22/2010	21.27		6.7	2500	17.9	ND	ND	82.9	ND	ND	538000	7.6	ND	16	5.8	9.4	1820	ND	ND	121000	ND	ND	ND	2490	201	1100	484
2/18/2011	21.52		6.8	2500	16.6	ND	ND	101	ND	ND	600000	13	ND	14	ND	13.3	2270	ND	ND	116000	ND	ND	ND	2420	188	1120	543
4/29/2011	14.13		6.7	2200	17.5	ND	ND	64.6	ND	ND	526000	6.6	ND	ND	ND	6.2	1450	ND	ND	113000	ND	ND	ND	2480	186	958	669
8/23/2011	22.45		6.6	2450	18.5	ND	ND	70.7	ND	ND	1220000	8.6	ND	ND	7.4	12	1550	ND	ND	114000	ND	ND	ND	2540	162	862	646
10/21/2011	23.99		6.7	2300	16.3	ND	ND	102	ND	ND	578000	19	ND	12	12.8	17.7	2530	ND	ND	110000	ND	15.1	ND	2230	189	1160	552
1/31/2012	22.71	33.89	7.7	2500	16.5	ND	ND	61.9	ND	ND	557000	6	ND	ND	7.1	9.6	1200	ND	ND	114000	ND	ND	ND	2470	185	1100	540
5/4/2012	18.47		6.6	2500	17.5	ND	ND	69.9	ND	ND	581000	10	ND	ND	8	10.5	1650	ND	ND	123000	ND	ND	ND	2340	174	875	703
8/17/2012	24.34		6.6	2350	17.2	ND	ND	50.3	ND	ND	589000	ND	ND	10	6.3	7.4	890	ND	ND	114000	ND	ND	ND	2480	179		581
10/19/2012	23.46		6.7	2300	15.5	ND	ND	90.8	ND	ND	565000	16	ND	12	10	15.6	2570	ND	ND	131000	ND	10.5	ND	2200	192	1110	499
2/8/2013	23.78		6.7	2900	15.7	ND	ND	119	ND	ND	588000	28	5.4	25	23	29.2	3020	ND	ND	107000	ND	22.3	59.4	2210	179	1140	478
5/17/2013	20.88		6.6	2800	18.5	ND	36	63.7	ND	ND	616000	9.1	ND	ND	5.2	11.9	1320	ND	ND	114000	ND	ND	ND	2400	183	1070	509
8/16/2013	17.78		6.7	3000	21.1	ND	21	48	ND	ND	570000	ND	ND	ND	2.4	ND	ND	ND	ND	121000	ND	ND	ND	2420	187	1000	684
10/18/2013	21.25		6.7	2900	16.6	ND	30	48.6	ND	ND	578000	ND	ND	ND	ND	7.2	526	ND	ND	124000	ND	ND	ND	2180	171	936	687
2/21/2014	21.52		6.6	2900	16.6	ND	36	48	ND	0.6	563000	ND	ND	ND	ND	6.4	771	ND	ND	127000	ND	ND	ND	2460	175	977	693
8/22/2014	23.5		6.6	2750	20.3	ND	23	46.6	ND	ND	549000	ND	ND	ND	ND	6.4	507	ND	ND	120000	ND	ND	ND	2600	183	1020	647

Sample Date	Static Level ft	Total Depth ft	pH SU	Conductivity µmho/cm	Temp ° C	Sb µg/l	As µg/l	Ba µg/l	Be µg/l	Cd µg/l	Ca µg/l	Cr µg/l	Co µg/l	Cu µg/l	Pb µg/l	Ni µg/l	K µg/l	Se µg/l	Ag µg/l	Na µg/l	Th µg/l	Vn µg/l	Zn µg/l	TDS µg/l	Chloride mg/l	Sulfate mg/l	Alkalinity mg/l
New Kiln Dust Landfill Well 4																											
2/12/2010	16.6	29.76	7.4	1200	16.3	ND	ND	106.0	ND	ND	91300	ND	ND	17.5	ND	ND	ND	ND	ND	120000	ND	ND	ND	657	128	111	253
5/25/2010	18.57		7.2	1200	18.4	ND	ND	124	ND	ND	114000	ND	ND	ND	ND	ND	ND	ND	ND	124000	ND	ND	ND	856	193	161	243
8/20/2010	18.89		7	1320	17.8	ND	ND	151	ND	ND	129000	ND	ND	ND	ND	ND	ND	ND	ND	137000	ND	ND	ND	923	216	154	216
10/22/2010	19.57		7.1	1450	17.1	ND	ND	151	ND	ND	129000	ND	ND	ND	ND	ND	619	ND	ND	139000	ND	ND	ND	913	247	173	205
2/18/2011	21.52		6.8	2500	16.6	ND	ND	101.0	ND	ND	600000	13	ND	14	ND	13.3	2270	ND	ND	116000	ND	ND	ND	2420	188	1120	543
4/29/2011	17.71		6.8	1350	17.2	ND	ND	158	ND	ND	134000	ND	ND	ND	ND	ND	ND	ND	ND	135000	ND	ND	63.2	1100	272	192	194
8/23/2011	20.75		7	1400	17.8	ND	ND	151.0	ND	ND	151000	ND	ND	ND	ND	ND	ND	ND	ND	137000	ND	ND	ND	1080	243	183	205
10/21/2011	23.99		6.7	2300	16.3	ND	ND	102.0	ND	ND	578000	19	ND	12	12.8	17.7	2530	ND	ND	110000	ND	15.1	ND	2230	189	1160	552
1/31/2012	21.2	29.76	7	1600	16.3	ND	ND	174.0	ND	ND	151000	ND	ND	ND	ND	ND	ND	ND	ND	143000	ND	ND	ND	1050	293	210	176
5/4/2012	17.75		6.9	1580	17.3	ND	ND	172	ND	ND	152000	ND	ND	ND	ND	ND	ND	ND	ND	150000	ND	ND	ND	1070	280	205	192
8/17/2012	22.26		6.9	1420	16.5	ND	ND	152.0	ND	ND	162000	ND	ND	ND	ND	ND	ND	ND	ND	137000	ND	ND	ND	1090	296	206	193
10/19/2012	21.82		6.9	1620	15.4	ND	ND	188.0	ND	ND	152000	ND	ND	ND	ND	ND	766	ND	ND	166000	ND	ND	ND	968	310	215	188
2/8/2013	22.28		7.1	1650	16.1	ND	ND	185	ND	ND	162000	ND	ND	12	7.4	ND	952	ND	ND	147000	ND	ND	ND	1090	319	217	178
5/17/2013	19.55		7.1	1620	18.2	ND	175	171	ND	ND	166000	ND	ND	ND	1.3	ND	ND	1.6	ND	149000	ND	ND	ND	1100	285	203	183
8/16/2013	16.72		7.1	1620	18.9	ND	234	170	ND	ND	152000	ND	ND	ND	ND	ND	ND	ND	ND	146000	ND	ND	ND	1130	305	198	223
10/18/2013	19.41		7	1700	15.9	ND	169	180	ND	ND	161000	ND	ND	ND	ND	ND	ND	ND	ND	154000	ND	ND	ND	1070	293	198	201
2/21/2014	20.21		7	1780	16.7	ND	235	169	ND	ND	161000	ND	ND	ND	ND	ND	ND	ND	ND	150000	ND	ND	ND	1080	301	195	200
8/22/2014	22.03		7	1550	18.4	ND	166	153	ND	ND	153000	ND	ND	ND	ND	ND	ND	1.3	ND	149000	ND	ND	ND	1120	295	191	214
Industrial Landfill Well 1																											
2/12/2010	5.45	26.99	6.9	900	9.9	ND	ND	104	ND	ND	135000	ND	ND	ND	ND	ND	ND	ND	ND	29800	ND	ND	ND	538	17.6	50.5	323
5/25/2010	7.82		7.0	800	16	ND	ND	112	ND	ND	134000	ND	ND	12	5.4	ND	ND	ND	ND	26700	ND	ND	ND	553	47.4	18.6	321
8/20/2010	8.01		6.8	1780	18.4	ND	ND	109	ND	ND	135000	ND	ND	ND	ND	ND	ND	ND	ND	28900	ND	ND	ND	555	19.9	51.6	328
10/22/2010	9.55		6.9	1800	17.6	ND	ND	114	ND		135000	ND	ND	ND	ND	ND	ND	ND	ND	29900	ND	ND	ND	557	20.1	47.7	310
2/18/2011	12.55		6.9	850	13.1	ND	ND	109	ND	ND	148000	ND	ND	ND	ND	ND	ND	ND	ND	29400	ND	ND	ND	524	18.8	55	319
4/29/2011	7.69		6.7	775	14	ND	ND	109	ND	ND	132000	ND	ND	ND	ND	ND	862.0	ND	ND	28800	ND	ND	ND	517	18.2	50.2	308
8/23/2011	9.65		6.8	800	16.9	ND	ND	101	ND	ND	138000	ND	ND	ND	708	10.9	1490	ND	ND	27500	ND	ND	ND	548	17.6	51.6	
10/21/2011	11.98		6.8	800	15.2	ND	ND	110	ND	ND	140000	ND	ND	11	ND	ND	ND	ND	ND	28200	ND	ND	ND	509	17.5	51	324
1/31/2012	10.88	26.97	6.8	850	13.5	ND	ND	112	ND	ND	134000	ND	ND	13	ND	ND	ND	ND	ND	27600	ND	ND	ND	529	18.1	51.2	348
5/4/2012	6.5		6.8	850	16.6	ND	ND	102	ND	ND	132000	ND	ND	ND	5.1	ND	1010	ND	ND	27800	ND	ND	ND	523	15.1	46.4	321
8/17/2012	11.87		6.7	800	16.7	ND	ND	96.4	ND	ND	147000	ND	ND	ND	ND	ND	ND	ND	ND	27200	ND	ND	ND	529	15.1	49	329
10/19/2012	11.16		6.9	800	15.3	ND	ND	113	ND	ND	130000	ND	ND	ND	ND	ND	641	ND	ND	30500	ND	ND	ND	492	15.3	51.1	313
2/8/2013	11.95		6.8	800	13.4	ND	ND	108	ND	ND	133000	ND	ND	ND	5.4	ND	ND	ND	ND	26400	ND	ND	ND	534	15.8	51.9	293
5/17/2013	5.83		6.7	800	15.2	ND	ND	106	ND	ND	145000	ND	ND	ND	2.4	ND	ND	ND	ND	27200	ND	ND	ND	522	14.5	45.9	320
8/16/2013	4.03		6.9	875	20.7	ND	ND	94.9	ND	ND	129000	ND	ND	ND	ND	ND	ND	ND	ND	25800	ND	ND	ND	538	15.2	46.8	348
10/18/2013	6.61		6.8	800	16.3	ND	1.5	102	ND	ND	134000	ND	ND	ND	1.6	ND	ND	ND	ND	27100	ND	ND	ND	507	13.6	46.2	332
2/21/2014	7.68		6.7	875	12.5	ND	1.8	100	ND	ND	137000	ND	ND	ND	ND	ND	ND	ND	ND	27000	ND	ND	ND	548	13.4	49.3	338
8/22/2014	8.04		6.9	850	18.2	ND	ND	98.3	ND	ND	134000	ND	ND	ND	ND	ND	ND	ND	ND	28500	ND	ND	ND	533	13.4	51.8	336

Sample Date	Static Level ft	Total Depth ft	pH SU	Conductivity µmho/cm	Temp °C	Sb µg/l	As µg/l	Ba µg/l	Be µg/l	Cd µg/l	Ca µg/l	Cr µg/l	Co µg/l	Cu µg/l	Pb µg/l	Ni µg/l	K µg/l	Se µg/l	Ag µg/l	Na µg/l	Th µg/l	Vn µg/l	Zn µg/l	TDS µg/l	Chloride mg/l	Sulfate mg/l	Alkalinity mg/l
Industrial Landfill Well 2																											
2/12/2010	0.75	20.38	7.4	2100	9.9	ND	21	496	ND	ND	88800	ND	ND	ND	ND	8.3	373000	ND	ND	139000	ND	ND	ND	1280	65.4	26.7	959
5/25/2010	0.81		7.3	1950	20.8	ND	11	421	ND	ND	82800	ND	ND	ND	ND	6.7	389000	ND	ND	132000	ND	ND	ND	1490	27.4	66.1	1020
8/20/2010	0.8		7.2	1800	25.7	ND	15	411	ND	ND	66100	ND	ND	ND	ND	7.3	327000	ND	ND	137000	ND	ND	ND	1380	61	89.6	741
10/22/2010	0.75		7.2	2250	18.4	ND	13	504	ND	ND	91000	ND	ND	ND	6.6	7.8	437000	ND	ND	152000	ND	ND	ND	1440	69.3	29.2	963
2/18/2011	0.77		7.2	2150	11.6	ND	73	1130	ND	ND	102000	ND	ND	12.9	ND	6.5	393000	ND	ND	132000	ND	ND	ND	1400	83	14.7	916
4/29/2011	0.79		7.1	2100	15.3	ND	11	570	ND	ND	89900	ND	ND	ND	ND	6.8	438000	ND	ND	133000	ND	ND	ND	1630	68.4	24.9	1090
8/23/2011	2.01		7.1	2220	23	ND	19	524			82200	8.3	ND	ND	10.4	10.8	460000	ND	ND	129000	ND	ND	ND	1730	66.7	34.3	1080
10/21/2011	2.47		7.1	2100		ND	21	646	ND	ND	88600	ND	ND	ND	ND	7.1	492000	ND	ND	136000	ND	ND	ND	1260	61.4	19.8	1140
1/31/2012	1.37	20.39	7.2	2200	12.2	ND	36	1040	ND	ND	85100	6.7	ND	ND	5.4	7.4	404000	ND	ND	122000	ND	ND	ND	1360	56.9	19.4	11[illegible]
5/4/2012	0.92		7.2	2100	17.6	ND	19	611	ND	ND	88200	ND	ND	ND	5.9	6.5	392000	ND	ND	128000	ND	ND	ND	1310	55.2	76.4	3[illegible]
8/17/2012	2.68		7.3	1800	23.1	ND	12	424	ND	ND	62200	ND	ND	ND	5.1	5.8	359000	ND	ND	124000	ND	ND	ND	1300	64.8	96.5	800
10/19/2012	2.16		7.4	1900	19.7	ND	18	498	ND	ND	59700	ND	ND	ND	ND	7.6	453000	ND	ND	118000	ND	ND	ND	1250	53.5	95.2	760
2/8/2013	1.72		7.4	1900	12.6	ND	18	584	ND	ND	67700	ND	ND	ND	7.6	6.1	385000	ND	ND	109000	ND	ND	ND	1250	63.7	17.3	868
5/17/2013	1.31		7.3	1780	17.5	ND	38	502	ND	ND	72200	9.9	ND	ND	6.3	7.8	387000	ND	ND	130000	ND	ND	ND	1360	58.5	64.2	774
8/16/2013																											
10/18/2013																											
2/21/2014																											
8/22/2014	5.84		7.4	1400	21.9	ND	19	289	ND	ND	52000	ND	ND	ND	ND	5.9	221000	ND	ND	135000	ND	ND	ND	1030	46.6	78.8	632
Industrial Landfill Well 3																											
2/12/2010	12.45	24.08	6.9	2100	13.2	ND	ND	70.4	ND	ND	275000	7.7	ND	ND	ND	8.2	1240	ND	ND	185000	ND	ND	ND	1550	160	489	561
5/25/2010	12.99		6.9	1850	16.2	ND	ND	64.3	ND	ND	254000	8.1	ND	ND	ND	7.8	1640	ND	ND	170000	ND	ND	ND	1660	464	165	584
8/20/2010	17.66		6.8	1500	18.7	ND	ND	232	ND	ND	191000	6.1	ND	ND	7.2	12.9	1780	ND	ND	137000	ND	ND	ND	1170	105	300	483
10/22/2010	13.78		6.8	1900	17.4	ND	ND	119	ND	ND	259000	6	ND	ND	ND	10.3	2240	ND	ND	190000	ND	ND	ND	1510	179	438	503
2/18/2011	13.37		6.8	1900	14.6	ND	16	168	ND	ND	299000	25	5.7	20	15.3	29.8	3600	ND	ND	176000	ND	26.8	79.1	1580	170	572	536
4/29/2011	12.70		6.6	800	15.1	ND	ND	91.3	ND	ND	253000	16	ND	ND	5.2	12.0	2400	ND	ND	169000	ND	ND	ND	1600	182	504	5[illegible]
8/23/2011	14.80		6.6	1880	17.8	ND	ND	66.9	ND	ND	263000	7	ND	ND	7.3	10.4	1600	ND	ND	175000	ND	ND	ND	1090	158	447	[illegible]
10/21/2011	15.88		6.8	1880	15.8	ND	ND	67.9	ND	ND	271000	9.3	ND	ND	ND	9.6	2020	ND	ND	191000	ND	ND	ND	1340	161	488	564
1/31/2012	14.32	24.06	6.8	2050	15.1	ND	12	133	ND	ND	280000	26	6.8	16	16.8	28	3120	ND	ND	173000	ND	27	63.8	1570	164	536	630
5/4/2012	14.39		6.8	1450	16.4	ND	ND	138	ND	ND	180000	8.2	ND	12	7.9	9.3	2710	ND	ND	121000	ND	ND	ND	1080	93	348	355
8/17/2012	15.95		6.7	1700	17	ND	ND	55.4	ND	ND	277000	ND	ND	ND	8.1	7.3	2390	ND	ND	175000	ND	ND	ND	1500	136	505	525
10/19/2012	14.43		6.7	1950	15.5	ND	25	200	1.1	ND	282000	41	12	28	24.6	44.7	4910	ND	39	196000	ND	39.2	98.4	1520	150	486	512
2/8/2013	13.95		6.8	2100	13.9	ND	ND	115	ND	ND	280000	18	5.7	14	15.5	23.5	2740	ND	ND	172000	m	15.5	ND	1470	159	505	494
5/17/2013	13.01		6.8	2080	15.9	ND	95	145	ND	ND	324000	29	6.8	20	11.8	31.4	2860	ND	ND	188000	ND	28.6	67.8	1650	152	502	502
8/16/2013	10.58		7.1	875	19.9	ND	ND	145	ND	ND	122000	ND	ND	ND	ND	5.9	1950	ND	ND	72200	ND	ND	ND	750	56.1	192	322
10/18/2013	11.79		6.7	850	15.6	ND	66	148	ND	ND	223000	ND	ND	ND	ND	19.2	816	ND	ND	165000	ND	ND	ND	1210	106	378	548
2/21/2014	13.05		6.6	2000	14.4	ND	93	67.4	ND	ND	246000	ND	ND	ND	ND	5	633	ND	ND	182000	ND	ND	ND	1470	131	409	555
8/22/2014	14.57		6.7	1900	17.6	ND	69	52.4	ND	ND	230000	ND	ND	ND	ND	6.6	747	ND	ND	177000	ND	ND	ND	1460	136	409	564

Sample Date	Static Level ft	Total Depth ft	pH SU	Conductivity µmho/cm	Temp ° C	Sb µg/l	As µg/l	Ba µg/l	Be µg/l	Cd µg/l	Ca µg/l	Cr µg/l	Co µg/l	Cu µg/l	Pb µg/l	Ni µg/l	K µg/l	Se µg/l	Ag µg/l	Na µg/l	Th µg/l	Vn µg/l	Zn µg/l	TDS µg/l	Chloride mg/l	Sulfate mg/l	Alkalinity mg/l
Industrial Landfill Well 4																											
2/12/2010	14.18	29.77	6.8	2000	16.1	ND	ND	117	ND	ND	266000	ND	ND	ND	ND	13.2	14300	ND	ND	164000	ND	ND	ND	1500	190	321	603
5/25/2010	12.25		7	1820	18.6	ND	ND	104	ND	ND	269000	ND	ND	ND	ND	9.5	9580	ND	ND	154000	ND	ND	ND	1510	198	359	524
8/20/2010	12.62		6.8	1800	18.3	ND	ND	115	ND	ND	256000	ND	ND	ND	5.7	11.5	14400	ND	ND	149000	ND	ND	ND	1360	171	342	516
10/22/2010	12.82		6.8	1950	17.2	ND	ND	110	ND	ND	271000	ND	ND	ND	ND	10.6	12200	ND	ND	167000	ND	ND	ND	1420	197	334	516
2/18/2011	13.05		6.8	1800	16.9	ND	ND	108	ND	ND	282000	ND	ND	ND	ND	10.9	10700	ND	ND	158000	ND	ND	ND	1460	208	384	498
4/29/2011	12.49		6.7	1720	16.6	ND	ND	110	ND	ND	255000	ND	ND	ND	ND	11.5	10900	ND	ND	153000	ND	ND	ND	1550	200	349	536
8/23/2011	13.43		6.7	1900	17.6	ND	ND	99.3	ND	ND	280000	ND	ND	ND	ND	10.1	8330	ND	ND	159000	ND	ND	ND	1510	186	338	532
10/21/2011	14.31		6.7	1800	16.7	ND	ND	109	ND	ND	290000	ND	ND	ND	ND	11.7	9440	ND	ND	170000	ND	ND	ND	1340	192	342	580
1/31/2012	13.24	29.74	6.7	2000	16.5	ND	ND	97.6	ND	ND	261000	ND	ND	ND	ND	9.8	8310	ND	ND	160000	ND	ND	ND	1420	194	367	610
5/4/2012	9.78		6.7	1900	16.5	ND	ND	95.4	ND	ND	261000	ND	ND	ND	6.9	9.9	8150	ND	ND	167000	ND	ND	ND	1390	193	334	5[illegible]
8/17/2012	15.53		6.8	1720	17.8	ND	ND	85.4	ND	ND	278000	ND	ND	ND	6.6	9.0	7980	ND	ND	151000	ND	ND	ND	1420	193	361	53[illegible]
10/19/2012	13.47		6.8	1800	16.2	ND	ND	108	ND	ND	250000	ND	ND	11	6.6	11.0	8660	ND	ND	170000	ND	ND	ND	1400	181	344	500
2/8/2013	12.82		6.7	1900	15.9	ND	ND	95.5	ND	ND	258000	ND	ND	ND	7.8	10.4	6840	ND	ND	157000	ND	ND	ND	1280	179	356	506
5/17/2013	11.93		6.7	1800	18.1	ND	124	94.2	ND	ND	281000	ND	ND	12	4.1	10.8	8090	ND	ND	165000	ND	ND	ND	1340	165	324	490
8/16/2013	9.61		6.9	1500	20.6	ND	ND	147	ND	ND	183000	ND	ND	ND	ND	7.7	14300	ND	ND	113000	ND	ND	ND	1040	103	242	446