488-4D LANDFILL MIDYEAR GROUNDWATER MONITORING REPORT FOR 2010

SRNS-TR-2010-00090

APRIL 2010

Discussion and Results

The groundwater monitoring results for 488-4D Landfill's first sampling event of 2010 are shown in table 1. The results are sorted by laboratory qualifier. Field measurements and laboratory results exceeding the practical quantitation limit (PQL) were not assigned qualifiers and appear at the bottom of the table.

The following constituents were above the PQL:
-barium
-chloride
-chromium
-copper
-fluoride
-iron
-mercury
-nickel
-sulfate
-zinc

Samples from downgradient well DCB 75 (figure 1) exceeded regulatory standards for iron, fluoride and sulfate. The iron result of 60.9 ppm greatly exceeded the 0.3 ppm secondary drinking water standard, but the high turbidity of the sample indicates the presence of suspended clay that could have impacted the analysis. Fluoride, at 2.08 ppm, was only slightly above the 2.0 ppm secondary drinking water standard. The sulfate result of
436 ppm greatly exceeded the 250 ppm secondary drinking water standard, but only slightly exceeded the upgradient result from well DCB 13R. This indicates that most of the excess sulfate is coming from a source upgradient of the 488-4D Landfill.

Well DCB 75 will be resampled for fluoride, iron and sulfate.

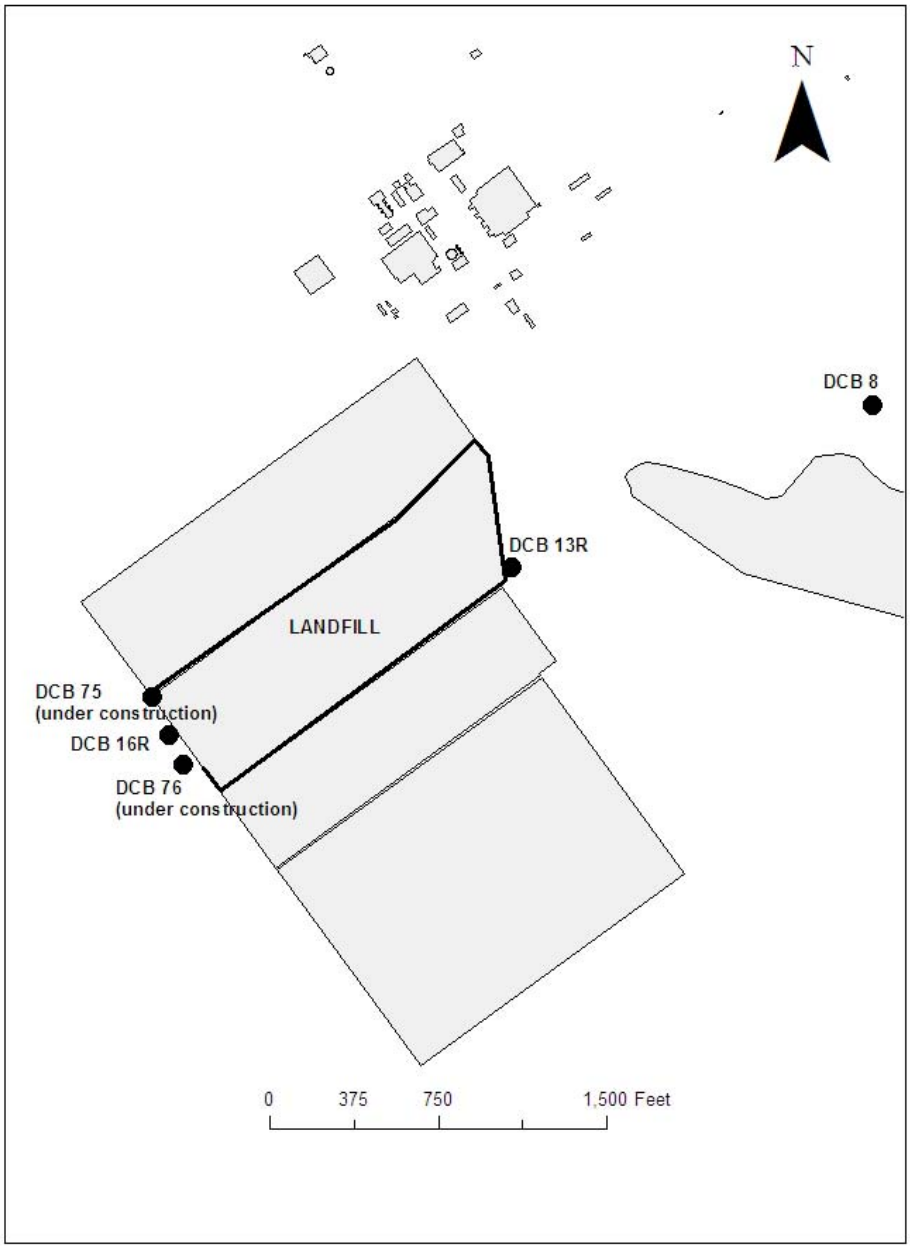

Figure 1. Well locations at the 488-4D Landfill. Flow is to the southwest.

Table 1. Groundwater monitoring results for the first sampling event of 2010.

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
DCB075	2/17/10	ARSENIC	EPA6010C	12	120	J	13.2	ug/L
DCB 13R	2/17/10	CADMIUM	EPA6010C	2	20	J	2.68	ug/L
DCB076	2/17/10	CHROMIUM	EPA6010C	1	10	J	3.35	ug/L
DCB 8	2/17/10	CHROMIUM	EPA6010C	1	10	J	4.42	ug/L
DCB076	2/17/10	COPPER	EPA6010C	1	10	J	2.16	ug/L
DCB075	2/17/10	LEAD	EPA6010C	7	70	J	55.9	ug/L
DCB075	2/17/10	MERCURY	EPA7470A	0.02	0.2	J	0.167	ug/L
DCB 8	2/17/10	NICKEL	EPA6010C	1	10	J	1.63	ug/L
DCB 16R	2/17/10	NICKEL	EPA6010C	1	10	J	9.98	ug/L
DCB 13R	2/17/10	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25	J	0.073	mg/L
DCB 13R	2/17/10	THALLIUM	EPA6010C	10	100	J	12	ug/L
DCB 8	2/17/10	ZINC	EPA6010C	1	10	J	1.54	ug/L
DCB 8	2/17/10	ANTIMONY	EPA6010C	5	50	U	50	ug/L
DCB 13R	2/17/10	ANTIMONY	EPA6010C	5	50	U	50	ug/L
DCB 16R	2/17/10	ANTIMONY	EPA6010C	5	50	U	50	ug/L
DCB075	2/17/10	ANTIMONY	EPA6010C	5	50	U	50	ug/L
DCB076	2/17/10	ANTIMONY	EPA6010C	5	50	U	50	ug/L
DCB 8	2/17/10	ARSENIC	EPA6010C	12	120	U	120	ug/L
DCB 13R	2/17/10	ARSENIC	EPA6010C	12	120	U	120	ug/L
DCB 16R	2/17/10	ARSENIC	EPA6010C	12	120	U	120	ug/L
DCB076	2/17/10	ARSENIC	EPA6010C	12	120	U	120	ug/L
DCB 8	2/17/10	CADMIUM	EPA6010C	2	20	U	20	ug/L
DCB 16R	2/17/10	CADMIUM	EPA6010C	2	20	U	20	ug/L
DCB075	2/17/10	CADMIUM	EPA6010C	2	20	U	20	ug/L
DCB076	2/17/10	CADMIUM	EPA6010C	2	20	U	20	ug/L
DCB 13R	2/17/10	CHROMIUM	EPA6010C	1	10	U	10	ug/L
DCB 16R	2/17/10	CHROMIUM	EPA6010C	1	10	U	10	ug/L
DCB 13R	2/17/10	COPPER	EPA6010C	1	10	U	10	ug/L
DCB 8	2/17/10	CYANIDE	EPA9012A	1.66	5	U	5	ug/L
DCB 13R	2/17/10	CYANIDE	EPA9012A	1.66	5	U	5	ug/L
DCB 16R	2/17/10	CYANIDE	EPA9012A	1.66	5	U	5	ug/L
DCB075	2/17/10	CYANIDE	EPA9012A	1.66	5	U	5	ug/L
DCB076	2/17/10	CYANIDE	EPA9012A	1.66	5	U	5	ug/L
DCB 8	2/17/10	LEAD	EPA6010C	7	70	U	70	ug/L
DCB 13R	2/17/10	LEAD	EPA6010C	7	70	U	70	ug/L
DCB 16R	2/17/10	LEAD	EPA6010C	7	70	U	70	ug/L
DCB076	2/17/10	LEAD	EPA6010C	7	70	U	70	ug/L
DCB 8	2/17/10	MERCURY	EPA7470A	0.02	0.2	U	0.2	ug/L
DCB076	2/17/10	MERCURY	EPA7470A	0.02	0.2	U	0.2	ug/L
DCB076	2/17/10	MERCURY	EPA7470A	0.02	0.2	U	0.2	ug/L
DCB 8	2/17/10	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25	U	0.25	mg/L
DCB 16R	2/17/10	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25	U	0.25	mg/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
DCB075	2/17/10	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25	U	0.25	mg/L
DCB076	2/17/10	NITRATE-NITRITE AS NITROGEN	EPA353.2	0.05	0.25	U	0.25	mg/L
DCB 8	2/17/10	SELENIUM	EPA6010C	21	210	U	210	ug/L
DCB 13R	2/17/10	SELENIUM	EPA6010C	21	210	U	210	ug/L
DCB 16R	2/17/10	SELENIUM	EPA6010C	21	210	U	210	ug/L
DCB075	2/17/10	SELENIUM	EPA6010C	21	210	U	210	ug/L
DCB076	2/17/10	SELENIUM	EPA6010C	21	210	U	210	ug/L
DCB 8	2/17/10	SILVER	EPA6010C	1	10	U	10	ug/L
DCB 13R	2/17/10	SILVER	EPA6010C	1	10	U	10	ug/L
DCB 16R	2/17/10	SILVER	EPA6010C	1	10	U	10	ug/L
DCB075	2/17/10	SILVER	EPA6010C	1	10	U	10	ug/L
DCB076	2/17/10	SILVER	EPA6010C	1	10	U	10	ug/L
DCB 8	2/17/10	THALLIUM	EPA6010C	10	100	U	100	ug/L
DCB 16R	2/17/10	THALLIUM	EPA6010C	10	100	U	100	ug/L
DCB075	2/17/10	THALLIUM	EPA6010C	10	100	U	100	ug/L
DCB076	2/17/10	THALLIUM	EPA6010C	10	100	U	100	ug/L
DCB 13R	2/17/10	BARIUM	EPA6010C	1	10		15.9	ug/L
DCB 16R	2/17/10	BARIUM	EPA6010C	1	10		20.7	ug/L
DCB075	2/17/10	BARIUM	EPA6010C	1	10		32	ug/L
DCB 8	2/17/10	BARIUM	EPA6010C	1	10		35.9	ug/L
DCB076	2/17/10	BARIUM	EPA6010C	1	10		58.3	ug/L
DCB 13R	2/17/10	CHLORIDE	EPA9056A	0.066	0.2		3.14	mg/L
DCB 13R	2/17/10	CHLORIDE	EPA9056A	0.066	0.2		3.14	mg/L
DCB075	2/17/10	CHLORIDE	EPA9056A	0.066	0.2		5.64	mg/L
DCB 16R	2/17/10	CHLORIDE	EPA9056A	0.066	0.2		6.16	mg/L
DCB076	2/17/10	CHLORIDE	EPA9056A	0.066	0.2		6.98	mg/L
DCB 8	2/17/10	CHLORIDE	EPA9056A	0.066	0.2		7	mg/L
DCB075	2/17/10	CHROMIUM	EPA6010C	1	10		16.6	ug/L
DCB 16R	2/17/10	COPPER	EPA6010C	1	10		10.4	ug/L
DCB 8	2/17/10	COPPER	EPA6010C	1	10		27.9	ug/L
DCB075	2/17/10	COPPER	EPA6010C	1	10		392	ug/L
DCB 16R	2/17/10	DEPTH_TO_WATER					18.8	ft
DCB 13R	2/17/10	DEPTH_TO_WATER					20	ft
DCB076	2/17/10	DEPTH_TO_WATER					20.3	ft
DCB 8	2/17/10	DEPTH_TO_WATER					20.6	ft
DCB075	2/17/10	DEPTH_TO_WATER					21	ft
DCB 8	2/17/10	FLUORIDE	EPA9056A	0.033	0.1		0.164	mg/L
DCB 16R	2/17/10	FLUORIDE	EPA9056A	0.033	0.1		0.436	mg/L
DCB076	2/17/10	FLUORIDE	EPA9056A	0.033	0.1		0.816	mg/L
DCB 13R	2/17/10	FLUORIDE	EPA9056A	0.033	0.1		1.34	mg/L
DCB075	2/17/10	FLUORIDE	EPA9056A	0.033	0.1		2.08	mg/L
DCB 13R	2/17/10	IRON	EPA6010C	1	10		2120	ug/L
DCB 8	2/17/10	IRON	EPA6010C	1	10		2750	ug/L
DCB 16R	2/17/10	IRON	EPA6010C	1	10		4290	ug/L
DCB076	2/17/10	IRON	EPA6010C	1	10		12100	ug/L
DCB075	2/17/10	IRON	EPA6010C	1	10		60900	ug/L
DCB 16R	2/17/10	MERCURY	EPA7470A	0.02	0.2		0.231	ug/L
DCB 13R	2/17/10	MERCURY	EPA7470A	0.02	0.2		2.85	ug/L
DCB076	2/17/10	NICKEL	EPA6010C	1	10		11.5	ug/L

WELL	DATE	ANALYTE	METHOD	MDL	PQL	LAB QUALIFIER	RESULT	UNITS
DCB075	2/17/10	NICKEL	EPA6010C	1	10		52.8	ug/L
DCB 13R	2/17/10	NICKEL	EPA6010C	1	10		157	ug/L
DCB 13R	2/17/10	PH					3.7	pH
DCB075	2/17/10	PH					3.9	pH
DCB076	2/17/10	PH					4.1	pH
DCB 16R	2/17/10	PH					4.2	pH
DCB 8	2/17/10	PH					5	pH
DCB 8	2/17/10	SPECIFIC CONDUCTANCE					67	uS/cm
DCB076	2/17/10	SPECIFIC CONDUCTANCE					424	uS/cm
DCB 16R	2/17/10	SPECIFIC CONDUCTANCE					538	uS/cm
DCB075	2/17/10	SPECIFIC CONDUCTANCE					818	uS/cm
DCB 13R	2/17/10	SPECIFIC CONDUCTANCE					896	uS/cm
DCB 8	2/17/10	SULFATE	EPA9056A	0.1	0.4		10.3	mg/L
DCB076	2/17/10	SULFATE	EPA9056A	1	4		158	mg/L
DCB 16R	2/17/10	SULFATE	EPA9056A	1	4		228	mg/L
DCB 13R	2/17/10	SULFATE	EPA9056A	10	40		429	mg/L
DCB 13R	2/17/10	SULFATE	EPA9056A	10	40		429	mg/L
DCB075	2/17/10	SULFATE	EPA9056A	10	40		436	mg/L
DCB 8	2/17/10	TOTAL DISSOLVED SOLIDS	SM2540C	2.38	10		39	mg/L
DCB076	2/17/10	TOTAL DISSOLVED SOLIDS	SM2540C	2.38	10		271	mg/L
DCB 16R	2/17/10	TOTAL DISSOLVED SOLIDS	SM2540C	2.38	10		371	mg/L
DCB075	2/17/10	TOTAL DISSOLVED SOLIDS	SM2540C	2.38	10		657	mg/L
DCB 13R	2/17/10	TOTAL DISSOLVED SOLIDS	SM2540C	2.38	10		688	mg/L
DCB 13R	2/17/10	TURBIDITY					1.1	NTU
DCB 16R	2/17/10	TURBIDITY					5.2	NTU
DCB 8	2/17/10	TURBIDITY					15.7	NTU
DCB075	2/17/10	TURBIDITY					55	NTU
DCB076	2/17/10	TURBIDITY					55	NTU
DCB 8	2/17/10	WATER TEMPERATURE					13.6	degC
DCB 16R	2/17/10	WATER TEMPERATURE					15.5	degC
DCB 13R	2/17/10	WATER TEMPERATURE					15.8	degC
DCB075	2/17/10	WATER TEMPERATURE					17.1	degC
DCB076	2/17/10	WATER TEMPERATURE					17.3	degC
DCB076	2/17/10	ZINC	EPA6010C	1	10		23	ug/L
DCB 16R	2/17/10	ZINC	EPA6010C	1	10		24	ug/L
DCB075	2/17/10	ZINC	EPA6010C	1	10		242	ug/L
DCB 13R	2/17/10	ZINC	EPA6010C	1	10		359	ug/L

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.