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Technical Memorandum

To:	Document Control Desk	**From:**	Rebecca Bilodeau –Tetra Tech
Company:	NRC	**Date:**	May 26, 2009
Re:	Highland Tt Monitor Wells Installation Report	**Project #:**	180549.2009
CC:	Keith McConnell – NRC Thomas McLaughlin – NRC Mahesh Vidyasagar – ExxonMobil		Bruce Wielinga – AMEC Anna Krzyszowska-Waitkus – WDEQ Rob Boner – Property owner

This data transmittal covers the results from the 2009 first quarter for the new eight monitoring TT wells, three MFG wells and four BBL wells at the ExxonMobil Highland Reclamation Project Site located near Douglas, Wyoming.

The wells were sampled in February - March, 2009 and analyzed for field parameters (pH, conductivity and temperature) and water quality parameters. The results, along with water level elevations, are attached.

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Highland 2009 First Quarter -Water Quality Data

Well ID	As	Cd	Cr	Ni	Pb	Se	U	Ca	Mg	Na	K	Cl
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/L	mg/l	mg/l	mg/l	mg/l	mg/l
TT-1	<0.00095	<0.00021	<0.00068	<0.0005	<0.00005	<0.00099	0.0004	61.9	13.7	135	4.36	4.7
TT-2	<0.00095	<0.00021	<0.00068	0.0016	0.00018	<0.00099	0.0123	250	67.5	103	5.2	16.8
TT-3	0.0026	<0.00021	<0.00068	0.00074	0.0011	<0.00099	0.0038	222	51.6	80.1	7.37	47.4
TT-4	<0.00095	<0.00021	<0.00068	0.00092	0.00043	<0.00099	0.0269	187	42.5	85.9	7.4	21
TT-5	0.002	<0.00021	<0.00068	<0.0005	0.00016	<0.00099	0.0093	78.2	21.4	131	3.2	7.5
TT-6	0.0046	<0.00021	<0.00068	0.0012	0.0001	<0.00099	0.0199	227	65.3	274	5.52	28.9
TT-7	<0.00095	<0.00021	<0.00068	0.0019	0.00067	0.0025	0.0442	316	76.6	106	5.86	97.7
TT-8	0.0017	<0.00021	<0.00068	0.0262	0.00024	0.004	0.117	643	172	194	8.52	267
MfG-1	<0.00095	<0.00021	<0.00068	0.0078	0.00089	0.0029	0.358	739	232	241	11.8	326
MfG-2	<0.00095	<0.00021	<0.00068	<0.0005	0.0002	<0.00099	0.0075	705	198	171	12.6	164
MfG-3	<0.00095	<0.00021	<0.00068	0.00061	0.00012	<0.00099	0.0051	234	53.1	131	10.3	66.5
BBL-1	<0.00095	<0.00021	<0.00068	<0.0005	0.000057	<0.00099	<0.0003	34.6	7.57	69.2	4.00	3.1
BBL-2	<0.00095	<0.00021	<0.00068	0.0116	0.0018	0.0596	0.0479	398	94.8	129	4.52	70.3
BBL-3	0.0022	<0.00021	<0.00068	0.0037	<0.00005	<0.00099	0.0476	584	168	145	8.47	222
BBL-4	<0.00095	<0.00021	<0.00068	0.0102	0.00017	0.0011	0.0343	434	102	111	8.54	170

Well ID	(NO2+NO3)-N	Bicarbonate	Carbonate	Alkalinity to pH 4.5	Alkalinity to pH 8.3	SO4	pH (lab)	TDS	Gross Alpha	Ra-226	Ra-228	Th-230
	mg/l	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3	mg/l	Std. Units	mg/l	pCi/L	pCi/L	pCi/L	pCi/L
TT-1	<0.04	155	<0.46	155	<0.46	315	7.8	637	<0.6	0.3	0.35	<0.2
TT-2	<0.04	187	<0.46	187	<0.46	910	7.6	1520	1.2	0.5	2.3	<0.1
TT-3	<0.04	175	<0.46	175	<0.46	728	7.3	1220	0.7	0.32	1.2	<0.1
TT-4	<0.04	245	<0.46	245	<0.46	545	7.3	1070	1.5	<0.17	0.23	<0.1
TT-5	<0.04	249	<0.46	249	<0.46	281	7.5	684	<0.6	0.23	0.18	<0.2
TT-6	<0.04	310	<0.46	310	<0.46	984	7.1	1780	<0.6	0.39	1.1	<0.2
TT-7	<0.04	268	<0.46	268	<0.46	964	7.1	1740	0.7	<0.17	0.84	<0.1
TT-8	<0.4	577	<0.46	577	<0.46	1760	6.8	3620	2.2	0.73	3.3	<0.1
MfG-1	2.8	741	<0.46	741	<0.46	2040	6.6	4380	1.4	<0.18	2.5	<0.2
MfG-2	<0.2	657	<0.46	657	<0.46	1920	6.6	3690	3.1	1.6	4.4	<0.2
MfG-3	0.14	266	<0.46	266	<0.46	776	7.5	1490	1.5	0.9	3.1	<0.2
BBL-1	<0.04	175	<0.46	175	<0.46	91.3	7.8	334	1.0	0.26	2.5	<0.2
BBL-2	4.8	305	<0.46	305	<0.46	1180	7.4	2150	1.1	<0.17	1.8	<0.1
BBL-3	<0.04	461	<0.46	461	<0.46	1680	6.9	3280	2.1	0.91	4.9	<0.1
BBL-4	<0.04	209	<0.46	209	<0.46	1300	7.2	2290	0.9	0.24	1.5	<0.2

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Highland 2009 First Quarter – Field Parameters

Well	pH	Conductivity (µS/cm)	Temperature (C°)	Water Level Elevation (ft.)
Tt-1	7.50	998	10.4	5081.07
Tt-2	7.47	1917	12.5	5074.25
Tt-3	7.30	1562	12.3	5061.36
Tt-4	7.15	1475	12.5	5052.34
Tt-5	7.36	955	9.3	5052.51
Tt-6	7.15	2400	10.2	5050.98
Tt-7	7.08	2200	10.7	5048.20
Tt-8	6.66	4020	12.0	5065.01
MfG-1	6.54	4740	12.6	5072.20
MfG-2	6.57	3760	12.6	5066.32
MfG-3	7.32	1871	11.7	5067.20
BBL-1	7.69	529	11.8	5063.65
BBL-2	7.22	2490	12.5	5064.33
BBL-3	6.83	3600	12.3	5063.43
BBL-4	7.09	2770	12.8	5053.55