DOWL HKM

October 20, 2010
Project No. 14B8.05101.01

Michael Jacobs, P.G.
Pioneer Natural Resources USA, Inc.
4815 E. Hwy 80
Midland, TX 79706

RE: September 2010 Groundwater Monitoring Data Report
Pioneer Natural Resources USA, Inc.
Biere 1-22 Well Site
East Poplar Oil Well Field
Poplar, Montana

Dear Michael Jacobs,

Pursuant to the United States Environmental Protection Agency, Emergency Administrative Order Upon Consent (EAOC), Pioneer Natural Resources USA, Inc. (Pioneer) conducted semi-annual groundwater monitoring and sampling in the vicinity of the Biere 1-22 oil well. The investigation was performed during September 2010 and included groundwater monitoring and sampling. This letter serves as a semi-annual groundwater monitoring and sampling report under the EAOC.

From September 17th through September 22, 2010, monitor wells, selected existing domestic wells, and brine recovery wells were sampled. The locations of the monitor, domestic, and brine recovery wells are shown on the figure provided in Appendix A. Wells were gauged using an electronic interface probe capable of detecting water and light non-aqueous phase liquid (LNAPL) with a precision of 0.01 feet. A groundwater elevation map is provided in Appendix A. Prior to sample collection, monitor and domestic wells were purged by use of a decontaminated submersible electric pump or disposable bailers. Since the brine recovery wells are all operating with dedicated pumps on a continuous basis, minimal additional purging was conducted on these wells.

To ensure representative groundwater samples were collected from the monitor and domestic wells, water quality parameters were monitored and allowed to stabilize during the purging process prior to sample collection. Conductivity, temperature, pH, and dissolved oxygen of the purged groundwater were monitored. Once at least three well volumes had been purged from the monitor and domestic wells and the parameters had stabilized, samples were collected in the appropriate laboratory containers and preserved as directed by the laboratory. The brine recovery wells were only purged enough to clear out the sampling port since these wells are continuously operating. Samples were labeled and packaged on ice to maintain a temperature near 4 degrees Celsius. Tabulated water level elevations and depth to fluid

data, water quality parameter readings, inorganic and organic water chemistry results, and brine recovery well sampling results are presented in Tables 1, 2, 3, and 4 respectively.

All groundwater samples were hand delivered to Energy Laboratories, Inc., in Billings, Montana for laboratory analysis. Appendix B contains chain of custody information, laboratory analytical reports, and laboratory quality assurance/quality control (QA/QC) data for these samples.

Please do not hesitate to call us if you have any questions regarding this report or the data contained herein.

Sincerely,

DOWL HKM

Nathan Peterson
Geologist

Attachments:

Table 1:	Depth to Water and LNAPL in Monitor Wells and Domestic Wells
Table 2:	Inorganic Water Chemistry Data
Table 3:	BTEX and TPH Analytical Results
Table 4:	Brine Recovery Wells – BTEX and Chloride Analytical Results
Appendix A:	Well Location and Groundwater Elevation Map
Appendix B:	Laboratory Analytical Reports

cc: Bill Knight, Pioneer Natural Resources USA, Inc.
Christa Tyrrell, Fort Peck Tribes - OEP

Table 1

Depth to Water and Product in Monitor Wells and Domestic Wells

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

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Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
LAW-M01	2091.17	2093.01	12/5/2006		57.63		2035.38
			10/2/2007		58.00		2035.01
			4/14/2009		58.32		2034.69
LAW-M03	1986.45	1988.90	12/15/2006		31.47		1957.43
			3/13/2007		39.99		1948.91
			10/2/2007		31.76		1957.14
			3/25/2008		31.38		1957.52
			10/22/2008		32.10		1956.80
			4/14/2009		29.82		1959.08
			4/8/2010		31.00		1957.90
			9/15/2010		31.61		1957.29
LAW-M04		1976.85	12/15/2006		23.14		1953.71
LAW-M05		2048.90	12/15/2006		98.58		1950.32
			4/19/2009		97.54		1951.36
LAW-M06		2023.68	12/15/2006		76.18		1947.50
LAW-M08		2010.58	12/15/2006		62.40		1948.18
M-10			4/16/2009		9.15		
M-18	2047.10	2048.13	11/6/2001		80.80		1967.33
			2/19/2002		80.25		1967.88
			5/20/2002		80.60		1967.53
			8/19/2002		80.60		1967.53
			3/5/2003		79.60		1968.53
			5/12/2003		79.00		1969.13
			8/12/2003		80.46		1967.67
			3/18/2004		80.47		1967.66
			6/13/2004		80.30		1967.83
			3/2/2005		80.70		1967.43
			8/18/2005		80.60		1967.53
			8/22/2006		80.76		1967.37
			12/5/2006		80.57		1967.56
			10/2/2007		80.86		1967.27
			4/14/2009		78.72		1969.41
			9/30/2009		80.37		1967.76
			4/8/2010		80.06		1968.07
			9/15/2010		80.71		1967.42
M-25	2031.70	2033.33	11/9/2001		67.30		1966.03
M-27	2029.92	2031.19	8/13/2001		67.15		1964.04
			9/5/2001		67.28		1963.91
			11/6/2001		67.61		1963.58
			2/19/2002		67.07		1964.12
			5/20/2002		67.04		1964.15
			8/19/2002		67.74		1963.45
			11/4/2002		67.70		1963.49
			3/5/2003		68.88		1962.31
			5/12/2003		66.60		1964.59
			8/12/2003		67.30		1963.89
			11/9/2003		68.00		1963.19
			3/18/2004		67.39		1963.80
			6/7/2004		66.05		1965.14
			9/13/2004		67.12		1964.07

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Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			11/18/2004		67.42		1963.77
			3/1/2005		67.19		1964.00
			5/24/2005		67.24		1963.95
			8/16/2005		67.50		1963.69
			11/15/2005		67.66		1963.53
			2/7/2006		67.42		1963.77
			5/23/2006		66.88		1964.31
			8/22/2006		67.81		1963.38
			12/5/2006		67.66		1963.53
			3/12/2007		67.29		1963.90
			10/2/2007		67.80		1963.39
			3/25/2008		67.56		1963.63
			10/22/2008		67.97		1963.22
			4/14/2009		66.03		1965.16
			9/30/2009		67.48		1963.71
			4/8/2010		67.14		1964.05
			9/15/2010		67.55		1963.64
M-28	2102.82	2096.63	5/31/2001		49.23		2047.40
			8/13/2001		48.85		2047.78
			9/5/2001		48.61		2048.02
			11/6/2001		49.06		2047.57
			2/19/2002		49.00		2047.63
			5/20/2002		49.10		2047.53
			8/19/2002		49.62		2047.01
			11/6/2002		49.73		2046.90
			3/5/2003		49.39		2047.24
			5/12/2003		50.50		2046.13
			8/12/2003		49.92		2046.71
			11/5/2003		50.28		2046.35
			3/16/2004		50.01		2046.62
			6/7/2004		50.04		2046.59
			9/15/2004		49.85		2046.78
			11/19/2004		49.73		2046.90
			3/1/2005		49.78		2046.85
			5/24/2005		50.31		2046.32
			8/16/2005		50.11		2046.52
			11/15/2005		50.66		2045.97
			2/7/2006		50.58		2046.05
			5/23/2006		49.88		2046.75
			8/22/2006		50.28		2046.35
			12/5/2006		50.33		2046.30
			3/12/2007		50.25		2046.38
			10/2/2007		50.10		2046.53
			3/25/2008		50.45		2046.18
			10/22/2008		51.13		2045.50
			4/14/2009		50.95		2045.68
			9/30/2009		50.90		2045.73
			4/8/2010		51.52		2045.11
			9/15/2010		52.10		2044.53
M-31	2085.00	2087.17	5/31/2001		40.37		2046.80
			8/13/2001		40.26		2046.91
			9/5/2001		40.15		2047.02
			11/6/2001		40.33		2046.84
			2/19/2002		40.42		2046.75
			5/20/2002		40.77		2046.40
			8/19/2002		41.22		2045.95
			11/4/2002		41.18		2045.99
			3/5/2003		41.30		2045.87

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Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			5/12/2003		40.87		2046.30
			8/12/2003		41.62		2045.55
			11/5/2003		41.86		2045.31
			3/16/2004		41.65		2045.52
			6/7/2004		41.85		2045.32
			9/13/2004		41.65		2045.52
			11/18/2004		41.52		2045.65
			3/1/2005		41.65		2045.52
			5/24/2005		41.91		2045.26
			8/16/2005		41.07		2046.10
			11/15/2005		41.27		2045.90
			2/7/2006		41.34		2045.83
			5/23/2006		41.20		2045.97
			8/22/2006		41.36		2045.81
			12/5/2006		41.71		2045.46
			3/12/2007		41.80		2045.37
			10/2/2007		41.82		2045.35
			3/25/2008		42.05		2045.12
			10/22/2008		42.81		2044.36
			4/14/2009		43.15		2044.02
			9/30/2009		43.85		2043.32
			4/8/2010		44.55		2042.62
			9/15/2010		44.87		2042.30
M-39	2049.10	2050.63	11/6/2001		100.68		1949.95
			12/5/2006		100.60		1950.03
M-41			12/5/2006		42.24		
M-69			4/14/2009		3.80		
M-80			4/18/2009		16.31		
MOC- 1B	2077.05	2079.51	11/6/2001		28.25		2051.26
			11/4/2002		28.66		2050.85
			6/7/2004		28.48		2051.03
			12/5/2006		30.40		2049.11
			3/12/2007		30.41		2049.10
			10/2/2007		28.58		2050.93
			3/25/2008		30.29		2049.22
			10/22/2008		31.04		2048.47
			4/14/2009		30.15		2049.36
			9/30/2009		31.01		2048.50
			4/8/2010		30.68		2048.83
			9/15/2010		27.79		2051.72
MOC- 2	2036.10	2038.91	11/9/2001		73.50		1965.41
			12/5/2006		73.60		1965.31
			3/12/2007		73.01		1965.90
			10/2/2007		73.80		1965.11
			3/25/2008		73.50		1965.41
			10/22/2008		74.12		1964.79
			4/14/2009		71.76		1967.15
			9/30/2009		73.27		1965.64
			4/8/2010		73.03		1965.88
			9/15/2010		73.66		1965.25
MOC- 3		2010.56	12/5/2006		53.01		1957.55
			3/12/2007		53.93		1956.63
			10/2/2007		52.46		1958.10

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			3/25/2008		52.93		1957.63
			10/22/2008		53.52		1957.04
			4/14/2009		52.50		1958.06
			9/30/2009		52.00		1958.56
			4/8/2010		52.74		1957.82
			9/15/2010		51.17		1959.39
MOC- 4		1966.63	12/5/2006		76.15		1890.48
			3/13/2007		75.62		1891.01
			10/2/2007		74.92		1891.71
			3/25/2008		74.57		1892.06
			10/22/2008		75.12		1891.51
			4/14/2009		72.64		1893.99
			9/30/2009		74.40		1892.23
			4/8/2010		74.03		1892.60
			9/15/2010		74.69		1891.94
MOC- 5		2055.86	12/5/2006		17.74		2038.12
			10/2/2007		15.66		2040.20
MOC- 7		2051.96	12/5/2006		34.74		2017.22
			10/2/2007		33.16		2018.80
MOC- 8		1969.92	12/5/2006		75.17		1894.75
			10/2/2007		75.37		1894.55
MOC- 9		2051.83	12/5/2006		27.45		2024.38
			10/2/2007		25.92		2025.91
MOC-10		2052.66	12/5/2006		31.54		2021.12
			10/2/2007		30.38		2022.28
MOC-11		1974.04	12/5/2006		76.20		1897.84
			10/2/2007		74.87		1899.17
MOC-12		2053.25	12/5/2006		55.39		1997.86
			10/2/2007		54.25		1999.00
MOC-13			12/5/2006		35.59		
			10/2/2007		35.48		
MOC-14		2052.26	12/5/2006		35.13		2017.13
			10/2/2007		33.95		2018.31
MOC-16		2049.02	12/5/2006		30.40		2018.62
			10/2/2007		29.54		2019.48
MOC-17		2063.19	12/5/2006		31.92		2031.27
			10/2/2007		31.82		2031.37
MOC-18		2055.13	12/5/2006		33.03		2022.10
			10/2/2007		32.89		2022.24
MOC-19		1971.24	12/5/2006		75.29		1895.95
			10/2/2007		75.48		1895.76
MOC-20A		1991.89	12/5/2006		17.73		1974.16
			3/12/2007		19.66		1972.23
			10/2/2007		16.16		1975.73
			3/25/2008		16.66		1975.23

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			10/22/2008		17.68		1974.21
			4/14/2009		18.45		1973.44
			9/30/2009		16.64		1975.25
			4/8/2010		17.24		1974.65
			9/15/2010		16.68		1975.21
MOC-20B		1926.46	12/5/2006		73.18		1853.28
			3/12/2007		72.60		1853.86
			10/2/2007		73.37		1853.09
			3/25/2008		73.07		1853.39
			10/22/2008		73.76		1852.70
			4/14/2009		71.47		1854.99
			9/30/2009		72.77		1853.69
			4/8/2010		72.67		1853.79
			9/15/2010		73.25		1853.21
MOC-23		2042.56	12/5/2006		25.78		2016.78
			10/2/2007		25.40		2017.16
PNR- 4	2080.86	2084.21	8/13/2001	27.38	56.31	28.93	2048.15
			9/4/2001	27.08	69.88	42.80	2044.28
			11/6/2001	29.01	69.88	40.87	2042.93
PNR- 5	2082.64	2085.56	5/31/2000		37.17		2048.39
			8/13/2001		37.04		2048.52
			9/5/2001		36.99		2048.57
			11/6/2001		37.05		2048.51
			2/19/2002		37.22		2048.34
			5/20/2002		38.25		2047.31
			8/19/2002		38.76		2046.80
			11/4/2002		38.81		2046.75
			3/5/2003		38.70		2046.86
			5/12/2003		38.53		2047.03
			8/12/2003		39.15		2046.41
			11/4/2003		39.39		2046.17
			3/16/2004		39.58		2045.98
			6/7/2004		39.54		2046.02
			9/13/2004		39.18		2046.38
			11/17/2004		39.27		2046.29
			3/2/2005		39.50		2046.06
			5/25/2005		39.53		2046.03
			8/17/2005		39.35		2046.21
			11/16/2005		39.24		2046.32
			2/9/2006		39.67		2045.89
			5/25/2006		39.67		2045.89
			8/22/2006		39.78		2045.78
			12/5/2006		39.91		2045.65
			3/12/2007		39.83		2045.73
			10/2/2007		39.47		2046.09
			10/22/2008		40.17		2045.39
			4/14/2009		40.27		2045.29
			9/30/2009		39.95		2045.61
			4/8/2010		40.82		2044.74
			9/15/2010		41.42		2044.14
PNR- 6	2116.53	2119.07	5/31/2000		20.33		2098.74
			8/13/2001		20.55		2098.52
			9/5/2001		20.51		2098.56
			11/6/2001		21.02		2098.05
			2/19/2002		21.39		2097.68

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			5/20/2002		21.65		2097.42
			8/19/2002		21.06		2098.01
			11/4/2002		21.23		2097.84
			3/4/2003		20.50		2098.57
			5/12/2003		22.12		2096.95
			8/12/2003		21.04		2098.03
			11/4/2003		21.60		2097.47
			3/16/2004		22.16		2096.91
			6/7/2004		20.32		2098.75
			9/13/2004		20.05		2099.02
			11/17/2004		20.78		2098.29
			2/28/2005		21.55		2097.52
			5/23/2005		21.88		2097.19
			8/16/2005		21.93		2097.14
			11/15/2005		22.47		2096.60
			2/7/2006		22.66		2096.41
			5/23/2006		22.35		2096.72
			8/22/2006		21.61		2097.46
			12/5/2006		20.96		2098.11
			3/12/2007		21.13		2097.94
			10/2/2007		19.24		2099.83
			3/25/2008		21.18		2097.89
			10/22/2008		19.81		2099.26
			4/14/2009		19.48		2099.59
			9/30/2009		17.91		2101.16
			4/8/2010		20.22		2098.85
			9/15/2010		14.15		2104.92
PNR- 7	2069.59	2072.22	5/31/2000		25.50		2046.72
			8/13/2001		25.19		2047.03
			9/5/2001		25.08		2047.14
			11/6/2001		25.47		2046.75
			2/19/2002		25.72		2046.50
			5/20/2002		26.20		2046.02
			8/19/2002		26.17		2046.05
			11/4/2002		26.54		2045.68
			3/4/2003		27.50		2044.72
			5/12/2003		27.39		2044.83
			8/12/2003		27.05		2045.17
			11/4/2003		27.40		2044.82
			3/16/2004		27.55		2044.67
			6/7/2004		27.32		2044.90
			9/13/2004		26.98		2045.24
			11/17/2004		27.35		2044.87
			3/1/2005		27.15		2045.07
			5/25/2005		27.90		2044.32
			8/17/2005		27.28		2044.94
			11/16/2005		27.78		2044.44
			2/9/2006		27.88		2044.34
			5/24/2006		28.09		2044.13
			8/22/2006		28.02		2044.20
			12/5/2006		27.92		2044.30
			3/12/2007		27.97		2044.25
			10/4/2007		28.07		2044.15
			3/25/2008		28.12		2044.10
			10/22/2008		28.87		2043.35
			4/14/2009		28.51		2043.71
			9/30/2009		28.07		2044.15
			4/8/2010		29.43		2042.79
			9/15/2010		29.72		2042.50

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

DOWL HKM Job No.: 14B8.05101.01

Last Update: October 2010

Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
PNR- 8	2060.21	2062.99	5/31/2000		63.64		1999.35
			8/13/2001		63.53		1999.46
			9/5/2001		63.84		1999.15
			11/6/2001		64.54		1998.45
			2/19/2002		64.21		1998.78
			5/20/2002		64.40		1998.59
			8/19/2002		64.61		1998.38
			11/4/2002		64.56		1998.43
			3/4/2003		64.00		1998.99
			5/12/2003		64.84		1998.15
			8/12/2003		64.94		1998.05
			11/4/2003		68.50		1994.49
			3/16/2004		65.41		1997.58
			6/7/2004		64.98		1998.01
			9/13/2004		65.16		1997.83
			11/16/2004		65.61		1997.38
			3/2/2005		65.64		1997.35
			5/26/2005		65.94		1997.05
			8/18/2005		65.75		1997.24
			11/17/2005		66.26		1996.73
			2/9/2006		66.09		1996.90
			5/24/2006		65.77		1997.22
			8/22/2006		66.11		1996.88
			12/5/2006		66.09		1996.90
			3/12/2007		66.13		1996.86
			10/2/2007		66.41		1996.58
			3/25/2008		66.32		1996.67
			10/22/2008		66.91		1996.08
			4/14/2009		66.04		1996.95
			9/30/2009		65.97		1997.02
			4/8/2010		66.16		1996.83
			9/15/2010		66.25		1996.74
PNR- 9	2014.11	2017.26	5/31/2000		56.46		1960.80
			8/13/2001		57.29		1959.97
			9/5/2001		57.28		1959.98
			11/6/2001		57.61		1959.65
			2/19/2002		57.12		1960.14
			5/20/2002		57.08		1960.18
			8/19/2002		57.90		1959.36
			11/4/2002		57.29		1959.97
			3/4/2003		57.11		1960.15
			5/12/2003		56.47		1960.79
			8/12/2003		57.33		1959.93
			11/4/2003		57.40		1959.86
			3/18/2004		57.31		1959.95
			6/7/2004		56.04		1961.22
			9/13/2004		57.12		1960.14
			11/16/2004		57.26		1960.00
			3/1/2005		57.12		1960.14
			5/24/2005		57.19		1960.07
			8/16/2005		57.38		1959.88
			11/15/2005		57.74		1959.52
			2/9/2006		57.24		1960.02
			5/23/2006		56.69		1960.57
			8/22/2006		57.67		1959.59
			12/5/2006		57.39		1959.87
			3/12/2007		59.96		1957.30
			10/2/2007		57.73		1959.53

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

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Last Update: October 2010

Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			3/25/2008		57.35		1959.91
			10/22/2008		58.00		1959.26
			4/14/2009		55.68		1961.58
			9/30/2009		57.21		1960.05
			4/8/2010		56.95		1960.31
			9/15/2010		57.56		1959.70
PNR-10	2009.17	2011.69	5/31/2000		53.93		1957.76
			8/13/2001		53.93		1957.76
			9/5/2001		54.03		1957.66
			11/6/2001		54.37		1957.32
			2/19/2002		53.88		1957.81
			5/20/2002		53.79		1957.90
			8/19/2002		54.27		1957.42
			11/4/2002		54.04		1957.65
			3/4/2003		53.84		1957.85
			5/12/2003		53.17		1958.52
			8/12/2003		54.11		1957.58
			11/4/2003		54.30		1957.39
			3/18/2004		53.99		1957.70
			6/7/2004		52.74		1958.95
			9/13/2004		53.85		1957.84
			11/16/2004		53.99		1957.70
			3/1/2005		53.80		1957.89
			5/24/2005		53.94		1957.75
			8/16/2005		54.11		1957.58
			11/15/2005		54.48		1957.21
			2/7/2006		54.03		1957.66
			5/23/2006		53.38		1958.31
			8/22/2006		54.42		1957.27
			12/5/2006		54.11		1957.58
			3/12/2007		53.55		1958.14
			10/2/2007		54.41		1957.28
			3/25/2008		54.03		1957.66
			10/22/2008		54.73		1956.96
			4/14/2009		52.42		1959.27
			9/30/2009		53.91		1957.78
			4/8/2010		53.65		1958.04
			9/15/2010		54.25		1957.44
PNR-12	2098.44	2101.23	5/31/2000		51.10		2050.13
			8/13/2001		49.90		2051.33
			9/5/2001		49.67		2051.56
			11/6/2001		50.52		2050.71
			2/19/2002		50.80		2050.43
			5/20/2002		51.40		2049.83
			8/19/2002		51.20		2050.03
			11/4/2002		50.86		2050.37
			3/4/2003		51.79		2049.44
			5/12/2003		51.95		2049.28
			8/12/2003		50.80		2050.43
			11/4/2003		54.10		2047.13
			3/16/2004		51.75		2049.48
			6/7/2004		51.01		2050.22
			9/13/2004		50.51		2050.72
			11/16/2004		51.05		2050.18
			2/28/2005		51.52		2049.71
			5/23/2005		51.74		2049.49
			8/15/2005		51.05		2050.18
			11/15/2005		51.98		2049.25

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

DOWL HKM Job No.: 14B8.05101.01

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Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			2/7/2006		52.12		2049.11
			5/23/2006		51.54		2049.69
			8/22/2006		52.00		2049.23
			12/5/2006		52.00		2049.23
			3/12/2007		51.92		2049.31
			10/2/2007		51.20		2050.03
			3/25/2008		51.99		2049.24
			10/22/2008		52.76		2048.47
			4/14/2009		52.20		2049.03
			9/30/2009		51.18		2050.05
			4/8/2010		52.58		2048.65
			9/15/2010		51.36		2049.87
PNR-13	2079.38	2081.12	8/13/2001		30.44		2050.68
			9/5/2001		30.19		2050.93
			11/6/2001		30.46		2050.66
			2/19/2002		31.48		2049.64
			5/20/2002		32.05		2049.07
			8/19/2002		32.32		2048.80
			11/4/2002		32.34		2048.78
			3/4/2003		32.96		2048.16
			5/12/2003		33.01		2048.11
			8/12/2003		32.50		2048.62
			11/4/2003		32.87		2048.25
			3/16/2004		33.20		2047.92
			6/7/2004		32.93		2048.19
			9/13/2004		32.48		2048.64
			11/16/2004		32.27		2048.85
			3/1/2005		32.92		2048.20
			5/24/2005		33.26		2047.86
			8/17/2005		36.33		2044.79
			11/16/2005		34.33		2046.79
			2/8/2006		33.29		2047.83
			5/24/2006		33.49		2047.63
			8/22/2006		33.58		2047.54
			12/5/2006		33.63		2047.49
			3/12/2007		33.62		2047.50
			10/2/2007		33.04		2048.08
			3/25/2008		33.56		2047.56
			10/22/2008		34.11		2047.01
			4/14/2009		33.89		2047.23
			9/30/2009		33.25		2047.87
			4/8/2010		34.35		2046.77
			9/15/2010		34.47		2046.65
PNR-14	2079.82	2082.11	8/13/2001		32.50		2049.61
			9/4/2001		32.27		2049.84
			11/6/2001		32.30		2049.81
			2/19/2002		33.42		2048.69
			5/20/2002		33.77		2048.34
			8/19/2002		34.33		2047.78
			11/4/2002		34.27		2047.84
			3/4/2003		34.67		2047.44
			5/12/2003		34.71		2047.40
			8/12/2003		34.48		2047.63
			11/5/2003		34.75		2047.36
			3/16/2004		34.80		2047.31
			6/7/2004		34.71		2047.40
			9/13/2004		34.23		2047.88
			11/17/2004		34.43		2047.68

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Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			3/2/2005		34.55		2047.56
			5/25/2005		34.78		2047.33
			8/17/2005		34.41		2047.70
			11/16/2005		34.64		2047.47
			2/9/2006		34.90		2047.21
			5/24/2006		34.96		2047.15
			8/22/2006		34.94		2047.17
			12/5/2006		35.10		2047.01
			3/12/2007		35.05		2047.06
			10/2/2007		34.57		2047.54
			3/25/2008		35.03		2047.08
			10/22/2008		35.49		2046.62
			4/14/2009		35.45		2046.66
			9/30/2009		35.05		2047.06
			4/8/2010		35.74		2046.37
			9/15/2010		36.00		2046.11
PNR-15	2081.92	2084.10	8/13/2001		33.86		2050.24
			9/4/2001		33.84		2050.26
			11/6/2001		34.30		2049.80
			2/19/2002		35.36		2048.74
			5/20/2002		35.87		2048.23
			8/19/2002		36.20		2047.90
			11/4/2002		36.22		2047.88
			3/5/2003	36.20	36.22	0.02	2047.89
			5/12/2003		36.81		2047.29
			8/12/2003		36.20		2047.90
			11/5/2003		36.26		2047.84
			3/16/2004		36.44		2047.66
			6/7/2004		36.31		2047.79
			9/15/2004		35.72		2048.38
			11/17/2004		36.00		2048.10
			3/2/2005		36.12		2047.98
			5/25/2005		36.39		2047.71
			8/17/2005		35.88		2048.22
			11/16/2005		36.17		2047.93
			2/8/2006		36.25		2047.85
			5/24/2006		36.48		2047.62
			8/22/2006		36.49		2047.61
			12/5/2006		36.65		2047.45
			3/12/2007		36.55		2047.55
			10/2/2007		35.98		2048.12
			3/25/2008		36.46		2047.64
			10/22/2008		36.97		2047.13
			4/14/2009		36.89		2047.21
			9/30/2009		36.44		2047.66
			4/8/2010		37.05		2047.05
			9/15/2010		37.11		2046.99
PNR-16	2053.88	2056.80	8/13/2001		13.83		2042.97
			9/5/2001		12.70		2044.10
			11/6/2001		14.50		2042.30
			2/19/2002		14.76		2042.04
			5/20/2002		13.76		2043.04
			8/19/2002		9.47		2047.33
			11/4/2002		11.69		2045.11
			3/4/2003		15.20		2041.60
			5/12/2003		10.21		2046.59
			8/12/2003		13.41		2043.39
			11/4/2003		15.42		2041.38

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Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			3/16/2004		17.25		2039.55
			6/7/2004		7.49		2049.31
			9/13/2004		10.07		2046.73
			11/16/2004		11.90		2044.90
			3/1/2005		14.08		2042.72
			5/24/2005		12.67		2044.13
			8/17/2005		13.24		2043.56
			11/15/2005		15.89		2040.91
			2/7/2006		17.04		2039.76
			5/24/2006		13.54		2043.26
			8/22/2006		14.67		2042.13
			12/5/2006		14.36		2042.44
			3/12/2007		15.67		2041.13
			10/2/2007		16.20		2040.60
			3/25/2008		18.27		2038.53
			10/22/2008		14.40		2042.40
			4/14/2009		7.47		2049.33
			9/30/2009		13.26		2043.54
			4/8/2010		12.46		2044.34
			9/15/2010		9.08		2047.72
PNR-17	2084.06	2086.14	8/13/2001	30.40	55.62	25.22	2048.17
			9/4/2001	30.42	55.86	25.44	2048.09
			11/6/2001	30.98	55.86	24.88	2047.70
			2/19/2002	32.04	55.77	23.73	2046.98
			5/20/2002	32.75	NM	NM	NM
			8/19/2002	33.62	NM	NM	NM
			11/4/2002	37.68	40.43	2.75	2047.63
			3/4/2003	38.37	40.31	1.94	2047.19
			5/12/2003	38.55	40.42	1.87	2047.03
			8/12/2003	38.22	40.04	1.82	2047.37
			11/6/2003	38.28	41.11	2.83	2047.01
			3/16/2004	37.95	43.46	5.51	2046.54
			6/7/2004	37.83	43.33	5.50	2046.66
			9/16/2004	37.38	42.71	5.33	2047.16
			11/17/2004	38.19	40.65	2.46	2047.21
			3/2/2005	38.47	39.28	0.81	2047.43
			5/25/2005	38.55	40.15	1.60	2047.11
			8/17/2005	38.23	39.12	0.89	2047.64
			11/16/2005	38.54	38.64	0.10	2047.57
			2/8/2006	38.50	38.59	0.09	2047.61
			5/24/2006	38.78	39.02	0.24	2047.29
			8/22/2006	38.69	38.82	0.13	2047.41
			12/5/2006	39.87	39.96	0.09	2046.24
			3/12/2007	38.83	38.86	0.03	2047.30
			10/2/2007	38.32	38.35	0.03	2047.81
			3/25/2008	38.75	38.78	0.03	2047.38
			10/22/2008	39.21	39.24	0.03	2046.92
			4/14/2009	39.26	39.33	0.07	2046.86
			9/30/2009	38.90	39.00	0.10	2047.21
			4/8/2010	39.51	39.60	0.09	2046.60
			9/15/2010	39.55	39.71	0.16	2046.54
PNR-18	2116.21	2118.16	8/13/2001		68.90		2049.26
			9/5/2001		68.58		2049.58
			11/6/2001		69.08		2049.08
			2/19/2002		69.11		2049.05
			5/20/2002		70.10		2048.06
			8/19/2002		69.71		2048.45
			11/4/2002		69.36		2048.80

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Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			3/4/2003		70.02		2048.14
			5/12/2003		70.38		2047.78
			8/12/2003		69.65		2048.51
			11/4/2003		70.30		2047.86
			3/16/2004		70.10		2048.06
			6/7/2004		69.44		2048.72
			9/13/2004		69.39		2048.77
			11/16/2004		69.71		2048.45
			2/28/2005		69.96		2048.20
			5/23/2005		70.13		2048.03
			8/15/2005		69.92		2048.24
			11/15/2005		70.61		2047.55
			2/7/2006		70.63		2047.53
			5/23/2006		69.96		2048.20
			8/22/2006		70.40		2047.76
			12/5/2006		70.44		2047.72
			3/12/2007		70.24		2047.92
			10/2/2007		70.05		2048.11
			3/25/2008		70.40		2047.76
			10/22/2008		71.19		2046.97
			4/14/2009		70.77		2047.39
			9/30/2009		70.17		2047.99
			4/8/2010		71.23		2046.93
			9/15/2010		71.03		2047.13
PNR-19	2071.26	2073.23	8/13/2001		25.75		2047.48
			9/5/2001		25.68		2047.55
			11/6/2001		25.98		2047.25
			2/19/2002		26.00		2047.23
			5/20/2002		26.37		2046.86
			8/19/2002		26.75		2046.48
			11/4/2002		26.86		2046.37
			3/4/2003		27.30		2045.93
			5/12/2003		27.52		2045.71
			8/12/2003		27.44		2045.79
			11/4/2003		27.58		2045.65
			3/16/2004		27.77		2045.46
			6/7/2004		27.67		2045.56
			9/13/2004		27.38		2045.85
			11/16/2004		27.46		2045.77
			3/1/2005		27.51		2045.72
			5/25/2005		27.90		2045.33
			8/17/2005		27.69		2045.54
			11/16/2005		27.85		2045.38
			2/8/2006		27.87		2045.36
			5/24/2006		28.13		2045.10
			8/22/2006		28.14		2045.09
			12/5/2006		28.29		2044.94
			3/13/2007		28.47		2044.76
			10/2/2007		28.22		2045.01
			3/25/2008		28.36		2044.87
			10/22/2008		28.56		2044.67
			4/14/2009		28.83		2044.40
			9/30/2009		29.96		2043.27
			4/8/2010		30.10		2043.13
			9/15/2010		30.22		2043.01
PNR-20	2084.55	2087.16	8/18/2001		41.20		2045.96
			9/5/2001		41.05		2046.11
			11/6/2001		41.58		2045.58

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

DOWL HKM Job No.: 14B8.05101.01

Last Update: October 2010

Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			2/19/2002		41.41		2045.75
			5/20/2002		41.60		2045.56
			8/19/2002		41.91		2045.25
			11/4/2002		41.78		2045.38
			3/4/2003		42.30		2044.86
			5/12/2003		42.41		2044.75
			8/12/2003		42.39		2044.77
			11/4/2003		45.20		2041.96
			3/16/2004		42.56		2044.60
			6/7/2004		42.57		2044.59
			9/13/2004		42.37		2044.79
			11/17/2004		42.61		2044.55
			3/1/2005		42.37		2044.79
			5/24/2005		42.71		2044.45
			8/16/2005		42.56		2044.60
			11/15/2005		43.59		2043.57
			2/9/2006		42.72		2044.44
			5/23/2006		42.57		2044.59
			8/22/2006		42.82		2044.34
			12/5/2006		42.81		2044.35
			3/12/2007		42.80		2044.36
			10/2/2007		43.05		2044.11
			3/25/2008		43.10		2044.06
			10/22/2008		43.65		2043.51
			4/14/2009		44.87		2042.29
			9/30/2009		45.25		2041.91
			4/8/2010		47.05		2040.11
			9/15/2010		46.93		2040.23
PNR-21	2099.04	2101.59	8/13/2001		58.80		2042.79
			9/5/2001		58.68		2042.91
			11/6/2001		59.12		2042.47
			2/19/2002		58.81		2042.78
			5/20/2002		58.80		2042.79
			8/19/2002		59.02		2042.57
			11/4/2002		58.89		2042.70
			3/5/2003		58.78		2042.81
			5/12/2003		58.80		2042.79
			8/12/2003		59.32		2042.27
			11/5/2003		59.70		2041.89
			3/16/2004		59.46		2042.13
			6/7/2004		59.43		2042.16
			9/13/2004		59.31		2042.28
			11/17/2004		59.46		2042.13
			3/1/2005		59.23		2042.36
			5/24/2005		59.43		2042.16
			8/16/2005		59.35		2042.24
			11/15/2005		59.82		2041.77
			2/9/2006		59.64		2041.95
			5/23/2006		59.60		2041.99
			8/22/2006		59.53		2042.06
			12/5/2006		59.57		2042.02
			3/12/2007		59.46		2042.13
			10/2/2007		59.84		2041.75
			3/25/2008		59.82		2041.77
			10/22/2008		60.21		2041.38
			4/14/2009		61.07		2040.52
			9/30/2009		61.49		2040.10
			4/8/2010		62.03		2039.56
			9/15/2010		61.15		2040.44

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

DOWL HKM Job No.: 14B8.05101.01

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Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
PNR-22	2127.38	2129.43	8/13/2001		81.50		2047.93
			9/5/2001		81.21		2048.22
			11/6/2001		81.66		2047.77
			2/19/2002		81.48		2047.95
			5/20/2002		81.90		2047.53
			8/19/2002		82.11		2047.32
			11/4/2002		81.75		2047.68
			3/4/2003		82.41		2047.02
			5/12/2003		82.62		2046.81
			8/12/2003		82.22		2047.21
			11/5/2003		82.60		2046.83
			3/16/2004		82.47		2046.96
			6/7/2004		82.24		2047.19
			9/13/2004		81.98		2047.45
			11/18/2004		82.15		2047.28
			3/1/2005		82.22		2047.21
			5/24/2005		82.65		2046.78
			8/16/2005		82.52		2046.91
			11/15/2005		83.07		2046.36
			2/7/2006		83.08		2046.35
			5/25/2006		82.58		2046.85
			8/22/2006		82.78		2046.65
			12/5/2006		82.80		2046.63
			3/12/2007		82.60		2046.83
			10/2/2007		82.66		2046.77
			3/25/2008		82.82		2046.61
			10/22/2008		83.59		2045.84
			4/14/2009		83.25		2046.18
			9/30/2009		82.91		2046.52
			4/8/2010		83.90		2045.53
			9/15/2010		84.04		2045.39
PNR-23	2083.00	2085.27	8/13/2001		35.85		2049.42
			9/4/2001		35.90		2049.37
			11/6/2001		36.03		2049.24
			2/19/2002		36.88		2048.39
			5/20/2002		37.35		2047.92
			8/19/2002		37.78		2047.49
			11/4/2002		37.81		2047.46
			3/4/2003		38.26		2047.01
			5/12/2003		38.34		2046.93
			8/12/2003		38.13		2047.14
			11/6/2003		38.36		2046.91
			3/16/2004		38.62		2046.65
			6/7/2004		38.51		2046.76
			9/15/2004		38.10		2047.17
			11/17/2004		38.35		2046.92
			3/2/2005		38.51		2046.76
			5/25/2005		38.78		2046.49
			8/17/2005		38.44		2046.83
			11/16/2005		38.57		2046.70
			2/9/2006		38.79		2046.48
			5/25/2006		38.67		2046.60
			8/22/2006		38.75		2046.52
			12/5/2006		38.90		2046.37
			3/12/2007		38.85		2046.42
			10/2/2007		38.36		2046.91
			3/25/2008		38.73		2046.54
			10/22/2008		39.08		2046.19

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Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

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Last Update: October 2010

Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			4/14/2009		39.20		2046.07
			9/30/2009		38.92		2046.35
			4/8/2010		39.62		2045.65
			9/15/2010		40.13		2045.14
PNR-24	2083.00	2085.68	8/13/2001		36.30		2049.38
			9/4/2001		36.31		2049.37
			11/6/2001		36.45		2049.23
			2/19/2002		37.17		2048.51
			5/20/2002		37.52		2048.16
			8/19/2002		37.88		2047.80
			11/4/2002	37.90	39.68	1.78	2047.25
			3/4/2003	38.38	40.05	1.67	2046.80
			5/12/2003	38.48	38.48	0.00	2047.20
			8/12/2003	38.39	39.35	0.96	2047.00
			11/6/2003	38.53	39.90	1.37	2046.74
			3/16/2004	38.70	44.30	5.60	2045.30
			6/7/2004	38.65	39.98	1.33	2046.63
			9/15/2004	38.33	38.51	0.18	2047.30
			11/17/2004	38.51	39.21	0.70	2046.96
			3/2/2005	38.61	39.50	0.89	2046.80
			5/25/2005	38.74	39.91	1.17	2046.59
			8/17/2005	38.54	38.89	0.35	2047.03
			11/16/2005	38.65	39.09	0.44	2046.90
			2/8/2006	38.63	39.24	0.61	2046.87
			5/24/2006	38.90	39.87	0.97	2046.49
			8/22/2006	38.86	39.85	0.99	2046.52
			12/5/2006	39.12	39.75	0.63	2046.37
			3/12/2007	39.06	39.26	0.20	2046.56
			10/2/2007		38.65		2047.03
			3/25/2008		39.05		2046.63
			10/22/2008	39.42	39.52	0.10	2046.23
			4/14/2009	39.45	39.61	0.16	2046.18
			9/30/2009	39.20	39.45	0.25	2046.40
			4/8/2010	39.84	n/a (>40.65)	n/a (>0.81)	n/a
			9/15/2010	40.30	n/a (>40.65)	n/a (>0.35)	n/a
PNR-25	2081.92	2084.03	8/13/2001	33.78	34.08	0.30	2050.16
			9/4/2001		33.73		2050.30
			11/6/2001		34.09		2049.94
			2/19/2002	34.98	36.63	1.65	2048.56
			5/20/2002	35.36	NM	NM	NM
			8/19/2002	35.64	NM	NM	NM
			11/4/2002	35.55	37.48	1.93	2047.90
			3/4/2003	35.91	38.04	2.13	2047.48
			5/12/2003	36.02	38.04	2.02	2047.40
			8/12/2003	35.62	37.03	1.41	2047.99
			11/5/2003	35.15	37.50	2.35	2048.18
			3/16/2004	35.93	38.00	2.07	2047.48
			6/7/2004	35.86	37.53	1.67	2047.67
			9/15/2004	35.37	36.58	1.21	2048.30
			11/17/2004	35.60	37.08	1.48	2047.99
			3/2/2005	35.66	37.35	1.69	2047.86
			5/25/2005	35.90	37.86	1.96	2047.54
			8/17/2005	35.55	37.03	1.48	2048.04
			11/16/2005	35.77	37.51	1.74	2047.74
			2/8/2006	35.82	37.88	2.06	2047.59
			5/24/2006	36.01	38.12	2.11	2047.39
			8/22/2006	36.04	38.19	2.15	2047.35
			12/5/2006	36.15	38.30	2.15	2047.24

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

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Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			3/12/2007	36.12	38.23	2.11	2047.28
			10/2/2007	35.65	37.02	1.37	2047.97
			3/25/2008	36.05	37.89	1.84	2047.43
			10/22/2008	38.58	39.98	1.40	2045.03
			4/14/2009	36.37	38.52	2.15	2047.02
			9/30/2009	36.05	37.75	1.70	2047.47
			4/8/2010	36.68	38.90	2.22	2046.68
			9/15/2010	36.74	38.31	1.57	2046.82
PNR-26	2084.06	2086.15	8/13/2001	34.65	36.85	2.20	2050.84
			9/4/2001	35.96	37.12	1.16	2049.84
			11/6/2001	36.24	37.12	0.88	2049.65
			2/19/2002	36.98	39.30	2.32	2048.47
			5/20/2002	37.43	NM	NM	NM
			8/19/2002	37.78	NM	NM	NM
			11/4/2002	37.76	40.15	2.39	2047.67
			3/4/2003	38.11	40.07	1.96	2047.45
			5/12/2003	38.20	40.09	1.89	2047.38
			8/12/2003	37.82	39.98	2.16	2047.68
			11/6/2003	37.93	39.99	2.06	2047.60
			3/16/2004	38.80	40.01	1.21	2046.99
			6/7/2004	38.02	40.02	2.00	2047.53
			9/16/2004	37.60	39.73	2.13	2047.91
			11/17/2004	37.79	39.98	2.19	2047.70
			3/2/2005	37.87	40.00	2.13	2047.64
			5/25/2005	38.01	39.92	1.91	2047.57
			8/17/2005	37.78	40.00	2.22	2047.70
			11/16/2005	37.92	40.00	2.08	2047.61
			2/8/2006	37.90	40.01	2.11	2047.62
			5/24/2006	38.23	40.05	1.82	2047.37
			8/22/2006	38.18	40.04	1.86	2047.41
			12/5/2006	38.35	40.05	1.70	2047.29
			3/12/2007	38.34	40.03	1.69	2047.30
			10/2/2007	37.94	40.03	2.09	2047.58
			3/25/2008	38.24	39.99	1.75	2047.39
			10/22/2008	36.44	38.50	2.06	2049.09
			4/14/2009	38.71	39.95	1.24	2047.07
			9/30/2009	38.50	39.95	1.45	2047.22
			4/8/2010	39.10	39.90	0.80	2046.81
			9/15/2010	39.13	39.95	0.82	2046.77
PNR-27	2092.86	2095.30	9/5/2001		67.28		2028.02
			11/6/2001		55.68		2039.62
			2/19/2002		55.32		2039.98
			5/20/2002		55.25		2040.05
			8/19/2002		55.34		2039.96
			11/4/2002		55.25		2040.05
			3/5/2003		55.17		2040.13
			5/12/2003		55.62		2039.68
			8/12/2003		55.67		2039.63
			11/5/2003		56.20		2039.10
			6/7/2004		56.80		2038.50
			9/13/2004		55.73		2039.57
			11/17/2004		55.91		2039.39
			3/2/2005		55.63		2039.67
			5/24/2005		55.79		2039.51
			8/16/2005		55.64		2039.66
			11/15/2005		56.04		2039.26
			2/8/2006		55.65		2039.65
			5/23/2006		55.66		2039.64

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Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

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Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			8/22/2006		55.85		2039.45
			12/5/2006		55.92		2039.38
			3/12/2007		55.79		2039.51
			10/2/2007		56.23		2039.07
			3/25/2008		56.20		2039.10
			10/22/2008		56.52		2038.78
			4/14/2009		57.02		2038.28
			9/30/2009		57.25		2038.05
			4/8/2010		57.72		2037.58
			9/15/2010		58.16		2037.14
PNR-28	2079.64	2078.44	9/5/2001		46.38		2032.06
			11/6/2001		44.85		2033.59
			2/19/2002		44.67		2033.77
			5/20/2002		44.45		2033.99
			8/19/2002		44.59		2033.85
			11/4/2002		44.55		2033.89
			3/5/2003		44.49		2033.95
			5/12/2003		44.40		2034.04
			8/12/2003		44.89		2033.55
			11/5/2003		46.20		2032.24
			6/7/2004		45.24		2033.20
			9/15/2004		45.19		2033.25
			11/17/2004		45.28		2033.16
			3/1/2005		45.06		2033.38
			5/25/2005		45.23		2033.21
			8/16/2005		45.02		2033.42
			11/15/2005		45.61		2032.83
			2/8/2006		45.17		2033.27
			5/23/2006		45.17		2033.27
			8/22/2006		45.21		2033.23
			12/5/2006		45.37		2033.07
			3/12/2007		45.24		2033.20
			10/2/2007		45.65		2032.79
			3/25/2008		45.55		2032.89
			10/22/2008		45.74		2032.70
			4/14/2009		45.91		2032.53
			9/30/2009		45.99		2032.45
			4/8/2010		46.37		2032.07
			9/15/2010		48.03		2030.41
PNR-29	2073.76	2072.64	9/5/2001		41.86		2030.78
			11/6/2001		40.28		2032.36
			2/19/2002		40.03		2032.61
			5/20/2002		39.80		2032.84
			8/19/2002		39.96		2032.68
			11/4/2002		39.82		2032.82
			3/5/2003		39.70		2032.94
			5/12/2003		40.17		2032.47
			8/12/2003		40.21		2032.43
			11/4/2003		40.70		2031.94
			6/15/2004		40.54		2032.10
			9/15/2004		40.54		2032.10
			11/17/2004		40.64		2032.00
			3/1/2005		40.39		2032.25
			5/25/2005		40.68		2031.96
			8/16/2005		40.42		2032.22
			11/15/2005		41.03		2031.61
			2/8/2006		40.45		2032.19
			5/23/2006		40.47		2032.17

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Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			8/22/2006		40.60		2032.04
			12/5/2006		40.63		2032.01
			3/12/2007		40.68		2031.96
			10/2/2007		40.95		2031.69
			3/25/2008		40.83		2031.81
			10/22/2008		41.14		2031.50
			4/14/2009		41.06		2031.58
			9/30/2009		40.85		2031.79
			4/8/2010		41.24		2031.40
			9/15/2010		42.10		2030.54
PNR-30-06	2083.55	2083.55	10/19/2006		37.91		2045.64
			12/5/2006	37.50	40.70	3.20	2045.09
			3/12/2007	37.39	40.86	3.47	2045.12
PNR-31-06	2098.91	2100.98	10/19/2006		58.69		2042.29
			12/5/2006		58.85		2042.13
			3/12/2007		58.59		2042.39
			10/2/2007		58.95		2042.03
			3/25/2008		58.86		2042.12
			4/14/2009		60.15		2040.83
			9/30/2009		60.58		2040.40
			4/8/2010		61.11		2039.87
			9/15/2010		61.22		2039.76
PNR-32-06	2098.17	2100.01	10/19/2006		57.87		2042.14
			12/5/2006		58.00		2042.01
			3/12/2007		57.80		2042.21
			10/2/2007		58.16		2041.85
			3/25/2008		58.14		2041.87
			4/14/2009		59.44		2040.57
			9/30/2009		59.96		2040.05
			4/8/2010		60.45		2039.56
			9/15/2010		60.55		2039.46
PNR-33-06	2142.86	2144.53	10/19/2006		102.50		2042.03
			12/5/2006		100.76		2043.77
			3/12/2007		102.35		2042.18
			10/2/2007		102.81		2041.72
			3/25/2008		102.89		2041.64
			10/22/2008		103.52		2041.01
			4/14/2009		103.32		2041.21
			9/30/2009		103.27		2041.26
			4/8/2010		103.75		2040.78
			9/15/2010		104.50		2040.03
PNR-34-07	2053.42	2052.14	3/12/2007		93.84		1958.30
			10/2/2007		94.31		1957.83
			3/25/2008		94.20		1957.94
			10/22/2008		94.89		1957.25
			4/14/2009		93.35		1958.79
			9/30/2009		93.90		1958.24
			4/8/2010		93.93		1958.21
			9/15/2010		94.40		1957.74
PNR-35-07	2060.91	2059.75	3/12/2007		71.15		1988.60
			10/2/2007		71.55		1988.20
			3/25/2008		71.37		1988.38
			10/22/2008		71.34		1988.41
			4/14/2009		71.19		1988.56

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

DOWL HKM Job No.: 14B8.05101.01

Last Update: October 2010

Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			9/30/2009		71.24		1988.51
			4/8/2010		71.30		1988.45
			9/15/2010		71.69		1988.06
PNR-36-07	2104.80	2107.00	3/12/2007		54.74		2052.26
			10/2/2007		53.88		2053.12
			3/25/2008		54.76		2052.24
			10/22/2008		55.57		2051.43
			4/14/2009		54.95		2052.05
			9/30/2009		53.70		2053.30
			4/8/2010		54.96		2052.04
			9/15/2010		52.82		2054.18
PNR-37-07	2097.50	2100.50	10/2/2007		50.41		2050.09
			3/25/2008		51.18		2049.32
			4/14/2009		51.41		2049.09
			9/30/2009		50.36		2050.14
			4/8/2010		51.75		2048.75
			9/15/2010		50.57		2049.93
PNR-38-08	2038.21	2039.34	3/25/2008		86.52		1952.82
			10/22/2008		87.93		1951.41
			4/14/2009		85.81		1953.53
			9/30/2009		86.86		1952.48
			4/8/2010		86.65		1952.69
			9/15/2010		87.34		1952.00
PNR-39-08	2052.80	2055.27	10/22/2008		98.38		1956.89
			4/14/2009		96.71		1958.56
			9/30/2009		97.46		1957.81
			4/8/2010		97.63		1957.64
			9/15/2010		98.41		1956.86
USGS-06-1			4/14/2009		54.01		
USGS-06-2			4/14/2009		48.84		
USGS-06-7			10/4/2007		62.45		
USGS-06-8			10/4/2007		61.79		
			4/14/2009		55.34		
USGS-06-9			10/4/2007		16.79		
USGS-06-11			4/14/2009		14.95		
USGS-92-12	2063.92	2065.92	5/31/2001		15.10		2050.82
			8/13/2001		10.70		2055.22
			9/5/2001		12.12		2053.80
			11/6/2001		13.11		2052.81
			2/19/2002		13.85		2052.07
			5/20/2002		13.65		2052.27
			8/19/2002		12.68		2053.24
			11/4/2002		12.77		2053.15
			3/4/2003		14.20		2051.72
			5/12/2003		12.58		2053.34
			8/12/2003		11.99		2053.93
			11/5/2003		17.10		2048.82
			6/7/2004		10.75		2055.17
			9/14/2004		10.70		2055.22

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

DOWL HKM Job No.: 14B8.05101.01

Last Update: October 2010

Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			11/16/2004		12.35		2053.57
			3/1/2005		13.28		2052.64
			5/25/2005		12.02		2053.90
			8/17/2005		11.00		2054.92
			11/15/2005		12.50		2053.42
			2/7/2006		13.08		2052.84
			5/24/2006		12.22		2053.70
			8/22/2006		14.04		2051.88
			12/5/2006		14.90		2051.02
			3/12/2007		14.97		2050.95
			10/2/2007		12.84		2053.08
			3/25/2008		14.47		2051.45
			10/22/2008		14.83		2051.09
			4/14/2009		10.90		2055.02
			9/30/2009		11.33		2054.59
			4/8/2010		12.75		2053.17
			9/15/2010		8.79		2057.13
USGS-92-6			4/14/2009		17.05		
USGS-92-7			4/14/2009		11.26		
USGS-92-9			4/14/2009		7.75		
USGS 93-3	2082.10	2083.46	5/31/2001		35.07		2048.39
			11/6/2001		35.22		2048.24
			2/19/2002		35.72		2047.74
			5/20/2002		36.30		2047.16
			8/19/2002		36.75		2046.71
			11/4/2002		36.81		2046.65
			3/4/2003		37.20		2046.26
			5/12/2003		37.23		2046.23
			8/12/2003		37.16		2046.30
			11/4/2003		37.32		2046.14
			3/16/2004		39.58		2043.88
			6/7/2004		37.47		2045.99
			9/14/2004		37.07		2046.39
			11/17/2004		37.25		2046.21
			3/1/2005		37.26		2046.20
			5/25/2005		37.52		2045.94
			8/17/2005		37.35		2046.11
			11/16/2005		37.41		2046.05
			2/9/2006		37.75		2045.71
			5/24/2006		37.90		2045.56
			8/22/2006		37.92		2045.54
			12/5/2006		38.00		2045.46
			3/12/2007		38.02		2045.44
			10/2/2007		37.72		2045.74
			3/25/2008		38.04		2045.42
			10/22/2008		38.40		2045.06
			4/14/2009		38.51		2044.95
			9/30/2009		38.00		2045.46
			4/8/2010		39.07		2044.39
			9/15/2010		39.88		2043.58
USGS 93-3a	2081.97	2083.23	8/13/2001		35.15		2048.31
			9/5/2001		35.11		2048.35
			11/6/2001		34.96		2048.50
			5/20/2002		36.05		2047.41
			8/19/2002		36.62		2046.84

Table 1 - Depth to Water and LNAPL in Monitor Wells and Domestic Wells

Pioneer Natural Resources, USA, Inc. - Biere 1-22 Investigation

DOWL HKM Job No.: 14B8.05101.01

Last Update: October 2010

Well Name and Elevation			Fluid Levels				
Well Name	Ground Surface Elev. (ft)	Measure Pt. Elev. (ft)	Gauging Date	Depth to LNAPL (ft bmp)	Depth to Water (ft bmp)	LNAPL Thickness (ft)	Groundwater Elev.* (ft)
			11/4/2002		36.59		2046.87
			8/12/2003		36.94		2046.52
			11/5/2003		37.89		2045.57
			6/7/2004		37.28		2046.18
			11/17/2004		37.25		2046.21
			3/1/2005		37.26		2046.20
			5/25/2005		37.52		2045.94
USGS-93-4A			4/14/2009		41.49		
USGS-93-5			4/17/2009		55.04		
Whitmer	1980.41	1981.44	5/31/2001		23.82		1957.62
			11/6/2001		24.30		1957.14
			2/19/2002		24.30		1957.14
			5/20/2002		24.10		1957.34
			8/19/2002		24.20		1957.24
			11/4/2002		24.30		1957.14
			3/4/2003		24.30		1957.14
			5/12/2003		24.20		1957.24
			8/12/2003		25.00		1956.44
			3/18/2004		24.10		1957.34
			6/7/2004		22.09		1959.35
			9/16/2004		23.90		1957.54
			11/18/2004		24.20		1957.24
			3/2/2005		24.10		1957.34
			5/24/2005		24.20		1957.24
			8/16/2005		24.03		1957.41
			11/17/2005		24.22		1957.22
			2/9/2006		23.84		1957.60
			5/25/2006		23.58		1957.86
			8/22/2006		24.40		1957.04
			12/5/2006		24.07		1957.37
			3/12/2007		23.51		1957.93
			10/2/2007		24.30		1957.14
			3/25/2008		23.98		1957.46
			4/14/2009		22.33		1959.11
			9/30/2009		23.85		1957.59
			4/8/2010		23.60		1957.84
			9/15/2010		24.21		1957.23

Notes:

* = Groundwater elevation corrected for LNAPL thickness; Corrected Depth to Water = Depth to Water - .7 x Accum. LNAPL.

All elevations are provided in feet above mean sea level (MSL).

Accronyms/Abbreviations:

ft = feet

ft bmp = feet below measuring point

LNAPL = light non-aqueous phase liquid

Table 2

Inorganic Water Chemistry Data

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
Hendrikson	11/9/2001 9:00	3.1	7.2	nm	7.20	321	392	134	< 1	821	701	89	0.30	< 0.05	7.5	9	nm	15	416	1890	3.3	172	nm
LAW-M01	4/20/2009 14:30	3.0	9.4	1.09	6.84	638	778	274	< 4	29	1370	166	0.50	1.80	7.2	17	25	25	208	2420	3.0	1120	0.3
LAW-M03	3/13/2007 17:40	6.1	9.7	nm	7.25	429	524	396	< 4	1370	1960	237	2.00	< 0.05	7.1	14	32	nm	690	4270	6.4	1100	0.2
LAW-M03	3/27/2008 10:30	6.8	9.7	nm	7.12	419	511	416	< 4	1560	2070	250	1.70	< 0.05	7.1	9	23	26	705	4560	7.0	1120	0.2
LAW-M03	10/23/2008 15:35	6.9	10.0	0.36	7.17	423	516	443	< 4	1530	2220	270	2.10	< 0.05	7.0	10	23	27	736	4680	6.9	1210	0.2
LAW-M03	4/18/2009 15:40	7.6	10.0	0.39	6.94	393	480	448	< 4	1540	2230	270	2.00	< 0.05	7.0	13	22	25	746	4260	7.3	1110	0.2
LAW-M03	4/13/2010 16:45	7.5	9.6	0.52	7.02	393	480	465	< 4	1920	2330	283	1.97	< 0.01	7.0	14	24	27	842	5300	7.6	997	0.2
LAW-M05	4/20/2009 17:30	5.3	9.8	0.28	6.88	577	704	378	< 4	551	2060	270	0.80	8.27	7.2	15	20	51	501	3030	5.2	1640	0.2
M-10	4/16/2009 15:10	2.1	5.0	0.68	7.11	314	383	144	< 4	94	673	76	< 0.1	< 0.05	7.5	9	13	14	217	1520	2.1	720	0.3
M-18	11/8/2001 15:30	nm	17.2	nm	nm	111	135	669	< 1	5190	2920	303	37.50	< 0.05	5.9	32	nm	< 3	1630	8600	13.5	25	nm
M-18	8/23/2006 10:30	17.5	10.4	nm	7.38	258	315	730	< 4	5620	3580	426	9.70	< 0.05	6.8	25	15	18	2790	11800	18.0	1000	0.2
M-18	12/6/2006 12:25	16.8	9.2	nm	6.96	141	172	435	< 4	5470	2810	418	29.10	< 0.05	7.1	28	6	8	2740	10300	17.4	621	< 0.1
M-18	4/22/2009 15:00	16.9	12.0	0.15	7.22	276	336	586	< 4	4960	2960	362	5.70	< 0.05	7.0	23	14	16	2540	10100	16.9	1060	0.1
M-18	10/6/2009 16:35	17.5	10.4	0.17	7.16	246	300	670	< 4	5660	3220	377	2.44	0.07	7.0	22	17	20	2540	9750	16.8	877	0.1
M-18	4/19/2010 17:40	16.1	10.5	0.19	7.59	245	299	636	< 4	5920	3080	361	2.10	< 0.01	7.0	21	18	19	2480	10400	16.6	986	0.1
M-18	9/20/2010 16:45	20.6	9.8	0.52	7.59	7	8	427	< 4	5300	2520	352	3.10	0.04	6.2	23	0.6	0.4	2650	9370	15.6	643	< 0.1
M-27	8/16/2001 14:35	13.5	11.3	nm	9.30	14	17	687	< 1	5280	3940	540	1.80	< 0.05	8.8	19	<1	nm	1640	10400	13.1	160	nm
M-27	8/16/2001 14:45	13.5	11.3	nm	9.30	12	15	681	< 1	5380	3920	538	4.00	< 0.05	7.7	19	<1	nm	1610	10900	13.2	156	nm
M-27	11/8/2001 8:50	11.4	10.0	nm	8.30	4	5	710	< 1	5650	4050	553	4.30	< 0.05	6.7	23	nm	< 3	1670	9920	14.2	433	nm
M-27	2/20/2002 15:42	10.9	10.6	nm	7.88	389	475	917	< 4	5710	4450	524	2.70	< 0.05	6.7	42	17	nm	1700	10500	16.6	814	nm
M-27	5/21/2002 15:05	17.2	13.1	nm	7.28	211	258	839	< 4	7110	4130	494	2.70	< 0.05	6.9	20	20	nm	1620	12000	16.8	1160	0.2
M-27	8/20/2002 17:45	14.9	12.8	nm	8.10	4	5	707	< 4	5750	3740	479	4.20	< 0.05	5.7	19	< 2	< 2	1560	12200	16.0	664	< 0.1
M-27	11/6/2002 9:00	16.4	11.6	nm	8.55	< 4	4	732	< 4	5100	3990	526	2.60	< 0.05	6.0	23	< 2	< 2	1730	10500	17.0	619	< 0.1
M-27	3/5/2003 13:20	14.9	10.3	nm	7.78	14	17	790	< 4	5640	4230	547	2.60	< 0.05	6.5	24	2	< 2	1830	10300	16.7	649	< 0.1
M-27	5/28/2003 10:30	14.4	11.6	nm	7.96	5	6	771	< 4	5590	4250	565	2.60	< 0.05	5.9	25	< 2	< 2	1730	10300	15.6	525	< 0.1
M-27	8/13/2003 11:10	15.6	13.5	nm	8.02	11	14	746	< 1	6460	4070	536	3.80	< 0.05	6.1	25	< 2	2	1690	11000	13.3	481	< 0.1
M-27	11/6/2003 10:00	16.3	8.7	nm	8.01	5	6	732	< 4	6390	4070	545	5.60	< 0.05	6.5	27	< 2	< 4	1800	10300	14.9	418	< 0.1
M-27	March 2004	Not Sampled																					
M-27	6/8/2004 15:15	mnw	12.7	nm	7.91	30	36	725	< 4	5970	4050	544	7.20	< 0.05	6.7	24	3	3	1890	11600	14.4	564	0.1
M-27	9/15/2004 12:25	16.4	14.9	nm	7.16	214	261	1000	< 4	5920	4870	576	3.00	< 0.05	6.7	24	18	19	1870	13900	17.5	919	0.1
M-27	11/18/2004 15:35	16.7	12.3	nm	7.19	< 4	< 4	812	< 4	6050	4380	571	3.00	< 0.05	6.2	24	3	3	2090	11700	17.5	981	< 0.1
M-27	3/1/2005 12:05	18.1	13.4	nm	6.81	< 4	< 4	767	< 4	5980	4240	565	2.70	< 0.05	5.8	30	3	2	2100	11700	17.0	835	< 0.1
M-27	5/24/2005 11:20	17.5	13.1	nm	7.00	< 4	< 4	797	< 4	5790	4160	528	3.80	< 0.05	5.8	19	< 0.4	2	2310	11300	16.6	737	< 0.1
M-27	8/16/2005 9:30	17.8	15.7	nm	6.75	< 4	< 4	776	< 4	5790	4210	553	2.80	< 0.05	5.7	18	1	< 0.9	1980	12200	17.4	801	< 0.1
M-27	11/15/2005 14:28	12.7	9.8	nm	6.42	< 4	< 4	758	< 4	5270	4050	525	3.40	< 0.05	5.8	21	1	1	2150	10000	15.6	721	< 0.1
M-27	2/7/2006 13:10	13.9	9.9	nm	7.19	< 4	< 4	800	< 4	5250	4060	500	3.40	< 0.05	6.2	26	6	6	2120	9820	15.9	712	< 0.1
M-27	5/23/2006 14:00	16.5	16.6	nm	7.65	< 4	< 4	865	< 4	6520	4670	608	2.60	< 0.05	5.5	27	2	2	2400	11200	17.9	853	< 0.1
M-27	8/22/2006 14:30	18.4	9.8	nm	7.33	< 4	< 4	884	< 4	6040	4600	581	3.00	< 0.05	6.2	26	4	7	2420	12400	18.3	793	< 0.1
M-27	12/6/2006 13:40	18.1	9.4	nm	7.09	< 4	< 4	844	< 4	6170	4500	582	3.20	< 0.05	5.3	27	1	< 0.9	2400	11600	18.7	868	< 0.1
M-27	3/14/2007 17:30	16.6	9.8	nm	6.88	< 4	< 4	805	< 4	6200	4330	564	2.80	< 0.05	4.4	29	38	nm	2330	12300	18.5	806	< 0.1
M-27	10/4/2007 12:30	17.5	11.0	nm	7.10	33	< 4	912	< 4	6520	4570	557	3.30	< 0.05	6.6	23	12	13	2260	13100	19.8	1070	< 0.1
M-27	3/27/2008 16:00	18.0	8.2	nm	7.66	< 4	< 4	779	< 4	6140	4110	526	3.10	< 0.05	5.6	19	< 2	< 0.9	2210	11000	18.1	1340	< 0.1
M-27	10/24/2008 13:30	18.0	9.4	0.35	6.67	33	41	858	< 4	6170	4400	550	3.40	< 0.05	6.2	25	3	3	2480	11600	18.4	1010	< 0.1
M-27	4/22/2009 9:00	17.1	9.7	0.10	7.70	48	59	765	< 4	5840	3920	488	3.10	< 0.05	6.3	23	4	5	2260	12300	18.6	975	< 0.1
M-27	10/5/2009 17:20	18.4	9.8	0.30	7.24	< 4	< 4	737	< 4	6340	3910	504	3.20	< 0.01	5.8	23	2	< 4	2330	11100	17.7	651	< 0.1
M-27	4/16/2010 17:35	16.8	10.2	0.31	7.69	< 4	< 4	553	< 4	6280	2950	382	< 0.05	< 0.01	5.5	25	< 0.9	< 20	2430	10400	14.9	681	< 0.1
M-27	9/21/2010 15:00	16.6	9.7	0.47	7.73	< 4	< 4	716	< 4	6310	3760	479	3.20	< 0.01	5.3	25	< 0.3	< 0.4	2570	14000	17.4	715	< 0.1
M-28	6/1/2000 0:00	60.5	12.0	nm	7.00	600	732	1530	< 1	25800	6920	749	nm	20.90	7.1	62	nm	nm	14200	44700	58.9	1910	nm
M-28	8/9/2001 12:15	57.7	11.5	nm	6.90	676	825	1210	< 1	23800	5600	628	4.00	27.90	6.9	57	17	nm	11300	40500	53.5	1880	nm
M-28	8/16/2001 17:00	54.9	11.1	nm	7.10	616	751	1340	< 1	22600	6130	677	5.40	24.60	7.0	62	19	nm	12800	41000	48.8	2260	nm
M-28	11/8/2001 12:00	nm	17.8	nm	nm	761	929	217	< 1	1410	1240	169	0.40	31.30	7.3	13	nm	29	873	3950	60.9	687	nm
M-28	2/21/2002 8:40	59.3	10.2	nm	6.63	633	772	1250	< 4	25900	5620	607	6.90	15.00	7.0	77	17	nm	13300	43800	47.4	1400	nm
M-28	5/23/2002 9:30	66.1	12.0	nm	5.20	598	730	1220	< 4	31000	5080	491	8.80	8.35	6.8	87	20	nm	15600	50700	57.7	1920	0.1
M-28	8/21/2002 10:00	61.1	12.6	nm	6.50	609	742	1240	< 4	25500	5620	614	8.00	12.90	6.8	51	18	18	9540	45900	51.8	1700	0.2
M-28	11/6/2002 11:20	62.6	11.3	nm	6.90	612	746	1210	< 4	22400	5330	562	6.70	17.00	6.9	71	< 20	< 10	12600	43100	44.0	1840	0.2
M-28	3/5/2003 15:30	54.6	10.7	nm	6.80	606	739	1190	< 4	22400	5140	528	6.60	19.70	6.8	62	18	22	11200	40500	32.9	2330	0.2
M-28	5/13/2003 16:45	52.4	12.0	nm	7.27	603	736	1180	< 4	24300	5220	551	6.70	16.90	6.7	93	16	19	13800	43800	65.0	1700	0.2
M-28	8/13/2003 15:35	55.2	13.0	nm	7.61	627	765	1130	< 1	21900	5150	564	6.00	22.70	6.7	113	21	22	11400	38600	51.5	1220	0.2
M-28	11/5/2003 10:30	51.8	11.5	nm	5.15	635	775	978	< 4	23000	4440	484	6.50	23.70	6.8	76	17	< 20	10300	38700	32.8	1370	0.3
M-28	3/16/2004 17:34	48.8	8.8	nm	6.30	695	848	1030	< 1	13800	5240	645	3.30	37.60	6.9	61	24	24	7520	25800	37.5	1590	0.2

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
M-28	6/8/2004 17:18	mnw	11.9	nm	7.02	667	814	1030	< 4	19200	4850	551	5.60	23.30	6.9	77	20	21	9940	16900	34.3	2020	0.2
M-28	9/15/2004 14:00	49.9	13.7	nm	6.66	669	816	1040	< 4	20500	4860	549	6.70	23.30	7.0	94	19	25	10800	35600	52.1	1820	0.3
M-28	11/19/2004 8:36	51.3	10.8	nm	7.06	662	808	1070	< 4	16000	5040	576	4.50	27.20	6.8	82	23	24	9280	32000	47.8	1730	0.2
M-28	3/1/2005 15:45	55.1	13.0	nm	6.63	703	857	1040	< 4	17600	4980	579	5.30	22.50	6.9	94	21	23	10900	32800	47.9	1700	0.2
M-28	5/24/2005 13:10	mnw	11.9	nm	6.95	605	738	936	< 4	14900	4610	552	4.60	27.90	7.0	68	16	22	8890	28400	42.0	1940	0.2
M-28	8/16/2005 13:15	48.5	15.8	nm	6.74	703	858	899	< 4	17700	4320	504	5.30	22.30	7.3	62	22	21	9980	30200	45.8	1570	0.2
M-28	11/15/2005 16:35	41.3	10.3	nm	6.48	630	769	990	< 4	16200	4870	584	5.10	20.10	7.0	79	23	22	9880	26600	42.8	1740	0.2
M-28	2/7/2006 16:30	45.2	9.8	nm	7.01	679	829	972	< 4	16000	4630	534	5.10	19.80	6.9	73	21	19	9450	28600	44.6	1730	0.2
M-28	5/23/2006 16:20	39.1	11.8	nm	6.69	656	800	954	< 4	16300	4530	522	4.50	19.40	7.5	65	22	22	9010	24500	42.7	1850	0.2
M-28	8/22/2006 16:45	41.0	10.5	nm	7.30	627	765	872	< 4	14200	4260	505	4.10	9.84	6.8	56	23	22	8080	25600	40.4	1780	0.2
M-28	12/6/2006 14:40	37.2	9.9	nm	6.80	634	774	877	< 4	14300	4260	503	4.20	22.60	6.9	67	23	53	8480	26600	42.0	1800	0.2
M-28	3/15/2007 10:15	29.1	9.9	nm	6.48	662	808	816	< 4	11200	4290	548	3.50	23.60	6.9	57	169	nm	6280	21200	32.5	1770	0.2
M-28	10/3/2007 16:40	30.7	10.3	nm	6.51	647	789	733	< 4	10900	3800	479	3.00	18.00	6.8	47	22	22	5820	20700	34.2	1830	0.2
M-28	3/27/2008 9:50	32.9	14.5	nm	6.92	673	821	775	< 4	9600	4120	531	3.20	14.50	6.9	45	26	70	5900	18400	29.4	1730	0.2
M-28	10/26/2008 14:30	24.4	10.2	0.14	6.88	688	839	709	< 4	7940	3890	515	2.80	13.70	7.0	30	22	31	4490	16200	25.1	2000	0.2
M-28	4/15/2009 11:20	29.4	11.1	0.32	6.71	699	853	587	< 4	6210	3330	452	1.40	10.90	7.1	31	23	19	3620	12900	21.0	1500	0.2
M-28	10/1/2009 15:45	20.0	10.0	0.56	6.66	721	880	544	< 4	6180	3010	402	1.63	6.00	6.8	31	22	27	3360	11300	20.3	1450	0.2
M-28	4/15/2010 11:30	16.6	10.0	1.31	6.92	768	937	371	< 4	4970	2050	272	1.10	1.44	7.1	27	23	24	3240	10600	16.0	1730	0.2
M-28	9/16/2010 11:45	13.4	10.0	0.72	6.86	816	996	271	< 4	3170	1440	186	0.80	0.19	7.2	22	21	23	2690	8310	12.8	1600	0.3
M-30	6/1/2000 0:00	2.6	9.8	nm	9.20	1020	1240	126	< 1	36	801	118	nm	< 0.05	8.0	7	nm	nm	325	1740	2.4	501	nm
M-30	2/22/2002 13:00	2.9	5.6	nm	7.64	905	1100	113	< 4	43	735	110	4.00	< 0.05	7.5	7	28	nm	325	1790	2.6	549	nm
M-30	5/22/2002 17:10	2.6	7.0	nm	7.53	916	1120	111	< 1	34	700	103	5.60	< 0.05	7.6	6	32	nm	291	1730	2.6	539	0.3
M-30	8/21/2002 10:40	2.1	14.2	nm	7.30	931	1140	114	< 4	42	733	109	5.80	< 0.05	7.7	6	27	24	257	1650	2.5	528	0.3
M-30	11/19/2004 8:15	2.7	10.5	nm	7.71	818	998	121	< 1	46	735	105	4.70	< 0.05	7.4	8	28	29	254	1550	2.3	459	0.4
M-30	3/2/2005 17:50	mnw	mnw	nm	mnw	995	1210	129	< 4	58	825	122	4.20	< 0.05	7.5	8	28	28	331	1770	2.5	537	0.4
M-31	6/1/2000 0:00	87.2	11.0	nm	7.60	461	562	1760	< 1	36000	7610	783	nm	0.17	7.1	122	nm	nm	20200	60800	80.5	1690	nm
M-31	8/9/2001 11:05	88.5	10.7	nm	6.90	515	628	1540	< 1	35900	6530	649	6.60	< 0.05	6.9	150	16	nm	19800	63800	74.2	1220	nm
M-31	8/16/2001 17:30	84.3	11.2	nm	7.00	516	630	1640	< 1	37200	6820	659	6.90	< 0.05	6.9	150	16	nm	21900	63300	68.3	2120	nm
M-31	11/8/2001 16:00	51.4	11.7	nm	6.80	6	8	1170	< 1	28300	7350	1070	11.30	0.06	6.0	110	nm	<5	15700	50200	39.8	840	nm
M-31	2/21/2002 9:45	81.4	10.3	nm	6.58	464	566	1570	< 4	38600	6510	630	7.50	< 0.05	7.0	207	17	nm	20800	63000	58.4	1690	nm
M-31	5/22/2002 15:45	94.4	11.8	nm	6.75	513	626	1440	< 4	39700	5950	571	7.70	< 0.05	6.8	162	24	nm	20000	63700	64.7	2210	0.1
M-31	8/21/2002 10:45	83.5	12.1	nm	6.50	504	615	1530	< 4	39200	6390	626	8.40	< 0.05	6.8	136	16	14	16600	67100	67.5	1780	0.1
M-31	11/6/2002 10:35	89.2	10.8	nm	6.84	510	622	1520	< 4	33600	6280	601	8.10	< 0.05	6.8	177	17	< 10	19100	62800	55.0	1650	0.1
M-31	3/5/2003 14:10	81.9	10.2	nm	6.72	353	430	1540	< 4	39200	6210	574	7.60	< 0.05	6.7	169	16	15	19300	62600	43.2	1740	0.1
M-31	5/13/2003 16:00	79.1	11.3	nm	7.21	505	616	1500	< 4	36100	6180	588	8.10	< 0.05	6.7	238	13	15	22200	63500	85.0	1530	0.1
M-31	8/13/2003 14:40	88.1	12.7	nm	7.49	503	613	1480	< 1	37300	6070	577	8.00	< 0.05	6.6	229	16	18	20400	63900	81.9	1050	0.1
M-31	11/5/2003 11:35	83.0	11.1	nm	nm	502	612	1020	< 4	37700	4400	450	8.40	< 0.05	6.7	206	16	< 20	16900	62100	42.1	1140	0.2
M-31	3/16/2004 16:00	68.8	9.3	nm	6.10	503	614	1570	< 1	42000	6110	604	9.50	< 0.05	6.7	214	17	17	20200	62900	87.1	1330	0.1
M-31	6/8/2004 16:40	mnw	11.4	nm	6.94	506	618	1450	< 4	39400	5930	559	9.20	< 0.05	6.8	182	15	16	18800	62100	89.1	1700	0.2
M-31	9/15/2004 15:00	88.5	14.5	nm	6.58	518	632	1510	< 4	39500	6150	577	9.90	< 0.05	6.9	227	17	17	20900	64800	90.5	1560	0.2
M-31	11/18/2004 17:00	86.1	10.7	nm	6.84	503	613	1590	< 4	37000	6390	590	8.80	< 0.05	6.7	274	18	18	20700	62700	91.4	1510	0.1
M-31	3/1/2005 13:45	98.0	12.5	nm	6.48	550	671	1560	< 4	40300	6380	603	8.80	< 0.05	6.8	264	21	31	23000	62800	89.9	1560	0.1
M-31	5/24/2005 15:05	mnw	11.0	nm	6.82	465	568	1420	< 4	37700	5770	540	9.10	0.08	6.7	251	7	14	22800	61800	89.6	1620	0.2
M-31	8/16/2005 11:30	95.5	17.5	nm	6.49	550	671	1530	< 4	35300	6260	592	10.10	< 0.05	6.9	185	17	20	20700	61400	90.0	1310	0.1
M-31	11/15/2005 15:30	89.0	9.1	nm	6.40	461	562	1630	< 4	39700	6700	637	9.10	< 0.05	7.0	218	28	44	23600	57700	91.9	12	0.1
M-31	2/7/2006 14:00	93.5	8.9	nm	6.92	528	645	1560	< 4	37300	6180	558	10.00	< 0.05	7.1	262	17	17	22400	61200	90.4	1460	0.1
M-31	5/23/2006 17:20	86.0	11.3	nm	6.53	510	622	1560	< 4	39700	6040	523	10.10	< 0.05	7.4	305	19	22	22500	57200	91.3	1510	0.1
M-31	8/23/2006 13:30	93.6	10.3	nm	6.70	483	589	1550	< 4	37600	6090	542	4.30	< 0.05	6.6	220	23	23	23000	59800	94.3	1500	0.1
M-31	12/6/2006 15:45	92.2	9.2	nm	6.44	499	609	1450	< 4	39400	5780	527	11.50	< 0.05	6.8	239	19	19	22700	62900	95.2	1550	0.1
M-31	3/15/2007 11:30	88.9	9.4	nm	6.31	497	607	1570	< 4	40800	6380	595	11.90	< 0.05	6.7	259	58	nm	24100	64000	93.6	1490	0.1
M-31	10/4/2007 14:30	89.1	9.9	nm	6.77	498	607	1550	< 4	40800	6160	558	13.20	< 0.05	6.6	239	21	19	22300	63300	99.1	1620	0.1
M-31	3/27/2008 10:30	89.2	10.5	nm	6.83	399	487	1720	< 4	41200	6850	620	10.90	< 0.05	6.6	276	29	27	25100	62000	94.7	1420	0.1
M-31	10/26/2008 17:20	89.5	9.7	0.11	6.83	494	603	1550	< 4	40800	6200	566	13.20	< 0.05	6.8	236	13	29	22300	61200	92.1	1690	0.1
M-31	4/15/2009 16:15	89.9	9.6	0.15	6.81	491	599	1350	< 4	37400	5460	506	11.20	< 0.05	6.8	246	9	< 20	21400	53800	90.6	1470	0.1
M-31	10/1/2009 16:20	88.8	9.6	2.27	6.42	479	584	1500	< 4	41600	5940	536	11.10	0.04	7.0	238	15	31	21500	58900	88.2	1060	0.1
M-31	4/15/2010 13:10	90.3	9.7	nm	6.65	482	588	1310	< 4	45300	5270	487	11.30	0.03	6.8	252	15	15	22000	59900	84.4	1260	0.1
M-31	9/16/2010 11:10	88.7	9.8	0.82	6.60	508	619	1310	< 4	41600	5290	494	12.00	< 1.0	6.9	252	15	16	22200	58800	83.3	1350	0.1
M-36	9/5/2001 15:55	3.8	10.9	nm	7.60	661	807	206	< 1	259	1160	156	1.10	< 0.05	6.6	7	21	nm	458	2920	3.5	1230	nm
M-36	11/9/2001 11:05	2.7	9.6	nm	7.40	649	792	215	< 1	313	1210	163	1.00	0.05	7.2	8	nm	28	478	2960	3.8	1220	nm
M-38	9/5/2001 16:25	3.5	13.5	nm	7.80	654	798	212	< 1	174	1080	132	1.00	< 0.05	6.6	7	21	nm	434	2750	3.3	1230	nm
M-38	11/9/2001 11:40	2.4	10.2	nm	7.60	648	791	208	< 1	183	1080	135	1.00	0.05	7.3	8	nm	27	436	2690	3.5	1240	nm
M-39	11/7/2001 15:45	nm	9.4	nm	nm	401	413	10	38	34	1020	241	8.80	< 0.05	8.9	8	nm	2	269	2150	2.6	1260	nm

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
M-69	4/15/2009 14:17	1.8	5.9	1.39	7.36	420	512	96	< 4	61	402	40	0.40	8.36	7.6	109	14	14	170	1190	1.8	386	0.5
M-80	4/18/2009 15:30	23.2	9.2	0.29	7.04	178	217	1050	< 4	7500	5410	675	1.70	< 0.05	6.7	30	10	14	2810	13500	22.9	395	0.2
MOC-1B	3/14/2007 12:55	4.1	9.7	nm	7.22	433	528	363	< 4	75	2150	301	< 0.1	30.60	7.2	11	32	nm	384	4070	4.5	2220	0.2
MOC-1B	10/3/2007 10:35	4.4	9.8	nm	6.99	426	520	358	< 4	74	2080	289	< 0.1	32.20	7.2	9	23	25	367	3920	4.6	2280	0.2
MOC-1B	3/25/2008 18:30	4.4	9.6	nm	6.92	438	535	356	< 4	74	2090	292	< 0.1	36.80	7.2	8	23	23	370	3810	4.4	2240	0.2
MOC-1B	10/23/2008 14:15	4.3	9.9	0.34	7.07	430	525	360	< 4	80	2120	297	< 0.1	29.20	7.4	9	24	26	361	3810	4.4	2260	0.2
MOC-1B	4/21/2009 12:45	4.5	10.0	0.30	6.96	432	527	356	< 4	68	2070	286	< 0.1	28.90	7.3	10	23	24	368	3540	4.4	2230	0.2
MOC-1B	10/3/2009 12:45	4.4	9.6	0.37	6.92	416	508	365	< 4	64	2120	294	< 0.05	30.90	7.3	9	24	24	357	3970	4.3	2110	0.2
MOC-1B	4/13/2010 17:30	4.2	9.5	0.29	6.91	415	507	351	< 4	66	2060	287	< 0.05	32.90	7.2	10	24	22	384	3980	4.4	2260	0.2
MOC-1B	9/16/2010 15:30	4.4	9.6	0.67	6.92	419	511	366	< 4	57	2120	292	< 0.05	35.30	7.2	10	23	23	370	3950	4.2	2150	0.2
MOC-2	3/13/2007 17:00	20.3	9.7	nm	6.46	321	391	1060	< 4	7050	4990	571	3.60	< 0.05	6.8	28	77	nm	2750	13800	20.6	1730	0.2
MOC-2	10/5/2007 14:30	21.0	9.7	nm	6.85	270	330	1060	< 4	7110	4950	556	4.00	< 0.05	6.8	25	20	26	2840	14600	21.2	1540	0.2
MOC-2	3/26/2008 17:30	21.0	9.7	nm	7.18	283	345	1090	< 4	7200	5000	555	3.60	< 0.05	6.7	27	23	25	3060	13700	21.3	1460	0.2
MOC-2	10/25/2008 13:07	22.6	9.7	0.47	6.69	304	371	1040	< 4	6880	4830	542	3.80	< 0.05	6.8	23	20	28	2910	13000	20.9	1670	0.2
MOC-2	4/21/2009 13:40	21.4	9.8	0.20	6.80	285	348	1030	< 4	6560	4720	519	3.40	< 0.05	6.8	26	20	26	2990	13600	21.1	1430	0.2
MOC-2	10/3/2009 14:55	21.7	10.2	0.22	6.75	289	352	992	< 4	6990	4540	502	3.55	< 0.01	6.7	24	22	27	2860	13300	20.8	1170	0.2
MOC-2	4/16/2010 15:35	20.6	10.0	0.24	6.76	285	347	998	< 4	7550	4660	526	3.20	< 0.01	6.8	25	22	22	3010	13900	20.5	1260	0.2
MOC-2	9/21/2010 14:21	20.6	9.7	0.22	6.84	279	341	989	< 4	7030	4480	488	3.70	< 0.01	7.4	26	22	25	3100	15100	20.0	1140	0.2
MOC-3	3/14/2007 11:50	3.6	9.7	nm	7.19	360	439	318	< 4	74	1690	218	< 0.1	13.40	7.3	12	43	nm	400	3500	4.0	1890	0.5
MOC-3	10/2/2007 19:00	3.8	9.7	nm	6.94	359	438	299	< 4	76	1580	202	< 0.1	15.20	7.1	10	19	30	379	3370	4.1	1890	0.5
MOC-3	3/25/2008 16:50	3.9	9.9	nm	6.92	364	444	314	< 4	73	1670	216	< 0.1	17.90	7.3	11	19	21	385	3260	3.9	1890	0.5
MOC-3	10/23/2008 12:40	3.7	10.5	0.72	6.75	358	437	309	< 4	78	1630	208	< 0.1	17.70	7.3	10	20	25	392	3330	3.9	1830	0.5
MOC-3	4/20/2009 19:05	3.9	10.0	0.25	7.00	360	439	306	< 4	70	1600	204	< 0.1	14.20	7.3	11	19	20	368	3140	3.9	1900	0.5
MOC-3	10/3/2009 13:30	3.9	9.7	0.37	6.96	353	430	311	< 4	65	1650	212	< 0.05	14.90	7.3	11	20	24	359	3400	3.8	1710	0.5
MOC-3	4/13/2010 15:45	3.6	9.6	0.27	6.96	357	436	292	< 4	66	1550	200	< 0.05	17.80	7.3	12	20	21	372	3320	3.8	1820	0.5
MOC-3	9/16/2010 16:00	3.9	10.3	0.90	7.00	353	431	325	< 4	60	1660	206	< 0.05	16.60	7.2	11	20	39	374	3280	3.7	1810	0.4
MOC-4	10/17/2006 13:30	nm	nm	nm	nm	333	406	435	< 4	2660	2200	271	1.20	< 0.05	7.3	17	17	19	1170	5700	9.4	789	0.2
MOC-4	10/4/2007 11:00	9.2	9.9	nm	7.24	330	403	446	< 4	2580	2290	286	1.30	< 0.05	7.1	15	18	20	1230	5550	9.6	817	0.2
MOC-4	3/26/2008 16:30	9.1	9.6	nm	7.47	342	417	403	< 4	2590	2080	261	1.20	< 0.05	7.1	14	16	17	1130	5440	9.1	779	0.2
MOC-4	10/25/2008 12:08	9.8	9.5	0.32	7.05	340	415	416	< 4	2420	2150	271	1.30	< 0.05	7.4	14	16	19	1160	5470	9.0	834	0.2
MOC-4	4/23/2009 13:00	9.1	9.7	0.31	7.35	334	408	394	< 4	2300	2020	250	1.40	< 0.05	7.3	16	16	18	1120	5040	8.9	793	0.2
MOC-4	10/3/2009 12:50	9.2	9.8	0.21	7.13	337	411	405	< 4	2530	2050	253	1.30	< 0.01	7.2	15	16	19	1090	5470	8.8	635	0.2
MOC-4	4/14/2010 17:45	8.6	10.0	0.45	7.14	337	412	391	< 4	2750	2000	248	1.26	< 0.01	7.3	17	17	18	1200	5400	9.0	750	0.2
MOC-4	9/22/2010 12:25	8.0	9.9	0.26	7.17	344	420	398	< 4	2400	2000	245	1.34	0.02	7.5	15	16	19	11.6	5380	8.6	674	0.2
MOC-20A	3/13/2007 13:40	5.4	9.2	nm	6.63	343	419	503	< 4	128	3020	429	0.90	41.70	7.2	24	38	nm	464	5480	5.8	3220	0.4
MOC-20A	10/3/2007 17:00	5.5	10.0	nm	7.27	311	379	473	< 4	125	2860	408	0.30	22.00	7.2	23	40	106	462	5370	5.9	3290	0.4
MOC-20A	3/26/2008 15:00	5.5	10.1	nm	7.46	315	385	473	< 4	119	2870	411	0.60	19.70	7.0	22	31	302	425	5260	5.5	3290	0.4
MOC-20A	10/24/2008 11:46	5.5	9.6	nm	7.06	280	342	476	< 4	133	2970	433	< 0.1	9.65	7.4	22	30	32	486	5310	5.6	3390	0.5
MOC-20A	4/22/2009 11:00	5.7	9.5	0.34	7.12	271	331	469	< 4	120	2930	428	< 0.1	10.80	7.4	24	30	28	464	4800	5.5	3290	0.4
MOC-20A	10/4/2009 9:10	5.5	9.0	1.03	6.94	320	391	468	< 4	112	2870	415	< 0.05	17.80	7.2	21	27	33	432	5310	5.4	3060	0.4
MOC-20A	4/14/2010 10:20	5.3	9.3	1.56	6.86	328	400	470	< 4	110	2830	403	0.12	14.30	7.1	26	27	33	458	5280	5.5	3320	0.4
MOC-20A	9/17/2010 9:30	5.6	9.1	0.87	6.91	306	373	478	< 4	110	2920	419	0.06	18.70	7.3	25	27	35	480	5590	5.5	3190	0.4
MOC-20B	3/13/2007 15:00	4.3	9.7	nm	6.52	400	488	340	< 4	163	1680	202	1.30	< 0.05	7.1	9	30	nm	513	3790	4.5	2020	0.3
MOC-20B	10/3/2007 13:30	4.4	10.0	nm	6.95	402	490	323	< 4	181	1600	192	1.20	< 0.05	7.0	9	26	31	490	3800	4.7	2050	0.3
MOC-20B	3/26/2008 14:30	4.4	9.6	nm	7.55	409	499	330	< 4	176	1640	199	1.10	< 0.05	7.0	8	26	28	481	3640	4.4	2040	0.3
MOC-20B	10/23/2008 17:10	4.3	9.8	0.64	7.15	406	495	342	< 4	198	1700	207	1.20	< 0.05	7.0	8	27	32	506	3700	4.5	2050	0.3
MOC-20B	4/21/2009 12:40	4.5	9.7	0.27	6.86	398	486	331	< 4	180	1650	199	1.30	< 0.05	7.1	9	26	31	481	3440	4.4	2010	0.3
MOC-20B	10/2/2009 11:30	4.7	9.7	0.29	6.93	398	485	339	< 4	196	1690	204	1.22	< 0.01	7.0	8	26	33	467	3690	4.4	1910	0.3
MOC-20B	4/14/2010 16:30	4.3	9.7	0.54	6.79	395	482	330	< 4	212	1660	204	1.11	< 0.01	7.0	10	27	32	534	3930	4.5	2130	0.3
MOC-20B	9/21/2010 13:27	4.5	9.7	0.37	6.80	400	488	355	< 4	195	1730	205	1.18	0.02	7.4	9	25	29	512	3870	4.4	1970	0.3
PNR-4	6/1/2000 0:00	nm	60.0	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
PNR-4	8/10/2001 13:15	102.6	67.7	nm	6.80	176	215	839	< 1	44700	2610	125	14.10	< 0.05	7.0	534	56	nm	24800	71200	75.1	1800	nm
PNR-4	8/10/2001 13:20	102.6	67.7	nm	6.80	190	232	793	< 1	44600	2480	121	14.40	< 0.05	7.0	500	52	nm	24000	71200	78.2	1900	nm
PNR-4	11/8/2001 15:00	nm	94.4	nm	nm	122	149	1210	< 1	31800	3210	43	15.10	0.08	7.9	453	nm	237	20700	61400	49.2	1310	nm
PNR-4	Plugged and abandoned																						
PNR-5	6/1/2000 0:00	96.6	41.6	nm	7.30	267	325	1170	< 1	38900	3810	213	nm	< 0.05	7.4	396	nm	nm	22600	65200	85.1	1690	nm
PNR-5	8/8/2001 11:00	96.0	40.8	nm	6.60	319	390	1100	< 1	40700	3850	264	16.80	< 0.05	6.7	436	37	nm	23400	68600	79.5	1400	nm

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D_2O_2 mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-5	8/15/2001 11:00	mnw	38.6	nm	6.80	299	365	1210	< 1	41200	4140	271	17.90	< 0.05	6.9	460	41	nm	23800	68000	72.8	1520	nm
PNR-5	11/7/2001 11:10	or	43.3	nm	5.80	335	409	1030	< 1	33700	3540	234	17.90	< 0.05	6.5	368	nm	37	21500	67200	52.7	1290	nm
PNR-5	2/20/2002 10:02	92.2	41.7	nm	6.27	449	548	1100	< 4	44500	3770	248	17.30	< 0.05	6.7	432	30	nm	23500	67700	61.3	1270	nm
PNR-5	5/22/2002 10:40	93.6	41.1	nm	6.42	335	409	975	< 4	43500	3310	212	16.40	< 0.05	6.7	377	39	nm	21800	68800	68.4	1870	0.4
PNR-5	8/20/2002 17:10	93.3	39.2	nm	6.30	323	394	1040	< 4	42600	3590	241	15.90	< 0.05	6.6	297	36	37	23700	69700	71.9	1570	0.3
PNR-5	11/6/2002 11:10	102.1	40.0	nm	6.37	325	397	1140	< 4	42800	3870	250	16.30	< 0.05	6.7	446	29	46	22800	68100	61.3	1730	0.3
PNR-5	3/4/2003 16:30	103.2	35.1	nm	6.60	320	391	1070	< 4	42100	3570	218	16.10	< 0.05	6.6	413	34	52	22100	67800	50.5	1880	0.3
PNR-5	5/28/2003 12:35	97.0	41.6	nm	6.39	329	401	1020	< 1	39600	3490	228	15.60	< 0.05	6.5	473	32	41	23000	69300	95.2	1480	0.4
PNR-5	8/13/2003 14:59	89.3	40.6	nm	6.64	328	400	1110	< 1	42000	3530	256	17.00	< 0.05	6.7	450	38	40	23100	69700	90.2	1170	0.4
PNR-5	11/4/2003 15:30	nm	37.4	nm	6.29	324	395	654	< 4	42200	2400	186	16.70	< 0.05	6.6	359	27	27	19300	66400	48.9	1200	0.4
PNR-5	3/17/2004 10:15	102.0	40.3	nm	6.42	327	399	1170	< 1	44300	3960	256	16.70	< 0.05	6.8	507	38	35	25000	68500	94.8	1170	0.3
PNR-5	6/9/2004 9:40	94.8	39.1	nm	6.59	311	379	1030	< 4	42900	3520	228	16.40	< 0.05	6.6	400	36	35	22400	65800	97.1	1720	0.4
PNR-5	9/14/2004 16:20	100.3	38.1	nm	7.68	330	403	1140	< 4	43400	3890	253	17.80	< 0.05	6.8	446	39	44	24000	69700	98.1	1590	0.3
PNR-5	11/17/2004 13:50	107.5	35.8	nm	6.58	300	366	1070	< 4	42800	3640	233	15.50	< 0.05	6.6	445	30	43	24300	67600	94.9	1560	0.3
PNR-5	3/2/2005 12:15	97.2	38.1	nm	6.41	326	398	1150	< 4	43700	3950	259	17.30	< 0.05	6.7	501	39	34	27200	67200	96.7	1590	0.4
PNR-5	5/25/2005 17:20	100.0	36.2	nm	6.26	278	339	1190	< 4	43100	4130	279	16.20	< 0.05	6.6	446	34	31	26400	68400	95.6	1910	0.4
PNR-5	8/17/2005 11:00	99.7	48.4	nm	6.26	315	385	1090	< 4	35400	3800	261	16.80	< 0.05	6.8	464	31	42	23300	65300	94.8	1300	0.4
PNR-5	11/16/2005 13:00	104.8	34.2	nm	6.81	273	334	1170	< 4	40900	4110	286	14.90	< 0.05	6.7	420	32	33	25500	58700	95.8	1330	0.3
PNR-5	2/9/2006 15:20	103.6	34.7	nm	6.56	317	387	1010	< 4	38500	3410	217	15.40	< 0.05	6.8	430	35	35	23000	59400	91.6	1400	0.3
PNR-5	5/25/2006 10:30	85.5	35.5	nm	6.53	321	392	990	< 4	37700	3380	220	18.00	< 0.05	7.4	382	37	34	23000	49400	89.0	1270	0.4
PNR-5	8/23/2006 15:40	87.2	36.1	nm	6.31	326	398	837	< 4	32900	2850	185	14.00	< 0.05	6.6	310	41	37	19900	56400	87.6	1090	0.4
PNR-5	12/7/2006 13:25	84.7	33.8	nm	6.27	380	464	796	< 4	32400	2740	182	15.20	< 0.05	6.8	332	37	37	19800	53100	83.8	1040	0.4
PNR-5	3/14/2007 14:14	92.9	33.2	nm	6.51	416	507	811	< 4	32800	2910	215	13.00	< 0.05	6.8	329	537	nm	20000	50800	79.8	892	0.4
PNR-5	10/5/2007 11:40	73.7	29.7	nm	6.11	495	604	684	< 4	27900	2440	177	13.00	< 0.05	6.8	278	37	34	17100	46400	73.1	913	0.4
PNR-5	3/27/2008 16:30	68.2	33.3	nm	6.90	652	796	482	< 4	23500	1710	124	9.50	< 0.05	6.8	228	39	39	14100	38300	61.2	689	0.5
PNR-5	10/27/2008 13:35	52.0	31.5	0.05	6.75	743	906	458	< 4	20300	1650	123	9.20	< 0.05	7.0	216	36	46	13200	32500	52.9	785	0.6
PNR-5	4/15/2009 14:20	44.7	31.1	0.17	6.79	850	1040	303	< 4	15900	1180	95	6.60	< 0.05	7.1	167	33	29	10400	25600	44.9	842	0.6
PNR-5	10/2/2009 14:00	37.2	30.6	0.13	6.81	936	1140	228	< 4	14200	846	67	5.20	< 0.01	7.2	127	36	36	8330	22400	37.2	589	0.7
PNR-5	4/15/2010 16:45	25.5	30.8	0.12	7.10	957	1170	142	< 4	10400	558	49	3.70	< 0.01	7.2	108	36	35	6860	17100	28.1	772	0.9
PNR-5	9/21/2010 11:15	17.0	30.7	0.48	7.07	1210	1470	50	< 4	4840	197	17	2.60	0.02	7.8	59	36	37	3980	10100	16.4	619	1.8
PNR-6	5/31/2000 0:00	1.2	9.4	nm	5.90	511	624	109	< 1	14	587	77	nm	0.06	8.0	6	nm	nm	75	849	1.2	229	nm
PNR-6	8/7/2001 9:55	1.7	10.4	nm	6.70	555	677	111	< 1	31	724	108	0.30	0.28	7.1	6	21	nm	124	1350	1.8	559	nm
PNR-6	8/15/2001 15:30	mnw	9.2	nm	7.60	534	652	126	< 1	30	835	126	0.20	0.25	7.3	7	23	nm	143	1280	1.7	530	nm
PNR-6	11/7/2001 8:55	0.8	7.8	nm	7.50	534	651	109	< 1	30	690	101	0.20	0.31	7.3	6	nm	36	117	1210	1.6	437	nm
PNR-6	2/19/2002 13:30	2.1	10.3	nm	7.22	481	587	151	< 4	49	966	143	0.30	0.49	7.0	7	41	nm	121	1740	2.3	869	nm
PNR-6	5/21/2002 12:15	2.4	11.7	nm	7.43	513	626	142	< 4	35	837	117	0.30	0.42	7.5	7	31	nm	123	1370	1.9	831	0.5
PNR-6	8/19/2002 16:35	1.4	10.3	nm	7.10	514	627	112	< 4	23	710	104	0.50	0.30	7.4	5	23	44	91	1180	1.7	450	0.4
PNR-6	11/5/2002 11:25	1.3	9.3	nm	7.27	530	647	100	< 4	19	589	82	0.40	0.19	7.5	6	21	27	97	1000	1.5	341	0.5
PNR-6	3/4/2003 10:40	1.2	8.3	nm	6.79	530	646	94	< 4	31	567	81	0.30	0.12	7.6	6	22	30	120	897	1.3	276	0.5
PNR-6	5/13/2003 11:30	0.8	11.5	nm	7.78	545	665	94	< 4	16	573	82	0.20	0.16	7.2	7	21	52	99	918	1.4	265	0.6
PNR-6	8/13/2003 8:16	1.1	9.6	nm	7.99	521	635	95	< 1	16	594	86	0.30	0.26	7.4	6	22	43	95	955	1.4	323	0.5
PNR-6	11/4/2003 13:30	1.1	8.3	nm	7.13	535	652	100	< 4	26	643	95	0.20	0.27	7.6	7	23	40	114	1140	1.5	460	0.5
PNR-6	March 2004	Not Sampled																					
PNR-6	6/8/2004 10:20	mnw	10.3	nm	7.57	478	583	241	< 4	126	1990	337	< 0.1	2.47	7.4	10	22	32	283	3740	3.8	2180	0.5
PNR-6	9/14/2004 9:15	2.6	9.8	nm	7.55	535	653	155	< 4	56	1230	205	< 0.1	1.18	7.6	7	24	27	183	2240	2.7	1120	0.5
PNR-6	11/16/2004 10:17	2.3	9.6	nm	7.42	526	642	123	< 4	34	901	144	< 0.1	0.62	7.4	7	25	26	124	1370	1.9	605	0.5
PNR-6	2/28/2005 17:30	1.9	9.5	nm	7.08	541	660	136	< 4	31	865	128	0.20	0.39	7.3	7	24	27	96	1340	1.8	541	0.5
PNR-6	5/23/2005 18:00	1.4	9.9	nm	7.40	454	553	140	< 4	28	852	122	0.50	0.37	7.2	7	23	26	92	1320	1.7	501	0.5
PNR-6	8/16/2005 9:35	1.6	10.1	nm	7.19	535	653	139	< 4	27	856	124	0.30	0.34	7.5	6	22	1	94	1270	1.7	482	0.5
PNR-6	11/15/2005 10:00	1.6	7.6	nm	7.19	497	606	118	< 4	25	755	112	0.20	0.21	7.5	8	24	33	95	1190	1.7	487	1.0
PNR-6	2/7/2006 10:47	1.2	7.9	nm	7.23	558	681	104	< 4	17	651	95	0.30	0.11	7.1	7	40	215	97	993	1.5	332	0.5
PNR-6	5/23/2006 10:30	1.4	12.8	nm	7.29	520	635	108	< 4	20	655	93	0.30	0.16	8.0	7	45	115	103	924	1.5	330	0.5
PNR-6	8/22/2006 10:45	1.4	9.4	nm	7.26	506	618	88	< 4	12	557	82	0.30	0.09	7.2	7	23	27	93	820	1.3	214	0.5
PNR-6	12/5/2006 13:40	1.4	8.8	nm	7.11	509	621	91	< 4	16	594	89	0.20	0.11	7.2	6	23	31	99	914	1.5	274	0.5
PNR-6	3/14/2007 10:15	1.2	9.4	nm	6.96	503	613	97	< 4	14	596	86	0.40	0.17	7.5	6	26	nm	93	919	1.4	262	0.5
PNR-6	10/2/2007 18:55	2.6	10.9	nm	7.29	481	587	130	< 4	37	933	148	0.50	0.66	7.6	6	25	37	132	1520	2.2	701	0.5
PNR-6	3/26/2008 11:50	1.4	9.2	nm	7.09	505	616	95	< 4	19	616	92	0.40	0.21	7.5	5	23	27	91	948	1.5	315	0.5
PNR-6	10/22/2008 14:40	1.8	8.9	0.45	7.14	486	593	119	< 4	25	801	122	0.50	0.48	7.3	6	25	29	111	1210	1.7	489	0.5
PNR-6	4/17/2009 15:15	5.5	9.1	3.11	7.00	405	494	346	< 4	153	2950	506	< 0.1	3.62	7.4	12	25	29	420	4570	5.5	3310	0.4
PNR-6	10/4/2009 12:55	3.7	8.6	1.88	7.08	483	590	161	< 4	45	1410	245	< 0.05	1.72	7.4	8	26	29	211	2400	2.9	1160	0.5
PNR-6	4/13/2010 11:15	4.4	8.5	4.56	7.06	403	492	354	< 4	113	2830	473	< 0.05	3.67	7.3	12	25	25	345	4820	5.0	3020	0.4
PNR-6	9/16/2010 16:30	3.4	8.5	1.52	6.95	468	570	182	< 4	46	1540	264	0.21	1.90	7.3	9	26	35	227	2720	3.0	1450	0.4
PNR-7	5/31/2000 0:00	52.4	10.0	nm	6.60	343	418	2770	< 1	21700	15700	2130	nm	4.11	7.2	55	nm	nm	6800	35300	48.2	1540	nm
PNR-7	8/7/2001 17:20	53.1	9.6	nm	6.90	368	449	2480	< 1	23300	13800	1850	0.30	4.78	6.7	52	17	nm	6740	39300	49.4	1370	nm
PNR-7	8/15/2001 17:55	33.4	9.6	nm	7.00	347	423	2600	< 1	23000	15700	2220	0.40	3.86	6.9	57	20	nm	7910	40600	44.9	1590	nm

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-7	11/7/2001 11:50	or	8.9	nm	6.60	351	428	2630	< 1	22100	14600	1960	0.40	4.06	6.6	52	nm	20	7060	40600	34.7	1440	nm
PNR-7	2/19/2002 17:05	50.4	9.4	nm	6.49	351	429	2700	< 4	23700	14800	1960	0.30	4.19	6.7	57	17	nm	7550	36200	41.0	1390	nm
PNR-7	5/22/2002 13:10	57.7	9.5	nm	6.66	356	435	2490	< 4	23500	13900	1860	0.30	3.91	6.6	60	29	nm	7450	39800	45.1	1650	0.3
PNR-7	8/20/2002 15:07	49.8	10.9	nm	6.60	353	431	2510	< 4	23900	14400	1990	0.40	3.58	6.7	47	17	26	8200	42100	45.9	1460	0.3
PNR-7	11/5/2002 14:50	55.0	10.1	nm	6.72	356	434	2660	< 4	24100	14500	1900	0.40	3.87	6.8	57	14	19	7690	44500	37.4	1580	0.2
PNR-7	3/4/2003 15:05	51.6	9.1	nm	6.57	346	422	2600	< 4	22900	14200	1880	0.40	3.85	6.6	72	17	17	8650	39800	29.0	1500	0.3
PNR-7	May 2003	Not Sampled																					
PNR-7	8/12/2003 12:20	59.5	11.6	nm	6.35	354	432	2730	< 1	24300	3050	1950	0.30	3.23	6.5	69	20	18	8460	45100	56.0	964	< 0.1
PNR-7	11/4/2003 14:30	49.7	8.1	nm	6.31	359	438	2090	< 4	24900	11400	1490	0.40	3.58	6.8	55	14	22	6880	40200	23.7	1110	< 0.73
PNR-7	3/17/2004 17:10	48.5	12.7	nm	6.75	367	447	2870	< 1	25300	15400	2010	0.40	3.71	6.6	68	20	18	9040	41200	56.9	1100	0.2
PNR-7	6/8/2004 18:40	51.8	10.1	nm	6.75	367	448	2530	< 4	25800	13600	1770	0.40	3.73	6.6	69	18	23	8850	46400	60.0	1570	0.3
PNR-7	9/14/2004 18:00	57.2	10.2	nm	7.13	382	466	2630	< 4	25000	14100	1840	0.40	3.65	6.8	88	22	23	9390	46100	60.8	1350	0.3
PNR-7	11/17/2004 13:40	66.2	10.2	nm	6.91	365	446	2670	< 1	25500	14200	1830	0.40	3.85	6.6	71	21	20	9700	43000	61.3	1580	0.3
PNR-7	3/1/2005 17:30	53.8	9.6	nm	6.49	370	452	2560	< 4	25400	13700	1780	0.40	3.56	6.6	72	22	23	9940	42100	60.6	1450	0.3
PNR-7	5/25/2005 13:47	63.5	10.2	nm	6.42	345	421	2640	< 4	25300	14000	1800	0.40	3.77	6.6	49	17	16	10600	44100	59.7	1700	0.3
PNR-7	8/17/2005 10:52	62.7	10.6	nm	6.51	399	487	2840	< 4	26100	15100	1940	0.40	3.59	6.7	71	18	22	10500	45400	61.9	1590	0.2
PNR-7	11/16/2005 14:00	66.7	8.4	nm	6.77	350	427	2800	< 4	26800	14900	1920	0.40	3.57	6.8	66	25	25	10700	43300	63.0	1480	0.3
PNR-7	2/9/2006 14:15	60.2	8.0	nm	6.83	395	482	2840	< 4	25100	14600	1820	0.50	3.70	6.8	98	18	19	11000	41200	61.9	1450	0.2
PNR-7	5/24/2006 16:10	50.2	10.2	nm	6.56	384	468	2560	< 4	26200	13600	1750	0.50	3.61	7.3	76	18	20	11500	42300	62.9	1470	0.2
PNR-7	8/24/2006 10:24	52.4	9.2	nm	6.59	363	442	2520	< 4	26600	13200	1660	0.40	3.69	6.5	67	22	22	10800	44400	66.1	1450	0.2
PNR-7	12/8/2006 10:15	64.1	8.6	nm	6.71	369	450	2460	< 4	23800	12600	1580	0.50	3.44	6.7	57	19	21	10400	43100	66.7	1410	0.2
PNR-7	3/15/2007 12:15	60.5	8.7	nm	6.65	371	452	2670	< 4	27600	13900	1750	0.50	3.39	6.5	105	194	nm	11700	45400	66.3	1350	< 0.1
PNR-7	10/4/2007 19:00	65.5	8.9	nm	6.35	372	453	2560	< 4	26500	13100	1630	0.50	3.80	6.4	72	19	24	11000	45400	70.1	1510	0.2
PNR-7	3/28/2008 10:30	69.5	8.9	nm	6.37	381	465	2600	< 4	27200	13100	1630	0.60	3.69	6.6	66	20	20	11300	42100	63.7	2600	0.2
PNR-7	10/25/2008 17:30	70.4	8.7	0.25	6.50	380	464	2790	< 4	29200	14300	1770	0.50	3.35	6.7	57	17	26	12300	45200	66.7	1630	0.2
PNR-7	4/15/2009 17:15	65.4	8.9	0.93	6.36	380	464	2400	< 4	26700	12100	1490	0.50	3.31	6.8	65	9	7	11800	45500	66.6	1430	0.2
PNR-7	10/6/2009 15:15	68.7	8.8	0.14	6.31	375	458	2270	< 4	23400	11800	1480	0.50	3.32	6.7	61	26	< 20	10800	37500	64.4	961	0.1
PNR-7	4/19/2010 13:30	66.0	9.3	0.19	6.53	379	462	2490	< 4	30300	12500	1530	0.47	3.10	6.6	87	20	< 20	11600	46900	63.6	1470	0.2
PNR-7	9/22/2010 14:00	67.0	8.8	1.25	6.39	386	471	2450	< 4	28600	12100	1440	0.52	3.12	7.0	76	15	18	13100	48600	62.3	1060	0.2
PNR-8	5/31/2000 0:00	5.6	9.7	nm	5.60	464	566	272	< 1	380	1500	200	nm	< 0.05	7.8	12	nm	nm	420	2350	4.1	738	nm
PNR-8	8/7/2001 13:50	4.3	9.9	nm	7.50	459	560	266	< 1	764	1470	196	0.40	< 0.05	7.1	10	21	nm	406	3460	4.4	1210	nm
PNR-8	8/16/2001 18:10	4.6	10.0	nm	7.50	<1	<1	254	< 1	647	1420	191	0.30	< 0.05	2.3	8	26	nm	406	4460	12.8	2990	nm
PNR-8	11/6/2001 16:30	or	7.8	nm	7.10	457	557	327	< 1	1020	1820	243	0.40	0.18	7.2	14	nm	31	480	3940	5.0	1150	nm
PNR-8	2/22/2002 16:00	5.9	11.5	nm	7.58	489	596	307	< 4	888	1680	222	0.30	< 0.05	7.2	15	462	nm	481	3640	4.9	1180	nm
PNR-8	5/21/2002 17:45	5.8	9.0	nm	7.34	424	517	290	< 4	1310	1610	215	0.30	0.08	7.4	12	159	nm	463	4020	5.6	1190	0.4
PNR-8	8/21/2002 10:10	4.2	10.3	nm	7.30	404	492	320	< 4	1180	1810	246	0.50	0.08	7.3	11	20	140	435	4240	5.8	1290	0.4
PNR-8	11/5/2002 15:25	5.4	10.3	nm	7.15	445	543	340	< 4	1140	1850	242	0.40	< 0.05	7.2	12	21	294	485	3880	5.6	1260	0.3
PNR-8	3/4/2003 12:10	5.0	9.9	nm	7.58	433	529	336	< 4	1170	1860	247	0.30	< 0.05	7.1	13	22	95	528	3960	5.5	1280	0.3
PNR-8	5/13/2003 17:00	6.1	10.4	nm	7.22	445	543	350	< 4	1090	1920	254	0.40	0.14	7.2	13	21	181	552	3910	5.2	1150	0.3
PNR-8	8/12/2003 9:46	4.2	10.6	nm	7.18	445	543	367	< 1	1170	2020	268	0.30	< 0.05	7.1	12	23	80	584	4640	5.7	1090	0.3
PNR-8	11/4/2003 12:00	3.9	8.0	nm	5.62	462	564	321	< 4	1060	1770	234	0.40	< 0.05	7.4	12	24	32	452	3700	4.7	1190	0.3
PNR-8	3/18/2004 11:30	7.8	9.9	nm	7.25	465	567	348	< 1	1120	1930	258	0.30	0.06	7.2	12	26	64	491	3890	5.0	1060	0.3
PNR-8	6/8/2004 18:40	5.2	10.5	nm	7.35	469	572	352	< 4	1240	1940	256	0.50	0.06	7.3	13	19	26	530	4250	5.7	1240	0.4
PNR-8	9/14/2004 17:05	4.5	12.1	nm	7.70	440	537	360	< 4	1070	1960	256	0.50	0.06	7.3	13	24	38	514	4120	5.7	1080	0.3
PNR-8	11/16/2004 16:15	6.3	12.6	nm	7.15	448	547	375	< 4	1230	2020	264	0.40	0.08	7.2	14	25	49	527	4130	5.9	1180	0.3
PNR-8	3/2/2005 15:30	5.6	9.2	nm	7.27	474	579	383	< 4	1400	2150	290	0.50	< 0.05	7.3	17	26	35	650	4390	6.2	1210	0.4
PNR-8	5/26/2005 10:46	5.9	10.5	nm	7.19	391	477	433	< 4	1540	2390	319	0.50	< 0.05	7.2	11	26	68	681	4820	6.5	1150	0.4
PNR-8	8/18/2005 11:50	6.3	12.4	nm	7.45	287	350	400	< 4	1420	2230	299	0.40	< 0.05	7.3	12	20	48	594	4600	6.4	1170	0.4
PNR-8	11/17/2005 9:45	7.3	9.5	nm	6.96	412	503	449	< 4	1610	2510	337	0.40	< 0.05	7.2	12	24	70	703	4530	6.8	1180	0.3
PNR-8	2/9/2006 9:45	6.8	9.9	nm	7.68	465	568	417	< 4	1590	2310	309	0.50	< 0.05	7.3	16	25	63	707	4780	7.0	1180	0.3
PNR-8	5/24/2006 17:50	5.3	9.8	nm	7.11	451	551	424	< 4	1630	2340	312	0.50	< 0.05	7.9	16	23	41	664	4230	6.9	1200	0.3
PNR-8	8/24/2006 12:30	7.8	10.1	nm	7.22	422	515	434	< 4	1620	2410	322	0.50	0.14	7.0	16	22	62	724	4960	7.3	1170	0.3
PNR-8	12/7/2006 11:30	7.0	8.5	nm	7.31	419	512	435	< 4	1810	2450	331	0.40	< 0.05	7.2	15	24	89	763	5130	7.9	1170	0.3
PNR-8	3/14/2007 13:25	7.8	9.4	nm	7.23	427	520	495	< 4	2210	2760	369	0.50	0.20	7.1	19	36	nm	899	5430	8.3	1070	0.3
PNR-8	10/4/2007 14:35	9.0	10.7	nm	6.98	423	517	461	< 4	1970	2570	345	0.50	0.36	7.1	15	23	41	810	5370	8.5	1200	0.3
PNR-8	3/28/2008 11:30	7.3	9.2	nm	7.02	421	513	502	< 4	2270	2800	375	0.50	0.18	7.2	15	23	38	953	5700	8.8	1150	0.3
PNR-8	10/27/2008 16:15	9.0	9.6	0.99	7.08	432	527	450	< 4	1610	2490	332	0.60	0.08	7.2	14	27	30	740	5050	7.2	1130	0.3
PNR-8	4/19/2009 14:15	7.0	9.0	1.62	6.90	407	496	439	< 4	1520	2490	338	0.50	< 0.05	7.1	16	23	23	680	4370	7.3	1260	0.3
PNR-8	10/4/2009 15:00	8.2	10.2	0.52	6.75	416	508	462	< 4	2010	2510	330	0.56	< 0.01	7.1	14	25	28	754	4710	7.7	934	0.3
PNR-8	4/19/2010 8:25	7.8	10.2	0.58	6.75	409	499	461	< 4	2170	2570	345	0.50	0.01	7.0	14	27	30	788	5140	7.9	1020	0.3
PNR-8	9/22/2010 13:10	8.5	10.6	0.79	6.97	407	496	478	< 4	2190	2610	343	0.61	1.07	7.3	16	25	26	874	5020	8.3	945	0.3
PNR-9	6/1/2000 0:00	9.7	11.4	nm	9.10	263	321	583	< 1	3060	2920	355	nm	< 0.05	7.3	16	nm	nm	887	5700	9.3	609	nm
PNR-9	8/9/2001 9:35	10.1	10.5	nm	7.40	305	372	637	< 1	3360	3150	378	1.60	< 0.05	7.1	18	17	nm	985	7940	9.7	760	nm
PNR-9	8/16/2001 13:45	mnw	10.9	nm	7.60	274	334	663	< 1	3620	3350	412	1.20	< 0.05	7.2	17	16	nm	1050	8020	9.9	639	nm
PNR-9	11/7/2001 14:30	4.5	9.4	nm	7.70	263	321	691	< 1	3640	3450	420	1.70	< 0.05	7.0	20	nm	29	1060	7630	10.3	740	nm

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-9	2/20/2002 14:50	10.2	10.7	nm	7.24	281	343	689	< 4	3700	3420	413	1.80	< 0.05	6.8	30	32	nm	1110	7300	11.7	629	nm
PNR-9	5/22/2002 10:15	11.9	12.6	nm	7.32	274	334	607	< 4	4330	3060	375	1.80	< 0.05	7.0	18	25	nm	1030	8580	11.3	510	0.2
PNR-9	8/20/2002 16:20	11.1	12.7	nm	7.20	251	306	670	< 4	4060	3460	434	1.80	< 0.05	7.0	16	15	24	1000	9120	11.9	690	0.2
PNR-9	11/5/2002 14:05	11.5	10.9	nm	7.50	270	330	704	< 4	4000	3470	417	1.90	< 0.05	7.1	18	14	25	1030	8340	12.1	757	0.2
PNR-9	3/4/2003 16:00	11.2	9.3	nm	7.37	252	308	756	< 4	3920	3620	421	1.90	< 0.05	6.8	20	16	36	1110	7880	12.8	720	0.2
PNR-9	5/27/2003 18:15	10.5	12.7	nm	7.16	271	330	735	< 1	3790	3620	434	1.80	< 0.05	6.9	19	16	54	1070	8530	13.0	711	0.2
PNR-9	8/13/2003 10:35	11.7	14.9	nm	7.82	257	314	718	< 1	4580	3530	421	1.90	< 0.05	6.8	19	16	22	1110	8850	10.9	571	0.2
PNR-9	11/4/2003 14:35	10.1	10.0	nm	6.93	262	319	696	< 4	4700	3720	480	1.90	< 0.05	7.0	21	15	22	1210	8280	11.6	663	0.2
PNR-9	March 2004	Not Sampled																					
PNR-9	6/8/2004 13:35	mnw	11.5	nm	7.56	1030	1260	783	< 4	4340	3880	467	2.10	< 0.05	7.1	20	16	19	1350	9660	12.2	842	0.2
PNR-9	9/14/2004 11:00	12.0	11.3	nm	7.67	276	337	835	< 4	4210	4070	483	2.30	< 0.05	7.0	20	18	21	1220	10600	13.3	752	0.3
PNR-9	11/16/2004 16:12	17.3	10.0	nm	7.36	254	310	848	< 4	4480	4110	485	2.10	< 0.05	6.9	23	19	20	1270	9140	13.6	769	0.3
PNR-9	3/1/2005 12:10	13.0	9.3	nm	7.33	280	341	827	< 4	4450	4080	490	2.10	< 0.05	7.1	24	19	19	1430	9590	13.4	767	0.2
PNR-9	5/24/2005 17:25	13.8	10.2	nm	7.23	237	289	886	< 4	4580	4390	528	2.20	< 0.05	7.0	19	22	22	1490	10200	13.6	908	0.3
PNR-9	8/16/2005 12:00	13.6	9.9	nm	7.27	274	334	852	< 4	4540	4190	502	2.10	< 0.05	7.1	16	17	17	1300	10300	13.9	779	0.3
PNR-9	11/15/2005 15:55	14.5	10.1	nm	7.28	250	305	930	< 4	4600	4620	557	2.10	< 0.05	7.2	20	18	21	1550	9990	14.2	766	0.1
PNR-9	2/8/2006 12:00	14.2	8.2	nm	7.54	263	320	925	< 4	4490	4540	542	2.20	< 0.05	7.1	25	20	21	1550	8850	14.2	761	0.2
PNR-9	5/23/2006 13:15	12.0	10.0	nm	7.32	252	307	863	< 4	4990	4260	511	2.30	< 0.05	7.4	24	18	22	1520	9800	14.5	831	0.2
PNR-9	8/23/2006 9:40	16.1	10.2	nm	7.29	246	300	904	< 4	4760	4480	539	2.20	< 0.05	6.8	22	19	20	1550	10800	15.1	823	0.2
PNR-9	12/6/2006 15:00	14.1	9.1	nm	7.47	253	308	895	< 4	4620	4420	530	2.50	< 0.05	7.0	23	17	23	1600	10000	15.2	855	0.2
PNR-9	3/13/2007 16:35	14.5	9.5	nm	7.24	247	302	890	< 4	4570	4360	520	2.50	< 0.05	6.9	29	80	nm	1590	10700	15.3	699	0.2
PNR-9	10/4/2007 10:40	18.2	10.7	nm	7.20	248	303	919	< 4	5200	4510	539	3.00	< 0.05	6.8	21	17	51	1670	11300	16.2	889	0.2
PNR-9	3/27/2008 13:40	15.1	9.5	nm	7.13	260	318	869	< 4	5040	4230	501	2.30	< 0.05	7.0	18	18	20	1640	9620	15.3	860	0.2
PNR-9	10/23/2008 17:00	15.7	9.6	0.30	7.24	256	312	947	< 4	5110	4640	553	2.60	< 0.05	7.0	18	17	23	1720	10400	15.7	939	0.2
PNR-9	4/18/2009 16:20	16.1	10.4	0.41	6.96	256	312	847	< 4	4720	4140	491	2.50	< 0.05	6.9	22	15	17	1620	9710	15.7	909	0.2
PNR-9	10/3/2009 13:40	16.0	9.5	0.23	6.93	264	322	926	< 4	5440	4470	524	2.41	< 0.01	6.8	23	18	24	1740	10200	15.3	732	0.2
PNR-9	4/13/2010 18:00	15.2	9.3	0.49	7.06	249	304	885	< 4	5690	4310	509	2.51	< 0.01	6.9	25	17	20	1900	11500	15.7	714	0.2
PNR-9	9/20/2010 15:40	20.8	9.9	0.54	7.10	256	313	918	< 4	5330	4280	482	2.45	0.02	6.9	25	16	22	1810	12200	15.6	699	0.2
PNR-10	6/1/2000 0:00	3.2	10.5	nm	8.90	526	645	208	< 1	147	978	111	nm	< 0.05	7.6	8	nm	nm	435	2480	3.1	1210	nm
PNR-10	8/8/2001 18:50	3.7	11.4	nm	7.40	571	697	230	< 1	245	1090	127	1.20	< 0.05	7.2	8	24	nm	449	2890	3.5	1260	nm
PNR-10	8/16/2001 13:15	mnw	11.3	nm	7.70	550	672	229	< 1	263	1100	128	1.20	< 0.05	7.2	8	28	nm	482	2900	3.5	1320	nm
PNR-10	11/7/2001 12:30	nm	9.4	nm	nm	528	644	217	< 1	196	1040	121	1.20	0.08	7.4	10	nm	39	443	2690	3.2	1220	nm
PNR-10	2/20/2002 13:38	2.4	10.3	nm	7.27	578	705	230	< 4	304	1110	131	1.20	< 0.05	7.0	8	30	nm	448	2920	3.9	1340	nm
PNR-10	5/21/2002 13:35	3.8	11.6	nm	7.31	535	653	214	< 4	415	1040	124	1.30	< 0.05	7.2	8	31	nm	430	2810	3.8	1680	0.2
PNR-10	8/20/2002 12:20	3.4	13.1	nm	7.20	512	624	230	< 4	351	1150	139	1.30	0.07	7.2	7	23	31	407	3090	4.0	1350	0.3
PNR-10	11/5/2002 13:30	3.9	11.0	nm	7.47	524	639	263	< 4	384	1250	145	1.40	< 0.05	7.2	11	24	31	581	3130	4.1	1380	0.3
PNR-10	3/4/2003 16:50	3.8	9.2	nm	7.34	540	658	268	< 4	426	1270	150	1.30	< 0.05	7.0	9	24	52	470	3180	4.3	1340	0.3
PNR-10	5/27/2003 17:45	3.6	12.4	nm	7.30	516	630	268	< 1	434	1310	155	1.20	< 0.05	7.1	9	25	29	476	3230	4.4	1350	0.3
PNR-10	8/13/2003 10:00	3.9	13.3	nm	7.97	512	624	263	< 1	457	1270	149	1.20	< 0.05	6.9	9	24	45	444	3270	4.2	1340	0.3
PNR-10	11/4/2003 13:45	3.6	10.2	nm	7.87	512	624	240	< 4	512	1270	162	1.40	< 0.05	7.2	9	25	28	468	3310	3.9	1420	0.3
PNR-10	March 2004	Not Sampled																					
PNR-10	6/8/2004 14:10	mnw	11.5	nm	7.51	493	602	284	< 4	561	1410	170	1.40	< 0.05	7.2	9	24	56	524	3390	4.2	1410	0.3
PNR-10	9/14/2004 11:40	4.0	11.5	nm	7.51	519	633	300	< 4	607	1490	180	1.80	< 0.05	7.2	10	26	31	508	3510	4.6	1350	0.3
PNR-10	11/16/2004 11:28	5.7	10.6	nm	7.30	504	615	316	< 4	602	1540	181	1.50	< 0.05	7.2	10	26	29	502	3430	4.6	1360	0.3
PNR-10	3/1/2005 11:06	4.5	9.6	nm	7.28	524	640	315	< 4	653	1570	191	1.40	< 0.05	7.1	12	27	28	571	3560	4.7	1370	0.3
PNR-10	5/24/2005 15:50	4.8	10.8	nm	7.16	442	540	300	< 4	645	1500	181	1.60	< 0.05	7.2	11	25	25	558	3610	4.8	1260	0.3
PNR-10	8/16/2005 10:48	4.6	9.9	nm	7.17	522	637	327	< 4	688	1630	197	1.40	< 0.05	7.2	7	25	26	495	3660	4.9	1360	0.3
PNR-10	11/15/2005 11:45	4.9	8.9	nm	6.35	460	561	356	< 4	758	1800	220	1.40	< 0.05	7.2	8	26	28	585	3730	5.1	1400	0.2
PNR-10	2/7/2006 14:00	4.6	10.2	nm	7.22	498	607	355	< 4	708	1740	208	1.50	< 0.05	7.1	11	28	29	582	3730	5.1	1300	0.3
PNR-10	5/23/2006 12:15	4.2	10.0	nm	7.23	480	585	352	< 4	834	1740	209	1.70	< 0.05	7.8	11	27	32	597	3790	5.1	1430	0.2
PNR-10	8/23/2006 10:35	5.6	10.1	nm	7.20	452	551	354	< 4	811	1740	208	1.50	< 0.05	7.0	11	27	30	598	3820	5.5	1370	0.2
PNR-10	12/6/2006 14:30	5.3	9.2	nm	7.40	458	559	366	< 4	790	1770	208	1.80	< 0.05	7.0	12	27	30	633	3890	14.9	1340	0.2
PNR-10	3/13/2007 15:20	5.3	9.8	nm	7.26	450	550	376	< 4	922	1870	225	1.90	< 0.05	7.1	11	41	nm	620	4050	5.6	1390	0.2
PNR-10	10/3/2007 16:30	5.8	10.1	nm	7.08	442	540	368	< 4	984	1840	225	1.70	< 0.05	7.0	10	26	32	612	4130	6.1	1400	0.2
PNR-10	3/27/2008 11:45	5.9	9.7	nm	7.08	446	545	375	< 4	1090	1880	230	1.60	< 0.05	7.1	9	27	29	629	4300	6.0	1410	0.2
PNR-10	10/23/2008 14:20	6.1	9.9	0.38	7.15	439	536	394	< 4	1010	1970	241	2.00	< 0.05	7.1	10	26	29	655	4190	5.9	1460	0.2
PNR-10	4/18/2009 14:05	6.4	9.9	0.23	6.90	423	516	415	< 4	1060	2090	256	2.00	< 0.05	7.1	12	26	28	676	3910	6.3	1390	0.2
PNR-10	10/3/2009 11:35	6.6	9.8	0.30	6.79	421	513	432	< 4	1290	2140	257	1.97	< 0.01	7.0	11	26	29	660	4550	6.3	1320	0.2
PNR-10	4/13/2010 15:46	6.5	9.6	0.53	6.99	420	512	410	< 4	1430	2090	258	1.66	< 0.01	7.0	12	25	36	737	4680	6.6	1440	0.2
PNR-10	9/20/2010 12:30	8.7	9.8	0.87	6.85	414	505	408	< 4	1350	2050	250	1.81	0.03	7.0	11	24	30	712	4820	6.6	1330	0.2
PNR-12	5/31/2000 0:00	4.5	12.1	nm	6.00	699	853	425	< 1	78	2410	328	nm	96	7.6	17	nm	nm	362	1020	4.6	2030	nm
PNR-12	8/8/2001 15:00	4.9	12.8	nm	7.30	537	655	421	< 1	74	2390	325	0.30	139	7.3	15	19	nm	397	4720	4.8	2130	nm
PNR-12	8/15/2001 16:00	mnw	13.4	nm	7.40	738	900	444	< 1	72	2570	356	0.30	138	7.3	16	21	nm	381	4610	4.6	2050	nm
PNR-12	11/6/2001 16:20	4.1	10.0	nm	7.70	739	901	425	< 1	72	2430	333	0.40	105	7.2	15	nm	65	336	4590	4.7	2040	nm
PNR-12	2/20/2002 11:55	4.6	10.8	nm	7.14	735	897	375	< 4	67	2370	349	0.20	145	7.2	14	36	nm	373	4700	5.1	2170	nm

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC	Field Temp.	Field D.O.	Field pH	Alkalinity as $CaCO_3$	Bicarbonate	Calcium	Carbonate	Chloride	Hardness, Total as $CaCO_3$	Magnesium	Nitrogen, Ammonia	Nitrogen, Nitrate plus Nitrite	Lab pH	Potassium	Silica, Dissolved	Silica, Total	Sodium	Total Dissolved Solids @ 180° C	Specific Conductance @ 25° C	Sulfate	Flouride
		mS	°C	mg/L	S.U.	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	S.U.	mg/l	mg/l	mg/l	mg/l	mg/l	mS/cm	mg/l	mg/l
PNR-12	5/21/2002 11:00	4.9	14.0	nm	7.22	666	812	409	< 4	56	2360	324	< 0.1	142	7.3	12	22	nm	342	4630	5.1	2250	0.2
PNR-12	8/19/2002 16:05	4.6	12.3	nm	8.80	744	908	328	< 4	68	2070	304	1.10	83	7.4	11	21	88	298	3990	4.5	1830	0.3
PNR-12	11/5/2002 11:15	4.8	11.0	nm	7.31	700	854	442	< 4	76	2470	331	< 0.1	130	7.2	12	19	69	328	4660	5.1	2200	0.2
PNR-12	3/4/2003 13:10	4.6	9.6	nm	7.53	684	834	407	< 4	148	2420	340	< 0.1	128	7.2	15	19	139	361	4590	4.8	2200	0.2
PNR-12	5/27/2003 17:00	4.3	13.5	nm	7.46	656	801	393	< 1	80	2280	316	< 0.1	112	7.2	13	17	181	323	4540	5.3	2200	0.3
PNR-12	8/13/2003 8:05	4.0	15.6	nm	8.21	685	835	415	< 1	58	2440	341	< 0.1	133	7.1	11	20	33	314	4600	4.9	2180	0.2
PNR-12	11/4/2003 12:35	3.3	10.2	nm	5.38	681	831	370	< 4	64	2380	354	< 0.1	135	7.2	12	21	47	331	4590	4.4	2240	0.2
PNR-12	March 2004	Not Sampled																					
PNR-12	6/8/2004 9:15	mnw	12.9	nm	7.27	691	843	402	< 4	72	2410	342	< 0.1	337	7.2	11	19	34	389	4540	4.6	2120	0.3
PNR-12	9/14/2004 10:00	4.5	12.9	nm	7.43	695	847	424	< 4	75	2540	359	< 0.1	104	7.1	12	21	17	345	4580	4.9	2080	0.2
PNR-12	11/16/2004 9:35	6.1	10.2	nm	7.12	649	792	453	< 4	70	2640	366	< 0.1	135	7.4	12	22	34	340	4550	5.0	2100	0.3
PNR-12	2/28/2005 17:10	4.5	9.5	nm	7.09	697	850	416	< 4	66	2530	363	< 0.1	126	7.1	12	22	25	361	4620	4.9	2100	0.3
PNR-12	5/23/2005 18:50	4.8	10.3	nm	6.94	586	716	404	< 4	65	2420	342	< 0.1	130	6.9	11	20	24	354	4540	4.8	1980	0.3
PNR-12	8/15/2005 6:00	4.7	10.3	nm	6.95	687	838	440	< 4	63	2630	372	< 0.1	163	7.2	9	22	21	335	4600	4.9	2060	0.2
PNR-12	11/15/2005 9:45	4.8	9.7	nm	7.08	617	752	444	< 4	71	2690	364	< 0.1	155	7.1	9	20	39	376	4520	5.0	2170	0.2
PNR-12	2/7/2006 13:00	4.7	10.3	nm	6.97	669	816	435	< 4	66	2670	385	< 0.1	204	7.0	11	23	28	374	4550	5.0	2100	0.2
PNR-12	5/23/2006 10:50	4.3	10.4	nm	7.00	645	787	445	< 4	72	2710	388	< 0.1	197	7.9	11	22	26	376	4400	5.0	2200	0.2
PNR-12	8/22/2006 16:10	4.1	10.5	nm	7.02	609	743	436	< 4	68	2660	381	< 0.1	185	6.9	11	22	32	361	4540	5.1	2070	0.2
PNR-12	12/5/2006 15:45	5.0	9.5	nm	6.92	615	750	450	< 4	69	2650	370	< 0.1	187	7.0	11	22	30	361	4700	5.3	2120	0.2
PNR-12	3/14/2007 12:15	4.6	9.9	nm	6.74	615	751	451	< 4	71	2690	380	< 0.1	202	7.2	13	37	nm	367	4710	5.2	1970	0.2
PNR-12	10/3/2007 13:00	5.9	11.3	nm	7.15	587	716	409	< 4	63	2460	349	< 0.1	144	7.3	8	22	45	321	4450	5.2	2060	0.2
PNR-12	3/26/2008 10:45	4.9	9.7	nm	6.84	540	659	415	< 4	58	2500	355	< 0.1	166	7.1	9	22	22	333	4450	4.9	2100	0.2
PNR-12	10/23/2008 10:40	4.7	9.8	1.33	7.06	602	735	429	< 4	68	2580	366	< 0.1	125	7.1	9	22	36	360	4440	4.9	2110	0.2
PNR-12	4/20/2009 18:10	5.0	10.0	0.55	6.80	606	739	415	< 4	58	2490	354	< 0.1	157	7.1	10	22	23	336	3860	4.9	2100	0.2
PNR-12	10/3/2009 10:45	4.8	9.9	1.58	6.81	591	721	416	< 4	58	2490	351	< 0.1	107	7.2	10	23	27	335	4170	4.7	1990	0.2
PNR-12	4/14/2010 11:35	4.5	9.7	0.38	6.85	581	709	390	< 4	50	2370	338	<0.05	134	7.1	10	21	22	347	4320	4.9	2030	0.2
PNR-12	9/16/2010 14:50	4.8	9.9	0.96	6.83	597	728	430	< 4	51	2540	356	<0.05	164	7.4	10	22	27	346	4420	4.8	2010	0.2
PNR-13	8/15/2001 18:15	21.3	14.5	nm	7.50	372	453	1050	< 1	12300	4870	546	6.00	1.12	7.3	31	19	nm	6050	22200	27.3	862	nm
PNR-13	8/15/2001 19:00	21.3	14.5	nm	7.50	375	457	984	< 1	11500	4480	492	5.10	1.46	7.2	42	20	nm	5710	21200	25.6	841	nm
PNR-13	11/7/2001 13:35	or	9.4	nm	7.40	424	517	529	< 1	3420	2540	296	2.10	0.37	7.1	26	nm	26	1610	7780	10.9	1360	nm
PNR-13	2/19/2002 16:30	7.7	9.5	nm	7.09	559	682	474	< 4	2220	2310	273	1.20	< 0.05	7.0	17	32	nm	1250	6720	9.4	1810	nm
PNR-13	5/22/2002 14:00	6.8	11.0	nm	7.20	508	619	418	< 4	1040	2070	249	1.20	< 0.05	7.4	14	29	nm	680	5120	6.3	2270	0.3
PNR-13	8/20/2002 15:45	4.4	13.3	nm	6.90	444	541	408	< 4	679	2080	257	1.40	< 0.05	7.2	12	24	30	588	4530	5.6	2000	0.4
PNR-13	11/5/2002 15:30	4.9	9.9	nm	7.09	511	623	386	< 4	769	1900	227	1.30	< 0.05	7.2	14	22	30	493	4110	5.3	1730	0.4
PNR-13	3/4/2003 11:15	4.4	9.3	nm	7.48	485	592	384	< 4	592	1880	224	1.20	< 0.05	7.1	11	23	37	437	3950	4.7	1810	0.4
PNR-13	5/28/2003 10:05	4.6	12.2	nm	7.10	501	612	386	< 1	517	1910	230	1.10	< 0.05	7.2	14	24	28	471	3940	5.1	1770	0.5
PNR-13	8/13/2003 10:20	3.4	11.1	nm	7.37	518	632	305	< 1	690	1550	193	1.10	< 0.05	7.1	11	23	29	374	3570	4.3	1180	0.3
PNR-13	11/4/2003 14:15	6.8	10.1	nm	7.27	541	661	322	< 4	1200	1720	223	1.50	< 0.05	7.2	14	24	26	772	4630	5.6	1600	0.4
PNR-13	March 2004	Not Sampled																					
PNR-13	6/8/2004 15:30	3.7	11.0	nm	7.37	560	683	316	< 4	860	1620	201	1.60	< 0.05	7.1	11	23	27	667	4190	5.6	1580	0.4
PNR-13	9/14/2004 10:00	3.6	11.1	nm	7.67	542	662	307	< 4	565	1550	190	1.40	0.05	7.2	11	26	26	350	3150	4.1	1180	0.4
PNR-13	11/16/2004 15:30	4.9	12.9	nm	7.13	532	649	326	< 4	624	1650	202	1.30	< 0.05	7.2	13	25	31	520	3480	4.7	1360	0.4
PNR-13	3/1/2005 13:25	3.8	10.0	nm	7.16	537	655	308	< 4	447	1570	196	1.10	< 0.05	7.1	12	27	28	370	3110	3.9	1270	0.4
PNR-13	5/24/2005 12:00	4.6	11.4	nm	7.08	476	581	292	< 4	470	1510	189	1.30	< 0.05	7.1	12	24	30	488	3610	4.5	1410	0.4
PNR-13	8/17/2005 9:40	4.1	14.4	nm	7.01	489	597	303	< 4	541	1550	193	1.20	0.39	7.3	9	26	63	383	3440	4.5	1330	0.4
PNR-13	11/16/2005 10:50	4.8	9.7	nm	6.68	507	618	337	< 4	500	1780	227	1.20	< 0.05	7.3	10	27	55	565	3840	4.7	1690	0.3
PNR-13	2/8/2006 10:40	5.0	9.3	nm	7.32	539	657	321	< 4	410	1690	216	1.30	< 0.05	7.3	11	28	29	535	3750	4.6	1620	0.3
PNR-13	5/24/2006 13:15	3.1	16.5	nm	7.08	510	623	318	< 4	385	1680	215	1.20	< 0.05	7.9	11	28	31	480	3240	4.3	1630	0.3
PNR-13	8/22/2006 14:25	4.3	11.8	nm	7.15	502	612	325	< 4	437	1760	231	1.30	< 0.05	7.0	11	25	29	620	3880	5.1	1770	0.3
PNR-13	12/6/2006 11:30	5.0	7.0	nm	7.40	508	619	334	< 4	769	1800	235	1.40	< 0.05	7.3	11	24	30	723	4430	6.1	1780	0.3
PNR-13	3/14/2007 16:20	3.8	9.4	nm	7.37	504	615	318	< 4	407	1700	220	1.50	< 0.05	7.2	10	38	nm	546	3790	4.8	1670	0.3
PNR-13	10/7/2008 17:30	4.1	10.2	nm	7.02	499	608	308	< 4	347	1630	210	1.20	< 0.05	7.2	9	26	37	495	3750	4.8	1740	0.3
PNR-13	3/27/2008 15:00	4.1	9.7	nm	7.05	485	592	313	< 4	319	1630	206	1.20	< 0.05	6.9	10	27	30	423	3430	4.2	1630	0.3
PNR-13	10/25/2008 14:30	4.0	9.7	0.93	7.17	486	593	309	< 4	306	1640	211	1.50	< 0.05	7.3	9	26	40	455	3490	4.3	1720	0.4
PNR-13	4/18/2009 17:55	4.0	11.8	0.62	6.90	462	564	326	< 4	235	1690	213	1.30	< 0.05	7.3	11	26	37	423	3080	4.3	1720	0.4
PNR-13	10/6/2009 10:50	3.8	9.6	0.80	6.89	466	568	331	< 4	244	1710	213	1.43	< 0.05	7.2	10	26	27	419	3380	4.1	1590	0.3
PNR-13	4/16/2010 17:40	3.5	9.9	0.46	6.88	446	544	338	< 4	225	1820	238	1.09	< 0.01	7.2	11	24	26	521	4170	4.7	2040	0.4
PNR-13	9/17/2010 11:15	3.7	8.6	1.05	6.96	452	551	328	< 4	181	1650	201	1.14	0.02	7.2	12	25	33	376	3340	3.9	1560	0.3
PNR-14	8/9/2001 16:00	96.6	42.6	nm	6.40	321	391	1390	< 1	44200	5110	397	23.80	< 0.05	6.5	327	31	nm	23100	70000	80.5	1460	nm
PNR-14	8/14/2001 9:45	96.9	39.7	nm	6.60	294	358	1430	< 1	44300	5190	394	24.00	< 0.05	6.6	310	31	nm	23200	69700	74.3	1330	nm
PNR-14	11/7/2001 14:35	or	45.6	nm	6.40	340	415	1690	< 1	40900	6370	519	28.10	< 0.05	6.3	170	nm	37	22200	67400	51.1	1490	nm
PNR-14	2/21/2002 11:30	91.4	41.2	nm	6.09	372	454	1570	< 4	43100	5910	483	29.80	< 0.05	6.6	249	25	nm	22700	64200	60.4	1300	nm
PNR-14	5/22/2002 12:05	90.2	42.5	nm	6.26	338	412	1260	< 4	39700	4630	358	22.20	< 0.05	6.4	282	42	nm	22000	67200	66.7	1730	0.4
PNR-14	8/20/2002 17:45	87.8	40.0	nm	6.10	325	397	1250	< 4	39900	4800	407	18.50	< 0.05	6.5	133	30	29	21200	66300	68.5	1510	0.3
PNR-14	11/6/2002 11:28	105.5	40.9	nm	6.30	295	360	1410	< 4	35300	5210	412	18.40	< 0.05	6.6	368	22	33	21500	65400	57.5	1590	0.3

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-14	3/4/2003 17:15	91.8	35.7	nm	6.42	281	343	1390	< 4	40200	5050	384	17.50	< 0.05	6.4	355	29	42	20800	65200	47.4	1650	0.3
PNR-14	5/28/2003 11:45	64.7	40.2	nm	6.44	314	383	1280	< 1	33300	4940	426	15.10	< 0.05	6.5	343	29	30	19300	60600	84.1	1460	0.3
PNR-14	8/13/2003 15:43	78.2	39.7	nm	6.36	306	373	1300	< 1	37400	4860	394	17.00	< 0.05	6.4	370	30	31	20700	62800	82.2	1030	0.3
PNR-14	11/5/2003 11:45	83.3	38.5	nm	5.79	331	404	1170	< 4	26400	5370	596	6.30	< 0.05	6.5	214	39	46	12400	43300	31.0	1210	0.4
PNR-14	3/17/2004 10:45	96.8	38.8	nm	6.05	377	460	1110	< 1	30300	4400	397	12.70	< 0.05	6.7	314	35	32	16800	49300	70.4	1080	0.4
PNR-14	6/9/2004 10:40	66.4	38.2	nm	6.62	384	469	827	< 4	28100	3230	283	11.80	< 0.05	6.6	241	27	30	14500	45500	68.5	1400	0.4
PNR-14	9/14/2004 15:35	62.5	36.4	nm	7.80	412	503	748	< 4	25000	3000	275	11.10	< 0.05	6.8	263	34	34	13800	39800	60.0	1300	0.4
PNR-14	11/17/2004 15:30	65.5	36.0	nm	6.88	405	495	741	< 4	19300	2970	271	9.10	< 0.05	6.7	242	30	32	11700	36200	55.6	1140	0.4
PNR-14	3/2/2005 10:50	42.5	40.7	nm	6.59	472	576	617	< 4	16500	2600	257	7.70	< 0.05	6.8	175	31	30	10400	29700	45.5	1480	0.5
PNR-14	5/25/2005 9:46	41.2	34.5	nm	6.63	453	553	568	< 4	13600	2440	248	6.80	< 0.05	6.9	178	30	67	8840	25200	38.1	2110	0.5
PNR-14	8/17/2005 15:18	34.9	33.5	nm	6.72	591	721	528	< 4	11100	2390	260	6.20	< 0.05	7.0	125	30	28	6900	21400	33.0	2270	0.5
PNR-14	11/16/2005 11:05	43.1	31.9	nm	6.66	541	660	663	< 4	10800	3170	368	5.60	< 0.05	7.1	173	37	37	6850	20100	31.7	2040	0.4
PNR-14	2/9/2006 14:35	31.6	30.8	nm	6.73	624	761	566	< 4	9060	2730	321	5.40	< 0.05	7.0	145	34	32	5650	18700	28.6	2140	0.3
PNR-14	5/24/2006 17:00	25.7	32.0	nm	6.49	615	751	570	< 4	9220	2790	331	6.10	< 0.05	7.6	121	34	35	5530	17600	27.4	2080	0.4
PNR-14	8/23/2006 16:20	26.1	32.0	nm	6.44	605	738	525	< 4	8220	2640	322	4.30	< 0.05	6.9	105	34	35	4930	16700	26.9	2060	0.4
PNR-14	12/7/2006 15:30	19.2	27.9	nm	7.08	633	772	523	< 4	7230	2640	324	4.40	< 0.05	6.9	91	32	32	4530	15600	24.5	2080	0.4
PNR-14	3/14/2007 10:45	26.1	28.4	nm	6.59	643	785	514	< 4	6590	2780	362	4.00	< 0.05	6.8	96	97	nm	4440	14600	23.2	1890	0.4
PNR-14	10/4/2007 16:50	20.2	28.7	nm	6.53	673	821	478	< 4	6290	2640	351	3.10	< 0.05	6.7	76	30	35	3560	13500	21.7	2100	0.4
PNR-14	3/27/2008 13:15	19.2	28.6	nm	6.76	693	846	475	< 4	5880	2650	356	2.90	< 0.05	6.8	70	33	31	3530	12800	20.0	1930	0.4
PNR-14	10/27/2008 11:30	17.8	26.4	0.17	6.73	699	853	488	< 4	5200	2770	377	9.20	0.06	7.0	68	31	33	3390	11800	18.2	2030	0.5
PNR-14	4/16/2009 14:00	16.6	25.4	0.13	6.69	694	847	407	< 4	4450	2310	315	2.20	< 0.05	7.2	59	28	31	2840	10400	16.7	1810	0.5
PNR-14	10/2/2009 11:00	16.5	25.1	0.20	6.63	692	845	435	< 4	4890	2550	355	2.00	< 0.01	7.0	55	31	31	2790	10600	16.6	1420	0.6
PNR-14	4/15/2010 14:00	17.3	23.9	0.59	6.87	690	841	434	< 4	5070	2430	327	2.20	< 0.01	6.9	54	29	28	2900	10600	16.4	1440	0.5
PNR-14	9/20/2010 14:50	20.7	23.0	0.54	6.71	695	847	464	< 4	4500	2540	336	2.40	< 0.01	6.9	53	31	33	2930	10500	15.7	1290	0.5
PNR-15	8/10/2001 8:15	94.6	80.1	nm	7.40	162	197	950	< 1	43500	3370	243	14.40	< 0.05	7.4	440	42	nm	22700	66100	79.3	1470	nm
PNR-15	8/14/2001 13:00	97.2	80.1	nm	7.10	288	351	1170	< 1	40800	4060	277	15.40	< 0.05	7.0	480	48	nm	25200	66000	72.9	1650	nm
PNR-15	11/8/2001 9:10	102.0	81.7	nm	6.20	369	450	950	< 1	37400	3340	237	15.60	0.08	6.7	382	nm	50	21300	62400	49.4	1430	nm
PNR-15	2/21/2002 14:54	104.5	64.7	nm	6.24	338	412	991	< 4	45500	3430	232	15.70	0.06	6.8	462	70	nm	22700	68100	62.4	1420	nm
PNR-15	5/22/2002 14:55	106.9	67.2	nm	6.41	330	402	951	< 4	43000	3300	226	14.90	< 0.05	6.6	398	61	nm	21900	68800	69.1	2300	0.3
PNR-15	8/21/2002 14:00	101.7	60.5	nm	6.40	346	423	1110	< 4	46200	3800	250	15.40	0.07	6.8	385	38	43	22100	70100	72.7	1640	0.4
PNR-15	11/6/2002 14:35	112.6	56.5	nm	6.43	325	396	1010	< 4	37400	3480	235	15.40	< 0.05	6.8	420	27	42	21700	67800	60.4	1750	0.3
PNR-15	3/5/2003 12:30	107.0	55.5	nm	7.17	324	395	1090	< 4	39300	3680	278	14.20	< 0.05	6.6	403	35	34	24800	64600	46.8	1730	0.4
PNR-15	5/28/2003 15:35	90.9	52.7	nm	6.42	331	403	1060	< 1	38600	3810	282	13.10	< 0.05	6.7	432	32	33	22200	65400	90.1	1380	0.4
PNR-15	8/14/2003 9:58	78.9	53.2	nm	6.50	336	410	1030	< 1	35900	3710	278	12.90	< 0.05	6.6	378	33	37	19800	59600	78.3	1020	0.4
PNR-15	11/5/2003 14:30	81.6	53.7	nm	5.92	371	453	914	< 4	31800	3380	267	10.50	< 0.05	6.7	386	39	39	18700	51800	37.8	1100	0.4
PNR-15	3/17/2004 13:35	84.0	45.9	nm	6.42	402	490	827	< 1	27600	3110	253	10.10	< 0.05	6.1	286	35	43	15800	45800	66.3	1160	0.4
PNR-15	6/8/2004 12:45	56.3	37.8	nm	7.01	422	515	652	< 4	24700	2490	209	9.00	< 0.05	7.0	241	30	36	13900	37100	60.5	1530	0.5
PNR-15	9/15/2004 16:30	62.2	43.1	nm	6.74	423	516	753	< 4	23300	2920	252	9.40	< 0.05	7.0	235	36	40	13200	39000	58.9	1310	0.4
PNR-15	11/18/2004 9:05	58.9	40.4	nm	6.88	384	469	668	< 4	21300	2660	239	7.70	< 0.05	6.8	253	27	30	12000	35200	54.7	1310	0.5
PNR-15	3/2/2005 12:20	47.6	38.2	nm	6.72	467	570	660	< 4	19600	2640	242	7.40	< 0.05	7.0	191	31	39	11800	33000	50.2	1290	0.5
PNR-15	5/25/2005 10:40	44.0	35.3	nm	6.95	453	553	498	< 4	14700	2040	194	5.90	< 0.05	7.2	175	29	38	9080	26100	40.0	1650	0.7
PNR-15	8/17/2005 16:45	43.7	36.6	nm	6.93	504	615	510	< 4	12700	2090	199	6.20	< 0.05	7.2	128	26	29	8400	27300	42.2	1200	0.6
PNR-15	11/16/2005 11:35	44.2	33.4	nm	7.02	494	603	555	< 4	13800	2270	214	5.50	< 0.05	7.1	177	33	39	8830	22800	37.7	1420	0.6
PNR-15	2/8/2006 10:45	33.1	31.7	nm	7.17	575	701	392	< 4	10400	1580	146	4.60	< 0.05	7.2	115	30	35	6920	19500	31.6	1560	0.7
PNR-15	5/24/2006 11:15	19.2	30.3	nm	7.25	604	737	255	< 4	7470	1010	91	3.50	< 0.05	7.9	90	29	33	5310	14200	24.3	1840	0.9
PNR-15	8/23/2006 17:15	28.2	31.8	nm	6.80	562	686	312	< 4	8720	1230	111	3.90	< 0.05	7.2	93	27	27	5950	16900	28.2	1670	0.7
PNR-15	12/7/2006 16:30	22.0	28.5	nm	7.08	575	701	310	< 4	8790	1250	115	4.30	< 0.05	7.3	85	26	28	5720	17100	28.1	1650	0.8
PNR-15	3/14/2007 11:40	31.8	26.1	nm	7.00	572	697	352	< 4	9290	1470	142	4.90	< 0.05	7.3	100	158	nm	6260	17600	28.7	1640	0.7
PNR-15	10/4/2007 18:00	26.1	26.1	nm	7.05	578	705	328	< 4	9050	1340	126	4.60	< 0.05	7.2	96	28	36	6390	16800	28.0	1810	0.6
PNR-15	3/27/2008 15:20	22.7	26.9	nm	7.30	604	737	269	< 4	7720	1130	113	3.70	< 0.05	7.3	81	24	35	5390	15100	25.0	1580	0.6
PNR-15	10/27/2008 12:30	20.4	24.9	0.08	7.20	628	766	217	< 4	6110	911	90	3.50	< 0.05	7.5	64	21	28	4510	12900	20.7	1910	0.7
PNR-15	4/16/2009 14:30	18.0	23.0	0.26	7.23	633	772	165	< 4	5000	705	71	2.30	< 0.05	7.7	60	21	22	3940	10600	18.3	1770	0.7
PNR-15	10/2/2009 11:40	16.4	23.0	0.23	7.24	620	756	137	< 4	4450	585	59	2.40	< 0.01	7.5	50	21	24	3370	9810	15.9	1400	0.7
PNR-15	4/15/2010 14:40	14.6	21.6	0.24	7.45	612	747	114	< 4	3670	486	49	2.30	< 0.01	7.5	50	20	23	3150	9100	13.7	1600	0.8
PNR-15	9/22/2010 11:30	12.7	20.6	1.25	7.44	722	880	100	< 4	2730	418	41	6	< 0.01	7.7	43	21	24	2940	8310	12.3	1440	0.9
PNR-16	8/10/2001 15:15	4.3	10.1	nm	7.80	508	620	359	< 1	33	2300	340	0.30	20.20	7.4	19	22	nm	282	4260	4.2	2480	nm
PNR-16	8/16/2001 18:35	4.6	11.1	nm	7.80	485	592	396	< 1	33	2460	357	0.10	19.00	7.2	20	23	nm	299	4260	4.1	2380	nm
PNR-16	11/6/2001 16:05	1.9	11.1	nm	6.90	526	642	458	< 1	26	2570	347	2.00	8.60	7.1	21	nm	158	337	4650	4.6	2780	nm
PNR-16	2/21/2002 10:20	4.6	9.1	nm	7.04	635	774	469	< 4	28	2850	408	1.40	13.30	7.1	26	39	nm	427	4960	5.1	3180	nm
PNR-16	5/21/2002 15:50	4.9	11.6	nm	7.50	488	595	390	< 4	16	2650	407	0.20	16.50	7.3	20	40	nm	289	5090	5.0	3460	0.5
PNR-16	8/20/2002 11:40	4.2	11.2	nm	6.80	494	603	399	< 4	26	2860	452	< 0.1	17.70	7.3	14	24	42	371	5060	5.0	3270	0.5
PNR-16	11/5/2002 14:04	4.9	10.4	nm	7.10	498	608	422	< 4	24	2810	428	< 0.1	18.20	7.2	21	22	30	286	5110	5.2	3210	0.5
PNR-16	3/4/2003 13:00	4.5	8.1	nm	7.30	474	578	426	< 4	22	2770	460	0.50	18.40	7.1	20	24	103	361	5050	4.9	3190	0.4
PNR-16	5/27/2003 18:30	4.8	11.0	nm	7.01	518	632	416	< 1	28	2760	419	< 0.1	18.70	7.1	19	24	26	285	4990	5.4	3090	0.5
PNR-16	8/13/2003 9:10	3.7	10.5	nm	7.55	499	609	405	< 1	17	2730	417	0.20	18.20	7.1	20	24	37	302	5060	4.7	3120	0.4

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Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-16	11/4/2003 12:30	5.4	8.2	nm	7.53	494	603	384	< 4	17	2790	446	0.50	17.80	7.3	23	25	33	312	5030	4.5	3260	0.4
PNR-16	3/17/2004 16:09	6.6	14.0	nm	8.65	509	622	454	< 1	19	3010	457	0.40	16.30	7.0	22	27	35	320	5110	4.9	3250	0.5
PNR-16	6/8/2004 12:30	4.2	9.6	nm	7.24	514	627	397	< 4	9	2740	425	< 0.1	19.30	7.1	20	24	33	301	4940	4.9	3070	0.6
PNR-16	9/14/2004 12:40	4.7	13.8	nm	7.35	513	626	436	< 4	22	2960	454	< 0.1	18.80	7.3	22	27	41	294	4920	4.9	2990	0.5
PNR-16	11/16/2004 12:30	5.4	13.3	nm	7.26	486	593	422	< 4	24	2750	412	0.20	19.00	7.3	21	24	245	282	4840	4.9	2930	0.6
PNR-16	3/1/2005 14:30	4.5	9.5	nm	6.97	515	628	440	< 4	21	2980	458	< 0.1	18.20	7.1	22	27	35	339	4960	4.9	2890	0.5
PNR-16	5/24/2005 13:58	4.9	11.4	nm	6.99	425	519	423	< 4	19	2750	411	1.00	17.10	7.0	24	26	54	342	5000	4.9	2950	0.5
PNR-16	8/17/2005 9:30	4.8	10.6	nm	7.04	506	617	427	< 4	18	2920	450	< 0.1	22.10	7.4	22	25	37	291	4960	5.0	2940	0.3
PNR-16	11/15/2005 15:15	5.0	8.4	nm	7.05	460	562	466	< 4	20	3140	480	0.10	20.40	7.2	19	26	89	341	4960	5.0	3120	0.5
PNR-16	2/7/2006 16:47	4.6	4.9	nm	7.16	490	597	456	< 4	20	2950	440	0.30	19.70	7.0	21	26	61	341	5000	5.1	3020	0.4
PNR-16	5/24/2006 12:25	3.9	10.4	nm	7.00	486	592	432	< 4	23	3080	486	0.20	25.70	7.9	22	28	44	349	4780	5.1	3200	0.5
PNR-16	8/22/2006 13:20	5.3	11.2	nm	6.97	462	564	437	< 4	19	2970	456	< 0.1	18.30	6.9	22	26	45	348	4860	5.2	2950	0.5
PNR-16	12/6/2006 13:00	4.9	5.4	nm	7.28	466	569	450	< 4	20	2990	454	< 0.1	20.90	7.4	22	27	29	324	4970	5.3	3000	0.5
PNR-16	3/13/2007 12:45	5.0	8.8	nm	6.52	460	561	463	< 4	20	3060	463	< 0.1	21.00	7.2	21	40	nm	330	5050	5.3	3120	0.5
PNR-16	10/3/2007 10:55	6.2	13.2	nm	7.03	445	543	453	< 4	18	2950	443	0.80	15.10	7.2	24	37	42	403	5030	5.6	3150	0.4
PNR-16	3/26/2008 14:30	6.9	10.3	nm	6.90	473	577	444	< 4	32	2910	436	0.60	19.30	7.1	20	26	92	341	5110	5.2	3160	0.5
PNR-16	10/23/2008 11:00	4.9	8.9	2.87	7.28	468	571	451	< 4	19	3000	454	< 0.1	17.20	7.1	20	26	36	380	4960	5.2	3140	0.5
PNR-16	4/17/2009 13:40	4.8	10.1	3.71	6.93	464	566	404	< 4	22	2770	429	< 0.1	21.90	7.2	20	27	32	288	4320	4.9	2920	0.5
PNR-16	10/3/2009 8:30	4.6	8.7	nm	6.93	467	569	373	< 4	16	2570	397	< 0.05	22.80	7.2	18	28	29	295	3430	4.4	2360	0.5
PNR-16	4/14/2010 15:15	4.3	7.0	1.35	7.00	462	564	430	< 4	17	2790	417	< 0.05	21.80	7.1	22	26	30	358	4960	5.0	3070	0.4
PNR-16	9/18/2010 13:00	4.8	9.8	1.40	6.90	444	541	398	< 4	18	2540	375	< 0.05	22.10	7.3	20	26	58	276	4350	4.6	2510	0.5
PNR-17	8/22/2001 12:35	98.7	75.0	nm	nm	220	269	1440	< 1	42500	5450	449	21.80	< 0.05	7.4	372	55	nm	22900	68800	65.4	1520	nm
PNR-17	8/22/2001 13:30	97.4	76.0	nm	nm	219	267	1420	< 1	44200	5490	468	22.30	< 0.05	7.3	367	55	nm	22900	68700	66.4	1440	nm
PNR-17	11/8/2001 11:30	nm	88.9	nm	nm	178	217	2380	< 1	40300	10300	1070	31.50	0.10	7.1	289	nm	153	20800	61800	47.8	1490	nm
PNR-17	2/21/2002 17:00	94.6	83.1	nm	6.26	237	289	1850	< 4	41500	7120	608	29.90	< 0.05	6.8	291	111	nm	21200	65900	59.1	1120	nm
PNR-17	5/23/2002 10:50	106.8	82.2	nm	6.62	262	319	1360	< 4	42300	4990	386	22.90	< 0.05	6.8	289	76	nm	21000	62800	67.0	1480	0.4
PNR-17	8/21/2002 15:15	103.7	71.5	nm	6.50	358	437	1220	< 4	41000	4420	334	19.30	< 0.05	6.8	316	40	104	15400	70000	53.1	1400	0.4
PNR-17	11/6/2002 15:40	114.8	68.7	nm	6.59	291	355	1360	< 4	36300	4870	358	19.10	< 0.05	6.8	405	34	88	23500	67100	58.3	1630	0.4
PNR-17	3/5/2003 13:30	113.5	71.3	nm	7.08	301	367	1190	< 4	40600	4220	303	16.80	< 0.05	6.8	342	36	70	24000	65400	46.2	1580	0.4
PNR-17	5/28/2003 10:00	96.0	68.6	nm	6.50	327	400	1100	< 1	38300	3920	288	15.70	< 0.05	6.7	383	33	58	22000	66400	91.6	1320	0.4
PNR-17	8/14/2003 11:05	106.5	60.0	nm	6.41	331	404	942	< 1	39700	9060	248	16.50	< 0.05	6.7	288	29	47	17600	65900	85.9	1020	0.4
PNR-17	11/6/2003 11:30	104.9	53.5	nm	6.54	389	474	914	< 4	38600	3360	262	15.20	< 0.05	6.8	378	30	31	20500	62000	41.8	783	0.3
PNR-17	3/17/2004 15:10	70.0	58.8	nm	6.00	453	553	900	< 1	36900	3490	302	12.90	< 0.05	6.7	326	32	35	20200	58100	83.2	536	0.3
PNR-17	6/9/2004 15:45	81.7	48.6	nm	6.85	488	595	770	< 4	35600	3070	277	12.40	< 0.05	6.7	274	30	54	18700	54700	81.4	692	0.4
PNR-17	9/16/2004 9:35	76.8	52.9	nm	6.65	556	678	689	< 4	31300	2820	268	12.00	< 0.05	6.9	271	32	48	17500	50000	74.5	579	0.4
PNR-17	11/18/2004 12:20	70.8	48.0	nm	6.92	652	796	498	< 4	22200	2160	224	9.20	0.19	7.1	269	29	41	15000	43200	66.6	311	0.5
PNR-17	3/2/2005 15:30	49.2	51.2	nm	6.72	833	1020	366	< 4	20500	1650	179	7.20	< 0.05	7.2	209	33	41	13400	35400	54.9	506	0.9
PNR-17	5/25/2005 14:25	46.0	44.9	nm	6.49	778	949	252	< 4	17300	1250	151	6.60	< 0.05	7.2	176	30	35	11200	30500	47.2	757	0.9
PNR-17	8/17/2005 17:25	36.6	41.8	nm	6.79	1010	1230	166	< 4	12000	877	112	5.30	< 0.05	7.4	100	27	30	8330	25700	41.3	583	0.7
PNR-17	11/16/2005 14:01	37.3	44.1	nm	7.43	1040	1260	113	< 4	11400	644	88	3.60	< 0.05	7.6	74	27	31	7670	18600	31.5	755	1.0
PNR-17	2/8/2006 14:05	26.2	41.0	nm	7.61	1160	1420	80	< 4	8080	397	48	3.60	< 0.05	7.9	93	26	24	5970	15700	25.9	814	1.1
PNR-17	5/24/2006 13:50	22.0	37.2	nm	7.36	1050	1280	60	< 4	7200	311	39	3.40	< 0.05	8.0	69	24	34	5240	12800	22.6	1070	0.8
PNR-17	8/24/2006 12:45	18.7	39.6	nm	8.56	994	1210	48	<4	5500	254	32	2.40	<0.05	7.9	59	23	26	4710	11300	19.6	1180	1.1
PNR-17	12/8/2006 12:30	13.5	37.9	nm	7.56	947	1160	43	<4	4620	221	28	10.40	<0.05	8.1	51	21	21	3990	10500	17.4	1290	1.1
PNR-17	3/15/2007 11:49	14.7	38.1	nm	7.86	936	1140	42	< 4	4250	225	29	2.20	< 0.05	8.1	50	73	nm	3660	9400	15.5	1430	1.2
PNR-18	8/8/2001 16:00	3.0	11.4	nm	7.40	616	751	276	< 1	57	1580	215	2.40	< 0.05	7.3	12	20	nm	193	2740	2.9	1470	nm
PNR-18	8/16/2001 11:00	mnw	12.2	nm	7.50	558	681	264	< 1	56	1630	235	2.30	< 0.05	7.3	11	24	nm	203	2900	3.0	1520	nm
PNR-18	11/7/2001 10:20	nm	12.2	nm	nm	696	849	256	< 1	84	1470	200	1.40	0.13	7.5	10	nm	31	184	2650	2.9	1220	nm
PNR-18	2/20/2002 11:24	nm	10.5	nm	7.30	671	819	310	< 4	70	1750	238	2.20	< 0.05	7.3	10	26	nm	241	2950	3.5	1600	nm
PNR-18	5/21/2002 10:30	3.5	13.1	nm	7.22	624	761	283	< 4	42	1600	217	2.80	< 0.05	7.4	7	28	nm	172	2960	3.4	1900	0.3
PNR-18	8/19/2002 16:50	3.2	12.3	nm	7.00	576	703	299	< 4	57	1800	256	2.50	0.05	7.1	7	24	32	152	3130	3.5	1690	0.3
PNR-18	11/5/2002 11:55	3.5	12.0	nm	7.41	613	748	328	< 4	60	1800	240	2.40	< 0.05	7.2	8	23	30	184	3210	3.6	1790	0.3
PNR-18	3/4/2003 14:35	3.2	10.8	nm	7.23	583	712	332	< 4	67	1820	241	2.40	< 0.05	7.0	8	24	37	180	3140	3.6	1760	0.3
PNR-18	5/13/2003 11:45	3.2	12.3	nm	7.97	623	760	325	< 4	60	1860	254	2.60	< 0.05	7.0	8	23	33	200	3150	3.4	1690	0.3
PNR-18	8/14/2003 8:40	2.9	14.2	nm	7.97	616	752	312	< 1	45	1750	235	2.20	< 0.05	6.9	7	24	143	196	3200	3.5	1710	0.3
PNR-18	11/4/2003 16:00	3.1	10.3	nm	7.60	650	793	284	< 4	52	1790	264	2.30	< 0.05	7.2	8	26	32	234	3250	3.2	1820	0.3
PNR-18	March 2004	Not Sampled																					
PNR-18	6/8/2004 9:55	mnw	12.4	nm	7.41	677	826	353	< 4	60	2040	280	2.80	< 0.05	7.2	8	27	114	261	3210	3.4	1640	0.3
PNR-18	9/14/2004 8:55	3.3	10.6	nm	7.45	737	899	327	< 4	52	1860	254	2.80	0.05	7.2	8	25	28	263	3280	3.7	1740	0.3
PNR-18	11/18/2004 14:25	3.8	10.9	nm	7.07	715	872	332	< 4	57	1870	254	2.50	< 0.05	7.1	8	26	28	272	3350	3.8	1710	0.3
PNR-18	2/28/2005 17:50	3.5	10.9	nm	6.75	712	869	318	< 4	53	1870	262	3.20	< 0.05	7.0	8	28	34	247	3240	3.6	1660	0.2
PNR-18	5/25/2005 17:30	2.8	12.2	nm	7.11	594	724	314	< 4	57	1840	256	3.90	< 0.05	7.0	8	26	32	236	3150	3.5	1620	0.3
PNR-18	8/15/2005 18:00	3.4	21.9	nm	7.05	752	918	332	< 4	55	1940	270	2.90	< 0.05	7.2	7	25	25	274	3330	3.6	1600	0.2
PNR-18	11/15/2005 10:30	3.5	8.8	nm	7.07	675	824	330	< 4	60	1970	278	2.60	< 0.05	7.2	6	25	27	298	3300	3.8	1700	0.3
PNR-18	2/7/2006 11:30	3.5	7.9	nm	7.08	743	906	307	< 4	61	1850	262	2.90	< 0.05	7.0	8	27	30	300	3270	3.8	1660	0.2

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-18	5/23/2006 11:15	3.5	12.6	nm	7.02	716	874	310	< 4	69	1840	259	2.60	< 0.05	7.8	9	28	30	326	3030	3.8	1770	0.2
PNR-18	8/22/2006 17:17	3.3	10.4	nm	7.11	708	863	317	< 4	73	1870	261	2.30	< 0.05	7.0	9	27	28	346	3360	4.0	1670	0.2
PNR-18	12/5/2006 14:45	3.9	9.6	nm	6.97	688	840	312	< 4	74	1830	256	2.70	< 0.05	7.0	8	27	29	310	3420	4.0	1670	0.2
PNR-18	3/14/2007 11:10	3.6	9.7	nm	6.83	719	877	316	< 4	86	1850	256	3.20	< 0.05	7.2	7	42	nm	360	3480	4.1	1720	0.2
PNR-18	10/2/2007 17:20	4.7	9.9	nm	7.31	740	903	308	< 4	86	1810	252	3.00	< 0.05	7.2	8	27	29	360	3490	4.4	1730	0.2
PNR-18	3/26/2008 13:30	4.1	9.9	nm	6.94	746	910	298	< 4	93	1760	247	2.30	< 0.05	7.2	7	26	28	375	3570	4.1	1670	0.2
PNR-18	10/22/2008 16:00	4.1	9.9	0.80	7.08	742	905	301	< 4	119	1780	250	3.00	< 0.05	7.4	7	26	30	405	3570	4.1	1710	0.2
PNR-18	4/17/2009 15:50	4.2	9.8	0.52	6.85	722	881	295	< 4	127	1730	241	2.90	< 0.05	7.1	8	27	30	386	3160	4.1	1630	0.3
PNR-18	10/4/2009 11:30	4.2	9.9	0.56	6.88	721	880	310	< 4	112	1820	253	3.00	< 0.01	7.1	8	27	31	396	3080	4.0	1590	0.2
PNR-18	4/13/2010 13:20	3.9	9.6	0.66	6.92	670	817	306	< 4	117	1770	245	3.60	< 0.01	7.1	9	28	31	397	3570	4.1	1680	0.2
PNR-18	9/16/2010 17:00	4.2	9.8	0.57	6.90	723	882	323	< 4	124	1830	248	3.20	< 0.01	7.1	8	28	28	413	3500	4.0	1580	0.2
PNR-19	8/7/2001 14:50	11.3	9.9	nm	7.30	354	432	724	< 1	3820	4410	631	<0.1	18.0	7.0	19	21	nm	819	8810	10.6	1160	nm
PNR-19	8/15/2001 16:40	mnw	13.5	nm	7.40	344	420	702	< 1	3180	4260	610	<0.1	13.8	7.2	20	23	nm	745	8260	9.5	1120	nm
PNR-19	11/6/2001 15:20	or	8.3	nm	6.80	343	418	792	< 1	3770	4760	675	<0.1	20.2	7.1	20	nm	25	861	8650	11.4	1270	nm
PNR-19	2/19/2002 15:05	12.3	10.5	nm	6.96	326	398	971	< 4	4410	5710	799	<0.1	23.0	7.0	26	26	nm	1130	9380	14.1	1400	nm
PNR-19	5/22/2002 14:55	16.2	10.0	nm	7.01	352	430	927	< 4	6080	5570	791	<0.1	23.8	7.1	25	26	nm	1300	11300	15.6	1160	0.2
PNR-19	8/20/2002 12:30	11.5	12.9	nm	6.90	360	439	908	< 4	5070	5510	787	< 0.1	22.1	7.0	20	21	27	1210	11300	15.1	1470	0.3
PNR-19	11/5/2002 13:17	15.9	10.0	nm	7.02	359	438	943	< 4	4960	5460	755	< 0.1	23.3	7.1	22	19	25	1220	11400	16.2	1380	0.3
PNR-19	3/4/2003 12:20	16.0	8.8	nm	6.88	345	420	1020	< 4	5520	5910	818	< 0.1	25.7	7.0	25	21	24	1450	11500	16.6	1560	0.3
PNR-19	5/27/2003 17:20	17.1	12.2	nm	6.94	360	440	1020	< 1	5880	5890	813	< 0.1	24.4	6.9	26	21	23	1470	12900	18.9	1420	0.3
PNR-19	8/13/2003 8:55	13.8	10.1	nm	7.36	350	427	1020	< 1	6210	5880	810	< 0.1	24.6	7.0	24	20	31	1570	13000	12.4	1130	0.3
PNR-19	11/4/2003 10:50	13.1	9.1	nm	6.91	354	431	946	< 4	6820	5800	834	< 0.1	28.7	7.0	30	22	25	1680	12200	15.8	1390	0.3
PNR-19	3/17/2004 16:40	10.8	13.0	nm	8.75	364	444	1280	< 1	7970	7210	976	< 0.1	24.8	7.0	33	24	28	2140	14700	20.0	1390	0.3
PNR-19	6/8/2004 13:55	16.9	10.4	nm	7.13	358	437	1070	< 4	6860	6060	825	< 0.1	25.0	7.0	30	21	25	2110	15200	19.3	1560	0.3
PNR-19	9/14/2004 14:15	15.6	11.3	nm	7.48	345	421	912	< 4	5580	5120	691	< 0.1	24.6	7.1	34	24	25	1870	12600	17.1	1110	0.3
PNR-19	11/16/2004 13:45	21.0	10.6	nm	7.23	335	409	1010	< 4	6270	5600	745	< 0.1	27.2	7.0	30	22	23	1990	13000	18.6	1250	0.3
PNR-19	3/1/2005 15:35	18.6	10.1	nm	6.89	368	449	1140	< 4	7590	6460	877	< 0.1	26.3	7.0	34	24	23	2680	15700	21.8	1380	0.3
PNR-19	5/25/2005 12:36	22.2	10.0	nm	6.80	318	388	1100	< 4	7370	6130	824	< 0.1	28.3	7.0	35	22	20	2570	16700	22.1	1540	0.3
PNR-19	8/17/2005 12:23	20.3	10.7	nm	6.93	353	431	1040	< 4	6970	5830	782	< 0.1	18.1	7.1	28	21	20	2380	15600	20.8	1410	0.3
PNR-19	11/16/2005 12:00	22.2	8.6	nm	6.69	325	397	1200	< 4	8620	6650	888	< 0.1	27.4	7.1	42	22	22	3050	16600	24.1	1350	0.3
PNR-19	2/8/2006 12:55	24.4	8.8	nm	7.37	358	437	1320	< 4	8450	7290	968	< 0.1	28.2	7.1	40	23	23	3340	16100	24.9	1530	0.3
PNR-19	5/24/2006 15:20	20.6	11.1	nm	6.85	347	423	1230	< 4	9690	6850	921	< 0.1	25.4	7.6	45	22	24	3660	16500	26.4	1430	0.3
PNR-19	8/23/2006 14:05	22.9	10.5	nm	6.86	330	403	1300	< 4	9690	6990	905	< 0.1	21.3	6.8	40	27	27	3830	19300	28.6	1350	0.3
PNR-19	12/7/2006 15:30	29.3	9.0	nm	6.80	349	425	1560	< 4	13300	8350	1080	< 0.1	21.4	7.0	40	22	31	5220	24700	37.9	1510	0.2
PNR-19	3/14/2007 15:00	25.5	9.3	nm	6.98	331	404	1270	< 4	10400	6830	891	< 0.1	20.7	7.0	53	224	nm	4260	20000	30.0	1040	0.3
PNR-19	10/3/2007 14:50	28.2	9.9	nm	6.32	333	407	1150	< 4	11200	6010	762	< 0.1	26.2	6.9	38	23	25	4370	20000	31.4	1350	0.3
PNR-19	3/27/2008 16:30	32.0	9.4	nm	6.72	347	423	1460	< 4	13100	7560	647	< 0.1	18.7	6.6	42	26	24	5940	24000	36.3	1290	0.2
PNR-19	10/25/2008 15:15	31.3	9.0	0.41	6.90	346	422	1410	< 4	13300	7320	920	< 0.1	16.3	7.0	43	20	27	5890	23200	35.1	1560	0.2
PNR-19	4/19/2009 13:55	34.8	10.0	0.92	6.59	348	424	1180	< 4	11700	6020	747	< 0.1	20.0	6.9	63	16	19	5540	20200	34.2	1370	0.2
PNR-19	10/6/2009 13:45	28.2	8.8	1.39	6.71	333	407	890	< 4	9730	4590	574	< 0.05	24.6	7.1	34	24	24	4500	16300	26.5	933	0.3
PNR-19	4/19/2010 10:45	31.0	10.3	1.30	6.81	352	430	1040	< 4	13900	5410	683	0.07	24.5	6.9	39	22	13	5230	20400	31.0	1330	0.3
PNR-19	9/22/2010 12:30	24.9	8.9	3.28	6.73	342	417	809	< 4	8470	4130	512	0.08	27.8	7.3	33	22	22	4310	16200	23.1	1370	0.3
PNR-20	8/8/2001 9:50	39.0	11.2	nm	7.20	413	504	1750	< 1	16100	9420	1230	<0.1	11.2	7.2	42	19	nm	5180	29000	38.1	1190	nm
PNR-20	8/15/2001 17:15	mnw	10.4	nm	7.30	412	502	1800	< 1	12900	9710	1270	<0.1	10.4	7.1	46	24	nm	4800	25400	29.6	1420	nm
PNR-20	11/8/2001 10:00	nm	11.1	nm	nm	508	620	1610	< 1	10600	8940	1200	0.20	4.3	6.9	37	nm	68	3480	19900	26.8	1460	nm
PNR-20	2/19/2002 15:40	34.8	10.0	nm	6.70	391	477	1830	< 4	15400	9840	1280	<0.1	10.8	6.8	43	26	nm	5460	25200	32.7	1180	nm
PNR-20	5/22/2002 11:00	40.2	11.2	nm	6.78	398	486	1580	< 4	17400	8540	1110	<0.1	11.4	7.0	40	38	nm	5050	29600	36.4	1030	0.2
PNR-20	8/20/2002 13:25	37.4	12.3	nm	6.60	425	519	1800	< 4	17100	10000	1350	< 0.1	9.5	6.8	35	21	45	6840	31400	36.8	1390	0.2
PNR-20	11/5/2002 16:05	43.9	10.3	nm	6.92	427	521	1930	< 4	18400	10000	1260	< 0.1	11.0	6.9	44	16	27	6790	33600	33.3	1500	0.2
PNR-20	3/4/2003 14:15	37.4	9.2	nm	6.70	417	509	1790	< 4	17400	9330	1180	< 0.1	10.6	6.8	47	19	34	6840	30200	25.6	1650	0.2
PNR-20	5/28/2003 11:00	42.5	11.8	nm	6.72	438	534	1950	< 1	17300	10100	1270	< 0.1	11.6	6.8	50	21	21	7300	32800	43.8	1270	0.3
PNR-20	8/13/2003 11:35	34.3	10.6	nm	6.98	431	526	1740	< 1	18100	9060	1150	< 0.1	11.7	6.6	42	21	40	6260	32000	40.4	1130	0.2
PNR-20	11/5/2003 12:50	26.9	9.5	nm	7.15	427	521	1980	< 4	21300	10100	1260	< 0.1	9.2	6.8	62	24	84	8580	35700	27.5	1030	0.2
PNR-20	3/18/2004 12:50	16.2	9.6	nm	nm	434	529	1770	< 1	16700	9250	1170	< 0.1	12.7	6.8	46	22	50	6240	28600	39.8	1110	0.2
PNR-20	6/8/2004 12:15	mnw	11.1	nm	7.00	445	543	1700	< 4	19700	8710	1080	< 0.1	10.7	6.8	57	20	35	8600	34800	49.6	1580	0.2
PNR-20	9/14/2004 13:42	41.0	11.2	nm	7.75	451	550	1630	< 4	15700	8330	1030	< 0.1	12.8	6.9	58	23	27	6970	31500	43.4	1410	0.2
PNR-20	11/17/2004 10:40	56.1	10.4	nm	6.98	435	531	1880	< 4	20000	9180	1090	< 0.1	10.3	6.8	91	22	24	9100	35800	52.8	1510	0.2
PNR-20	3/1/2005 16:25	41.7	9.9	nm	6.73	472	576	1640	< 4	18600	8200	998	< 0.1	11.5	6.8	56	26	28	8570	32400	48.1	1410	0.4
PNR-20	5/24/2005 17:35	mnw	10.5	nm	6.89	401	489	1570	< 4	15600	8100	1020	< 0.1	15.0	6.9	50	22	27	7180	29700	40.9	1360	0.2
PNR-20	8/16/2005 15:45	49.7	19.6	nm	6.56	482	588	1600	< 4	15600	8070	988	< 0.1	15.9	7.1	36	19	19	8140	34300	47.2	1160	0.2
PNR-20	11/15/2005 12:15	52.7	10.2	nm	6.75	425	518	1620	< 4	19500	8070	975	< 0.1	11.8	6.9	57	22	21	9580	33700	49.1	1360	0.2
PNR-20	2/9/2006 10:50	39.7	10.2	nm	6.97	467	570	1580	< 4	15300	7950	972	< 0.1	15.4	6.9	82	22	21	7580	26700	41.2	1420	0.2
PNR-20	5/23/2006 17:55	45.4	9.9	nm	6.76	457	557	1600	< 4	21300	7780	917	0.10	10.9	7.5	61	21	21	10500	35500	53.1	1480	0.2
PNR-20	8/23/2006 15:50	42.1	10.1	nm	6.75	438	534	1630	< 4	20600	7750	891	0.10	11.9	6.7	53	30	26	10100	35600	54.4	1500	0.2
PNR-20	12/7/2006 16:10	44.3	8.9	nm	6.80	435	531	1360	< 4	16400	6780	824	< 0.1	14.4	6.9	36	20	21	7630	29800	45.7	1490	0.2

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-20	3/15/2007 10:18	52.2	9.2	nm	6.68	439	536	1640	< 4	20800	7950	934	0.20	11.4	6.7	101	334	nm	11100	35800	53.8	1390	0.2
PNR-20	10/4/2007 10:25	48.9	9.6	nm	6.57	442	539	1460	< 4	20000	7050	823	0.20	12.3	6.7	51	22	29	9060	33600	52.4	1610	0.2
PNR-20	3/27/2008 17:40	51.5	10.3	nm	7.13	455	555	1600	< 4	20100	7630	884	0.20	13.5	6.8	49	27	24	10900	34500	52.0	1410	0.2
PNR-20	10/25/2008 16:30	46.0	9.4	0.30	6.85	445	542	1360	< 4	16200	6700	805	0.20	16.8	6.9	38	19	20	7880	27900	42.3	1680	0.2
PNR-20	4/21/2009 15:40	54.2	9.9	0.14	6.66	437	533	1690	< 4	23100	8210	970	0.40	9.6	6.7	59	7	14	11700	35200	54.2	1180	0.1
PNR-20	10/6/2009 14:30	57.2	9.5	0.19	6.47	422	515	1890	< 4	22400	9560	1170	0.29	11.8	6.9	47	25	23	9670	39400	53.8	1010	< 0.1
PNR-20	4/19/2010 12:40	54.7	10.0	0.25	6.80	423	516	1980	< 4	26100	10400	1320	0.16	10.6	6.8	69	19	22	9830	38900	53.2	1250	0.1
PNR-20	9/22/2010 13:15	54.9	9.5	0.75	6.51	426	520	2250	< 4	22000	11100	1330	0.13	12.2	7.1	64	19	27	11600	37900	51.3	1200	0.2
PNR-21	8/9/2001 10:15	65.5	11.0	nm	6.80	501	611	2060	< 1	26500	9670	1100	2.00	8.16	6.8	63	16	nm	12500	47000	58.5	1450	nm
PNR-21	8/16/2001 16:40	62.0	11.4	nm	7.00	548	669	2140	< 1	26900	10200	1170	4.20	< 0.05	6.9	61	17	nm	13200	47000	53.4	1510	nm
PNR-21	11/8/2001 11:00	60.3	14.4	nm	7.10	538	656	2090	< 1	27900	9930	1140	2.40	8.53	6.7	68	nm	39	13100	45300	40.4	1630	nm
PNR-21	2/21/2002 9:15	60.3	10.4	nm	6.53	562	685	1970	< 4	28300	9280	1060	2.10	7.54	6.9	66	27	nm	12900	45800	48.1	1410	nm
PNR-21	5/22/2002 11:55	70.5	11.8	nm	6.67	544	663	1800	< 4	28600	8440	959	2.50	7.82	6.8	60	27	nm	12600	47400	53.2	1560	0.1
PNR-21	8/21/2002 9:00	63.1	12.7	nm	6.60	553	675	1820	< 4	29200	8580	980	2.80	7.51	6.8	74	15	18	12900	51200	54.2	1690	0.2
PNR-21	11/5/2002 15:30	66.3	10.8	nm	6.78	559	682	2000	< 4	28600	9180	1020	2.60	7.99	6.8	61	11	< 20	13000	49600	44.6	1700	0.2
PNR-21	3/5/2003 14:50	62.2	10.7	nm	6.69	546	666	1900	< 4	27000	8450	897	3.20	7.64	6.7	56	13	36	12200	46400	33.6	2070	0.3
PNR-21	5/28/2003 11:50	49.1	14.5	nm	6.63	531	647	1940	< 1	27100	8860	978	2.70	7.92	6.7	73	16	44	13200	49100	67.1	1460	0.2
PNR-21	8/13/2003 14:05	62.8	14.1	nm	7.40	560	683	1800	< 1	28600	217	928	3.00	7.71	6.6	70	16	38	13000	48800	68.6	1160	0.2
PNR-21	11/5/2003 15:30	28.1	9.6	nm	7.23	537	655	1450	< 4	28100	6670	738	3.20	8.09	6.8	57	12	27	10600	46300	34.0	1170	0.2
PNR-21	March 2004	Not Sampled																					
PNR-21	6/8/2004 12:55	mnw	11.9	nm	6.87	580	708	1700	< 4	28100	7880	881	3.40	7.86	6.8	67	15	43	13200	47800	66.7	1690	0.2
PNR-21	9/14/2004 14:15	63.0	12.0	nm	7.60	560	683	1860	< 4	27800	8530	942	3.50	9.05	6.8	74	23	25	13600	48400	66.8	1620	0.2
PNR-21	11/17/2004 12:40	74.4	11.5	nm	6.89	561	685	1940	< 4	25600	8730	942	3.50	8.72	6.7	76	19	23	13400	45800	68.4	1530	0.2
PNR-21	3/1/2005 16:32	65.3	9.6	nm	6.64	611	745	1870	< 4	26400	8550	939	3.20	8.62	6.7	78	20	23	14600	46900	66.0	1470	0.2
PNR-21	5/24/2005 18:25	68.1	10.3	nm	6.88	518	631	1770	< 4	26600	8030	876	3.40	10.20	6.7	70	15	17	13800	47000	65.2	1640	0.2
PNR-21	8/16/2005 16:20	67.9	17.3	nm	6.45	603	735	1770	< 4	22600	8130	899	3.60	9.84	7.0	50	16	11	12600	47000	65.2	1350	0.2
PNR-21	11/15/2005 13:21	69.4	10.7	nm	6.64	516	629	1740	< 4	27700	7930	869	3.30	10.0	6.8	68	17	19	14200	45600	66.9	1480	0.2
PNR-21	2/9/2006 11:45	62.8	9.2	nm	6.88	604	737	1880	< 4	25200	8360	889	6.30	12.0	6.9	107	16	17	14100	42800	64.7	1530	0.1
PNR-21	5/24/2006 17:20	51.6	11.1	nm	6.63	579	706	1690	< 4	26300	7600	820	4.10	13.7	7.5	82	18	21	13600	42600	64.2	1690	0.2
PNR-21	8/23/2006 17:00	54.2	10.3	nm	6.62	554	676	1710	< 4	26000	7620	816	3.50	11.9	6.6	66	23	21	13900	42100	67.4	1600	0.2
PNR-21	12/7/2006 14:45	62.4	9.5	nm	6.77	565	689	1620	< 4	24600	7220	773	3.40	12.9	6.8	59	18	17	12800	42500	65.5	1700	0.2
PNR-21	3/15/2007 11:15	58.2	9.4	nm	6.71	567	691	1690	< 4	25200	7740	853	3.40	16.9	6.7	94	23	nm	13600	43100	63.6	1560	0.2
PNR-21	10/4/2007 11:40	59.6	10.0	nm	6.53	559	681	1640	< 4	25300	7410	804	3.90	15.4	6.6	62	21	24	13100	42000	64.8	1730	0.2
PNR-21	3/27/2008 18:20	59.6	9.6	nm	6.62	589	718	1600	< 4	24100	7240	786	3.10	16.7	6.7	54	20	33	13500	39700	61.6	1590	0.2
PNR-21	10/25/2008 15:50	62.9	9.8	0.24	6.58	586	715	1590	< 4	23200	7130	771	3.60	19.5	6.8	58	13	29	12700	39500	58.7	1810	0.2
PNR-21	4/21/2009 16:35	56.4	10.3	0.20	6.64	610	745	1330	< 4	19900	6140	684	2.90	15.2	6.7	55	3	< 10	11200	34600	54.0	1780	0.2
PNR-21	10/6/2009 14:00	50.7	9.8	0.35	6.48	314	383	1270	< 4	19900	5900	665	2.70	13.8	6.9	47	21	22	10200	29900	47.8	1290	< 0.1
PNR-21	4/19/2010 11:50	40.6	10.0	0.37	6.69	663	809	1010	< 4	18300	4700	530	1.49	14.0	6.8	39	16	16	8010	26500	40.1	1600	0.2
PNR-21	9/21/2010 16:20	35.2	9.8	1.15	6.60	694	847	862	< 4	12800	4040	458	16.0	19.0	7.1	36	15	17	6800	21600	33.1	1310	0.2
PNR-22	8/8/2001 17:10	3.9	11.9	nm	7.30	869	1060	205	< 1	467	1250	180	3.50	< 0.05	7.2	9	22	nm	434	2900	3.8	989	nm
PNR-22	8/16/2001 11:35	11.2	11.3	nm	7.40	853	1040	218	< 1	463	1340	193	4.00	< 0.05	7.2	9	26	nm	464	2920	3.8	959	nm
PNR-22	11/7/2001 9:10	3.6	12.2	nm	7.60	815	994	207	< 1	548	1290	188	4.10	0.06	7.4	8	nm	33	421	2870	3.9	833	nm
PNR-22	2/20/2002 14:10	3.4	11.3	nm	7.11	790	964	205	< 4	523	1310	195	3.80	< 0.05	6.9	9	27	nm	467	2960	4.3	943	nm
PNR-22	5/21/2002 12:15	4.5	12.8	nm	7.13	777	948	203	< 4	635	1260	182	5.00	< 0.05	7.4	9	30	nm	542	3040	4.3	824	0.3
PNR-22	8/20/2002 15:35	3.4	11.3	nm	7.20	785	958	217	< 4	676	1420	213	5.20	0.05	7.2	7	27	33	407	3150	4.6	924	0.3
PNR-22	11/5/2002 12:50	4.6	12.2	nm	7.28	784	956	248	< 4	790	1490	213	4.30	< 0.05	7.2	9	26	31	462	3300	4.8	935	0.2
PNR-22	3/4/2003 15:10	4.6	11.2	nm	7.14	753	918	258	< 4	857	1540	218	5.60	< 0.05	7.0	10	23	29	487	3430	5.1	942	0.3
PNR-22	5/13/2003 12:45	4.4	12.5	nm	7.78	771	941	250	< 4	925	1550	225	5.30	< 0.05	7.0	9	26	29	474	3480	4.9	890	0.3
PNR-22	8/13/2003 9:15	4.6	14.1	nm	7.86	758	924	262	< 1	977	1590	228	5.20	< 0.05	6.8	9	27	37	487	3640	5.1	766	0.3
PNR-22	11/5/2003 12:25	4.7	12.0	nm	nm	754	920	244	< 4	1100	1650	252	5.50	< 0.05	7.2	10	28	40	510	3640	4.7	904	0.3
PNR-22	March 2004	Not Sampled																					
PNR-22	6/8/2004 16:10	mnw	13.0	nm	7.31	760	927	292	< 4	1150	1800	259	5.90	< 0.05	7.1	10	27	34	489	3910	5.2	993	0.3
PNR-22	9/15/2004 8:50	5.3	15.2	nm	7.03	762	930	306	< 4	1100	1880	270	6.30	< 0.05	7.2	10	29	33	525	3810	5.6	873	0.3
PNR-22	11/18/2004 14:35	5.2	12.1	nm	7.31	743	907	319	< 4	1150	1920	274	5.40	< 0.05	7.0	11	31	43	524	3840	5.7	906	0.3
PNR-22	3/1/2005 11:00	5.9	13.2	nm	7.01	778	949	313	< 4	1160	1980	290	5.80	< 0.05	7.0	11	31	31	586	3890	5.7	902	0.3
PNR-22	5/24/2005 10:07	8.0	13.0	nm	6.99	647	789	303	< 4	1130	1880	274	6.20	< 0.05	6.9	11	27	37	557	3960	5.6	837	0.3
PNR-22	8/16/2005 9:30	5.2	15.2	nm	6.90	773	943	327	< 4	1150	2030	294	6.30	< 0.05	7.2	8	29	26	547	3890	5.7	918	0.3
PNR-22	11/15/2005 13:40	5.6	10.4	nm	6.38	687	838	340	< 4	1180	2130	310	5.20	< 0.05	7.2	7	29	30	588	3760	5.7	923	0.3
PNR-22	2/7/2006 10:30	5.5	11.9	nm	7.13	754	920	323	< 4	1080	2000	290	6.30	< 0.05	7.0	10	30	35	565	3790	5.6	864	0.2
PNR-22	5/23/2006 13:05	5.4	13.3	nm	6.96	729	890	312	< 4	1150	1960	287	5.50	< 0.05	7.8	11	30	48	576	3450	5.7	938	0.2
PNR-22	8/22/2006 18:00	5.8	10.7	nm	7.31	698	852	333	< 4	1110	2050	295	5.80	< 0.05	7.0	11	30	33	580	3970	5.9	945	0.2
PNR-22	12/6/2006 9:55	5.6	9.9	nm	7.07	708	864	324	< 4	1080	1960	280	5.80	< 0.05	7.0	10	29	31	546	3830	5.9	961	0.2
PNR-22	3/13/2007 15:25	4.9	10.3	nm	6.86	707	862	317	< 4	1010	1970	287	6.40	< 0.05	7.1	10	34	nm	563	3800	5.7	875	0.2
PNR-22	10/3/2007 16:45	6.6	11.6	nm	7.20	712	769	301	< 4	994	1850	267	6.60	< 0.05	7.0	9	29	32	505	3780	5.8	982	0.2
PNR-22	3/26/2008 17:45	5.5	10.3	nm	6.91	729	890	294	< 4	932	1820	263	6.20	< 0.05	7.1	8	30	32	544	3690	5.5	965	0.2

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Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
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Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-22	10/22/2008 18:15	5.3	10.4	0.39	7.06	724	883	296	< 4	895	1850	268	6.70	< 0.05	7.2	9	30	35	532	3720	4.0	1060	0.2
PNR-22	4/18/2009 13:10	5.3	10.4	0.21	6.79	713	870	278	< 4	895	1700	244	6.30	0.05	7.1	9	28	33	482	2970	5.2	958	0.3
PNR-22	10/2/2009 12:25	5.2	10.4	0.28	6.92	717	875	279	< 4	748	1720	249	6.00	0.02	7.1	9	29	32	509	3350	5.0	876	0.2
PNR-22	4/13/2010 14:35	4.7	10.2	0.61	6.93	703	858	264	< 4	742	1640	238	5.30	0.54	7.0	10	30	30	540	3390	4.8	1030	0.2
PNR-22	9/18/2010 10:45	4.7	10.6	0.88	6.96	729	889	252	< 4	631	1560	226	4.29	0.04	7.2	10	29	31	499	3320	4.7	939	0.2
PNR-23	8/9/2001 17:30	90.5	80.1	nm	7.30	<1	<1	850	< 1	41300	3270	275	14.10	< 0.05	3.7	411	59	nm	20300	62400	77.3	1480	nm
PNR-23	8/14/2001 10:30	98.6	80.4	nm	6.50	192	234	1030	< 1	45000	3730	282	15.90	< 0.05	6.5	480	68	nm	23800	68000	74.2	1600	nm
PNR-23	11/8/2001 13:15	88.7	85.6	nm	nm	271	331	2110	< 1	33600	8520	789	22.90	3.82	6.4	312	nm	114	18200	62600	47.0	1450	nm
PNR-23	2/21/2002 12:25	100.1	72.1	nm	5.86	214	262	1770	< 4	41500	6780	572	24.50	0.05	6.6	313	73	nm	20400	63700	58.7	1180	nm
PNR-23	5/23/2002 11:15	112.9	82.2	nm	6.14	188	229	1210	< 4	42200	4570	376	18.80	< 0.05	6.4	348	95	nm	21100	66200	68.3	1490	2.1
PNR-23	8/21/2002 12:55	102.9	70.2	nm	6.10	180	219	1220	< 4	43300	4670	392	18.10	< 0.05	6.6	293	58	78	18000	70100	68.5	1710	2.3
PNR-23	11/6/2002 12:15	115.5	71.2	nm	6.10	195	238	1180	< 4	36800	4290	324	17.40	< 0.05	6.5	410	63	71	22100	67300	60.2	1670	2.2
PNR-23	3/5/2003 11:20	115.0	72.5	nm	6.94	198	242	1120	< 4	37400	3930	276	15.90	< 0.05	6.6	373	55	54	21700	66600	48.5	1830	2.4
PNR-23	5/28/2003 14:40	102.4	72.0	nm	6.28	209	255	1080	< 1	40900	3920	296	15.00	< 0.05	6.4	474	54	73	23800	68100	93.8	1420	2.6
PNR-23	8/14/2003 8:43	98.3	70.1	nm	6.14	215	263	1130	< 1	39900	4120	314	17.00	0.10	6.6	433	54	63	22100	66300	87.6	1030	2.4
PNR-23	11/6/2003 10:10	107.0	73.2	nm	5.60	209	255	938	< 4	40900	3450	270	17.60	< 0.05	6.5	408	46	51	19500	65700	42.2	1140	2.3
PNR-23	3/17/2004 11:40	143.0	67.8	nm	5.57	224	273	1260	< 1	42600	4630	364	16.80	< 0.05	6.6	460	56	60	23700	66000	91.7	1080	2.3
PNR-23	6/9/2004 14:10	99.9	58.3	nm	6.40	230	281	1170	< 4	41800	4340	344	16.40	< 0.05	6.7	446	51	53	23900	63900	93.3	1610	3.3
PNR-23	9/15/2004 17:40	110.3	60.9	nm	6.34	245	299	1250	< 4	41800	4710	386	18.10	< 0.05	6.8	403	52	60	21900	66100	92.6	1530	2.8
PNR-23	11/18/2004 11:00	99.0	59.6	nm	6.47	242	295	1150	< 4	35800	4390	368	15.70	0.10	6.5	451	49	52	21800	63200	92.2	1250	2.8
PNR-23	3/2/2005 11:35	90.0	64.8	nm	6.18	278	339	1240	< 4	38800	4700	392	16.60	0.09	6.5	399	60	45	23800	64700	92.4	1330	2.6
PNR-23	5/25/2005 13:00	93.5	61.0	nm	6.09	244	298	1220	< 4	39800	4600	377	17.50	< 0.05	6.5	444	49	47	23800	62500	91.1	2600	2.6
PNR-23	8/17/2005 15:20	100.1	60.4	nm	6.04	287	350	1140	< 4	38800	4370	368	17.30	< 0.05	6.6	313	41	47	20200	62000	91.1	1360	2.5
PNR-23	11/16/2005 12:15	89.7	59.2	nm	6.29	258	315	1230	< 4	39400	4660	385	17.30	< 0.05	6.7	478	53	50	24900	59600	31.5	1240	2.3
PNR-23	2/9/2006 16:00	102.2	55.6	nm	6.43	307	375	978	< 4	35300	3620	285	15.70	< 0.05	6.7	346	49	49	21300	53800	85.3	1180	2.4
PNR-23	5/25/2006 11:15	79.9	56.6	nm	6.40	310	378	1050	< 4	35400	3940	320	18.30	< 0.05	7.4	326	51	52	21800	55000	83.8	1120	2.1
PNR-23	8/24/2006 10:18	97.8	54.2	nm	6.82	308	376	914	< 4	33600	3420	276	14.00	< 0.05	6.6	298	49	49	20200	53500	85.2	1070	2.1
PNR-23	12/8/2006 10:10	65.5	53.7	nm	6.55	341	416	816	< 4	31800	3130	266	16.00	< 0.05	6.7	274	48	49	18800	51500	80.0	1050	2.6
PNR-23	3/14/2007 15:00	25.5	50.6	nm	6.98	397	485	802	< 4	28300	3210	293	13.90	< 0.05	6.6	290	206	nm	18400	46500	73.4	889	2.5
PNR-23	10/5/2007 12:30	64.1	46.4	nm	6.06	514	627	649	< 4	25300	2620	242	10.20	< 0.05	6.8	201	50	46	14100	39700	62.1	1080	2.6
PNR-23	3/27/2008 16:05	55.8	49.6	nm	6.99	583	711	524	< 4	21100	2100	192	8.60	< 0.05	6.8	174	47	49	12600	35100	55.9	994	3.4
PNR-23	10/27/2008 14:56	45.4	46.3	0.03	6.90	652	796	408	< 4	16900	1590	139	8.60	< 0.05	7.2	140	44	48	11100	28000	44.6	1280	4.8
PNR-23	4/16/2009 15:00	36.5	44.3	0.24	6.90	740	902	254	< 4	12300	1070	106	4.90	< 0.05	7.4	110	39	34	8030	22000	36.3	1150	6.3
PNR-23	10/2/2009 12:00	30.9	43.9	0.10	6.89	770	939	216	< 4	10700	944	98	4.70	< 0.01	7.3	86	37	37	6600	18000	30.2	827	5.3
PNR-23	4/15/2010 15:40	17.4	42.6	0.18	7.31	901	1100	95	< 4	4950	450	52	2.80	< 0.01	7.4	48	38	38	3720	9810	16.1	881	7.2
PNR-23	9/21/2010 10:30	10.9	41.0	0.44	7.39	1010	1230	39	< 4	2370	175	19	1.70	0.02	8.0	30	37	42	2460	6940	10.4	830	11.0
PNR-24	8/14/2001 12:00	97.5	73.4	nm	6.50	237	289	997	< 1	41100	3240	180	14.80	< 0.05	6.8	470	73	nm	24900	67700	73.8	1730	nm
PNR-24	8/14/2001 18:20	101.8	80.3	nm	6.60	231	282	1040	< 1	43400	3450	206	14.90	< 0.05	6.8	500	65	nm	23900	67000	51.3	1730	nm
PNR-24	11/8/2001 13:40	84.5	84.4	nm	nm	479	584	1090	< 1	34600	3750	248	14.50	< 0.05	6.5	379	nm	320	19400	61000	49.2	1690	nm
PNR-24	2/21/2002 13:55	120.4	67.1	nm	6.24	235	287	1020	< 4	44700	3160	150	17.20	< 0.05	6.8	498	163	nm	23500	68500	62.6	1450	nm
PNR-24	5/23/2002 11:50	113.3	78.3	nm	6.43	258	315	842	< 4	44700	2760	159	14.50	< 0.05	6.7	404	207	nm	21300	69000	71.2	1940	3.7
PNR-24	8/21/2002 13:10	104.6	70.0	nm	6.30	175	214	1070	< 4	44400	3360	170	16.00	< 0.05	6.7	435	59	199	21600	72200	73.9	1470	3.7
PNR-24	11/6/2002 12:32	113.5	69.0	nm	6.55	171	208	1120	< 4	36900	3700	219	17.00	< 0.05	6.7	452	50	225	22100	68300	61.1	1670	3.5
PNR-24	3/5/2003 11:40	114.0	68.5	nm	7.03	195	238	1210	< 4	41300	4190	283	16.80	0.07	6.6	401	62	219	22500	66200	47.3	1740	3.5
PNR-24	5/28/2003 14:50	103.5	69.4	nm	6.58	198	242	1170	< 1	40800	4190	306	17.90	< 0.05	6.9	438	55	132	23300	68400	94.0	1440	3.3
PNR-24	8/14/2003 13:08	96.2	65.2	nm	6.49	228	278	1180	< 1	41300	11300	313	17.80	< 0.05	6.8	402	58	76	22000	68100	88.6	1130	3.1
PNR-24	11/6/2003 11:00	108.6	69.5	nm	5.85	187	228	948	< 4	40900	3410	254	19.30	< 0.05	6.8	385	47	89	19500	64700	41.9	1080	3.3
PNR-24	3/17/2004 12:10	130.0	63.3	nm	5.67	210	257	995	< 1	36900	3570	256	14.40	< 0.05	6.8	371	56	142	20000	56200	80.1	956	3.6
PNR-24	6/9/2004 14:20	mnw	56.9	nm	6.69	303	369	751	< 4	32500	2760	213	12.70	< 0.05	6.9	311	52	110	18000	49700	75.8	1160	4.3
PNR-24	9/15/2004 18:05	68.5	55.0	nm	6.48	707	862	476	< 4	25100	1890	171	10.20	< 0.05	7.0	235	57	125	14200	40200	61.4	407	4.6
PNR-24	11/18/2004 11:05	54.5	59.6	nm	6.88	869	1060	332	< 4	22000	1360	129	7.70	0.12	6.9	254	64	73	12400	34400	55.0	273	4.6
PNR-24	3/2/2005 13:25	40.2	60.0	nm	6.65	1050	1280	248	< 4	18500	1100	117	6.90	0.05	7.1	174	59	63	11800	29800	46.5	211	4.9
PNR-24	5/25/2005 13:45	38.4	56.6	nm	6.38	1010	1230	181	< 4	14900	840	94	5.10	< 0.05	7.0	164	55	80	9980	24000	41.0	106	5.0
PNR-24	8/17/2005 16:05	37.7	55.6	nm	6.59	1250	1520	121	< 4	12600	583	68	4.80	< 0.05	7.2	93	52	70	7910	22100	36.2	43	5.6
PNR-24	11/16/2005 16:15	34.4	52.7	nm	7.02	1310	1600	90	< 4	10600	450	55	3.30	< 0.05	7.2	120	60	101	7410	17600	29.7	9	7.1
PNR-24	2/8/2006 13:30	27.2	50.0	nm	7.10	1440	1760	72	< 4	8610	309	32	3.70	< 0.05	7.1	109	57	57	6220	15200	26.1	12	8.8
PNR-24	5/24/2006 12:55	26.0	49.8	nm	7.08	1430	1750	41	< 4	7840	191	22	2.50	< 0.05	7.9	67	50	53	5330	12800	22.8	14	10.8
PNR-24	8/24/2006 11:22	21.7	51.1	nm	7.95	1490	1820	29	< 4	6700	135	15	2.50	<0.05	7.4	61	48	46	4850	11800	21.5	18	14.2
PNR-24	12/8/2006 10:50	15.5	49.4	nm	7.32	1450	1770	24	< 4	5660	109	12	2.30	0.06	7.6	52	45	44	4350	10900	19.0	53	17.0
PNR-24	3/14/2007 15:40	21.8	47.9	nm	7.23	1550	1880	30 B	< 4	5110	127	12	2.00	< 0.05	7.8	59	78	nm	4080	9920	17.1	62	15.0
PNR-25	8/14/2001 13:15	102.9	76.7	nm	6.60	255	311	924	< 1	39900	2890	140	15.80	< 0.05	6.8	510	69	nm	24000	70500	75.6	1730	nm
PNR-25	8/14/2001 19:05	99.2	81.1	nm	6.80	246	301	1020	< 1	45400	3180	160	15.80	< 0.05	6.8	560	65	nm	26600	70300	76.8	1550	nm
PNR-25	11/8/2001 10:15	nm	84.4	nm	nm	528	644	1660	< 1	38300	6000	448	18.50	< 0.05	6.5	433	nm	276	21200	65600	48.5	2260	nm
PNR-25	2/21/2002 15:30	103.1	72.6	nm	6.05	237	289	2430	< 4	40100	9350	797	25.60	< 0.05	6.7	278	200	nm	18700	64500	57.9	1280	nm

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC	Field Temp.	Field D.O.	Field pH	Alkalinity as $CaCO_3$	Bicarbonate	Calcium	Carbonate	Chloride	Hardness, Total as $CaCO_3$	Magnesium	Nitrogen, Ammonia	Nitrogen, Nitrate plus Nitrite	Lab pH	Potassium	Silica, Dissolved	Silica, Total	Sodium	Total Dissolved Solids @ 180° C	Specific Conductance @ 25° C	Sulfate	Flouride
		mS	°C	mg/L	S.U.	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	S.U.	mg/l	mg/l	mg/l	mg/l	mg/l	mS/cm	mg/l	mg/l
PNR-25	5/22/2002 16:50	34.8	71.1	nm	6.80	930	1130	452	< 4	11500	1770	156	10.40	< 0.05	7.0	78	243	nm	5600	18700	28.9	756	4.2
PNR-25	8/21/2002 14:40	11.8	61.4	nm	7.10	1040	1270	70	< 4	3560	384	51	1.40	< 0.05	7.4	31	59	312	2040	6790	11.9	< 30	6.5
PNR-25	11/6/2002 14:55	14.5	56.7	nm	7.14	877	1070	48	< 4	3110	298	43	0.90	< 0.05	7.5	33	45	123	2140	6330	13.0	< 10	8.0
PNR-25	3/5/2003 12:45	13.1	55.0	nm	7.91	585	713	47	< 4	3590	245	31	1.00	< 0.05	7.4	32	37	285	2340	6800	12.2	6	9.2
PNR-25	5/28/2003 15:25	11.7	53.6	nm	7.19	506	618	39	< 1	3600	226	31	0.80	< 0.05	7.5	32	30	301	2200	6400	11.8	< 3	11.4
PNR-25	8/14/2003 10:00	11.0	50.6	nm	7.32	459	560	36	< 1	4510	2200	31	0.90	< 0.05	7.6	26	31	80	2140	6590	10.4	< 10	11.2
PNR-25	11/5/2003 15:15	12.5	52.2	nm	6.72	513	626	42	< 4	4610	256	37	1.60	< 0.05	7.5	35	27	47	2360	7090	11.6	14	9.3
PNR-25	3/17/2004 14:15	15.0	43.6	nm	6.50	461	562	49	< 1	4760	264	34	1.40	< 0.05	7.4	33	27	53	2480	7130	12.2	4	9.4
PNR-25	6/8/2004 13:00	11.7	38.9	nm	7.53	601	733	45	< 4	4090	254	34	1.40	< 0.05	7.7	36	26	50	3040	7490	12.4	167	9.2
PNR-25	9/15/2004 16:45	13.0	40.4	nm	7.55	562	685	52	< 4	3980	323	47	1.60	< 0.05	7.7	34	23	46	2440	6880	12.0	79	7.4
PNR-25	11/18/2004 9:00	12.3	37.3	nm	7.69	554	676	49	< 4	3750	322	48	1.50	0.07	7.7	37	23	27	2360	6590	12.0	39	7.6
PNR-25	3/2/2005 13:00	9.7	37.1	nm	7.53	676	824	39	< 4	3570	262	40	1.30	0.25	7.9	29	22	23	2510	6630	11.5	106	7.8
PNR-25	5/25/2005 11:15	9.7	34.7	nm	7.50	487	588	44	< 4	4250	311	49	1.50	< 0.05	7.9	22	26	29	2400	6270	10.8	821	8.3
PNR-25	8/17/2005 18:20	10.4	33.3	nm	7.71	522	637	40	< 4	2960	289	46	1.20	< 0.05	7.8	23	17	19	1980	5550	10.0	27	7.9
PNR-25	11/16/2005 13:25	11.6	32.5	nm	7.96	492	586	36	7	2890	287	48	1.20	< 0.05	7.9	21	20	20	2010	4910	9.2	46	7.2
PNR-25	2/8/2006 11:15	8.0	29.9	nm	7.85	545	665	36	< 4	2530	239	36	1.20	< 0.05	7.7	25	20	40	1860	4780	8.5	10	7.3
PNR-25	5/24/2006 11:45	8.3	29.9	nm	7.88	622	759	28	< 4	2450	182	27	1.00	0.07	8.2	22	20	47	1790	4200	8.3	81	7.2
PNR-25	8/24/2006 12:00	6.8	29.7	nm	8.33	527	643	26	< 4	2180	191	30	1.20	<0.05	8.0	23	18	19	1600	4190	7.9	55	6.3
PNR-25	12/8/2006 11:30	5.3	29.2	nm	7.36	547	667	34	< 4	2060	239	38	1.20	<0.05	8.0	23	19	18	1500	4180	7.7	117	5.9
PNR-25	3/15/2007 10:53	6.1	29.2	nm	7.81	513	626	49	< 4	2090	368	59	1.40	< 0.05	7.7	26	21	nm	1430	3820	7.1	26	4.9
PNR-26	8/14/2001 18:00	nm	79.2	nm	nm	144	176	910	< 1	45000	2820	133	14.40	< 0.05	7.2	517	63	nm	23800	68700	74.7	1660	nm
PNR-26	8/22/2001 10:00	98.0	75.0	nm	nm	159	194	803	< 1	42600	2490	118	13.60	< 0.05	7.5	499	62	nm	23400	68600	65.8	1670	nm
PNR-26	11/8/2001 14:15	nm	83.3	nm	nm	640	781	1070	< 1	40900	3740	259	16.40	0.16	7.5	437	nm	168	22800	67200	51.6	1170	nm
PNR-26	2/21/2002 16:00	125.0	65.0	nm	6.42	234	285	1310	< 4	40800	4380	269	18.40	< 0.05	6.9	453	100	nm	22300	67000	61.2	1080	nm
PNR-26	5/23/2002 11:15	105.7	75.6	nm	6.68	177	215	1220	< 4	42400	4210	284	18.40	< 0.05	6.9	392	87	nm	20800	67400	67.2	1530	2.7
PNR-26	8/21/2002 16:00	100.3	67.4	nm	6.40	301	367	1360	< 4	40600	4880	361	17.50	< 0.05	6.7	403	59	167	15300	69100	50.7	1340	2.7
PNR-26	11/6/2002 16:20	107.2	62.7	nm	6.35	181	221	1450	< 4	36000	5080	356	16.80	< 0.05	6.7	509	53	101	22900	65300	57.5	1610	2.6
PNR-26	3/5/2003 14:00	33.0	64.0	nm	7.60	1470	1800	108	< 4	8400	546	67	3.80	< 0.05	7.4	72	58	109	5290	15600	27.4	19	5.5
PNR-26	5/28/2003 16:35	27.6	61.2	nm	7.09	1500	1830	62	< 1	8060	464	75	2.30	< 0.05	7.4	74	57	85	4990	14800	25.6	< 5	6.8
PNR-26	8/14/2003 10:45	27.2	56.8	nm	6.86	876	1070	36	< 1	8960	3810	51	3.00	0.09	7.4	49	45	101	4650	14300	18.9	< 10	10.5
PNR-26	11/6/2003 12:30	37.5	63.7	nm	7.33	1480	1800	17	< 4	7010	151	26	2.90	0.22	7.8	48	45	56	4450	11700	18.5	< 1	10.3
PNR-26	3/17/2004 14:15	40.0	49.1	nm	6.90	1490	1710	11	53	6110	82	13	1.80	< 0.05	7.7	32	36	52	3620	10000	16.0	< 1	14.4
PNR-26	6/9/2004 16:00	mnw	44.3	nm	7.76	1310	1590	12	< 4	4710	67	9	1.70	< 0.05	7.9	34	29	32	3750	9140	14.2	< 50	11.2
PNR-26	9/16/2004 9:50	13.5	45.7	nm	7.52	1350	1610	7	23	3880	45	6	1.50	< 0.05	8.0	27	25	33	3020	7860	13.4	< 3	8.9
PNR-26	11/18/2004 12:25	12.9	43.2	nm	7.99	1130	1370	8	< 4	3690	47	7	1.60	0.33	8.0	29	26	128	2730	7250	12.6	< 1	9.3
PNR-26	3/2/2005 16:10	12.1	42.5	nm	7.89	1230	1490	5	5	3280	32	5	1.80	0.12	8.0	22	23	26	2660	6630	11.3	< 1	9.1
PNR-26	5/25/2005 15:15	6.3	38.7	nm	7.38	990	1200	12	5	3000	53	5	1.60	< 0.05	8.2	19	19	24	2230	6170	10.2	< 1	9.8
PNR-26	8/17/2005 18:00	9.3	40.1	nm	7.25	1090	1330	13	< 4	2900	54	5	1.20	< 0.05	8.0	18	20	21	2200	5990	10.3	2	9.4
PNR-26	11/16/2005 14:55	5.5	34.7	nm	7.71	884	1080	10	< 4	2780	53	7	1.60	< 0.05	7.6	14	23	38	2270	5510	10.4	2	9.1
PNR-26	2/8/2006 15:10	4.0	31.8	nm	7.47	877	1070	14	< 4	2640	59	6	1.20	< 0.05	7.1	17	20	107	2070	5280	9.4	13	8.9
PNR-26	5/24/2006 14:10	nm	nm	nm	nm	986	1200	49	< 4	6310	252	31	2.40	< 0.05	8.0	58	23	35	4530	11100	19.9	845	2.7
PNR-26	8/24/2006 13:30	nm	32.2	nm	7.87	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
PNR-27	8/21/2001 15:35	27.6	10.7	nm	nm	592	722	1790	< 1	10300	9790	1290	<0.1	28.8	7.1	37	24	nm	2440	21600	23.1	2020	nm
PNR-27	9/5/2001 15:15	25.9	12.3	nm	7.00	594	725	1990	< 1	10000	10600	1370	<0.1	27.5	6.8	39	21	nm	2700	20400	25.0	1940	nm
PNR-27	11/6/2001 15:30	28.1	10.0	nm	7.10	569	694	1960	< 1	10900	10700	1400	<0.1	29.7	6.7	40	nm	43	2840	21200	27.1	1750	nm
PNR-27	2/20/2002 17:02	27.5	10.5	nm	6.66	628	767	1970	< 4	11400	10600	1390	<0.1	27.2	6.8	54	27	nm	3130	21000	27.1	1530	nm
PNR-27	5/21/2002 18:12	32.1	13.7	nm	6.65	589	719	1790	< 4	12000	9650	1260	<0.1	34.2	6.8	40	35	nm	2990	23800	29.9	1940	0.2
PNR-27	8/20/2002 19:20	29.8	14.5	nm	6.90	580	708	1900	< 4	12600	9710	1210	< 0.1	31.7	6.9	32	26	38	2850	25600	28.2	1850	0.2
PNR-27	11/6/2002 9:55	32.7	11.3	nm	6.84	583	712	2090	< 4	11200	11000	1400	< 0.1	31.2	6.8	42	22	30	3450	24200	26.0	1820	0.2
PNR-27	3/5/2003 11:15	30.3	10.1	nm	6.73	567	691	2060	< 4	12900	10800	1370	< 0.1	33.5	6.6	43	26	25	3740	22400	19.5	2080	0.2
PNR-27	5/28/2003 11:00	25.4	14.4	nm	6.60	589	718	1990	< 1	12200	10400	1330	< 0.1	34.0	6.7	57	26	33	3640	25500	34.1	1620	0.2
PNR-27	8/13/2003 13:35	32.7	15.1	nm	7.50	577	705	1900	< 1	13000	10200	1320	< 0.1	32.5	6.6	54	26	27	3660	24400	31.7	1280	0.2
PNR-27	11/5/2003 11:45	41.7	9.1	nm	7.43	568	693	1760	< 4	13100	10000	1370	< 0.1	35.1	6.8	53	24	48	3760	23300	19.6	1430	0.2
PNR-27	March 2004	Not Sampled																					
PNR-27	6/8/2004 11:50	mnw	11.5	nm	6.91	577	704	1930	< 4	14000	10400	1340	< 0.1	30.7	6.7	46	26	30	4480	26200	36.7	1920	0.2
PNR-27	9/14/2004 13:05	33.9	11.7	nm	7.65	525	640	1990	< 4	13100	10500	1340	< 0.1	30.9	6.8	58	29	31	4320	27500	36.5	1760	0.3
PNR-27	11/17/2004 10:38	39.5	10.6	nm	6.80	575	701	2010	< 4	14600	10600	1360	< 0.1	30.8	6.6	56	32	35	4630	24800	37.3	1830	0.2
PNR-27	3/1/2005 15:33	36.7	9.5	nm	6.67	612	747	2090	< 4	14700	11100	1420	< 0.1	30.0	6.8	48	28	33	5060	28200	36.7	1770	0.2
PNR-27	5/24/2005 15:33	24.1	10.4	nm	6.75	519	633	1980	< 4	13500	10200	1280	< 0.1	33.3	6.7	50	22	23	4920	28400	37.6	1840	0.2
PNR-27	8/16/2005 17:08	38.3	10.7	nm	6.62	600	732	2080	< 4	14300	11000	1400	< 0.1	39.6	6.7	39	29	28	4850	28000	37.9	1810	0.2
PNR-27	11/15/2005 16:35	41.6	10.0	nm	6.61	526	642	2290	< 4	15200	12100	1550	< 0.1	35.4	6.8	67	31	28	6000	27200	39.0	1790	0.2
PNR-27	2/8/2006 17:10	38.0	9.0	nm	7.19	597	729	2160	< 4	13900	11300	1440	< 0.1	30.6	6.9	64	28	27	5460	25200	47.0	1740	0.1
PNR-27	5/23/2006 16:57	36.2	9.8	nm	6.68	575	701	2030	< 4	15200	10800	1400	< 0.1	39.4	7.4	70	27	29	5580	27900	39.1	1770	0.2
PNR-27	8/23/2006 15:01	24.7	11.0	nm	6.63	550	671	2070	< 4	15000	10800	1370	< 0.1	29.3	6.6	47	31	28	5390	29500	41.2	1780	0.2
PNR-27	12/7/2006 14:15	39.1	9.4	nm	6.89	565	690	2100	< 4	14200	10800	1350	< 0.1	34.4	6.8	47	27	28	5490	27900	41.6	1730	0.2

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-27	3/14/2007 16:50	39.0	9.2	nm	6.75	559	682	2060	< 4	14700	10800	1370	< 0.1	33.2	6.6	51	247	nm	5660	28700	40.1	1680	0.2
PNR-27	10/3/2007 12:50	38.4	10.4	nm	6.22	562	686	1920	< 4	15100	10000	1270	< 0.1	31.8	6.6	46	28	32	5410	27300	41.7	1900	0.2
PNR-27	3/27/2008 17:10	39.7	9.4	nm	6.55	579	707	2000	< 4	15500	10400	1310	< 0.1	32.9	6.5	53	32	29	5900	27200	41.2	1690	0.2
PNR-27	10/25/2008 14:45	43.1	9.7	0.44	6.56	582	710	1970	< 4	14900	10200	1290	< 0.1	38.6	6.8	44	27	32	6130	28300	39.9	1910	0.2
PNR-27	4/19/2009 12:50	44.0	10.8	0.63	6.43	567	691	1950	< 4	15400	9990	1240	< 0.1	29.3	6.7	50	19	21	6240	23900	42.6	1750	0.2
PNR-27	10/6/2009 11:40	40.1	9.8	0.37	6.40	569	694	1960	< 4	14600	10100	1270	< 0.05	43.8	6.8	43	31	29	5470	24100	38.0	1350	0.2
PNR-27	4/19/2010 9:45	39.2	10.1	0.99	6.55	558	680	2000	< 4	16400	10600	1350	< 0.05	40.7	6.7	45	26	17	5670	27800	38.8	1460	0.2
PNR-27	9/21/2010 13:25	38.4	9.7	0.93	6.37	574	700	1900	< 4	14000	9670	1200	< 0.05	34.5	7.1	45	25	26	5380	26500	36.8	1420	0.2
PNR-28	8/21/2001 16:45	31.4	10.3	nm	nm	501	612	1910	< 1	11700	10800	1460	< 0.1	23.1	7.2	39	21	nm	3090	25200	26.2	1480	nm
PNR-28	9/5/2001 14:35	28.4	13.0	nm	7.00	493	601	2020	< 1	12300	11100	1470	< 0.1	21.2	6.9	36	18	nm	3200	22600	27.0	nm	nm
PNR-28	11/6/2001 14:40	29.7	12.2	nm	7.10	519	633	1880	< 1	10500	10400	1380	< 0.1	20.2	6.7	34	nm	37	3070	24700	24.4	1660	nm
PNR-28	2/20/2002 16:30	31.9	10.6	nm	6.88	522	637	2060	< 4	13700	11300	1490	< 0.1	21.6	6.8	82	23	nm	3850	23000	30.6	1430	nm
PNR-28	5/21/2002 17:15	38.8	12.4	nm	6.67	450	549	1990	< 4	14700	10900	1430	< 0.1	23.3	6.8	43	33	nm	3910	27400	33.9	1820	0.2
PNR-28	8/20/2002 18:30	34.2	14.4	nm	6.80	510	622	2090	< 4	15200	10800	1340	< 0.1	22.9	6.8	39	23	30	3510	31200	32.8	1590	0.2
PNR-28	11/5/2002 13:20	36.4	10.2	nm	6.53	516	630	2340	< 4	15700	12600	1640	< 0.1	22.7	6.8	46	20	36	4850	29700	28.9	1740	0.2
PNR-28	3/5/2003 10:25	36.4	10.2	nm	6.71	503	614	2260	< 4	15700	11700	1480	< 0.1	23.6	6.6	45	22	23	4930	26700	22.4	1880	0.2
PNR-28	5/28/2003 10:30	32.8	13.1	nm	6.53	519	633	2130	< 1	15100	11300	1450	< 0.1	22.4	6.7	63	22	38	4900	30200	40.8	1460	0.2
PNR-28	8/13/2003 13:00	40.3	14.4	nm	7.56	517	631	2140	< 1	16800	11300	1440	< 0.1	21.8	6.5	53	22	31	5200	29500	38.8	1270	0.2
PNR-28	11/5/2003 14:30	4.6	9.2	nm	7.30	484	591	2180	< 4	17300	11700	1520	< 0.1	22.0	6.9	58	23	28	6010	29100	23.0	1350	0.2
PNR-28	March 2004	Not Sampled																					
PNR-28	6/8/2004 11:15	mnw	11.4	nm	6.90	528	644	2090	< 4	17400	11000	1400	< 0.1	21.7	6.7	51	20	36	5720	32900	44.5	1740	0.2
PNR-28	9/15/2004 10:30	42.9	13.5	nm	6.61	542	661	2230	< 4	18300	11700	1490	< 0.1	20.6	6.8	62	28	32	6490	33700	45.3	1630	0.2
PNR-28	11/17/2004 9:30	49.7	10.1	nm	6.92	529	646	2310	< 4	17800	11800	1470	< 0.1	21.3	6.8	68	25	24	6480	32500	45.8	1660	0.2
PNR-28	3/1/2005 14:39	45.2	9.5	nm	6.65	560	684	2170	< 4	17500	11400	1440	< 0.1	20.0	6.7	58	25	29	7370	34300	45.5	1510	0.2
PNR-28	5/25/2005 11:07	48.2	9.9	nm	6.49	472	575	2150	< 4	17800	11100	1400	< 0.1	21.5	6.7	59	22	21	7440	34200	45.7	1770	0.2
PNR-28	8/16/2005 16:00	46.5	10.8	nm	6.60	571	697	2190	< 4	17900	11400	1430	< 0.1	21.8	6.9	43	24	21	7050	33500	46.3	1670	0.2
PNR-28	11/15/2005 11:35	51.2	10.1	nm	6.63	497	606	2240	< 4	19200	11600	1470	< 0.1	20.2	6.9	42	23	24	7700	32500	47.5	1600	0.2
PNR-28	2/8/2006 14:40	46.9	9.1	nm	7.22	557	680	2200	< 4	18000	11300	1420	< 0.1	23.0	6.9	66	24	23	7970	31500	47.0	1630	0.1
PNR-28	5/23/2006 13:55	43.7	9.8	nm	6.69	539	658	2080	< 4	18800	10800	1350	< 0.1	23.1	7.4	60	24	25	7970	32500	47.7	1630	0.2
PNR-28	8/23/2006 12:35	39.8	10.5	nm	6.66	518	632	2140	< 4	18300	10700	1310	< 0.1	21.3	6.6	55	27	25	7930	34700	49.8	1600	0.2
PNR-28	12/6/2006 16:30	47.4	8.8	nm	6.93	526	642	1990	< 4	18400	10100	1250	< 0.1	28.3	6.8	44	23	23	7690	33600	49.5	1680	0.2
PNR-28	3/13/2007 18:00	47.7	9.4	nm	6.14	523	638	2010	< 4	18400	10200	1270	< 0.1	21.6	6.7	61	92	nm	8180	33300	49.3	1370	0.2
PNR-28	10/4/2007 16:30	48.9	9.9	nm	6.53	529	645	1910	< 4	19500	9550	1160	< 0.1	23.2	6.5	43	21	30	7950	33200	51.9	1720	0.1
PNR-28	3/26/2008 18:30	48.6	9.5	nm	6.77	548	668	2040	< 4	19000	10300	1280	< 0.1	24.4	6.6	50	25	24	8610	31900	48.6	1560	0.2
PNR-28	10/25/2008 13:40	51.6	9.5	0.67	6.56	546	666	1860	< 4	18600	9390	1150	< 0.1	26.0	6.8	46	20	27	7980	34100	48.9	1750	0.2
PNR-28	4/19/2009 11:10	48.8	9.9	1.38	6.38	536	654	1740	< 4	17500	8780	1080	< 0.1	22.2	6.7	50	15	15	7860	29600	48.0	1660	0.1
PNR-28	10/7/2009 10:15	48.7	9.4	0.97	6.34	538	656	1840	< 4	18600	9210	1120	< 0.05	24.6	6.9	51	27	24	8040	34000	46.1	1320	< 0.1
PNR-28	4/16/2010 16:25	45.1	10.0	0.89	6.50	537	655	1750	< 4	19100	8990	1120	< 0.05	26.6	6.7	49	23	15	7660	31800	44.2	1310	0.2
PNR-28	9/21/2010 12:15	37.7	9.8	nm	6.44	510	622	2040	< 4	14800	10600	1340	< 0.05	29.9	7.1	49	22	23	5490	27200	36.5	1290	0.2
PNR-29	8/21/2001 17:45	5.1	10.1	nm	nm	606	740	390	< 1	129	2170	290	< 0.1	174	7.2	14	25	nm	480	4760	5.0	1940	nm
PNR-29	9/5/2001 14:00	4.9	12.8	nm	7.40	695	847	393	< 1	104	2180	291	< 0.1	162	6.5	11	22	nm	483	4760	4.8	nm	nm
PNR-29	11/6/2001 12:50	4.9	11.7	nm	7.50	691	843	400	< 1	99	2180	286	< 0.1	158	7.1	11	nm	30	469	4650	5.0	1880	nm
PNR-29	2/20/2002 13:03	4.8	10.1	nm	7.01	623	760	399	< 4	106	2200	292	< 0.1	160	6.9	13	28	nm	501	4640	5.4	2070	nm
PNR-29	5/21/2002 16:30	5.4	11.9	nm	7.00	662	807	359	< 4	83	1980	262	< 0.1	169	7.3	11	31	nm	449	4640	5.3	2080	0.2
PNR-29	8/20/2002 11:20	4.3	13.3	nm	7.00	669	816	376	< 4	113	2130	290	< 0.1	163	7.2	10	25	35	431	4780	5.4	2030	0.3
PNR-29	11/5/2002 12:42	4.9	9.9	nm	6.93	680	830	403	< 4	117	2200	290	< 0.1	167	7.1	12	25	31	469	4770	5.5	2070	0.3
PNR-29	3/5/2003 10:30	4.8	9.2	nm	6.66	661	807	410	< 4	181	2230	292	< 0.1	175	7.2	13	6	22	550	4730	5.5	2060	0.2
PNR-29	5/28/2003 10:00	4.4	12.1	nm	6.87	677	826	418	< 1	116	2230	292	< 0.1	172	7.1	13	25	35	489	4790	5.6	2030	0.3
PNR-29	8/13/2003 13:08	4.0	11.5	nm	7.48	674	822	404	< 1	88	2200	288	< 0.1	181	7.0	11	25	61	460	4800	5.3	1920	0.3
PNR-29	11/4/2003 16:45	4.6	9.8	nm	7.11	684	835	362	< 4	104	2160	305	< 0.1	178	7.1	13	27	30	482	4760	4.7	2120	0.3
PNR-29	March 2004	Not Sampled																					
PNR-29	6/8/2004 10:45	mnw	11.2	nm	7.26	702	856	403	< 4	119	2260	304	< 0.1	176	7.1	12	25	35	492	4770	4.9	2030	0.3
PNR-29	9/15/2004 9:40	5.0	12.7	nm	7.00	717	875	441	< 4	99	2350	303	< 0.1	174	7.2	12	27	26	468	4780	5.3	2040	0.3
PNR-29	11/17/2004 9:31	5.4	9.6	nm	7.15	693	846	416	< 4	111	2270	299	< 0.1	171	6.9	13	27	29	505	4660	5.3	2010	0.3
PNR-29	3/1/2005 13:36	5.0	9.4	nm	7.08	727	887	428	< 4	112	2340	309	< 0.1	170	7.1	14	29	27	549	4800	5.3	2030	0.3
PNR-29	5/25/2005 9:46	5.2	9.8	nm	6.90	611	745	419	< 4	98	2290	301	< 0.1	180	7.2	14	27	29	524	4720	5.3	1860	0.3
PNR-29	8/16/2005 14:48	5.1	10.6	nm	6.98	657	802	437	< 4	102	2400	317	< 0.1	177	7.3	11	26	23	498	4790	5.3	1930	0.3
PNR-29	11/15/2005 10:50	5.5	9.7	nm	7.01	656	800	461	< 4	107	2520	332	< 0.1	180	7.1	10	28	26	536	4810	5.4	2020	0.3
PNR-29	2/8/2006 16:15	5.1	8.7	nm	7.43	720	878	468	< 4	108	2530	332	< 0.1	180	7.2	13	30	30	564	4700	5.4	1980	0.2
PNR-29	5/23/2006 14:35	4.8	10.2	nm	7.02	695	848	421	< 4	106	2350	316	< 0.1	256	7.9	13	28	32	555	4520	5.4	2050	0.3
PNR-29	8/23/2006 11:37	4.1	9.9	nm	7.00	663	808	445	< 4	103	2410	315	< 0.1	259	7.0	14	29	27	545	4820	5.6	1970	0.3
PNR-29	12/6/2006 16:00	5.3	8.7	nm	7.22	672	820	426	< 4	96	2350	313	< 0.1	223	7.2	15	29	28	544	4830	5.7	2010	0.3
PNR-29	3/13/2007 17:50	5.5	9.1	nm	6.83	664	811	446	< 4	106	2410	315	< 0.1	235	7.1	13	38	nm	538	4740	5.5	1880	0.3
PNR-29	10/2/2007 18:40	6.4	9.5	nm	7.06	668	815	420	< 4	96	2280	299	< 0.1	243	7.1	11	28	31	487	4680	5.8	1960	0.3
PNR-29	3/26/2008 12:10	5.3	9.6	nm	7.19	689	840	426	< 4	92	2320	306	< 0.1	260	7.1	10	27	28	489	4660	5.5	1990	0.3

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Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
PNR-29	10/25/2008 12:55	5.8	9.3	0.77	7.02	684	835	446	< 4	105	2430	319	< 0.1	202	7.1	12	28	37	543	4960	5.5	2150	0.3
PNR-29	4/21/2009 11:30	5.5	10.0	0.68	6.75	669	816	445	< 4	81	2390	310	< 0.1	202	7.1	13	28	29	499	4250	5.4	2140	0.3
PNR-29	10/3/2009 15:15	5.5	9.6	0.99	6.77	673	821	445	< 4	86	2390	311	< 0.05	183	7.1	12	29	35	494	4500	5.3	1940	0.3
PNR-29	4/14/2010 11:55	5.2	8.9	1.12	6.76	667	814	461	< 4	90	2460	318	< 0.05	228	7.1	12	28	34	520	4900	5.4	2120	0.3
PNR-29	9/18/2010 11:45	5.6	9.7	1.21	6.79	682	832	435	< 4	97	2340	305	< 0.05	183	7.2	12	27	28	504	4880	5.5	1980	0.3
PNR-33-06	10/24/2006 16:25	nm	nm	nm	nm	607	741	474	< 4	101	3020	447	0.50	38.8	7.0	20	29	38	286	4890	5.3	2700	0.2
PNR-33-06	12/6/2006 11:00	4.6	9.4	nm	7.03	464	566	467	< 4	85	2740	381	0.10	53.4	7.0	16	25	26	264	4450	4.9	2490	0.2
PNR-33-06	3/13/2007 13:45	4.7	10.0	nm	6.89	411	502	467	< 4	73	2490	321	0.20	45.4	7.2	15	34	nm	269	4170	4.6	2390	0.2
PNR-33-06	10/3/2007 15:35	5.6	11.4	nm	7.22	396	483	483	< 4	104	2600	340	0.10	43.6	7.1	16	25	27	276	4480	5.0	2510	0.3
PNR-33-06	3/26/2008 0:00	4.6	11.8	nm	7.15	395	482	464	< 4	107	2540	336	0.10	53.8	7.2	16	26	30	270	4550	4.9	2550	0.3
PNR-33-06	10/23/2008 11:05	4.8	10.1	0.24	7.06	390	475	513	< 4	125	2840	379	< 0.1	57.0	7.3	16	26	28	295	4500	4.9	2650	0.3
PNR-33-06	4/17/2009 17:30	5.0	10.0	0.24	6.81	389	475	488	< 4	134	2690	356	< 0.1	47.4	7.2	17	26	27	273	4230	4.9	2670	0.3
PNR-33-06	10/4/2009 13:05	5.2	9.9	0.42	6.81	382	466	541	< 4	118	2920	380	< 0.05	44.0	7.3	17	25	27	300	4540	4.9	2600	0.3
PNR-33-06	4/14/2010 15:00	4.8	10.1	0.68	6.97	373	455	494	< 4	108	2740	366	< 0.05	60.0	7.2	18	26	27	305	4790	5.0	2730	0.3
PNR-33-06	9/21/2010 12:18	4.9	9.7	0.90	6.88	372	453	523	< 4	101	2830	370	< 0.05	43.2	7.6	17	26	27	299	4890	4.9	2660	0.3
PNR-34-07	3/14/2007 13:15	34.5	9.9	nm	6.51	469	573	2330	< 4	15600	13200	1800	0.60	6.30	6.8	50	330	nm	4480	29400	40.3	1630	0.1
PNR-34-07	10/5/2007 15:40	39.3	9.7	nm	6.56	477	582	2220	< 4	15700	12700	1730	0.40	2.84	6.8	45	16	28	4390	28700	40.1	1700	0.3
PNR-34-07	3/27/2008 18:00	41.4	9.8	nm	6.64	515	629	2150	< 4	15900	11900	1590	0.20	9.39	6.7	38	17	17	5290	26900	41.3	1430	0.3
PNR-34-07	10/25/2008 11:15	45.5	9.9	0.25	6.60	498	608	2310	< 4	17000	12800	1720	0.20	6.33	6.8	43	12	41	5850	29800	44.4	1740	0.1
PNR-34-07	4/22/2009 16:15	41.5	10.8	0.35	6.56	492	600	1740	< 4	14300	9390	1220	0.50	9.46	6.7	50	10	24	5560	26300	39.4	1470	< 0.1
PNR-34-07	10/6/2009 15:55	44.1	10.2	0.25	6.54	237	289	2100	< 4	17200	11300	1480	0.25	5.17	6.9	46	17	35	6020	31900	41.7	1140	< 0.1
PNR-34-07	4/16/2010 12:20	44.6	10.3	0.37	6.50	503	614	1930	< 4	21300	10400	1340	0.16	11.70	6.8	46	15	31	6780	31500	44.0	1460	0.1
PNR-34-07	9/21/2010 16:20	44.0	9.8	0.54	6.56	511	623	1990	< 4	18200	10400	1330	0.13	8.53	7.1	49	13	23	7050	33700	43.2	1220	0.1
PNR-35-07	3/13/2007 11:15	3.8	9.9	nm	6.54	679	828	240	< 4	84	1300	171	0.90	< 0.05	7.2	8	31	nm	518	3220	4.0	1560	0.4
PNR-35-07	10/2/2007 16:05	4.6	10.2	nm	6.96	670	818	234	< 4	89	1290	172	0.40	< 0.05	7.2	8	22	34	509	3150	4.2	1580	0.4
PNR-35-07	3/26/2008 10:40	3.8	10.1	nm	7.17	686	837	236	< 4	87	1310	176	0.40	< 0.05	7.2	8	22	47	513	3120	4.0	1580	0.4
PNR-35-07	10/22/2008 17:10	3.9	9.9	0.37	7.06	661	806	240	< 4	101	1340	181	0.40	< 0.05	7.3	8	21	70	527	3230	4.0	1620	0.4
PNR-35-07	4/20/2009 18:30	4.0	9.9	0.32	6.82	667	814	246	< 4	79	1350	179	0.50	< 0.05	7.3	10	22	164	490	2830	4.0	1570	0.4
PNR-35-07	10/3/2009 16:45	4.0	10.1	0.46	6.84	659	804	228	< 4	89	1280	173	0.35	0.18	7.3	9	22	163	482	2750	3.9	1400	0.4
PNR-35-07	4/14/2010 14:15	3.7	9.8	0.63	6.82	650	793	235	< 4	106	1320	178	0.38	< 0.01	7.1	11	23	84	536	3250	4.1	1620	0.4
PNR-35-07	9/18/2010 14:30	4.1	9.9	0.75	6.90	650	792	254	< 4	114	1390	184	0.40	0.04	7.3	10	23	107	509	3210	4.0	1480	0.4
PNR-36-07	3/13/2007 11:40	3.2	9.5	nm	7.07	417	509	284	< 4	209	1470	185	< 0.1	77.7	7.1	12	25	nm	272	2690	3.5	1010	< 0.1
PNR-36-07	10/3/2007 16:50	3.2	9.7	nm	6.96	425	518	271	< 4	139	1400	176	< 0.1	68.4	7.1	9	18	30	242	2700	3.6	1200	0.3
PNR-36-07	3/26/2008 0:00	3.1	9.4	nm	6.87	412	503	268	< 4	138	1350	166	< 0.1	56.4	7.2	10	17	20	208	2450	3.1	1050	0.3
PNR-36-07	10/23/2008 15:25	3.5	9.7	0.67	7.04	420	512	302	< 4	265	1560	196	< 0.1	78.7	7.1	11	18	22	289	2810	3.7	1170	0.3
PNR-36-07	4/21/2009 14:35	3.8	9.7	0.15	6.97	410	500	301	< 4	246	1560	197	< 0.1	68.8	7.0	13	16	23	274	2480	3.7	1130	0.3
PNR-36-07	10/2/2009 16:40	3.5	9.5	0.26	6.90	425	518	311	< 4	193	1610	203	< 0.05	61.0	7.2	12	19	23	276	2730	3.5	1240	0.3
PNR-36-07	4/14/2010 12:20	3.2	9.3	0.31	6.90	401	489	278	< 4	191	1440	182	< 0.05	61.0	7.1	12	18	19	233	2610	3.4	1130	0.3
PNR-36-07	9/17/2010 10:30	3.7	9.4	1.05	6.85	430	525	322	< 4	119	1680	214	< 0.05	60.2	7.2	12	19	21	268	3180	3.6	1360	0.2
PNR-38-08	3/26/2008 18:30	6.2	11.5	nm	7.29	508	620	348	< 4	854	1690	200	< 0.1	0.07	7.2	12	29	42	584	3630	5.2	1130	0.2
PNR-38-08	10/23/2008 13:10	6.0	9.7	0.18	7.20	477	581	406	< 4	1160	2030	247	1.80	< 0.05	7.2	12	24	32	618	4050	6.0	1210	0.2
PNR-38-08	4/21/2009 16:30	6.4	9.7	0.14	7.02	458	558	404	< 4	1230	2020	246	1.90	< 0.05	7.2	13	22	26	597	3710	6.3	1160	0.2
PNR-38-08	10/3/2009 17:10	6.7	9.7	0.19	6.83	457	558	425	< 4	1460	2120	257	1.80	< 0.01	7.1	12	22	28	623	4320	6.3	1080	0.2
PNR-38-08	4/14/2010 17:05	6.5	9.8	0.24	7.02	453	552	439	< 4	1620	2200	268	1.69	< 0.01	7.1	13	25	49	689	4700	6.6	1200	0.2
PNR-38-08	9/20/2010 13:35	8.9	9.6	0.42	6.91	442	539	451	< 4	1580	2250	273	1.89	0.03	7.1	12	22	27	669	4740	6.7	1070	0.2
PNR-39-08	6/28/2008 14:20	29.5	9.5	nm	6.70	450	550	2080	< 4	10900	11900	1630	< 0.1	21.5	6.5	39	22	15	2840	20500	28.5	1830	0.2
PNR-39-08	10/23/2008 18:00	30.8	9.7	0.73	6.66	458	559	2120	< 4	11300	12100	1670	< 0.1	32.2	6.8	34	18	22	3020	21100	31.1	1720	0.2
PNR-39-08	4/22/2009 14:40	32.3	10.1	0.30	6.42	448	547	1890	< 4	11200	10800	1470	< 0.1	26.6	6.6	38	6	13	2800	23000	31.2	1670	0.2
PNR-39-08	10/4/2009 14:15	32.8	9.7	0.45	6.48	453	553	1990	< 4	11600	11100	1490	< 0.05	26.6	6.8	36	25	21	2940	22800	30.9	1260	0.2
PNR-39-08	4/16/2010 11:05	31.9	10.1	1.84	6.22	372	454	1910	< 4	13000	10800	1460	< 0.05	30.4	6.8	39	18	17	3150	21300	31.4	1430	0.2
PNR-39-08	9/21/2010 15:45	30.3	9.5	0.94	6.53	4.64	566	1940	< 4	11500	10700	1420	< 0.05	27.4	7.2	38	19	17	2920	26200	28.9	1270	0.2
USGS-06-1	1/10/2008 12:53	3.1	9.7	nm	6.99	394	481	257	< 4	200	1390	182	NA	NA	7.3	9	21	NA	166	2340	3.0	1040	0.2
USGS-06-1	4/17/2009 17:15	3.1	10.1	0.49	7.16	390	476	240	< 4	229	1310	172	< 0.1	11.30	7.4	9	22	50	165	2270	2.9	973	0.3
USGS-06-2	4/18/2009 13:50	5.9	10.2	nm	7.27	315	384	390	< 4	791	2400	346	< 0.1	22.20	7.6	8	19	116	523	4250	6.0	1910	0.5
USGS-06-7	10/4/2007 17:50	1.1	9.6	nm	8.18	441	530	20	< 4	13	90	10	0.60	2.65	8.0	3	16	17	240	748	1.3	172	0.4
USGS-06-8	4/19/2009 13:05	1.2	9.8	0.08	7.67	440	519	21	9	15	99	11	0.60	< 0.05	7.9	4	16	17	236	734	1.2	168	0.5

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
USGS-06-11	4/20/2009 17:35	1.2	8.2	0.11	7.11	472	575	32	< 4	14	155	18	0.40	< 0.05	7.8	4	18	18	222	751	1.2	166	0.4
USGS-92-6	4/16/2009 16:13	10.0	8.3	0.30	7.03	363	443	367	< 4	2990	1650	178	0.80	< 0.05	7.3	12	17	20	1420	4820	10.1	486	0.2
USGS-92-7	4/15/2009 15:40	10.8	8.6	0.31	7.42	407	496	216	< 4	3290	899	88	2.40	< 0.05	7.4	20	14	13	1930	5580	10.8	371	0.3
USGS-92-9	4/15/2009 17:02	11.5	8.5	0.65	7.15	324	395	489	< 4	3480	2050	203	0.60	< 0.05	7.1	12	13	15	1610	6500	11.4	683	0.2
USGS-92-12	6/1/2000 0:00	2.7	10.8	nm	6.50	389	474	240	< 1	11	1670	260		3.94	7.9	14	nm	nm	95	2330	2.6	1410	nm
USGS-92-12	8/7/2001 11:35	2.2	9.8	nm	6.70	422	515	203	< 1	7	1420	222	<0.1	4.37	7.2	12	25	nm	92	2520	2.6	1360	nm
USGS-92-12	8/15/2001 14:40	mnw	9.3	nm	7.70	422	515	220	< 1	8	1520	235	<0.1	4.28	7.4	13	28	nm	94	2310	2.4	1450	nm
USGS-92-12	11/6/2001 14:30	1.7	10.0	nm	7.10	420	512	197	< 1	6	1370	212	<0.1	5.01	7.4	13	nm	32	83	2150	2.3	1200	nm
USGS-92-12	2/20/2002 14:25	2.3	10.0	nm	7.38	458	558	171	< 4	6	1270	205	<0.1	5.07	7.3	11	29	nm	84	2140	2.5	1220	nm
USGS 92-12	5/21/2002 14:05	2.6	12.7	nm	7.57	403	491	174	< 4	<10	1220	191	<0.1	4.98	7.6	11	27	nm	85	2040	2.3	1250	0.4
USGS 92-12	8/19/2002 16:00	2.4	9.7	nm	7.20	413	504	197	< 4	6	1520	249	< 0.1	5.53	7.4	12	24	22	90	2420	2.7	1400	0.4
USGS-92-12	11/5/2002 12:00	2.6	9.8	nm	7.31	422	514	226	< 4	6	1540	237	< 0.1	6.05	7.4	14	26	30	97	2560	2.9	1480	0.4
USGS-92-12	3/4/2003 11:30	2.3	8.4	nm	7.22	404	493	190	< 4	10	1360	216	< 0.1	6.28	7.5	13	26	27	97	2190	2.4	1190	0.4
USGS-92-12	5/13/2003 14:15	2.0	8.8	nm	8.04	415	507	187	< 4	7	1330	211	< 0.1	6.22	7.4	13	24	25	89	2030	2.3	1170	0.4
USGS-92-12	8/13/2003 7:48	2.0	10.1	nm	8.10	415	507	203	< 1	4	1440	226	< 0.1	5.48	7.4	13	26	30	101	2450	2.6	1370	0.4
USGS-92-12	11/5/2003 10:00	3.1	9.2	nm	7.97	410	500	152	< 4	4	1140	184	< 0.1	6.83	7.6	15	27	32	79	1820	2.0	924	0.4
USGS-92-12	March 2004	Not Sampled																					
USGS-92-12	6/8/2004 9:15	2.3	9.7	nm	7.60	402	490	203	< 4	4	1450	230	< 0.1	5.32	7.4	13	23	38	117	2500	2.8	1390	0.5
USGS-92-12	9/14/2004 11:08	3.0	11.5	nm	7.76	418	510	280	< 4	6	1990	314	< 0.1	7.11	7.5	19	29	31	133	3160	3.3	1840	0.4
USGS-92-12	11/16/2004 9:20	3.1	10.3	nm	7.18	407	496	256	< 4	6	1800	282	< 0.1	8.27	7.4	19	29	29	129	2760	3.1	1670	0.5
USGS-92-12	3/1/2005 12:40	2.5	9.3	nm	7.37	425	518	191	< 4	4	1410	226	< 0.1	8.57	7.4	15	27	27	117	2260	2.5	1250	0.4
USGS-92-12	5/24/2005 10:43	2.3	9.0	nm	7.39	356	434	177	< 4	4	1280	203	< 0.1	9.06	7.5	15	24	23	110	2260	2.6	1120	0.4
USGS-92-12	8/17/2005 9:10	2.9	11.3	nm	7.26	434	529	250	< 4	5	1780	282	< 0.1	5.00	7.5	18	27	42	136	2930	3.2	1680	0.4
USGS-92-12	11/15/2005 14:41	2.7	9.4	nm	7.50	392	478	226	< 4	5	1650	263	< 0.1	5.99	7.6	16	28	56	125	2440	2.8	1420	0.4
USGS-92-12	2/7/2006 15:32	2.2	9.1	nm	7.43	426	520	193	< 4	4	1420	227	< 0.1	7.57	7.5	15	28	28	117	2160	2.5	1180	0.4
USGS-92-12	5/24/2006 10:55	1.8	9.3	nm	7.41	401	490	169	< 4	4	1270	205	< 0.1	7.54	8.2	14	28	29	109	1860	2.3	1070	0.4
USGS-92-12	8/22/2006 11:45	1.6	8.8	nm	7.47	368	448	154	< 4	3	1150	187	< 0.1	8.95	7.4	14	29	31	102	1780	2.3	943	0.4
USGS-92-12	12/6/2006 10:30	1.9	7.0	nm	7.60	365	446	136	< 4	3	1010	162	< 0.1	8.53	7.6	13	28	29	94	1630	2.1	856	0.5
USGS-92-12	3/13/2007 12:55	1.8	9.7	nm	7.12	353	430	135	< 4	3	990	158	< 0.1	9.15	7.8	13	28	nm	92	1510	2.0	772	0.5
USGS-92-12	10/2/2007 17:10	2.5	12.1	nm	7.30	380	464	208	< 4	4	1410	215	< 0.1	9.19	7.6	13	17	92	106	2220	2.8	1240	0.5
USGS-92-12	3/25/2008 15:30	2.1	9.3	nm	7.20	364	445	145	< 4	3	1040	166	< 0.1	11.30	7.6	10	27	30	86	1610	2.1	912	0.5
USGS-92-12	10/22/2008 17:00	1.8	8.6	0.59	7.03	345	421	133	< 4	3	958	152	< 0.1	10.10	7.5	11	29	33	91	1450	1.9	733	0.6
USGS-92-12	4/17/2009 12:30	1.8	8.6	2.12	7.22	340	415	130	< 4	3	915	143	< 0.1	10.20	7.6	11	26	86	72	1460	1.9	751	0.5
USGS-92-12	10/2/2009 16:30	2.7	8.9	1.21	7.20	373	456	220	< 4	4	1550	244	< 0.05	7.80	7.4	15	27	54	109	2360	2.8	1340	0.5
USGS-92-12	4/13/2010 14:30	2.1	8.8	0.72	7.17	372	454	165	< 4	3	1160	182	< 0.05	9.00	7.5	14	27	30	98	1840	2.2	963	0.5
USGS-92-12	9/16/2010 14:00	2.6	8.7	1.09	7.09	398	485	197	< 4	3	1380	215	< 0.05	5.75	7.4	15	27	36	109	2180	2.5	1160	0.5
USGS 93-3	6/1/2000 0:00	97.6	24.8	nm	6.50	396	483	1080	< 1	39800	3770	257	nm	< 0.05	7.1	403	nm	nm	23400	67000	87.0	1730	nm
USGS 93-3	8/7/2001 18:55	94.9	25.2	nm	6.80	456	556	960	< 1	41600	3390	241	15.0	< 0.05	6.9	425	19	nm	22600	68200	79.2	100	nm
USGS 93-3	8/15/2001 19:10	79.3	24.7	nm	6.90	418	510	960	< 1	41800	3450	257	15.7	< 0.05	7.0	430	22	nm	25300	68400	73.9	2320	nm
USGS 93-3	11/7/2001 10:05	or	24.4	nm	6.10	472	576	930	< 1	39700	3290	236	15.6	< 0.05	6.7	383	nm	22	23600	62300	52.3	1270	nm
USGS-93-3	2/20/2002 9:00	92.0	24.8	nm	6.46	395	482	929	< 4	42300	3310	241	15.9	< 0.05	6.8	422	15	nm	22500	67200	61.2	888	nm
USGS 93-3	5/22/2002 9:30	92.1	23.9	nm	6.62	434	529	916	< 4	42100	3150	210	14.9	< 0.05	6.8	386	22	nm	22800	68100	69.3	1870	0.2
USGS 93-3	8/20/2002 16:25	90.0	24.5	nm	6.40	463	565	897	< 4	42400	3230	242	14.9	< 0.05	6.8	284	20	20	22800	68000	71.7	1170	0.2
USGS-93-3	11/5/2002 16:10	99.4	24.0	nm	6.56	469	572	981	< 4	38400	3420	236	14.9	< 0.05	6.8	439	12	20	22800	67700	61.7	1240	0.2
USGS-93-3	3/4/2003 15:45	95.0	23.5	nm	6.50	458	559	900	< 4	41000	3130	215	14.3	< 0.05	6.8	416	19	19	23900	67600	51.5	1180	0.2
USGS-93-3	5/28/2003 13:15	90.8	24.6	nm	6.62	512	625	886	< 1	40200	3130	222	14.0	< 0.05	6.7	486	20	20	24100	68100	93.5	967	0.2
USGS-93-3	8/14/2003 14:08	81.3	25.0	nm	6.81	517	631	867	< 1	41800	3050	216	15.3	< 0.05	6.7	446	22	24	22900	68600	88.6	791	0.2
USGS-93-3	11/4/2003 16:45	86.7	23.2	nm	6.45	510	622	606	< 4	41900	2210	168	15.7	< 0.05	6.8	427	17	20	19600	67500	50.4	859	0.2
USGS-93-3	March 2004	Not Sampled																					
USGS-93-3	6/8/2004 19:05	90.6	23.9	nm	6.76	468	571	911	< 4	40000	3130	208	15.2	< 0.05	6.8	416	23	26	22400	66500	96.7	1330	0.2
USGS-93-3	9/14/2004 16:25	99.6	24.5	nm	7.12	464	566	991	< 4	43300	3440	234	16.6	< 0.05	6.9	467	25	27	24700	68300	98.6	1360	0.2
USGS-93-3	11/17/2004 12:15	107.6	22.9	nm	6.75	438	534	922	< 4	35800	3200	220	14.7	< 0.05	6.7	538	19	20	23700	66900	98.6	1100	0.2
USGS-93-3	3/2/2005 11:05	96.1	23.0	nm	6.55	466	568	1010	< 4	43300	3470	230	15.9	< 0.05	6.8	500	22	22	27100	66700	97.6	1300	0.2
USGS-93-3	5/25/2005 15:52	101.5	23.3	nm	6.43	399	487	1040	< 4	42500	3580	241	15.8	< 0.05	6.7	569	20	18	27200	64600	95.5	1400	0.3
USGS-93-3	8/17/2005 12:55	101.2	25.7	nm	6.45	449	548	990	< 4	37900	3390	224	14.0	0.54	6.9	421	14	23	24700	65800	97.3	1250	0.2
USGS-93-3	11/16/2005 16:40	106.2	22.0	nm	6.75	384	468	1130	< 4	42700	3900	263	15.8	<0.05	6.8	472	20	19	27600	63600	98.5	1270	0.2
USGS-93-3	2/9/2006 15:20	98.9	20.0	nm	6.81	431	525	977	< 4	40700	3210	188	21.3	<0.05	6.9	521	23	22	24700	64100	96.7	1350	0.2
USGS-93-3	5/24/2006 18:20	89.9	23.0	nm	6.53	409	499	1020	< 4	42900	3360	200	18.7	< 0.05	7.4	470	22	21	25100	56600	97.1	1340	0.2
USGS-93-3	8/23/2006 14:50	97.9	23.2	nm	6.49	390	476	964	< 4	40900	3170	186	14.6	< 0.05	6.7	403	24	34	24200	63100	99.8	1330	0.2
USGS-93-3	12/7/2006 12:05	95.2	21.6	nm	6.45	400	488	947	< 4	41100	3190	199	16.3	< 0.05	6.9	445	24	21	23800	64300	99.5	1320	0.2
USGS-93-3	3/15/2007 13:30	90.8	22.4	nm	6.41	401	489	1040	< 4	41900	3590	240	17.1	< 0.05	6.8	468	138	nm	26000	64700	96.7	1240	0.2
USGS-93-3	10/3/2007 11:50	89.3	22.6	nm	6.92	396	483	936	< 4	40300	3170	201	15.6	< 0.05	6.7	375	23	26	21800	61600	98.6	1330	0.2

Table 2 - Inorganic Water Chemistry Data
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Field SC mS	Field Temp. °C	Field D.O. mg/L	Field pH S.U.	Alkalinity as $CaCO_3$ mg/l	Bicarbonate mg/l	Calcium mg/l	Carbonate mg/l	Chloride mg/l	Hardness, Total as $CaCO_3$ mg/l	Magnesium mg/l	Nitrogen, Ammonia mg/l	Nitrogen, Nitrate plus Nitrite mg/l	Lab pH S.U.	Potassium mg/l	Silica, Dissolved mg/l	Silica, Total mg/l	Sodium mg/l	Total Dissolved Solids @ 180° C mg/l	Specific Conductance @ 25° C mS/cm	Sulfate mg/l	Flouride mg/l
USGS-93-3	3/27/2008 11:15	82.8	24.0	nm	6.83	434	529	846	< 4	37300	2950	202	13.0	< 0.05	6.8	386	22	67	21200	55700	85.6	2440	0.2
USGS-93-3	10/26/2008 11:45	76.9	22.0	0.06	6.85	431	526	919	< 4	36000	3190	219	15.8	< 0.05	7.0	358	17	32	21000	53700	81.2	1340	0.2
USGS-93-3	4/15/2009 15:00	64.5	20.6	0.06	6.75	714	871	597	< 4	25200	2180	168	9.6	< 0.05	7.2	272	16	< 20	15600	40800	66.3	987	0.3
USGS-93-3	10/1/2009 14:00	60.8	19.7	0.26	6.69	674	822	578	< 4	26400	2120	164	9.4	< 0.01	7.1	239	27	37	14000	38000	61.5	884	0.2
USGS-93-3	4/15/2010 11:55	58.9	19.8	0.82	7.15	695	847	515	< 4	25100	1910	152	8.2	< 0.01	7.1	244	21	32	14300	36700	57.2	1020	0.3
USGS-93-3	9/16/2010 10:25	47.5	19.1	0.86	7.00	817	997	408	< 4	17700	1540	127	7.7	< 0.01	7.2	185	21	52	11400	27900	44.9	1130	0.3
USGS-93-4A	4/18/2009 17:05	3.2	9.0	0.29	7.28	811	990	131	< 4	30	721	96	< 0.1	22.20	7.6	7	23	24	507	2080	3.2	880	0.4
USGS-93-5	4/17/2009 15:00	27.7	9.7	0.09	6.96	313	382	658	< 4	9470	3120	359	1.60	< 0.05	6.8	26	6	17	4640	15800	27.1	355	0.2
Whitmer	5/31/2000 0:00	3.3	10.1	nm	9.20	353	429	133	< 1	794	695	88	nm	< 0.05	8.2	8	nm	nm	432	1970	3.2	279	nm
Whitmer	8/10/2001 10:00	3.9	10.8	nm	7.70	366	447	168	< 1	1020	893	115	0.60	< 0.05	7.4	10	14	nm	524	2520	3.9	287	nm
Whitmer	8/22/2001 15:30	3.4	11.1	nm	nm	360	439	155	< 1	1020	820	105	0.70	< 0.05	7.5	8	14	nm	445	2470	3.8	270	nm
Whitmer	11/9/2001 10:20	3.5	9.7	nm	7.60	343	418	168	< 1	1060	879	111	0.80	< 0.05	7.5	9	nm	16	484	2410	4.0	285	nm
Whitmer	2/22/2002 14:45	4.7	10.7	nm	7.76	353	430	165	< 4	1110	865	110	0.80	< 0.05	7.6	8	15	nm	472	2530	4.2	288	nm
Whitmer	5/22/2002 16:35	4.4	10.2	nm	7.63	339	414	164	< 4	1290	870	112	0.70	< 0.05	7.6	9	17	nm	457	2650	4.3	222	0.2
Whitmer	8/21/2002 9:35	3.8	10.8	nm	7.50	331	404	187	< 4	1240	918	110	0.80	< 0.05	7.6	9	12	10	512	2710	4.4	296	0.2
Whitmer	11/5/2002 14:20	4.3	10.3	nm	7.66	334	407	197	< 4	1250	1020	129	0.90	< 0.05	7.5	10	13	17	509	2670	4.7	309	0.2
Whitmer	3/4/2003 14:10	4.2	9.9	nm	8.10	318	388	215	< 4	1310	1020	151	0.80	< 0.05	7.3	10	14	16	619	2720	5.0	320	0.2
Whitmer	5/13/2003 17:00	5.0	11.0	nm	7.48	329	402	216	< 4	1330	1130	144	0.90	< 0.05	7.4	12	14	15	531	2760	4.5	306	0.2
Whitmer	8/14/2003 12:10	4.0	11.2	nm	7.45	326	398	221	< 1	1350	1130	141	0.70	< 0.05	7.5	11	14	16	536	2950	4.6	267	0.3
Whitmer	11/4/2003 16:00	4.6	11.0	nm	7.27	323	395	224	< 4	1490	1170	148	1.00	< 0.05	7.5	12	14	16	548	2940	4.7	248	0.2
Whitmer	3/18/2004 13:05	6.7	14.6	nm	7.95	326	398	246	< 1	1530	1280	161	1.00	< 0.05	7.4	11	15	16	547	3130	4.9	267	0.2
Whitmer	6/9/2004 8:45	5.2	10.8	nm	7.74	327	399	239	< 4	1570	1240	156	1.00	< 0.05	7.5	13	14	16	634	3500	5.5	359	0.3
Whitmer	9/16/2004 11:20	4.6	12.5	nm	7.92	330	403	262	< 4	1510	1350	168	0.90	< 0.05	7.6	12	15	17	593	3520	5.5	320	0.2
Whitmer	11/18/2004 16:00	5.9	10.6	nm	7.35	297	362	269	< 1	1610	1400	177	1.00	< 0.05	7.3	11	15	17	608	3420	5.7	327	0.2
Whitmer	3/2/2005 16:44	5.4	9.2	nm	7.54	328	400	277	< 4	1670	1470	188	1.10	0.11	7.5	13	15	16	676	3470	5.7	324	0.3
Whitmer	8/16/2005 15:00	5.8	15.7	nm	7.40	322	393	283	< 4	1610	1500	192	1.10	< 0.05	7.7	11	15	15	636	3800	5.8	329	0.2
Whitmer	11/17/2005 10:25	6.5	10.5	nm	7.48	289	352	315	< 4	1790	1670	214	1.10	< 0.05	7.5	11	16	16	687	3660	6.0	323	0.2
Whitmer	2/9/2006 11:15	6.2	9.8	nm	8.10	316	386	278	< 4	1690	1440	182	1.20	< 0.05	7.4	15	15	17	650	3460	6.0	379	0.2
Whitmer	5/25/2006 11:21	5.0	10.6	nm	7.50	302	369	307	< 4	1820	1600	204	1.20	< 0.05	7.9	14	16	18	708	3630	6.2	348	0.2
Whitmer	8/24/2006 11:45	5.5	10.1	nm	7.52	284	346	316	< 4	1810	1630	204	1.20	< 0.05	7.2	14	16	17	687	4240	6.6	342	0.2
Whitmer	12/7/2006 13:30	6.4	9.0	nm	7.66	286	349	321	< 4	1840	1640	203	1.30	< 0.05	7.3	12	15	17	684	4010	6.8	351	0.2
Whitmer	3/14/2007 16:55	6.2	9.3	nm	7.53	284	347	339	< 4	1930	1770	225	1.30	< 0.05	7.4	13	20	nm	732	4300	6.9	340	0.2
Whitmer	10/5/2007 18:00	6.9	9.3	nm	7.33	274	335	347	< 4	1980	1820	231	1.40	< 0.05	7.2	14	15	17	731	4520	7.1	365	0.2
Whitmer	3/27/2008 11:10	7.2	9.6	nm	7.61	284	346	367	< 4	2100	1930	246	1.30	< 0.05	7.2	13	16	17	743	4320	7.2	344	0.2
Whitmer	10/27/2008 17:55	7.3	9.6	0.13	7.24	276	337	390	< 4	2170	2050	262	1.40	< 0.05	7.4	14	16	17	812	4990	7.4	411	0.2
Whitmer	4/21/2009 19:00	7.9	9.7	0.11	7.38	269	328	368	< 4	2180	1930	246	1.40	< 0.05	7.1	15	12	16	750	4110	7.6	394	0.2
Whitmer	10/1/2009 15:04	7.8	9.5	0.26	7.24	268	327	420	< 4	2540	2210	283	1.46	< 0.01	7.3	13	17	18	824	4900	7.9	317	0.2
Whitmer	4/13/2010 12:05	7.9	9.6	0.35	7.17	262	320	432	< 4	2720	2260	287	1.35	< 0.01	7.2	16	15	16	838	5300	8.0	340	0.2
Whitmer	9/22/2010 15:00	7.6	9.4	0.16	7.13	263	321	430	< 4	2480	2220	278	1.43	< 0.01	7.6	15	15	18	877	5340	8.2	310	0.2
Whitmer (city)	5/26/2005 10:20	1.7	8.5	nm	7.48	433	529	55	< 4	149	255	29	0.20	< 0.05	7.7	6	18	18	302	1150	1.8	237	0.5
Lockman (city)	5/26/2005 11:05	2.4	9.3	nm	7.58	432	521	58	< 4	173	273	31	< 0.1	< 0.05	7.6	5	19	17	312	1170	1.8	235	0.5

Notes:
nm = Not measured
mnw = Meter failure, reading recorded in field notes but not used
or = Over range of meter, SC>2.0 mS
< # = Not detected, number shown is reporting limit

Table 3

BTEX and TPH Analytical Results

Table 3 - BTEX and TPH Analyses
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
LAW-M01	4/20/2009 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
LAW-M03	3/13/2007 17:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
LAW-M03	3/27/2008 10:30	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
LAW-M03	10/23/2008 15:35	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0
LAW-M03	4/18/2009 15:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
LAW-M03	4/13/2010 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
LAW-M05	4/20/2009 17:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
M-10	4/16/2009 15:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
M-18	11/8/2001 15:30	53	21	1.8	10	0.2
M-18	8/23/2006 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-18	12/6/2006 12:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-18	4/22/2009 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-18	10/6/2009 16:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-18	4/19/2010 17:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-18	9/20/2010 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	8/16/2001 14:35	< 0.5	0.32 (J)	< 0.5	< 0.5	< 0.1
M-27	8/16/2001 14:45	< 0.5	0.28 (J)	< 0.5	< 0.5	< 0.1
M-27	11/8/2001 8:50	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
M-27	2/20/2002 15:42	< 0.5	< 0.5	< 0.5	< 0.5	1.5
M-27	5/21/2002 15:05	< 0.5	< 0.5	< 0.5	< 0.5	1.3
M-27	8/20/2002 17:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	11/6/2002 9:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	3/5/2003 13:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	5/13/2003 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	8/13/2003 11:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	11/6/2003 10:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	March-04	Not sampled				
M-27	6/8/2004 15:15	0.77	< 0.5	< 0.5	0.52	< 0.1
M-27	11/18/2004 15:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	3/1/2005 12:05	< 0.5	< 0.5	< 0.5	0.48	< 0.1
M-27	5/24/2005 11:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	8/16/2005 10:20	< 0.5	< 0.5	0.49	0.45	< 0.1
M-27	11/15/2005 14:28	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	2/7/2006 13:10	< 0.5	0.50	< 0.5	0.49 (J)	< 0.1
M-27	5/23/2006 14:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	8/22/2006 14:30	< 0.5	0.41 (J)	< 0.5	< 0.5	0.5
M-27	12/6/2006 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	3/14/2007 17:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
M-27	10/4/2007 12:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	3/27/2008 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-27	10/24/2008 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
M-27	4/22/2009 9:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
M-27	10/5/2009 17:20	6.1	1.30	< 0.5	0.81	< 1.0
M-27	4/16/2010 17:35	1.4	0.49	< 0.5	< 0.5	2.9
M-27	9/21/2010 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
M-28	6/1/2000	14	2.8	< 0.5	< 0.5	nm
M-28	8/9/2001 12:15	19	< 0.5 (J)	< 0.5	< 1.0	< 0.1
M-28	8/16/2001 17:00	19	< 0.5	< 0.5	< 0.5	< 0.1
M-28	11/8/2001 12:00	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
M-28	2/21/2002 8:40	20	< 0.5	< 0.5	< 0.5	2.7
M-28	5/23/2002 9:30	21	< 0.5	< 0.5	< 0.5	< 0.1
M-28	8/21/2002 10:00	23	< 0.5	< 0.5	< 0.5	< 0.1
M-28	11/6/2002 11:20	22	< 0.5	< 0.5	< 0.5	< 0.1
M-28	3/5/2003 15:30	20	< 0.5	< 0.5	< 0.5	< 0.1
M-28	5/13/2003 16:45	23	< 0.5	< 0.5	< 0.5	< 0.1
M-28	8/13/2003 15:35	21	< 0.5	< 0.5	< 0.5	< 0.1
M-28	11/5/2003 10:30	19	< 0.5	< 0.5	< 0.5	< 0.1

Table 3 - BTEX and TPH Analyses
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
M-28	3/16/2004 17:30	12	< 0.5	< 0.5	< 0.5	< 0.1
M-28	6/8/2004 17:18	22	< 0.5	< 0.5	0.91	< 0.1
M-28	11/19/2004 8:36	18	< 0.5	< 0.5	< 0.5	< 0.1
M-28	3/1/2005 15:45	19	< 0.5	< 0.5	< 0.5	< 0.1
M-28	5/24/2005 13:10	16	< 0.5	< 0.5	< 0.5	< 0.1
M-28	8/16/2005 13:15	16	< 0.5	< 0.5	< 0.5	< 0.1
M-28	11/15/2005 16:35	18	< 0.5	< 0.5	< 0.5	< 0.1
M-28	2/7/2006 16:30	19	< 0.5	< 0.5	< 0.5	< 0.1
M-28	5/23/2006 16:20	18	< 0.5	< 0.5	< 0.5	< 0.1
M-28	8/22/2006 16:45	20	< 0.5	< 0.5	< 0.5	< 0.1
M-28	12/6/2006 14:40	19	< 0.5	< 0.5	< 0.5	< 0.1
M-28	3/15/2007 10:15	19	< 0.5	< 0.5	< 0.5	< 0.1 (H)
M-28	10/3/2007 16:40	19	< 0.5	< 0.5	< 0.5	< 0.1
M-28	3/27/2008 9:50	15	< 0.5	< 0.5	< 0.5	< 0.1
M-28	10/26/2008 14:30	12	< 0.5	< 0.5	< 0.5	< 1.0
M-28	4/15/2009 11:20	6.4	< 0.5	< 0.5	< 0.5	< 1.0
M-28	10/1/2009 15:45	5.5	< 0.5	< 0.5	< 0.5	< 1.0
M-28	4/15/2010 11:30	1.5	< 0.5	< 0.5	< 0.5	< 1.0
M-28	9/16/2010 11:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
M-30	6/1/2000	< 0.5	< 0.5	< 0.5	< 0.5	nm
M-30	2/22/2002 13:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-30	5/22/2002 17:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-30	8/21/2002 10:40	< 0.5	0.49	< 0.5	< 0.5	< 0.1
M-30	11/19/2004 8:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-30	3/2/2005 17:50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
M-31	6/1/2000	41	0.88	< 0.5	< 0.5	nm
M-31	8/9/2001 11:05	47	< 0.5	< 0.5	< 1.0	< 0.1
M-31	8/16/2001 17:30	38	< 0.5	< 0.5	< 0.5	< 0.1
M-31	11/8/2001 16:00	24	< 0.5	< 0.5	< 1.0	< 0.1
M-31	2/21/2002 9:45	42	< 0.5	< 0.5	< 0.5	3.4
M-31	5/22/2002 15:45	38	< 0.5	< 0.5	< 0.5	< 0.1
M-31	8/21/2002 10:45	41	< 0.5	< 0.5	< 0.5	< 0.1
M-31	11/6/2002 10:35	23	< 0.5	< 0.5	< 0.5	< 0.1
M-31	3/5/2003 14:10	38	< 0.5	< 0.5	< 0.5	< 0.1
M-31	5/13/2003 16:00	37	< 0.5	< 0.5	< 0.5	< 0.1
M-31	8/13/2003 14:40	35	< 0.5	< 0.5	< 0.5	< 0.1
M-31	11/5/2003 11:35	30	< 0.5	< 0.5	< 0.5	< 0.1
M-31	3/16/2004 16:00	32	< 0.5	< 0.5	< 0.5	< 0.1
M-31	6/8/2004 16:40	35	< 0.5	< 0.5	< 0.5	< 0.1
M-31	11/18/2004 17:00	32	< 0.5	< 0.5	< 0.5	< 0.1
M-31	3/1/2005 13:45	32	< 0.5	< 0.5	< 0.5	< 0.1
M-31	5/24/2005 15:05	28	< 0.5	< 0.5	< 0.5	< 0.1
M-31	8/16/2005 11:30	29	< 0.5	< 0.5	< 0.5	< 0.1
M-31	11/15/2005 15:30	29	< 0.5	< 0.5	< 0.5	< 0.1
M-31	2/7/2006 14:00	30	< 0.5	< 0.5	< 0.5	< 0.1
M-31	5/23/2006 17:20	27	< 0.5	< 0.5	< 0.5	< 0.1
M-31	8/23/2006 13:30	29	< 0.5	< 0.5	< 0.5	< 0.1
M-31	12/6/2006 15:45	28	< 0.5	< 0.5	< 0.5	< 0.1
M-31	3/15/2007 11:30	30	< 0.5	< 0.5	< 0.5	< 0.1 (H)
M-31	10/4/2007 14:30	30	< 0.5	< 0.5	0.66	< 0.1
M-31	3/27/2008 10:30	24	< 0.5	< 0.5	0.66	< 0.1
M-31	10/26/2008 17:20	27	< 0.5	< 0.5	0.66	< 1.0
M-31	4/15/2009 16:15	25	< 0.5	< 0.5	< 0.5	< 1.0
M-31	10/1/2009 16:20	25	< 0.5	< 0.5	< 0.5	< 1.0
M-31	4/15/2010 13:10	25	< 0.5	< 0.5	< 0.5	< 1.0
M-31	9/16/2010 11:10	26	< 0.5	< 0.5	< 0.5	5.5
M-32	11/9/2001 9:00	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
M-36	9/5/2001 15:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-36	11/9/2001 11:00	< 0.5	< 0.5	< 0.5	< 1.0	nm

Table 3 - BTEX and TPH Analyses
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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
M-38	9/5/2001 16:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
M-38	11/9/2001 11:40	< 0.5	< 0.5	< 0.5	< 0.1	nm
M-39	11/7/2001 15:45	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
M-69	4/15/2009 14:17	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
M-80	4/18/2009 15:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-1B	10/16/2006 15:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-1B	3/14/2007 12:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
MOC-1B	10/3/2007 10:35	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
MOC-1B	3/25/2008 18:30	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
MOC-1B	10/23/2008 14:15	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0
MOC-1B	4/21/2009 12:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-1B	10/3/2009 12:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-1B	4/13/2010 17:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-1B	9/16/2010 15:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-2	10/16/2006 17:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-2	3/13/2007 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-2	10/5/2007 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-2	3/26/2008 17:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-2	10/25/2008 13:07	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-2	4/21/2009 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-2	10/3/2009 14:55	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-2	4/16/2010 15:35	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-2	9/21/2010 14:21	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-3	10/17/2006 12:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-3	3/14/2007 11:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
MOC-3	10/2/2007 19:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-3	3/25/2008 16:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-3	10/23/2008 12:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-3	4/20/2009 19:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-3	10/3/2009 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-3	4/13/2010 15:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-3	9/16/2010 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-4	10/17/2006 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-4	10/4/2007 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-4	3/26/2008 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-4	10/25/2008 12:08	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-4	4/23/2009 13:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-4	10/3/2009 12:50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-4	4/14/2010 17:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-4	9/22/2010 12:25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-20A	10/16/2006 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-20A	3/13/2007 13:40	< 0.5	0.67	< 0.5	< 0.5	< 0.1
MOC-20A	10/3/2007 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-20A	3/26/2008 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-20A	10/24/2008 11:46	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-20A	4/22/2009 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-20A	10/4/2009 9:10	< 0.5	0.63	< 0.5	< 0.5	< 1.0
MOC-20A	4/14/2010 10:20	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-20A	9/17/2010 9:30	< 0.5	0.83	< 0.5	< 0.5	< 1.0
MOC-20B	10/16/2006 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-20B	3/13/2007 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-20B	10/3/2007 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-20B	3/26/2008 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
MOC-20B	10/23/2008 17:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-20B	4/21/2009 12:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
MOC-20B	10/2/2009 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-20B	4/14/2010 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
MOC-20B	9/21/2010 13:27	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-4	8/10/2001 13:15	422	885 (T)	233	594	628.0
PNR-4	8/10/2001 13:20	375	835 (T)	123	349	635.0
PNR-4	11/8/2001 15:00	437	2040	1280	3850	992.0
PNR-4	Plugged and abandoned					
PNR-5	6/1/2000 0:00	1.2	0.75	6.7	4.2	< 0.1
PNR-5	8/8/2001 11:00	0.9	1.6	3.9	< 1.0	< 0.1
PNR-5	8/15/2001 11:00	2.1	8.8	2.6	8.1	1.4
PNR-5	11/7/2001 11:10	< 0.5	< 10	< 5.0	<5.0	< 0.1
PNR-5	2/20/2002 10:02	1.2	0.98	4.3	0.68	< 0.1
PNR-5	5/22/2002 10:40	1.0	1.2	8.5	0.85	< 0.1
PNR-5	8/20/2002 17:10	0.9	0.37	6.2	0.62	1.3
PNR-5	11/6/2002 11:10	1.4	0.93	6.9	0.57	< 0.1
PNR-5	3/4/2003 16:30	0.9	< 0.5	5.8	< 0.5	< 0.1
PNR-5	5/28/2003 12:35	0.7	0.61	9.6	0.87	< 0.1
PNR-5	8/13/2003 14:59	0.86	< 0.5	4.5	0.72	< 0.1
PNR-5	11/4/2003 15:30	1.3	1.0	10.0	1.1	< 0.1
PNR-5	3/17/2004 10:15	0.74	1.3	14	1.1	< 0.1
PNR-5	6/9/2004 9:40	1.4	< 0.5	23	< 0.5	< 0.1
PNR-5	9/14/2004 16:20	1.1	25	1.3	< 0.5	< 0.1
PNR-5	11/17/2004 13:50	0.99	25	< 0.5	1.1	< 0.1
PNR-5	3/2/2005 12:15	1.1	36	1.3	< 0.5	< 0.1
PNR-5	5/25/2005 17:20	0.9	30	0.71	< 0.5	1.0
PNR-5	8/17/2005 11:00	0.8	40	0.46	< 0.5	< 0.1
PNR-5	11/16/2005 13:00	1.1	1.1	65	< 0.5	< 0.1
PNR-5	2/9/2006 15:20	0.43 (J)	< 0.5	73	0.38 (J)	< 0.1
PNR-5	5/25/2006 10:30	0.46 (J)	< 0.5	60	< 0.5	< 0.1
PNR-5	8/23/2006 15:40	0.7	< 0.5	64	< 0.5	< 0.1
PNR-5	12/7/2006 13:25	0.8	< 0.5	58	< 0.5	< 0.1
PNR-5	3/14/2007 14:14	0.75	1.2	85	< 0.5	< 0.1
PNR-5	10/5/2007 11:40	< 0.5	< 0.5	0.43	0.76	< 0.1
PNR-5	3/27/2008 16:30	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
PNR-5	10/27/2008 13:35	< 0.5	< 1.0	28	< 1.0	< 1.0
PNR-5	4/15/2009 14:20	< 0.5	< 0.5	6.7	< 0.5	< 1.0
PNR-5	10/2/2009 14:00	< 0.5	< 0.5	2.6	< 0.5	< 1.0
PNR-5	4/15/2010 16:45	< 0.5	< 0.5	2.4	< 0.5	< 1.0
PNR-5	9/21/2010 11:15	< 0.5	< 0.5	2.4	< 0.5	< 1.0
PNR-6	5/31/2000 0:00	< 0.5	< 0.5	< 0.5	< 0.5	nm
PNR-6	8/7/2001 9:55	< 0.5	0.88	< 0.5	< 1.0	< 0.1
PNR-6	8/15/2001 15:30	< 0.5	0.3 (J)	< 0.5	< 0.5	< 0.1
PNR-6	11/7/2001 8:55	< 0.5	0.56	< 0.5	< 1.0	< 0.1
PNR-6	2/19/2002 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	5/21/2002 12:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	8/19/2002 16:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	11/5/2002 11:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	3/4/2003 10:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	5/13/2003 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	8/13/2003 8:16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	11/4/2003 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	March 2004		Not sampled			
PNR-6	6/8/2004 10:20	< 0.5	0.46	< 0.5	0.53	< 0.1
PNR-6	9/14/2004 9:15	< 0.5	< 0.5	< 0.5	< 0.5	0.5
PNR-6	11/16/2004 10:17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	2/28/2005 17:30	< 0.5	< 0.5	0.51	< 0.5	< 0.1
PNR-6	5/23/2005 18:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	8/16/2005 9:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	11/15/2005 10:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	2/7/2006 10:47	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	5/23/2006 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-6	8/22/2006 10:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	12/5/2006 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	3/14/2007 10:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	10/2/2007 18:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	3/26/2008 11:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-6	10/22/2008 14:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-6	4/17/2009 15:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-6	10/4/2009 12:55	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-6	4/13/2010 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-6	9/16/2010 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-7	5/31/2000 0:00	27	< 0.5	< 0.5	< 0.5	nm
PNR-7	8/7/2001 17:20	35	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	8/15/2001 17:55	20	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	11/7/2001 11:50	40	< 0.5	< 0.5	< 1.0	< 0.1
PNR-7	2/19/2002 17:05	39	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	5/22/2002 13:10	39	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	8/20/2002 15:07	41	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	11/5/2002 14:50	39	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	3/4/2003 15:05	43	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	May 2003		Not sampled			
PNR-7	8/12/2003 12:20	39	< 0.5	< 0.5	< 0.5	0.3
PNR-7	11/4/2003 14:30	38	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	3/17/2004 17:10	39	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	6/8/2004 18:40	47	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	9/14/2004 18:00	41	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	11/17/2004 13:40	44	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	3/1/2005 17:30	40	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	5/25/2005 13:47	38	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	8/17/2005 10:52	39	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	11/16/2005 14:00	44	< 0.5	2.2	< 0.5	< 0.1
PNR-7	2/9/2006 14:15	38	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	5/24/2006 16:10	35	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	8/24/2006 10:24	39	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	12/8/2006 10:15	32	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	3/15/2007 12:15	40	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	10/4/2007 19:00	43	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	3/28/2008 10:30	37	< 0.5	< 0.5	< 0.5	< 0.1
PNR-7	10/25/2008 17:30	37	< 0.5	< 0.5	< 0.5	< 1.0
PNR-7	4/15/2009 17:15	33	< 0.5	< 0.5	< 0.5	< 1.0
PNR-7	10/6/2009 15:15	38	< 0.5	< 0.5	< 0.5	< 1.0
PNR-7	4/19/2010 13:30	42	< 0.5	< 0.5	< 0.5	< 1.0
PNR-7	9/22/2010 14:00	36	< 0.5	< 0.5	< 0.5	< 1.0
PNR-8	5/31/2000 0:00	< 0.5	< 0.5	< 0.5	< 0.5	nm
PNR-8	8/7/2001 13:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	8/16/2001 18:10	< 0.5	0.55	< 0.5	0.54	< 0.1
PNR-8	11/6/2001 16:30	< 0.5	< 0.5 (J)	< 0.5	< 1.0	0.5
PNR-8	2/22/2002 16:00	< 0.5	< 0.5 (J)	< 0.5	< 0.5	< 0.1
PNR-8	5/21/2002 17:45	< 0.5	< 0.5 (J)	< 0.5	< 0.5	< 0.1
PNR-8	8/21/2002 10:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	11/5/2002 15:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	3/4/2003 12:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	5/13/2003 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	8/12/2003 9:46	1.1	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	11/4/2003 12:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	3/18/2004 11:30	< 0.5	< 0.5	< 0.5	< 0.5	2.7
PNR-8	6/8/2004 18:40	< 0.5	< 0.5	< 0.5	< 0.5	0.7
PNR-8	9/14/2004 17:05	< 0.5	< 0.5	< 0.5	< 0.5	0.4
PNR-8	11/16/2004 16:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	3/2/2005 15:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	5/26/2005 10:46	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	8/18/2005 11:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	11/17/2005 9:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-8	2/9/2006 9:45	0.42 (J)	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	5/24/2006 17:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	8/24/2006 12:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	12/7/2006 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	3/14/2007 13:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-8	10/4/2007 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	3/28/2008 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-8	10/27/2008 16:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-8	4/19/2009 14:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-8	10/4/2009 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-8	4/19/2010 8:25	< 0.5	0.68	< 0.5	< 0.5	< 1.0
PNR-8	9/22/2010 13:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-9	6/1/2000 0:00	< 0.5	0.86	< 0.5	< 0.5	nm
PNR-9	8/9/2001 9:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	8/16/2001 13:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	11/7/2001 14:30	< 0.5	< 0.5	< 0.5	< 1.0	0.9
PNR-9	2/20/2002 14:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	5/22/2002 10:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	8/20/2002 16:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	11/5/2002 14:05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	3/4/2003 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	5/27/2003 18:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	8/13/2003 10:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	11/4/2003 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	March 2004		Not sampled			
PNR-9	6/8/2004 13:35	1.8	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	9/14/2004 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	11/16/2004 16:12	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	3/1/2005 12:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	5/24/2005 17:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	8/16/2005 12:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	11/15/2005 15:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	2/8/2006 12:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	5/23/2006 13:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	8/23/2006 9:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	12/6/2006 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	3/13/2007 16:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-9	10/4/2007 10:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	3/27/2008 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-9	10/23/2008 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-9	4/18/2009 16:20	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-9	10/3/2009 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-9	4/13/2010 18:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-9	9/20/2010 15:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-10	6/1/2000 0:00	< 0.5	< 0.5	< 0.5	< 0.5	nm
PNR-10	8/8/2001 18:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	8/16/2001 13:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	11/7/2001 12:30	< 0.5	< 0.5	< 0.5	< 1.0	0.6
PNR-10	2/20/2002 13:38	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	5/21/2002 13:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	8/20/2002 12:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	11/5/2002 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	3/4/2003 16:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	5/27/2003 17:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	8/13/2003 10:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	11/4/2003 13:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	March 2004		Not sampled			
PNR-10	6/8/2004 14:10	0.43	0.59	< 0.5	0.88	< 0.1
PNR-10	9/14/2004 11:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	11/16/2004 11:28	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	3/1/2005 11:06	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	5/24/2005 15:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-10	8/16/2005 10:48	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	11/15/2005 11:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	2/7/2006 14:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	5/23/2006 12:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	8/23/2006 10:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	12/6/2006 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	3/13/2007 15:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-10	10/3/2007 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	3/27/2008 11:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-10	10/23/2008 14:20	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-10	4/18/2009 14:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-10	10/3/2009 11:35	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-10	4/13/2010 15:46	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-10	9/20/2010 12:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-12	5/31/2000 0:00	< 0.5	< 0.5	< 0.5	< 0.5	nm
PNR-12	8/8/2001 15:00	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
PNR-12	8/15/2001 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	11/6/2001 16:20	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
PNR-12	2/20/2002 11:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	5/21/2002 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	8/19/2002 16:05	< 0.5	0.43	< 0.5	< 0.5	< 0.1
PNR-12	11/5/2002 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	3/4/2003 13:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	5/27/2003 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	8/13/2003 8:05	0.65	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	11/4/2003 12:35	< 0.5	0.59	< 0.5	< 0.5	< 0.1
PNR-12	March 2004		Not sampled			
PNR-12	6/8/2004 9:15	< 0.5	1.4	< 0.5	< 0.5	< 0.1
PNR-12	9/14/2004 10:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	11/16/2004 9:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	2/28/2005 17:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	5/23/2005 18:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	8/15/2005 6:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	11/15/2005 9:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	2/7/2006 13:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	5/23/2006 10:50	0.50 (J)	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	8/23/2006 16:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	12/5/2006 15:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	3/14/2007 12:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	10/3/2007 13:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	3/26/2008 10:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-12	10/23/2008 10:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-12	4/20/2009 18:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-12	10/3/2009 10:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-12	4/14/2010 11:35	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-12	9/16/2010 14:50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-13	8/15/2001 18:15	19	0.8	< 0.5	< 0.5	< 0.1
PNR-13	8/15/2001 19:00	32	1.1	< 0.5	0.49 (J)	< 0.1
PNR-13	11/7/2001 13:35	8.2	< 0.5	< 0.5	< 1.0	5.4
PNR-13	2/19/2002 16:30	6.4	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	5/22/2002 14:00	4.3	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	8/20/2002 15:45	3.5	0.4	< 0.5	< 0.5	< 0.1
PNR-13	11/5/2002 15:30	2.1	0.9	< 0.5	< 0.5	< 0.1
PNR-13	3/4/2003 11:15	1.2	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	5/28/2003 10:05	1.0	0.7	< 0.5	< 0.5	< 0.1
PNR-13	8/13/2003 10:20	0.85	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	11/4/2003 14:15	2.4	0.71	< 0.5	< 0.5	< 0.1
PNR-13	March 2004		Not sampled			
PNR-13	6/8/2004 15:30	2.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	9/14/2004 10:00	0.62	< 0.5	0.74	0.49	< 0.1
PNR-13	11/16/2004 15:30	1.3	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	3/1/2005 13:25	0.78	< 0.5	1.3	< 0.5	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-13	5/24/2005 12:00	0.65	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	8/17/2005 9:40	1.0	< 0.5	0.86	< 0.5	< 0.1
PNR-13	11/16/2005 10:50	1.2	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	2/8/2006 10:40	1.3	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	5/24/2006 13:15	0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	8/22/2006 14:25	0.9	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	12/6/2006 11:30	1.8	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	3/14/2007 16:20	0.81	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	10/4/2007 17:30	0.43	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	3/27/2008 15:00	0.63	< 0.5	< 0.5	< 0.5	< 0.1
PNR-13	10/25/2008 14:30	0.5 (J)	< 0.5	< 0.5	< 0.5	< 1.0
PNR-13	4/18/2009 17:55	0.7	< 0.5	< 0.5	< 0.5	< 1.0
PNR-13	10/6/2009 10:50	0.48 (J)	< 0.5	< 0.5	< 0.5	< 1.0
PNR-13	4/16/2010 17:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-13	9/17/2010 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-14	8/9/2001 16:00	4.1	0.6	55	1.9	< 0.1
PNR-14	8/14/2001 9:45	3.5	1.1	34	0.38 (J)	< 0.1
PNR-14	11/7/2001 14:35	18.0	< 0.5 (J)	9.7	< 1.0	< 0.1
PNR-14	2/21/2002 11:30	0.9	< 0.5	14	0.68	< 0.1
PNR-14	5/22/2002 12:05	1.1	0.6	41	1.8	< 0.1
PNR-14	8/20/2002 17:45	1.0	0.5	32	0.93	< 0.1
PNR-14	11/6/2002 11:28	0.8	< 0.5	36	0.7	< 0.1
PNR-14	3/4/2003 17:15	0.9	< 0.5	31	0.5	< 0.1
PNR-14	5/28/2003 11:45	0.7	0.8	22	0.45	< 0.1
PNR-14	8/13/2003 15:43	0.64	< 0.5	22	< 0.5	< 0.1
PNR-14	11/5/2003 11:45	0.62	< 0.5	23	< 0.5	< 0.1
PNR-14	3/17/2004 10:45	0.33	0.87	12	0.59	0.5
PNR-14	6/9/2004 10:40	0.9	0.65	17	< 0.5	< 0.1
PNR-14	9/14/2004 15:35	0.89	7.9	0.58	0.65	< 0.1
PNR-14	11/17/2004 15:30	0.76	5.9	< 0.5	< 0.5	< 0.1
PNR-14	3/2/2005 10:50	0.55	3.7	< 0.5	< 0.5	< 0.1
PNR-14	5/25/2005 9:46	< 0.5	2.2	< 0.5	< 0.5	< 0.1
PNR-14	8/17/2005 15:18	< 0.5	1.2	0.45	< 0.5	1.6
PNR-14	11/16/2005 11:05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-14	2/9/2006 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-14	5/24/2006 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-14	8/23/2006 16:20	< 0.5	< 0.5	4.1	< 0.5	< 0.1
PNR-14	12/7/2006 15:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-14	3/14/2007 10:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-14	10/4/2007 16:50	0.54	0.64	< 0.5	< 0.5	< 0.1
PNR-14	3/27/2008 13:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-14	10/27/2008 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-14	4/16/2009 14:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-14	10/2/2009 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-14	4/15/2010 14:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-14	9/20/2010 14:50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-15	8/10/2001 8:15	3.6	6.6	4.5	7.4	< 0.1
PNR-15	8/14/2001 13:00	3.3	4.8	3.8	4.4	0.5
PNR-15	11/8/2001 9:10	4.8	6.6	24	<5.0	2.7
PNR-15	2/21/2002 14:54	1.8	<0.50	24	5.7	1.5
PNR-15	5/22/2002 14:55	2.3	0.7	18	1.4	3.4
PNR-15	8/21/2002 14:00	2.5	3.8	14	19	1.1
PNR-15	11/6/2002 14:35	2.8	< 0.5	11	8.5	2.0
PNR-15	3/5/2003 12:30	6.3	< 0.5	21	230	68.0
PNR-15	5/28/2003 15:35	4.2	1.2	16	34	4.4
PNR-15	8/14/2003 9:58	20	32	13	13	0.3
PNR-15	11/5/2003 14:30	1.9	1.2	12	9.3	1.2
PNR-15	3/17/2004 13:35	0.77	< 0.5	7.7	0.79	1.2
PNR-15	6/8/2004 12:45	1.0	< 0.5	9.6	< 0.5	1.1
PNR-15	9/15/2004 16:30	0.93	8.5	0.79	0.71	< 0.1
PNR-15	11/18/2004 9:05	0.74	9.4	0.78	0.93	< 0.1
PNR-15	3/2/2005 12:20	14	12	1.3	6.9	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-15	5/25/2005 10:40	0.45	5.4	< 0.5	< 0.5	< 0.1
PNR-15	8/17/2005 16:45	0.44	7.4	0.56	< 0.5	< 0.1
PNR-15	11/16/2005 11:35	< 0.5	< 0.5	4.7	< 0.5	< 0.1
PNR-15	2/8/2006 10:45	< 0.5	< 0.5	3.6	0.67	< 0.1
PNR-15	5/24/2006 11:15	< 0.5	0.74	1.5	1.3	3.5
PNR-15	8/23/2006 17:15	< 0.5	0.66	1.5	0.6	< 0.1
PNR-15	12/7/2006 16:30	< 0.5	< 0.5	2.4	< 0.5	< 0.1
PNR-15	3/14/2007 11:40	0.63	< 0.5	2	0.56	< 0.1
PNR-15	10/4/2007 18:00	0.63	< 0.5	0.76	< 0.5	< 0.1
PNR-15	3/27/2008 15:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-15	10/27/2008 12:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-15	4/16/2009 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-15	10/2/2009 11:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-15	4/15/2010 14:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-15	9/22/2010 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-16	8/10/2001 15:15	0.32(J)	1.00 (J)	0.42 (J)	1.0	14.0
PNR-16	8/16/2001 18:35	< 0.5	0.37 (J)	< 0.5	0.34 (J)	< 0.1
PNR-16	11/6/2001 16:05	< 0.5	< 0.5 (J)	< 0.5	< 1.0	< 0.1
PNR-16	2/21/2002 10:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	5/21/2002 15:50	< 0.5	0.83	< 0.5	2.0	< 0.1
PNR-16	8/20/2002 11:40	< 0.5	0.52	< 0.5	<0.50	< 0.1
PNR-16	11/5/2002 14:04	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	3/4/2003 13:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	5/27/2003 18:30	< 0.5	0.5	< 0.5	< 0.5	< 0.1
PNR-16	8/13/2003 9:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	11/4/2003 12:30	0.75	1.9	< 0.5	0.85	< 0.1
PNR-16	3/17/2004 16:09	< 0.5	0.53	0.59	< 0.5	0.4
PNR-16	6/8/2004 12:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	9/14/2004 12:40	< 0.5	< 0.5	0.78	< 0.5	< 0.1
PNR-16	11/16/2004 12:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	3/1/2005 14:30	< 0.5	< 0.5	0.76	< 0.5	< 0.1
PNR-16	5/24/2005 13:58	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	8/17/2005 9:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	11/15/2005 15:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	2/7/2006 16:47	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	5/24/2006 12:25	< 0.5	0.46 (J)	< 0.5	< 0.5	< 0.1
PNR-16	8/22/2006 13:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	12/6/2006 13:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	3/13/2007 12:45	< 0.5	0.44 (J)	< 0.5	< 0.5	< 0.1
PNR-16	10/3/2007 10:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	3/26/2008 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-16	10/23/2008 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-16	4/17/2009 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-16	10/3/2009 8:30	< 0.5	0.5	< 0.5	< 0.5	< 1.0
PNR-16	4/14/2010 15:15	< 0.5	0.5	< 0.5	< 0.5	< 1.0
PNR-16	9/18/2010 13:00	< 0.5	0.5	< 0.5	< 0.5	< 1.0
PNR-17	8/22/2001 12:35	309	640	135	377	15.8
PNR-17	8/22/2001 13:30	206	342	75	214	30.8
PNR-17	11/8/2001 11:30	301	1220	582	1720	806.0
PNR-17	2/21/2002 17:00	341	682	191	511	62.0
PNR-17	5/23/2002 10:50	386	877	225	620	53.0
PNR-17	8/21/2002 15:15	230	438	98	261	140.0
PNR-17	11/6/2002 15:40	97	195	69	181	200.0
PNR-17	3/5/2003 13:30	90	245	105	277	82.0
PNR-17	5/28/2003 10:00	76	202	118	305	41.0
PNR-17	8/14/2003 11:05	64	119	82	190	180.0
PNR-17	11/6/2003 11:30	74	75	120	200	150.0
PNR-17	3/17/2004 15:10	47	12	89	87	56.0
PNR-17	6/9/2004 15:45	45	1.9	85	13	31.0
PNR-17	9/16/2004 9:35	33	63	1.7	5.4	10.0
PNR-17	11/18/2004 12:20	23	56	< 0.5	6.4	120.0
PNR-17	3/2/2005 15:30	15	34	3.4	18	26.0

Table 3 - BTEX and TPH Analyses
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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-17	5/25/2005 14:25	15	69	3.6	15	77.0
PNR-17	8/17/2005 17:25	7.7	39	0.53	5.3	180.0
PNR-17	11/16/2005 14:01	15	2.3	37	49	98.0
PNR-17	2/8/2006 14:05	3.7	9.7	20	29	1.8
PNR-17	5/24/2006 13:50	0.76	2.9	8.3	11	1200.0
PNR-17	8/24/2006 12:45	1.8	5.0	28	51	12.0
PNR-17	12/8/2006 12:30	0.66	4.4	23	40	5.0
PNR-17	3/15/2007 11:49	< 1	3.3	17	45	14 (H)
PNR-18	8/8/2001 16:00	< 0.5	0.81	< 0.5	< 1.0	< 0.1
PNR-18	8/16/2001 11:00	< 0.5	0.78	< 0.5	< 0.5	< 0.1
PNR-18	11/7/2001 10:20	< 0.5	0.66	< 0.5	< 1.0	0.9
PNR-18	2/20/2002 11:24	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	5/21/2002 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	8/19/2002 16:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	11/5/2002 11:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	3/4/2003 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	5/13/2003 11:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	8/14/2003 8:40	0.82	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	11/4/2003 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	March 2004		Not sampled			
PNR-18	6/8/2004 9:55	0.75	0.52	< 0.5	0.63	< 0.1
PNR-18	9/14/2004 8:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	11/18/2004 14:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	2/28/2005 17:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	5/25/2005 17:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	8/15/2005 18:00	< 0.5	< 0.5	0.75	0.64	< 0.1
PNR-18	11/15/2005 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	2/7/2006 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	5/23/2006 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	8/22/2006 17:17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	12/5/2006 14:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	3/14/2007 11:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	10/2/2007 17:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	3/28/2008 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-18	10/22/2008 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-18	4/17/2009 15:50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-18	10/4/2009 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-18	4/13/2010 13:20	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-18	9/16/2010 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-19	8/7/2001 14:50	1.1	< 0.5	< 0.5	< 1.0	< 0.1
PNR-19	8/15/2001 16:40	0.35(J)	0.41(J)	< 0.5	< 0.5	< 0.1
PNR-19	11/6/2001 15:20	1.4	< 0.5	< 0.5	< 1.0	< 0.1
PNR-19	2/19/2002 15:05	2.3	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	5/22/2002 14:55	3.2	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	8/20/2002 12:30	3.3	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	11/5/2002 13:17	3.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	3/4/2003 12:20	5.1	< 0.5	< 0.5	< 0.5	0.9
PNR-19	5/27/2003 17:20	5.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	8/13/2003 8:55	5.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	11/4/2003 10:50	5.4	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	3/17/2004 16:40	6.6	< 0.5	0.46	< 0.5	< 0.1
PNR-19	6/8/2004 13:55	8.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	9/14/2004 14:15	6.3	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	11/16/2004 13:45	7.8	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	3/1/2005 15:35	7.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	5/25/2005 12:36	7.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	8/17/2005 12:23	7.9	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	11/16/2005 12:00	8.9	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	2/8/2006 12:55	11	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	5/24/2006 15:20	9.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	8/23/2006 14:05	11	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	12/7/2006 15:30	12	< 0.5	< 0.5	< 0.5	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-19	3/14/2007 15:00	12	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	10/3/2007 14:50	11	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	3/27/2008 16:30	11	< 0.5	< 0.5	< 0.5	< 0.1
PNR-19	10/25/2008 15:15	12	< 0.5	< 0.5	< 0.5	< 1.0
PNR-19	4/19/2009 13:55	12	< 0.5	< 0.5	< 0.5	< 1.0
PNR-19	10/6/2009 13:45	8.6	< 0.5	< 0.5	< 0.5	< 1.0
PNR-19	4/19/2010 10:45	11	< 0.5	< 0.5	< 0.5	< 1.0
PNR-19	9/22/2010 12:30	7.4	< 0.5	< 0.5	< 0.5	< 1.0
PNR-20	8/8/2001 9:50	5.4	< 0.5	< 0.5	< 1.0	< 0.1
PNR-20	8/15/2001 17:15	5.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	11/8/2001 10:00	1.4	< 0.5	< 0.5	< 1.0	< 0.1
PNR-20	2/19/2002 15:40	11	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	5/22/2002 11:00	10	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	8/20/2002 13:25	13	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	11/5/2002 16:05	17	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	3/4/2003 14:15	15	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	5/28/2003 11:00	13	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	8/13/2003 11:35	13	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	11/5/2003 12:50	15	0.51	< 0.5	< 0.5	< 0.1
PNR-20	3/18/2004 12:50	11	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	6/8/2004 12:15	14	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	9/14/2004 13:42	13	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	11/17/2004 10:40	18	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	3/1/2005 16:25	15	< 0.5	0.57	< 0.5	< 0.1
PNR-20	5/24/2005 17:35	11	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	8/16/2005 15:45	16	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	11/15/2005 12:15	16	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	2/9/2006 10:50	14	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	5/23/2006 17:55	16	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	8/23/2006 15:50	17	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	12/7/2006 16:10	13	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	3/15/2007 10:18	20	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-20	10/4/2007 10:25	17	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-20	3/27/2008 17:40	16	< 0.5	< 0.5	< 0.5	< 0.1
PNR-20	10/25/2008 16:30	13	< 0.5	< 0.5	< 0.5	< 1.0
PNR-20	4/21/2009 15:40	19	< 0.5	< 0.5	< 0.5	< 1.0
PNR-20	10/6/2009 14:30	17	< 0.5	< 0.5	< 0.5	< 1.0
PNR-20	4/19/2010 12:40	19	< 0.5	< 0.5	< 0.5	< 1.0
PNR-20	9/22/2010 13:15	16	< 0.5	< 0.5	< 0.5	< 1.0
PNR-21	8/9/2001 10:15	28	< 0.5	< 0.5	< 1.0	< 0.1
PNR-21	8/16/2001 16:40	26	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	11/8/2001 11:00	32	< 0.5	< 0.5	< 1.0	< 0.1
PNR-21	2/21/2002 9:15	32	< 0.5	< 0.5	< 0.5	2.2
PNR-21	5/22/2002 11:55	33	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	8/21/2002 9:00	35	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	11/5/2002 15:30	37	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	3/5/2003 14:50	36	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	5/28/2003 11:50	32	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	8/13/2003 14:05	25	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	11/5/2003 15:30	29	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	March 2004		Not sampled			
PNR-21	6/8/2004 12:55	34	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	9/14/2004 14:15	37	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	11/17/2004 12:40	31	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	3/1/2005 16:32	29	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	5/24/2005 18:25	28	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	8/16/2005 16:20	28	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	11/15/2005 13:21	28	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	2/9/2006 11:45	27	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	5/24/2006 17:20	24	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	8/23/2006 17:00	28	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	12/7/2006 14:45	22	< 0.5	< 0.5	< 0.5	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-21	3/15/2007 11:15	25	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-21	10/4/2007 11:40	21	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	3/27/2008 18:20	19	< 0.5	< 0.5	< 0.5	< 0.1
PNR-21	10/25/2008 15:50	16	< 0.5	< 0.5	< 0.5	< 1.0
PNR-21	4/21/2009 16:35	14	< 0.5	< 0.5	< 0.5	< 1.0
PNR-21	10/6/2009 14:00	11	< 0.5	< 0.5	< 0.5	< 1.0
PNR-21	4/19/2010 11:50	6.1	< 0.5	< 0.5	< 0.5	< 1.0
PNR-21	9/21/2010 16:20	2.1	< 0.5	< 0.5	< 0.5	< 1.0
PNR-22	8/8/2001 17:10	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
PNR-22	8/16/2001 11:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	11/7/2001 9:10	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
PNR-22	2/20/2002 14:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	5/21/2002 12:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	8/20/2002 15:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	11/5/2002 12:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	3/4/2003 15:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	5/13/2003 12:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	8/13/2003 9:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	11/5/2003 12:25	1.2	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	March 2004		Not sampled			
PNR-22	6/8/2004 16:10	< 0.5	< 0.5	< 0.5	1.2	< 0.1
PNR-22	9/15/2004 8:50	< 0.5	< 0.5	0.62	< 0.5	< 0.1
PNR-22	11/18/2004 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	3/1/2005 11:00	< 0.5	< 0.5	0.51	< 0.5	< 0.1
PNR-22	5/24/2005 10:07	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	8/16/2005 9:30	< 0.5	< 0.5	0.57	0.54	< 0.1
PNR-22	11/15/2005 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	2/7/2006 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	5/23/2006 13:05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	8/22/2006 18:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	12/6/2006 9:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	3/13/2007 15:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	10/3/2007 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	3/26/2008 17:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-22	10/22/2008 18:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-22	4/18/2009 13:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-22	10/2/2009 12:25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-22	4/13/2010 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-22	9/18/2010 10:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-23	8/9/2001 17:30	58	94	17	49	< 0.1
PNR-23	8/14/2001 10:30	195	338	68	189	< 0.1
PNR-23	11/8/2001 13:15	215	269	51	127	56.2
PNR-23	2/21/2002 12:25	220	224	27	84	11.0
PNR-23	5/23/2002 11:15	417	575	78	245	3.6
PNR-23	8/21/2002 12:55	465	666	92	283	1.4
PNR-23	11/6/2002 12:15	401	573	70	219	0.6
PNR-23	3/5/2003 11:20	419	664	90	271	0.7
PNR-23	5/28/2003 14:40	433	759	137	413	1.5
PNR-23	8/14/2003 8:43	161	236	38	112	0.6
PNR-23	11/6/2003 10:10	357	700	143	399	2.1
PNR-23	3/17/2004 11:40	288	277	94	203	0.8
PNR-23	6/9/2004 14:10	331	73	116	179	0.6
PNR-23	9/15/2004 17:40	200	74	9.3	103	0.8
PNR-23	11/18/2004 11:00	268	115	8.8	166	0.7
PNR-23	3/2/2005 11:35	199	77	5.6	99	< 0.1
PNR-23	5/25/2005 13:00	126	56	3.5	62	< 0.1
PNR-23	8/17/2005 15:20	114	42	4.2	44	2.8
PNR-23	11/16/2005 12:15	121	2.6	41	31	0.2
PNR-23	2/9/2006 16:00	100	3.4	31	14	< 0.1
PNR-23	5/25/2006 11:15	83	1.7	16	5.9	< 0.1
PNR-23	8/24/2006 10:18	101	1.6	7.7	2.1	0.4
PNR-23	12/8/2006 10:10	88	1.7	4.7	1.7	< 0.1

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Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
PNR-23	3/14/2007 15:00	74	1.5	4.5	1.7	< 0.1
PNR-23	10/5/2007 12:30	53	< 0.5	2.7	< 0.5	< 0.1
PNR-23	3/27/2008 16:05	12	< 0.5	0.48 (J)	< 0.5	< 0.1
PNR-23	10/27/2008 14:56	0.84	< 0.5	1	0.47 (J)	< 1.0
PNR-23	4/16/2009 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-23	10/2/2009 12:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-23	4/15/2010 15:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-23	9/21/2010 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-24	8/14/2001 12:00	195	320	66	198	74.6
PNR-24	8/14/2001 18:20	346	594	123	344	970.0
PNR-24	11/8/2001 13:40	422	601	102	316	49.7
PNR-24	2/21/2002 13:55	569	974	198	623	110.0
PNR-24	5/23/2002 11:50	294	633	117	455	29.0
PNR-24	8/21/2002 13:10	321	653	110	392	360.0
PNR-24	11/6/2002 12:32	292	543	77	286	170.0
PNR-24	3/5/2003 11:40	358	783	131	472	160.0
PNR-24	5/28/2003 14:50	150	290	65	257	36.0
PNR-24	8/14/2003 13:08	149	347	72	283	53.0
PNR-24	11/6/2003 11:00	234	501	78	296	84.0
PNR-24	3/17/2004 12:10	125	265	57	204	44.0
PNR-24	6/9/2004 14:20	157	343	60	233	82.0
PNR-24	9/15/2004 18:05	170	109	484	349	130.0
PNR-24	11/18/2004 11:05	128	88	317	271	97.0
PNR-24	3/2/2005 13:25	88	51	85	80	76.0
PNR-24	5/25/2005 13:45	50	42	76	59	47.0
PNR-24	8/17/2005 16:05	28	39	68	61	180.0
PNR-24	11/16/2005 16:15	18	137	43	70	450.0
PNR-24	2/8/2006 13:30	7.7	92	54	107	28.0
PNR-24	5/24/2006 12:55	2.1	42	26	65	26.0
PNR-24	8/24/2006 11:22	3.7	31	30	61	43.0
PNR-24	12/8/2006 10:50	2.8	54	66	104	28.0
PNR-24	3/14/2007 15:40	1.8	26	46	74	3.0
PNR-25	8/14/2001 13:15	164	161	18.0	156(D)	93.1
PNR-25	8/14/2001 19:05	216	224	32.0	266	156.0
PNR-25	11/8/2001 10:15	229	219	22.0	237	0.1
PNR-25	2/21/2002 15:30	225	541	121.0	495	75.0
PNR-25	5/22/2002 16:50	147	497	104.0	624	100.0
PNR-25	8/21/2002 14:40	6.2	48	7.8	233	500.0
PNR-25	11/6/2002 14:55	1.7	2.1	2.2	337	390.0
PNR-25	3/5/2003 12:45	2.7	9.2	12.0	286	140.0
PNR-25	5/28/2003 15:25	2.7	20	36.0	260	58.0
PNR-25	8/14/2003 10:00	2.2	12	24.0	152	96.0
PNR-25	11/5/2003 15:15	3.5	9.2	30.0	184	41.0
PNR-25	3/17/2004 14:15	1.3	13	79.0	212	130.0
PNR-25	6/8/2004 13:00	1.2	18	98.0	252	81.0
PNR-25	9/15/2004 16:45	2.3	80	8.1	203	160.0
PNR-25	11/18/2004 9:00	1.4	84	6.2	210	75.0
PNR-25	3/2/2005 13:00	5.5	133	20.0	295	80.0
PNR-25	5/25/2005 11:15	2.6	82	14.0	205	21.0
PNR-25	8/17/2005 18:20	1.0	28	6.3	65	21.0
PNR-25	11/16/2005 13:25	3.2	37	259.0	564	660.0
PNR-25	2/8/2006 11:15	< 5	36	193.0	495	210.0
PNR-25	5/24/2006 11:45	4.0	63	163.0	339	370.0
PNR-25	8/24/2006 12:00	7.9	104	249.0	472	900.0
PNR-25	12/8/2006 11:30	8.9	97	191.0	346	510.0
PNR-25	3/15/2007 10:53	11	125	269	707	300.0
PNR-26	8/14/2001 18:00	124	270	80	232	2490.0
PNR-26	8/22/2001 10:00	188	404	105	336	55.4
PNR-26	11/8/2001 14:15	365	1920	908	2590	1160.0
PNR-26	2/21/2002 16:00	514	1140	225	636	76.0
PNR-26	5/23/2002 11:15	365	998	200	610	150.0
PNR-26	8/21/2002 16:00	328	632	116	377	220.0

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PNR-26	11/6/2002 16:20	398	685	91	335	66.0
PNR-26	3/5/2003 14:00	333	1090	237	884	400.0
PNR-26	5/28/2003 16:35	447	912	179	666	80.0
PNR-26	8/14/2003 10:45	319	946	206	725	250.0
PNR-26	11/6/2003 12:30	462	1270	256	845	32.0
PNR-26	3/17/2004 14:15	364	1030	200	670	46.0
PNR-26	6/9/2004 16:00	450	1260	211	703	16.0
PNR-26	9/16/2004 9:50	278	177	946	576	250.0
PNR-26	11/18/2004 12:25	282	224	915	810	59.0
PNR-26	3/2/2005 16:10	435	300	1290	946	270.0
PNR-26	5/25/2005 15:15	264	339	1140	1250	78.0
PNR-26	8/17/2005 18:00	292	223	1030	857	540.0
PNR-26	11/16/2005 14:55	427	1550	458	1710	410.0
PNR-26	2/8/2006 15:10	326	1170	278	991	220.0
PNR-26	5/24/2006 14:10	118	313	75	240	20000.0
PNR-27	8/21/2001 15:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	9/5/2001 15:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	11/6/2001 15:30	< 0.5	< 0.5	< 0.5	< 1.0	0.4
PNR-27	2/20/2002 17:02	< 0.5	< 0.5	< 0.5	< 0.5	1.0
PNR-27	5/21/2002 18:12	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	8/20/2002 19:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	11/6/2002 9:55	0.49 (J)	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	3/5/2003 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	5/28/2003 11:00	0.42	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	8/13/2003 13:35	0.81	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	11/5/2003 11:45	0.66	1.0	< 0.5	< 0.5	< 0.1
PNR-27	March 2004		Not sampled			
PNR-27	6/8/2004 11:50	1.3	0.43	< 0.5	0.57	< 0.1
PNR-27	9/14/2004 13:05	1.2	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	11/17/2004 10:38	1.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	3/1/2005 15:33	1.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	5/24/2005 15:33	1.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	8/16/2005 17:08	1.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	11/15/2005 16:35	1.6	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	2/8/2006 17:10	1.6	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	5/23/2006 16:57	1.6	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	8/23/2006 15:01	1.6	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	12/7/2006 14:15	2.0	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	3/14/2007 16:50	2.1	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-27	10/3/2007 12:50	1.7	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	3/27/2008 17:10	2.3	< 0.5	< 0.5	< 0.5	< 0.1
PNR-27	10/25/2008 14:45	2.6	< 0.5	< 0.5	< 0.5	< 1.0
PNR-27	4/19/2009 12:50	2.6	< 0.5	< 0.5	< 0.5	< 1.0
PNR-27	10/6/2009 11:40	1.7	< 0.5	< 0.5	< 0.5	< 1.0
PNR-27	4/19/2010 9:45	1.6	< 0.5	< 0.5	< 0.5	< 1.0
PNR-27	9/21/2010 13:25	1.6	< 0.5	< 0.5	< 0.5	< 1.0
PNR-28	8/21/2001 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	9/5/2001 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	11/6/2001 14:40	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
PNR-28	2/20/2002 16:30	< 0.5	< 0.5	< 0.5	< 0.5	1.2
PNR-28	5/21/2002 17:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	8/20/2002 18:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	11/5/2002 13:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	3/5/2003 10:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	5/28/2003 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	8/13/2003 13:00	0.51	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	11/5/2003 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	March 2004		Not sampled			
PNR-28	6/8/2004 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	9/15/2004 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	11/17/2004 9:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	3/1/2005 14:39	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1

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PNR-28	5/25/2005 11:07	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	8/16/2005 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	11/15/2005 11:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	2/8/2006 14:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	5/23/2006 13:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	8/23/2006 12:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	12/6/2006 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	3/13/2007 18:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	10/4/2007 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	3/26/2008 18:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-28	10/25/2008 13:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-28	4/19/2009 11:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-28	10/7/2009 10:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-28	4/16/2010 16:25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-28	9/21/2010 12:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-29	8/21/2001 17:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	9/5/2001 14:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	11/6/2001 12:50	< 0.5	0.69	< 0.5	< 1.0	< 0.1
PNR-29	2/20/2002 13:03	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	5/21/2002 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	8/20/2002 11:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	11/5/2002 12:42	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	3/5/2003 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	5/28/2003 10:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	8/13/2003 13:08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	11/4/2003 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	March 2004	Not sampled				
PNR-29	6/8/2004 10:45	< 0.5	0.59	< 0.5	0.53	< 0.1
PNR-29	9/15/2004 9:40	< 0.5	< 0.5	0.52	< 0.5	< 0.1
PNR-29	11/17/2004 9:31	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	3/1/2005 13:36	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	5/25/2005 9:46	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	8/16/2005 14:48	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	11/15/2005 10:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	2/8/2006 16:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	5/23/2006 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	8/23/2006 11:37	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	12/6/2006 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	3/13/2007 17:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	10/2/2007 18:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	3/26/2008 12:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-29	10/25/2008 12:55	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-29	4/21/2009 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-29	10/3/2009 15:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-29	4/14/2010 11:55	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-29	9/18/2010 11:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-33-06	12/6/2006 11:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-33-06	3/13/2007 13:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-33-06	10/3/2007 15:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-33-06	3/26/2008 17:15	< 0.5	< 0.5	< 0.5	1.4	< 0.1
PNR-33-06	10/23/2008 11:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-33-06	4/17/2009 17:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-33-06	10/4/2009 13:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-33-06	4/14/2010 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-33-06	9/21/2010 12:18	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-34-07	3/14/2007 13:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-34-07	10/5/2007 15:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-34-07	3/27/2008 18:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-34-07	10/25/2008 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-34-07	4/22/2009 16:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-34-07	10/6/2009 15:55	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0

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PNR-34-07	4/16/2010 12:20	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-34-07	9/21/2010 16:20	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-35-07	3/13/2007 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-35-07	10/2/2007 16:05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-35-07	3/26/2008 10:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-35-07	10/22/2008 17:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-35-07	4/20/2009 18:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-35-07	10/3/2009 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-35-07	4/14/2010 14:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-35-07	9/18/2010 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-36-07	3/13/2007 11:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
PNR-36-07	10/3/2007 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-36-07	3/26/2008 16:50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-36-07	10/23/2008 15:25	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-36-07	4/21/2009 14:35	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-36-07	10/2/2009 16:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-36-07	4/14/2010 12:20	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-36-07	9/17/2010 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-38-08	3/26/2008 18:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-38-08	10/23/2008 13:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-38-08	4/21/2009 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-38-08	10/3/2009 17:10	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-38-08	4/14/2010 17:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-38-08	9/20/2010 13:35	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-39-08	6/28/2008 14:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
PNR-39-08	10/23/2008 18:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-39-08	4/22/2009 14:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-39-08	10/4/2009 14:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-39-08	4/16/2010 11:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
PNR-39-08	9/21/2010 15:45	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-06-1	4/17/2009 17:15	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-06-2	4/18/2009 13:50	< 0.5	< 0.5	< 0.5	< 0.5	7.3
USGS-06-8	4/19/2009 13:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-06-11	4/20/2009 17:35	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-6	4/16/2009 16:13	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-7	4/15/2009 15:40	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-9	4/15/2009 17:02	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-12	6/1/2000 0:00	< 0.5	< 0.5	< 0.5	< 0.5	nm
USGS-92-12	8/7/2001 11:35	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
USGS-92-12	8/15/2001 14:40	< 0.5	0.36 (J)	< 0.5	0.29 (J)	0.7
USGS-92-12	11/6/2001 14:30	< 0.5	< 0.5 (J)	< 0.5	< 1.0	2.9
USGS-92-12	2/20/2002 14:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	5/21/2002 14:05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	8/19/2002 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	11/5/2002 12:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	3/4/2003 11:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	5/13/2003 14:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	8/13/2003 7:48	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	11/5/2003 10:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	March 2004		Not sampled			
USGS-92-12	6/8/2004 9:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	9/14/2004 11:08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1

Table 3 - BTEX and TPH Analyses
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
USGS-92-12	11/16/2004 9:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS92-12	3/1/2005 12:40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS 92-12	5/24/2005 10:43	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS 92-12	8/17/2005 9:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS 92-12	11/15/2005 14:41	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS 92-12	2/7/2006 15:32	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS 92-12	5/24/2006 10:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	8/22/2006 11:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	12/6/2006 10:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	3/13/2007 12:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
USGS-92-12	10/2/2007 17:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	3/25/2008 15:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-92-12	10/22/2008 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-12	4/17/2009 12:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-12	10/2/2009 16:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-12	4/13/2010 14:30	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-92-12	9/16/2010 14:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-93-3	6/1/2000 0:00	4.4	< 0.5	< 0.5	< 0.5	nm
USGS-93-3	8/7/2001 18:55	3.0	< 0.5	< 0.5	< 1.0	< 0.1
USGS-93-3	8/15/2001 19:10	3.4	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	11/7/2001 10:05	3.0	< 0.5	< 0.5	< 1.0J	0.3
USGS-93-3	2/20/2002 9:00	2.7	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	5/22/2002 9:30	2.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	8/20/2002 16:25	3.0	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	11/5/2002 16:10	3.8	0.49 (J)	< 0.5	< 0.5	< 0.1
USGS-93-3	3/4/2003 15:45	3.4	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	5/28/2003 13:15	2.9	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	8/14/2003 14:08	2.6	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	11/4/2003 16:45	2.4	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	March 2004		Not sampled			
USGS-93-3	6/8/2004 19:05	3.1	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	9/14/2004 16:25	2.1	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	11/17/2004 12:15	2.3	< 0.5	< 0.5	< 0.5	< 0.1
USGS93-3	3/2/2005 11:05	2.0	< 0.5	< 0.5	< 0.5	1.1
USGS 93-3	5/25/2005 15:52	2.1	< 0.5	< 0.5	< 0.5	< 0.1
USGS 93-3	8/17/2005 12:55	1.9	1.9	< 0.5	< 0.5	< 0.1
USGS 93-3	11/16/2005 16:40	1.9	< 0.5	1.9	< 0.5	0.8
USGS 93-3	2/9/2006 15:20	1.4	< 0.5	< 0.5	< 0.5	< 0.1
USGS 93-3	5/24/2006 18:20	1.6	0.48 (J)	< 0.5	< 0.5	< 0.1
USGS 93-3	8/23/2006 14:50	1.7	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	12/7/2006 12:05	1.7	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	3/15/2007 13:30	1.9	< 0.5	< 0.5	< 0.5	< 0.1 (H)
USGS-93-3	10/3/2007 11:50	1.4	< 0.5	< 0.5	< 0.5	< 0.1
USGS-93-3	3/27/2008 11:15	2.2	< 0.5	< 0.5	0.51	< 0.1
USGS-93-3	10/26/2008 11:45	3.9	< 0.5	< 0.5	< 0.5	< 1.0
USGS-93-3	4/15/2009 15:00	4.2	< 0.5	< 0.5	< 0.5	< 1.0
USGS-93-3	10/1/2009 14:00	2.2	< 0.5	< 0.5	< 0.5	< 1.0
USGS-93-3	4/15/2010 11:55	2.6	< 0.5	< 0.5	< 0.5	< 1.0
USGS-93-3	9/16/2010 10:25	2.0	< 0.5	< 0.5	< 0.5	< 1.0
USGS-93-4A	4/18/2009 17:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-93-5	4/17/2009 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
USGS-06-1	1/10/2008 12:53	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
USGS-06-7	10/4/2007 17:50	< 0.5	< 0.5	0.75	< 0.5	< 0.1
USGS-06-7	11/14/2007 16:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	5/31/2000 0:00	< 0.5	< 0.5	< 0.5	< 0.5	nm
Whitmer	8/10/2001 10:00	< 0.5	< 0.5	< 0.5	< 1.0	< 0.1
Whitmer	8/22/2001 15:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	11/9/2001 10:20	< 0.5	< 0.5	< 0.5	< 1.0	nm

Table 3 - BTEX and TPH Analyses
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l	Total Petroleum Hydrocarbons mg/l
Whitmer	2/22/2002 14:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	5/22/2002 16:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	8/21/2002 9:35	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	11/5/2002 14:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whittmer	3/4/2003 14:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	5/13/2003 17:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	8/14/2003 12:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	11/4/2003 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	3/18/2004 13:05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	6/9/2004 8:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	9/16/2004 11:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	11/18/2004 16:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	3/2/2005 16:44	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	8/16/2005 16:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	11/17/2005 10:25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	2/9/2006 11:15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	5/25/2006 11:21	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	8/24/2006 11:45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	12/7/2006 13:30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	3/14/2007 16:55	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1 (H)
Whitmer	10/5/2007 18:00	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	3/27/2008 11:10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Whitmer	10/27/2008 17:55	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
Whitmer	4/21/2009 19:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
Whitmer	10/1/2009 15:04	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
Whitmer	4/13/2010 12:05	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
Whitmer	9/22/2010 15:00	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
Whitmer (city)	5/26/2005 10:20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1
Lockman (city)	5/26/2005 11:05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1

Notes

< # = Analyte not detected, number shown is reporting limit

J = Estimated value. Present but less than the limit of quantitation.

H = Analysis performed past recommended holding time.

nm = Not measured.

T = This target analyte was found in the associated trip blank as well as the sample.

Table 4

Brine Recovery Wells - Analytical Results

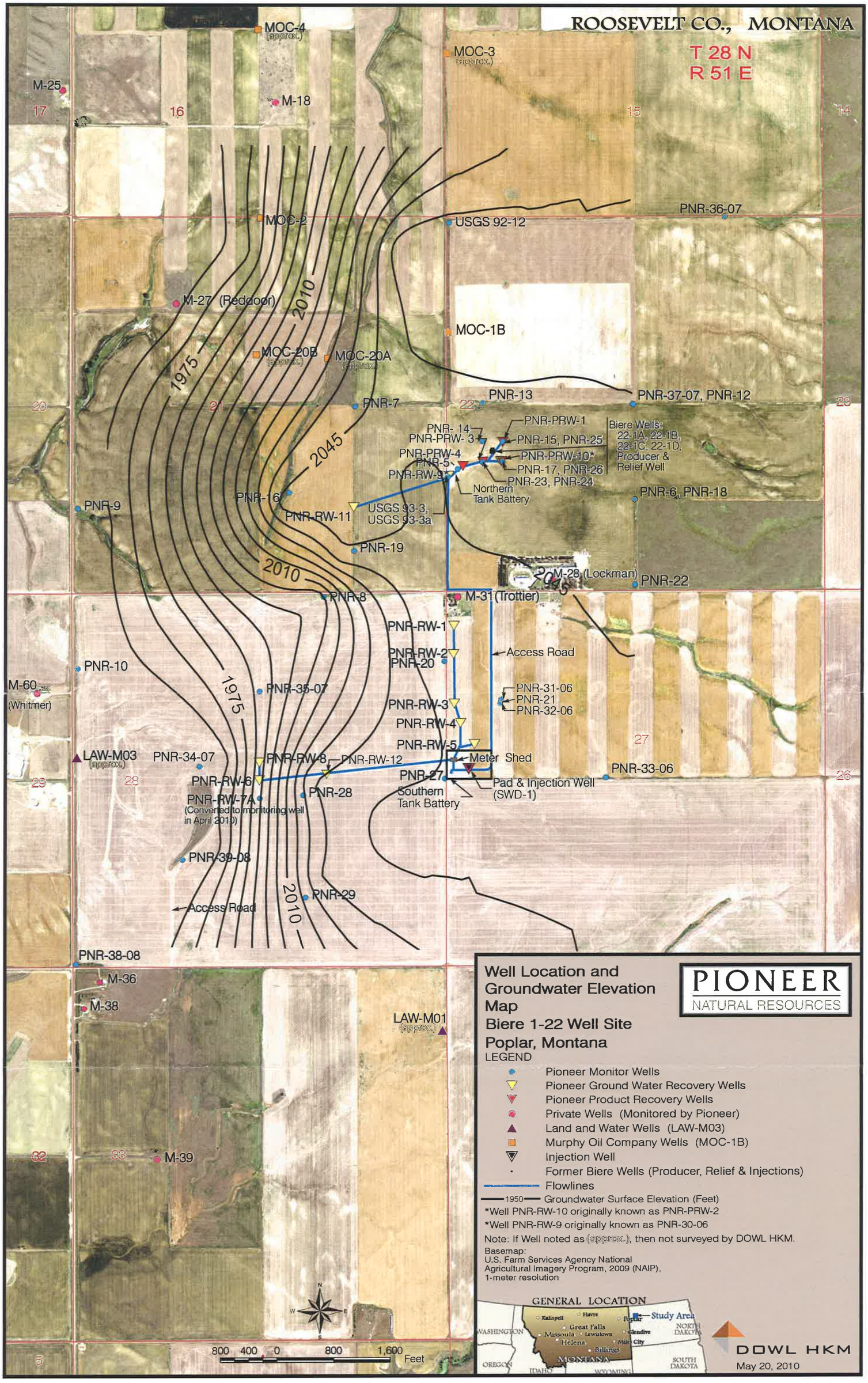
Table 4 - Brine Recovery Wells - Chloride and BTEX Analyses
Pioneer Natural Resources USA, Inc. - Biere 1-22 Investigation
DOWL HKM Job No.: 14B8.05101.01
Last update: October 2010

Well No.	Date & Time	Chloride mg/l	Ph S.U.	Specific Conductance @ 25° C mS/cm	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Total Xylenes µg/l
PNR-RW-1	1/9/2008 14:33	28000	nm	71.2	19.00	< 0.50	< 0.50	< 0.50
PNR-RW-1	10/5/2009 15:10	25600	nm	55.4	19.00	< 0.50	< 0.50	< 0.50
PNR-RW-1	4/14/2010 10:00	25400	6.9	52.9	17.00	< 0.50	< 0.50	< 0.50
PNR-RW-1	9/17/2010 13:35	22600	nm	54.1	17.00	< 0.50	< 0.50	< 0.50
PNR-RW-2	1/9/2008 12:20	22400	nm	59.7	13.00	< 0.50	< 0.50	< 0.50
PNR-RW-2	4/22/2009 19:20	17500	nm	48.5	14.00	< 0.50	< 0.50	< 0.50
PNR-RW-2	10/5/2009 15:20	22900	nm	50.4	16.00	< 0.50	< 0.50	< 0.50
PNR-RW-2	4/14/2010 10:30	22400	6.9	47.9	15.00	< 0.50	< 0.50	< 0.50
PNR-RW-2	9/17/2010 14:00	18500	nm	45.6	15.00	< 0.50	< 0.50	< 0.50
PNR-RW-3	1/8/2008 16:08	31800	nm	76.8	23.00	< 0.50	< 0.50	0.49 (J)
PNR-RW-3	4/22/2009 19:05	22000	nm	58.5	12.00	< 0.50	< 0.50	< 0.50
PNR-RW-3	10/14/2009 14:10	31200	nm	nm	16.00	< 0.50	< 0.50	< 0.50
PNR-RW-3	4/16/2010 9:20	36400	6.7	67.9	18.00	< 0.50	< 0.50	< 0.50
PNR-RW-3	9/17/2010 14:10	11200	nm	29.4	18.00	< 0.50	< 0.50	< 0.50
PNR-RW-4	1/8/2008 14:10	24400	nm	63.6	20.00	< 0.50	< 0.50	< 0.50
PNR-RW-4	4/22/2009 18:55	19700	nm	53.6	14.00	< 0.50	< 0.50	< 0.50
PNR-RW-4	10/5/2009 15:30	23500	nm	50.3	11.00	< 0.50	< 0.50	< 0.50
PNR-RW-4	4/14/2010 11:00	21500	6.9	46.8	8.60	< 0.50	< 0.50	< 0.50
PNR-RW-4	9/17/2010 14:20	14700	nm	37.9	5.90	< 0.50	< 0.50	< 0.50
PNR-RW-5	1/8/2008 11:47	15000	nm	42.4	5.00	< 0.50	< 0.50	< 0.50
PNR-RW-5	4/22/2009 18:40	15800	nm	44.0	6.20	< 0.50	< 0.50	< 0.50
PNR-RW-5	10/5/2009 15:45	18000	nm	41.7	5.40	< 0.50	< 0.50	< 0.50
PNR-RW-5	4/14/2010 11:15	15200	6.8	36.6	4.70	< 0.50	< 0.50	< 0.50
PNR-RW-5	9/17/2010 14:30	12300	nm	32.4	3.50	< 0.50	< 0.50	< 0.50
PNR-RW-6	4/22/2009 17:00	18800	nm	50.7	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-6	4/19/2010 14:40	21500	6.8	46.4	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-6	9/17/2010 14:45	19200	nm	46.2	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-7A	4/22/2009 17:15	17900	nm	47.0	< 0.50	0.61	< 0.50	< 0.50
PNR-RW-7A	10/5/2009 14:15	20400	nm	47.5	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-7A	4/16/2010 10:30	23100	6.8	45.3	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-7A	9/22/2010 16:00	17700	nm	42.5	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-8	4/22/2009 16:45	18900	nm	50.3	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-8	10/5/2009 14:30	23300	nm	49.9	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-8	4/19/2010 14:10	22700	6.9	50.1	< 0.50	< 0.50	< 0.50	< 0.50
PNR-RW-9	4/22/2009 17:45	21800	nm	58.6	1.90	< 0.50	5.1	0.99
PNR-RW-9	10/14/2009 14:10	13900	nm	nm	1.40	< 0.50	8.5	3.3
PNR-RW-9	4/14/2010 12:05	16900	7.1	41.8	0.91	< 0.50	6.9	6.6
PNR-RW-9	9/17/2010 15:20	12300	nm	33.3	0.91	< 0.50	8.2	3.5
PNR-RW-10	4/22/2009 18:00	871	nm	6.8	13.00	42	19	49
PNR-RW-10	10/5/2009 14:50	914	nm	6.7	12.00	62	30	96
PNR-RW-10	4/14/2010 11:50	641	8.5	5.9	10.00	39	23	61
PNR-RW-10	9/21/2010 10:00	315	nm	4.9	39.00	139	78	212
PNR-RW-11	10/1/2009 10:45	36700	nm	82.6	12.00	< 0.50	< 0.50	< 0.50
PNR-RW-11	4/15/2010 10:00	31900	6.9	63.0	9.10	< 0.50	< 0.50	< 0.50
PNR-RW-11	9/17/2010 15:10	24700	nm	58.3	9.90	< 0.50	< 0.50	< 0.50
PNR-RW-12	4/19/2010 15:05	22000	6.8	47.4	0.70	< 0.50	< 0.50	< 0.50
PNR-RW-12	9/17/2010 14:55	19200	nm	47.1	< 0.50	< 0.50	< 0.50	< 0.50

Notes
< # = Analyte not detected, number shown is reporting limit
J = Estimated value. Present but less than the limit of quantitation.
nm = Not measured.

Appendix A

Well Location and Groundwater Elevation Map


ROOSEVELT CO., MONTANA
T 28 N
R 51 E
MOC-4 (approx.)
MOC-3 (approx.)
M-25
M-18
17
16
15
14
MOC-2
USGS 92-12
PNR-36-07
M-27 (Reddoor)
2010
MOC-1B
1975
MOC-20B (approx.)
MOC-20A (approx.)
20
21
22
23
PNR-7
PNR-13
PNR-37-07, PNR-12
PNR-PRW-1
PNR- 14
PNR-PRW- 3
PNR-15, PNR-25
Biere Wells:
22-1A, 22-1B,
22-1C, 22-1D,
Producer &
Relief Well
2045
PNR-PRW-4
PNR-5
PNR-PRW-10*
PNR-17, PNR-26
PNR-RW-9*
PNR-23, PNR-24
Northern
Tank Battery
PNR-16
PNR-6, PNR-18
PNR-9
PNR-RW-11
USGS 93-3,
USGS 93-3a
PNR-19
2010
M-28 (Lockman)
PNR-22
PNR-8
M-31 (Trottier)
PNR-RW-1
PNR-RW-2
PNR-20
Access Road
PNR-10
M-60
(Whitmer)
PNR-35-07
1975
PNR-31-06
PNR-21
PNR-32-06
PNR-RW-3
PNR-RW-4
PNR-RW-5
27
LAW-M03 (approx.)
PNR-34-07
PNR-RW-8
PNR-RW-12
Meter Shed
PNR-33-06
23
28
PNR-RW-6
PNR-27
Pad & Injection Well
(SWD-1)
26
PNR-RW-7A
(Converted to monitoring well
in April 2010)
PNR-28
Southern
Tank Battery
PNR-39-08
2010
PNR-29
Access Road
PNR-38-08
M-36
M-38
LAW-M01 (approx.)
32
33
M-39
5
800 400 0 800 1,600 Feet
N
S
E
W
Well Location and
Groundwater Elevation
Map
Biere 1-22 Well Site
Poplar, Montana
PIONEER
NATURAL RESOURCES
LEGEND
Pioneer Monitor Wells
Pioneer Ground Water Recovery Wells
Pioneer Product Recovery Wells
Private Wells (Monitored by Pioneer)
Land and Water Wells (LAW-M03)
Murphy Oil Company Wells (MOC-1B)
Injection Well
Former Biere Wells (Producer, Relief & Injections)
Flowlines
1950 Groundwater Surface Elevation (Feet)
*Well PNR-RW-10 originally known as PNR-PRW-2
*Well PNR-RW-9 originally known as PNR-30-06
Note: If Well noted as (approx.), then not surveyed by DOWL HKM.
Basemap:
U.S. Farm Services Agency National
Agricultural Imagery Program, 2009 (NAIP),
1-meter resolution
GENERAL LOCATION
Study Area
WASHINGTON
OREGON
IDAHO
MONTANA
WYOMING
SOUTH DAKOTA
NORTH DAKOTA
Kalispell
Havre
Great Falls
Missoula
Lewistown
Helena
Billings
Glendive
Miles City
DOWL HKM
May 20, 2010

Appendix B

Laboratory Analytical Reports

ANALYTICAL SUMMARY REPORT

October 01, 2010

DOWL HKM
920 Technology Blvd STE A
Bozeman, MT 59718-4001

Workorder No.: B10091650 Quote ID: B78 - Pioneer Natural Resources-Poplar Biere Well Site

Project Name: Biere Well Remediation

Energy Laboratories Inc received the following 12 samples for DOWL HKM on 9/17/2010 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B10091650-001	USGS 93-3	09/16/10 10:25	09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091650-002	M-31	09/16/10 11:10	09/17/10	Aqueous	Same As Above
B10091650-003	M-28	09/16/10 11:45	09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091650-004	USGS 92-12	09/16/10 14:00	09/17/10	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

B10091650-005	PNR-12	09/16/10 14:50 09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091650-006	MOC-1B	09/16/10 15:30 09/17/10	Aqueous	Same As Above
B10091650-007	MOC-3	09/16/10 16:00 09/17/10	Aqueous	Same As Above
B10091650-008	PNR-6	09/16/10 16:30 09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091650-009	PNR-18	09/16/10 17:00 09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091650-010	Trip Blank #1 Lot #091010, B-TS 0251	09/16/10 16:00 09/17/10	Trip Blank	Purgeable Aromatics
B10091650-011	Trip Blank #2 Lot #091010, B-TS 0251	09/16/10 14:00 09/17/10	Trip Blank	Same As Above
B10091650-012	Trip Blank #3 Lot #091010, B-TS 0251	09/16/10 10:25 09/17/10	Trip Blank	Same As Above

ANALYTICAL SUMMARY REPORT

This report was prepared by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By: William T Brown
President

Digitally signed by
Bill Brown
Date: 2010.10.01 14:15:46 -06:00

CLIENT: DOWL HKM
Project: Biere Well Remediation
Sample Delivery Group: B10091650

Report Date: 10/01/10

CASE NARRATIVE

Tests associated with analyst identified as ELI-G were subcontracted to Energy Laboratories, 400 W Boxelder Rd, Gillette, WY, EPA Number WY00006.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-001
Client Sample ID USGS 93-3

Report Date: 10/01/10
Collection Date: 09/16/10 10:25
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/17/10 17:47 / caw
Conductivity @ 25 C	44900	umhos/cm	E	5		A2510 B	09/24/10 12:56 / sam
Solids, Total Dissolved TDS @ 180 C	27900	mg/L		10		A2540 C	09/17/10 18:46 / qed
INORGANICS							
Alkalinity, Total as CaCO3	817	mg/L		4		A2320 B	09/20/10 20:41 / ehb
Bicarbonate as HCO3	997	mg/L		4		A2320 B	09/20/10 20:41 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 20:41 / ehb
Chloride	17700	mg/L	D	50		E300.0	09/23/10 10:12 / kh
Sulfate	1130	mg/L	D	200		E300.0	09/21/10 21:36 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/20/10 20:41 / ehb
Hardness as CaCO3	1540	mg/L		1		A2340 B	09/20/10 17:32 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	7.7	mg/L	D	0.3		E350.1	09/22/10 12:54 / bls
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/27/10 10:05 / bls
METALS, DISSOLVED							
Calcium	408	mg/L		1		E200.7	09/20/10 17:32 / rlh
Magnesium	127	mg/L		1		E200.7	09/20/10 17:32 / rlh
Potassium	185	mg/L		1		E200.7	09/20/10 17:32 / rlh
Silica	20.5	mg/L	D	0.7		E200.7	09/20/10 17:32 / rlh
Sodium	11400	mg/L	D	10		E200.7	09/20/10 17:32 / rlh
METALS, TOTAL							
Silica	52.3	mg/L	D	0.9		E200.7	09/21/10 06:38 / rlh
QUALITY CONTROL							
A/C Balance Sigma	3.21					Calculation	09/24/10 11:04 / rls
Anions	561	meq/L		0.01		Calculation	09/24/10 11:04 / rls
Cations	532	meq/L		0.01		Calculation	09/24/10 11:04 / rls
A/C Balance	-2.58	%				Calculation	09/24/10 11:04 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/22/10 22:37 / bjm
Benzene	2.0	ug/L		0.50		SW8021B	09/22/10 22:37 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/22/10 22:37 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/22/10 22:37 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/22/10 22:37 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/22/10 22:37 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/22/10 22:37 / bjm
Surr: Trifluorotoluene	88.0	%REC		80-120		SW8021B	09/22/10 22:37 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:18 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-002
Client Sample ID M-31

Report Date: 10/01/10
Collection Date: 09/16/10 11:10
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	6.9	s.u.		0.1		A4500-H B	09/22/10 13:09 / caw
Conductivity @ 25 C	83300	umhos/cm	E	5		A2510 B	09/22/10 13:09 / caw
Solids, Total Dissolved TDS @ 180 C	58800	mg/L		10		A2540 C	09/17/10 18:48 / qed
INORGANICS							
Alkalinity, Total as CaCO3	508	mg/L		4		A2320 B	09/20/10 21:09 / ehb
Bicarbonate as HCO3	619	mg/L		4		A2320 B	09/20/10 21:09 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 21:09 / ehb
Chloride	41600	mg/L	D	100		E300.0	09/23/10 10:47 / kh
Sulfate	1350	mg/L	D	500		E300.0	09/23/10 10:47 / kh
Fluoride	0.1	mg/L		0.1		A4500-F C	09/20/10 21:09 / ehb
Hardness as CaCO3	5290	mg/L		1		A2340 B	09/23/10 13:00 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	12	mg/L	D	1		E350.1	09/22/10 12:55 / bls
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	D	1		E353.2	09/27/10 10:21 / bls
METALS, DISSOLVED							
Calcium	1310	mg/L	D	2		E200.7	09/23/10 13:00 / rlh
Magnesium	494	mg/L		1		E200.7	09/23/10 13:00 / rlh
Potassium	252	mg/L		1		E200.7	09/23/10 13:00 / rlh
Silica	15	mg/L	D	1		E200.7	09/20/10 17:44 / rlh
Sodium	22200	mg/L	D	30		E200.7	09/23/10 13:00 / rlh
METALS, TOTAL							
Silica	16	mg/L	D	2		E200.7	09/21/10 06:58 / rlh
QUALITY CONTROL							
A/C Balance Sigma	7.03					Calculation	09/24/10 11:07 / rls
Anions	1210	meq/L		0.01		Calculation	09/24/10 11:07 / rls
Cations	1080	meq/L		0.01		Calculation	09/24/10 11:07 / rls
A/C Balance	-5.79	%				Calculation	09/24/10 11:07 / rls
- The Balance was confirmed by re-analysis of anions, cations, and alkalinity.							
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/23/10 17:39 / bjm
Benzene	26	ug/L		0.50		SW8021B	09/23/10 17:39 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/23/10 17:39 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/23/10 17:39 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/23/10 17:39 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/23/10 17:39 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/23/10 17:39 / bjm
Surr: Trifluorotoluene	89.0	%REC		80-120		SW8021B	09/23/10 17:39 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	5.5	mg/L		1.0		E1664A	09/28/10 15:51 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-002
Client Sample ID M-31

Report Date: 10/01/10
Collection Date: 09/16/10 11:10
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By

ORGANIC CHARACTERISTICS

- The TPH value was confirmed by re-analysis

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-003
Client Sample ID M-28

Report Date: 10/01/10
Collection Date: 09/16/10 11:45
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/17/10 17:55 / caw
Conductivity @ 25 C	12800	umhos/cm		5		A2510 B	09/17/10 17:55 / caw
Solids, Total Dissolved TDS @ 180 C	8310	mg/L		10		A2540 C	09/17/10 18:49 / qed
INORGANICS							
Alkalinity, Total as CaCO3	816	mg/L		4		A2320 B	09/20/10 21:18 / ehb
Bicarbonate as HCO3	996	mg/L		4		A2320 B	09/20/10 21:18 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 21:18 / ehb
Chloride	3170	mg/L	D	20		E300.0	09/21/10 22:00 / kh
Sulfate	1600	mg/L	D	100		E300.0	09/21/10 22:00 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/20/10 21:18 / ehb
Hardness as CaCO3	1440	mg/L		1		A2340 B	09/20/10 17:48 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.8	mg/L	D	0.1		E350.1	09/22/10 12:56 / bls
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.01		E353.2	09/27/10 10:22 / bls
METALS, DISSOLVED							
Calcium	271	mg/L		1		E200.7	09/20/10 17:48 / rlh
Magnesium	186	mg/L		1		E200.7	09/20/10 17:48 / rlh
Potassium	22	mg/L		1		E200.7	09/20/10 17:48 / rlh
Silica	21.2	mg/L	D	0.3		E200.7	09/20/10 17:48 / rlh
Sodium	2690	mg/L	D	5		E200.7	09/20/10 17:48 / rlh
METALS, TOTAL							
Silica	22.7	mg/L	D	0.4		E200.7	09/21/10 07:19 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-3.23					Calculation	09/22/10 10:47 / rls
Anions	139	meq/L		0.01		Calculation	09/22/10 10:47 / rls
Cations	146	meq/L		0.01		Calculation	09/22/10 10:47 / rls
A/C Balance	2.56	%				Calculation	09/22/10 10:47 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/22/10 23:47 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/22/10 23:47 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/22/10 23:47 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/22/10 23:47 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/22/10 23:47 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/22/10 23:47 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/22/10 23:47 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	09/22/10 23:47 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:24 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-004
Client Sample ID USGS 92-12

Report Date: 10/01/10
Collection Date: 09/16/10 14:00
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.4	s.u.		0.1		A4500-H B	09/17/10 17:57 / caw
Conductivity @ 25 C	2460	umhos/cm		5		A2510 B	09/17/10 17:57 / caw
Solids, Total Dissolved TDS @ 180 C	2180	mg/L		10		A2540 C	09/17/10 18:51 / qed
INORGANICS							
Alkalinity, Total as CaCO3	398	mg/L		4		A2320 B	09/20/10 21:27 / ehb
Bicarbonate as HCO3	485	mg/L		4		A2320 B	09/20/10 21:27 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 21:27 / ehb
Chloride	3	mg/L		1		E300.0	09/21/10 22:11 / kh
Sulfate	1160	mg/L	D	10		E300.0	09/23/10 03:02 / kh
Fluoride	0.5	mg/L		0.1		A4500-F C	09/20/10 21:27 / ehb
Hardness as CaCO3	1380	mg/L		1		A2340 B	09/20/10 17:52 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/22/10 13:58 / bls
Nitrogen, Nitrate+Nitrite as N	5.75	mg/L	D	0.06		E353.2	09/27/10 10:06 / bls
METALS, DISSOLVED							
Calcium	197	mg/L		1		E200.7	09/20/10 17:52 / rlh
Magnesium	215	mg/L		1		E200.7	09/20/10 17:52 / rlh
Potassium	15	mg/L		1		E200.7	09/20/10 17:52 / rlh
Silica	27.4	mg/L		0.2		E200.7	09/20/10 17:52 / rlh
Sodium	109	mg/L		1		E200.7	09/20/10 17:52 / rlh
METALS, TOTAL							
Silica	35.7	mg/L		0.2		E200.7	09/21/10 07:23 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-0.74					Calculation	09/23/10 11:36 / rls
Anions	32.2	meq/L		0.01		Calculation	09/23/10 11:36 / rls
Cations	32.7	meq/L		0.01		Calculation	09/23/10 11:36 / rls
A/C Balance	0.69	%				Calculation	09/23/10 11:36 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/23/10 22:23 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/23/10 22:23 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/23/10 22:23 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/23/10 22:23 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/23/10 22:23 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/23/10 22:23 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/23/10 22:23 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	09/23/10 22:23 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:25 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-005
Client Sample ID PNR-12

Report Date: 10/01/10
Collection Date: 09/16/10 14:50
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.4	s.u.		0.1		A4500-H B	09/22/10 13:14 / caw
Conductivity @ 25 C	4770	umhos/cm		5		A2510 B	09/22/10 13:14 / caw
Solids, Total Dissolved TDS @ 180 C	4420	mg/L		10		A2540 C	09/17/10 21:11 / qed
INORGANICS							
Alkalinity, Total as CaCO3	597	mg/L		4		A2320 B	09/20/10 21:36 / ehb
Bicarbonate as HCO3	728	mg/L		4		A2320 B	09/20/10 21:36 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 21:36 / ehb
Chloride	51	mg/L	D	5		E300.0	09/23/10 10:59 / kh
Sulfate	2010	mg/L	D	20		E300.0	09/21/10 22:23 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/20/10 21:36 / ehb
Hardness as CaCO3	2540	mg/L		1		A2340 B	09/20/10 17:56 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/22/10 14:03 / bls
Nitrogen, Nitrate+Nitrite as N	164	mg/L	D	1		E353.2	09/27/10 11:38 / bls
METALS, DISSOLVED							
Calcium	430	mg/L		1		E200.7	09/20/10 17:56 / rlh
Magnesium	356	mg/L		1		E200.7	09/20/10 17:56 / rlh
Potassium	10	mg/L		1		E200.7	09/20/10 17:56 / rlh
Silica	21.9	mg/L		0.2		E200.7	09/20/10 17:56 / rlh
Sodium	346	mg/L		1		E200.7	09/20/10 17:56 / rlh
METALS, TOTAL							
Silica	26.6	mg/L		0.2		E200.7	09/21/10 07:27 / rlh
QUALITY CONTROL							
A/C Balance Sigma	0.85					Calculation	09/30/10 10:05 / rls
Anions	67.1	meq/L		0.01		Calculation	09/30/10 10:05 / rls
Cations	66.1	meq/L		0.01		Calculation	09/30/10 10:05 / rls
A/C Balance	-0.73	%				Calculation	09/30/10 10:05 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/23/10 23:35 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/23/10 23:35 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/23/10 23:35 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/23/10 23:35 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/23/10 23:35 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/23/10 23:35 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/23/10 23:35 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	09/23/10 23:35 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:30 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-006
Client Sample ID MOC-1B

Report Date: 10/01/10
Collection Date: 09/16/10 15:30
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/17/10 18:03 / caw
Conductivity @ 25 C	4190	umhos/cm		5		A2510 B	09/17/10 18:03 / caw
Solids, Total Dissolved TDS @ 180 C	3950	mg/L		10		A2540 C	09/17/10 21:12 / qed
INORGANICS							
Alkalinity, Total as CaCO3	419	mg/L		4		A2320 B	09/20/10 21:56 / ehb
Bicarbonate as HCO3	511	mg/L		4		A2320 B	09/20/10 21:56 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 21:56 / ehb
Chloride	57	mg/L	D	5		E300.0	09/21/10 22:35 / kh
Sulfate	2150	mg/L	D	20		E300.0	09/21/10 22:35 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/20/10 21:56 / ehb
Hardness as CaCO3	2120	mg/L		1		A2340 B	09/20/10 18:00 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/22/10 14:04 / bls
Nitrogen, Nitrate+Nitrite as N	35.3	mg/L	D	0.2		E353.2	09/27/10 13:46 / bls
METALS, DISSOLVED							
Calcium	366	mg/L		1		E200.7	09/20/10 18:00 / rlh
Magnesium	292	mg/L		1		E200.7	09/20/10 18:00 / rlh
Potassium	10	mg/L		1		E200.7	09/20/10 18:00 / rlh
Silica	22.8	mg/L		0.2		E200.7	09/20/10 18:00 / rlh
Sodium	370	mg/L		1		E200.7	09/20/10 18:00 / rlh
METALS, TOTAL							
Silica	22.7	mg/L		0.2		E200.7	09/21/10 00:08 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-1.45					Calculation	09/30/10 10:05 / rls
Anions	57.2	meq/L		0.01		Calculation	09/30/10 10:05 / rls
Cations	58.7	meq/L		0.01		Calculation	09/30/10 10:05 / rls
A/C Balance	1.25	%				Calculation	09/30/10 10:05 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 03:07 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 03:07 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 03:07 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 03:07 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 03:07 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 03:07 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 03:07 / bjm
Surr: Trifluorotoluene	91.0	%REC		80-120		SW8021B	09/24/10 03:07 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:30 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-007
Client Sample ID MOC-3

Report Date: 10/01/10
Collection Date: 09/16/10 16:00
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/17/10 18:06 / caw
Conductivity @ 25 C	3700	umhos/cm		5		A2510 B	09/17/10 18:06 / caw
Solids, Total Dissolved TDS @ 180 C	3280	mg/L		10		A2540 C	09/17/10 21:14 / qed
INORGANICS							
Alkalinity, Total as CaCO3	353	mg/L		4		A2320 B	09/20/10 22:04 / ehb
Bicarbonate as HCO3	431	mg/L		4		A2320 B	09/20/10 22:04 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 22:04 / ehb
Chloride	60	mg/L	D	5		E300.0	09/21/10 22:46 / kh
Sulfate	1810	mg/L	D	20		E300.0	09/21/10 22:46 / kh
Fluoride	0.4	mg/L		0.1		A4500-F C	09/20/10 22:04 / ehb
Hardness as CaCO3	1660	mg/L		1		A2340 B	09/20/10 18:04 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/22/10 14:05 / bls
Nitrogen, Nitrate+Nitrite as N	16.6	mg/L	D	0.1		E353.2	09/27/10 11:41 / bls
METALS, DISSOLVED							
Calcium	325	mg/L		1		E200.7	09/20/10 18:04 / rlh
Magnesium	206	mg/L		1		E200.7	09/20/10 18:04 / rlh
Potassium	11	mg/L		1		E200.7	09/20/10 18:04 / rlh
Silica	20.0	mg/L		0.2		E200.7	09/20/10 18:04 / rlh
Sodium	374	mg/L		1		E200.7	09/20/10 18:04 / rlh
METALS, TOTAL							
Silica	38.5	mg/L		0.2		E200.7	09/21/10 07:31 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-2.52					Calculation	09/30/10 10:06 / rls
Anions	47.6	meq/L		0.01		Calculation	09/30/10 10:06 / rls
Cations	49.8	meq/L		0.01		Calculation	09/30/10 10:06 / rls
A/C Balance	2.18	%				Calculation	09/30/10 10:06 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 04:18 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 04:18 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 04:18 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 04:18 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 04:18 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 04:18 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 04:18 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	09/24/10 04:18 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:31 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-008
Client Sample ID PNR-6

Report Date: 10/01/10
Collection Date: 09/16/10 16:30
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.3	s.u.		0.1		A4500-H B	09/17/10 18:08 / caw
Conductivity @ 25 C	3050	umhos/cm		5		A2510 B	09/17/10 18:08 / caw
Solids, Total Dissolved TDS @ 180 C	2720	mg/L		10		A2540 C	09/17/10 21:15 / qed
INORGANICS							
Alkalinity, Total as CaCO3	468	mg/L		4		A2320 B	09/20/10 22:12 / ehb
Bicarbonate as HCO3	570	mg/L		4		A2320 B	09/20/10 22:12 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 22:12 / ehb
Chloride	46	mg/L	D	2		E300.0	09/21/10 23:21 / kh
Sulfate	1450	mg/L	D	10		E300.0	09/21/10 23:21 / kh
Fluoride	0.4	mg/L		0.1		A4500-F C	09/20/10 22:12 / ehb
Hardness as CaCO3	1540	mg/L		1		A2340 B	09/20/10 18:08 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.21	mg/L		0.05		E350.1	09/22/10 14:07 / bls
Nitrogen, Nitrate+Nitrite as N	1.90	mg/L		0.01		E353.2	09/27/10 11:32 / bls
METALS, DISSOLVED							
Calcium	182	mg/L		1		E200.7	09/20/10 18:08 / rlh
Magnesium	264	mg/L		1		E200.7	09/20/10 18:08 / rlh
Potassium	9	mg/L		1		E200.7	09/20/10 18:08 / rlh
Silica	25.7	mg/L		0.2		E200.7	09/20/10 18:08 / rlh
Sodium	227	mg/L		1		E200.7	09/20/10 18:08 / rlh
METALS, TOTAL							
Silica	34.8	mg/L		0.2		E200.7	09/21/10 07:43 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-0.08					Calculation	09/22/10 10:48 / rls
Anions	40.9	meq/L		0.01		Calculation	09/22/10 10:48 / rls
Cations	40.9	meq/L		0.01		Calculation	09/22/10 10:48 / rls
A/C Balance	0.07	%				Calculation	09/22/10 10:48 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 05:29 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 05:29 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 05:29 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 05:29 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 05:29 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 05:29 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 05:29 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	09/24/10 05:29 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:26 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-009
Client Sample ID PNR-18

Report Date: 10/01/10
Collection Date: 09/16/10 17:00
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.1	s.u.		0.1		A4500-H B	09/17/10 18:11 / caw
Conductivity @ 25 C	4000	umhos/cm		5		A2510 B	09/17/10 18:11 / caw
Solids, Total Dissolved TDS @ 180 C	3500	mg/L		10		A2540 C	09/17/10 21:15 / qed
INORGANICS							
Alkalinity, Total as CaCO3	723	mg/L		4		A2320 B	09/20/10 22:22 / ehb
Bicarbonate as HCO3	882	mg/L		4		A2320 B	09/20/10 22:22 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/20/10 22:22 / ehb
Chloride	124	mg/L	D	5		E300.0	09/21/10 23:33 / kh
Sulfate	1580	mg/L	D	20		E300.0	09/21/10 23:33 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/20/10 22:22 / ehb
Hardness as CaCO3	1830	mg/L		1		A2340 B	09/20/10 18:12 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	3.2	mg/L	D	0.1		E350.1	09/22/10 14:08 / bls
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/27/10 11:36 / bls
METALS, DISSOLVED							
Calcium	323	mg/L		1		E200.7	09/20/10 18:12 / rlh
Magnesium	248	mg/L		1		E200.7	09/20/10 18:12 / rlh
Potassium	8	mg/L		1		E200.7	09/20/10 18:12 / rlh
Silica	27.9	mg/L		0.2		E200.7	09/20/10 18:12 / rlh
Sodium	413	mg/L		1		E200.7	09/20/10 18:12 / rlh
METALS, TOTAL							
Silica	27.9	mg/L		0.2		E200.7	09/21/10 00:12 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-4.59					Calculation	09/24/10 11:14 / rls
Anions	50.8	meq/L		0.01		Calculation	09/24/10 11:14 / rls
Cations	54.9	meq/L		0.01		Calculation	09/24/10 11:14 / rls
A/C Balance	3.89	%				Calculation	09/24/10 11:14 / rls
- The Balance was confirmed by re-analysis of anions, cations, and alkalinity.							
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 06:39 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 06:39 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 06:39 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 06:39 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 06:39 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 06:39 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 06:39 / bjm
Surr: Trifluorotoluene	89.0	%REC		80-120		SW8021B	09/24/10 06:39 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:27 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-010
Client Sample ID Trip Blank #1 Lot #091010, B-TS 0251

Report Date: 10/01/10
Collection Date: 09/16/10 16:00
DateReceived: 09/17/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/23/10 17:04 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/23/10 17:04 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/23/10 17:04 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/23/10 17:04 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/23/10 17:04 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/23/10 17:04 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/23/10 17:04 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	09/23/10 17:04 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-011
Client Sample ID Trip Blank #2 Lot #091010, B-TS 0251

Report Date: 10/01/10
Collection Date: 09/16/10 14:00
DateReceived: 09/17/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/23/10 16:29 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/23/10 16:29 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/23/10 16:29 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/23/10 16:29 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/23/10 16:29 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/23/10 16:29 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/23/10 16:29 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	09/23/10 16:29 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091650-012
Client Sample ID Trip Blank #3 Lot #091010, B-TS 0251

Report Date: 10/01/10
Collection Date: 09/16/10 10:25
DateReceived: 09/17/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/23/10 15:53 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/23/10 15:53 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/23/10 15:53 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/23/10 15:53 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/23/10 15:53 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/23/10 15:53 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/23/10 15:53 / bjm
Surr: Trifluorotoluene	92.0	%REC		80-120		SW8021B	09/23/10 15:53 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R154152
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100920B				09/20/10 18:51
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100920B				09/20/10 18:57
Alkalinity, Total as CaCO3	96.9	mg/L	4.0	97	90	110			
Sample ID: B10091650-001AMS	Sample Matrix Spike				Run: MAN-TECH_100920B				09/20/10 20:51
Alkalinity, Total as CaCO3	916	mg/L	4.0	74	80	120			S
Sample ID: B10091650-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100920B				09/20/10 21:01
Alkalinity, Total as CaCO3	913	mg/L	4.0	72	80	120	0.3	20	S
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100920B				09/20/10 21:39
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100920B				09/20/10 21:45
Alkalinity, Total as CaCO3	97.1	mg/L	4.0	97	90	110			
Sample ID: B10091658-001AMS	Sample Matrix Spike				Run: MAN-TECH_100920B				09/20/10 22:52
Alkalinity, Total as CaCO3	172	mg/L	4.0	94	80	120			
Sample ID: B10091658-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100920B				09/20/10 23:00
Alkalinity, Total as CaCO3	185	mg/L	4.0	104	80	120	7.4	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Batch: R153973
Sample ID: SC 150	Laboratory Control Sample				Run: PHSC _101-B_100917A				09/17/10 08:49
Conductivity @ 25 C	152	umhos/cm	5.0	101	90	110			
Sample ID: SC 5000	Laboratory Control Sample				Run: PHSC _101-B_100917A				09/17/10 08:52
Conductivity @ 25 C	4900	umhos/cm	5.0	98	90	110			
Sample ID: MBLK	Method Blank				Run: PHSC _101-B_100917A				09/17/10 09:01
Conductivity @ 25 C	5	umhos/cm							
Sample ID: SC 20000	Laboratory Control Sample				Run: PHSC _101-B_100917A				09/17/10 08:55
Conductivity @ 25 C	19300	umhos/cm	5.0	97	90	110			
Sample ID: B10091650-001ADUP	Sample Duplicate				Run: PHSC _101-B_100917A				09/17/10 17:50
Conductivity @ 25 C	44800	umhos/cm	5.0				0.7	10	
Method: A2510 B									Batch: R154223
Sample ID: SC 150	Laboratory Control Sample				Run: PHSC _101-B_100922A				09/22/10 08:23
Conductivity @ 25 C	156	umhos/cm	5.0	104	90	110			
Sample ID: SC 5000	Laboratory Control Sample				Run: PHSC _101-B_100922A				09/22/10 08:27
Conductivity @ 25 C	5030	umhos/cm	5.0	101	90	110			
Sample ID: SC 20000	Laboratory Control Sample				Run: PHSC _101-B_100922A				09/22/10 08:29
Conductivity @ 25 C	20000	umhos/cm	5.0	100	90	110			
Sample ID: MBLK	Method Blank				Run: PHSC _101-B_100922A				09/22/10 08:39
Conductivity @ 25 C	5	umhos/cm							
Sample ID: B10091984-002ADUP	Sample Duplicate				Run: PHSC _101-B_100922A				09/22/10 13:03
Conductivity @ 25 C	413	umhos/cm	5.0				0.7	10	
Method: A2510 B									Batch: R154410
Sample ID: SC 150	Laboratory Control Sample				Run: PHSC _101-B_100924A				09/24/10 08:43
Conductivity @ 25 C	159	umhos/cm	5.0	106	90	110			
Sample ID: SC 5000	Laboratory Control Sample				Run: PHSC _101-B_100924A				09/24/10 08:47
Conductivity @ 25 C	5020	umhos/cm	5.0	100	90	110			
Sample ID: SC 20000	Laboratory Control Sample				Run: PHSC _101-B_100924A				09/24/10 08:50
Conductivity @ 25 C	19900	umhos/cm	5.0	99	90	110			
Sample ID: MBLK	Method Blank				Run: PHSC _101-B_100924A				09/24/10 09:00
Conductivity @ 25 C	5	umhos/cm							
Sample ID: B10091867-001ADUP	Sample Duplicate				Run: PHSC _101-B_100924A				09/24/10 12:53
Conductivity @ 25 C	23500	umhos/cm	5.0				0.7	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: TDS100917A
Sample ID: MBLK6	Method Blank				Run: CPA124S_100917B				09/17/10 21:09
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
Sample ID: LFB6	Laboratory Fortified Blank				Run: CPA124S_100917B				09/17/10 21:10
Solids, Total Dissolved TDS @ 180 C	1010	mg/L	10	97	90	110			
Sample ID: B10091650-005A MS	Sample Matrix Spike				Run: CPA124S_100917B				09/17/10 21:11
Solids, Total Dissolved TDS @ 180 C	8830	mg/L	10	101	90	110			
Sample ID: B10091650-006A DUP	Sample Duplicate				Run: CPA124S_100917B				09/17/10 21:13
Solids, Total Dissolved TDS @ 180 C	3940	mg/L	10		90	110	0.2	5	
Method: A2540 C									Batch: TDS100917B
Sample ID: MBLK5	Method Blank				Run: CPA124S_100917B				09/17/10 18:24
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
Sample ID: LFB5	Laboratory Fortified Blank				Run: CPA124S_100917B				09/17/10 18:24
Solids, Total Dissolved TDS @ 180 C	1120	mg/L	10	102	90	110			
Sample ID: B10091601-002A MS	Sample Matrix Spike				Run: CPA124S_100917B				09/17/10 18:26
Solids, Total Dissolved TDS @ 180 C	2390	mg/L	10	104	90	110			
Sample ID: B10091640-004A DUP	Sample Duplicate				Run: CPA124S_100917B				09/17/10 18:42
Solids, Total Dissolved TDS @ 180 C	1770	mg/L	10		90	110	0.3	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C								Analytical Run: MAN-TECH_100920B	
Sample ID: ICV	Initial Calibration Verification Standard							09/20/10 14:06	
Fluoride	1.02	mg/L	0.10	102	90	110			
Method: A4500-F C								Batch: R154152	
Sample ID: MB	Method Blank				Run: MAN-TECH_100920B			09/20/10 14:01	
Fluoride	ND	mg/L	0.05						
Sample ID: LFB	Laboratory Fortified Blank				Run: MAN-TECH_100920B			09/20/10 14:03	
Fluoride	0.960	mg/L	0.10	96	90	110			
Sample ID: B10091650-001AMS	Sample Matrix Spike				Run: MAN-TECH_100920B			09/20/10 20:51	
Fluoride	1.23	mg/L	0.10	90	80	120			
Sample ID: B10091650-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100920B			09/20/10 21:01	
Fluoride	1.36	mg/L	0.10	103	80	120	10	10	R
Sample ID: B10091658-001AMS	Sample Matrix Spike				Run: MAN-TECH_100920B			09/20/10 22:52	
Fluoride	0.970	mg/L	0.10	87	80	120			
Sample ID: B10091658-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100920B			09/20/10 23:00	
Fluoride	1.02	mg/L	0.10	92	80	120	5	10	

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Batch: R153973
Sample ID: pH 4	Laboratory Control Sample				Run: PHSC _101-B_100917A				09/17/10 08:03
pH	3.99	s.u.	0.10	100	97	103			
Sample ID: pH 7	Laboratory Control Sample				Run: PHSC _101-B_100917A				09/17/10 08:06
pH	7.02	s.u.	0.10	100	98	102			
Sample ID: B10091650-001ADUP	Sample Duplicate				Run: PHSC _101-B_100917A				09/17/10 17:50
pH	7.19	s.u.	0.10				0	10	
Method: A4500-H B									Batch: R154223
Sample ID: pH 4	Laboratory Control Sample				Run: PHSC _101-B_100922A				09/22/10 08:14
pH	4.00	s.u.	0.10	100	97	103			
Sample ID: pH 7	Laboratory Control Sample				Run: PHSC _101-B_100922A				09/22/10 08:16
pH	7.02	s.u.	0.10	100	98	102			
Sample ID: B10091984-002ADUP	Sample Duplicate				Run: PHSC _101-B_100922A				09/22/10 13:03
pH	7.88	s.u.	0.10				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E1664A									Batch: G_TPH100928A
Sample ID: MBLK1009280848	Method Blank				Run: SUB-G180585				09/28/10 15:01
Total Petroleum Hydrocarbons	ND	mg/L	0.4						
Sample ID: LCS1009280848	Laboratory Control Sample				Run: SUB-G180585				09/28/10 15:08
Total Petroleum Hydrocarbons	16	mg/L	1.0	81	64	132			
Sample ID: LCSD1009280848	Laboratory Control Sample Duplicate				Run: SUB-G180585				09/28/10 15:41
Total Petroleum Hydrocarbons	16	mg/L	1.0	81	64	132	0.6	34	
Sample ID: G10090531-001AMS	Sample Matrix Spike				Run: SUB-G180585				09/28/10 16:20
Total Petroleum Hydrocarbons	18	mg/L	1.0	85	64	132			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP202-B_100921A	
Sample ID: ICV	Continuing Calibration Verification Standard							09/20/10 11:36	
Calcium	24.6	mg/L	1.0	98	95	105			
Magnesium	24.6	mg/L	1.0	98	95	105			
Potassium	24.7	mg/L	1.0	99	95	105			
Sodium	24.9	mg/L	1.0	100	95	105			
Silicon	5.17	mg/L	0.10	103	95	105			
Method: E200.7								Batch: 49137	
Sample ID: MB-49137	Method Blank				Run: ICP202-B_100921A			09/21/10 04:44	
Silicon	ND	mg/L	0.009						
Silica	ND	mg/L	0.02						
Sample ID: LCS-49137	Laboratory Control Sample				Run: ICP202-B_100921A			09/21/10 04:48	
Silicon	5.10	mg/L	0.10	102	85	115			
Silica	10.9	mg/L	0.21	102	85	115			
Sample ID: B10091640-001BMS3	Sample Matrix Spike				Run: ICP202-B_100921A			09/21/10 06:09	
Silicon	16.9	mg/L	0.10	98	70	130			
Silica	36.1	mg/L	0.21	98	70	130			
Sample ID: B10091640-001BMSD3	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A			09/21/10 06:13	
Silicon	16.9	mg/L	0.10	99	70	130	0.4	20	
Silica	36.2	mg/L	0.21	99	70	130	0.4	20	
Method: E200.7								Batch: 49138	
Sample ID: MB-49138	Method Blank				Run: ICP202-B_100921A			09/21/10 06:42	
Silicon	ND	mg/L	0.009						
Silica	ND	mg/L	0.02						
Sample ID: LCS-49138	Laboratory Control Sample				Run: ICP202-B_100921A			09/21/10 06:54	
Silicon	4.96	mg/L	0.10	99	85	115			
Silica	10.6	mg/L	0.21	99	85	115			
Sample ID: B10091650-002CMS3	Sample Matrix Spike				Run: ICP202-B_100921A			09/21/10 07:10	
Silicon	34.0	mg/L	0.87	107	70	130			
Silica	72.6	mg/L	1.9	107	70	130			
Sample ID: B10091650-002CMSD3	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A			09/21/10 07:14	
Silicon	35.8	mg/L	0.87	114	70	130	5.4	20	
Silica	76.6	mg/L	1.9	114	70	130	5.4	20	
Method: E200.7								Batch: R154154	
Sample ID: MB-SPDIS100920A	Method Blank				Run: ICP202-B_100921A			09/20/10 11:44	
Calcium	ND	mg/L	0.02						
Magnesium	ND	mg/L	0.006						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R154154
Sample ID: MB-SPDIS100920A	Method Blank				Run: ICP202-B_100921A				09/20/10 11:44
Potassium	ND	mg/L	0.007						
Sodium	ND	mg/L	0.01						
Silicon	ND	mg/L	0.007						
Sample ID: LFB-SPDIS100920A	Laboratory Fortified Blank				Run: ICP202-B_100921A				09/20/10 11:48
Calcium	46.9	mg/L	1.0	94	85	115			
Magnesium	47.4	mg/L	1.0	95	85	115			
Potassium	48.8	mg/L	1.3	98	85	115			
Sodium	48.9	mg/L	1.0	98	85	115			
Silicon	9.81	mg/L	0.10	98	85	115			
Sample ID: MB-49087	Method Blank				Run: ICP202-B_100921A				09/20/10 16:43
Calcium	0.3	mg/L	0.02						
Magnesium	0.01	mg/L	0.006						
Potassium	ND	mg/L	0.007						
Silicon	0.06	mg/L	0.007						
Sodium	0.03	mg/L	0.01						
Silica	0.1	mg/L	0.01						
Sample ID: B10091619-003BMS2	Sample Matrix Spike				Run: ICP202-B_100921A				09/20/10 17:20
Calcium	191	mg/L	1.0	96	70	130			
Magnesium	146	mg/L	1.0	100	70	130			
Potassium	118	mg/L	2.7	105	70	130			
Silicon	29.3	mg/L	0.10	104	70	130			
Sodium	209	mg/L	1.0	110	70	130			
Silica	62.7	mg/L	0.21	104	70	130			
Sample ID: B10091619-003BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A				09/20/10 17:24
Calcium	197	mg/L	1.0	102	70	130	3.2	20	
Magnesium	148	mg/L	1.0	102	70	130	1.4	20	
Potassium	116	mg/L	2.7	103	70	130	2.1	20	
Silicon	29.2	mg/L	0.10	104	70	130	0.4	20	
Sodium	204	mg/L	1.0	105	70	130	2.3	20	
Silica	62.4	mg/L	0.21	104	70	130	0.4	20	
Sample ID: B10091650-009BMS2	Sample Matrix Spike				Run: ICP202-B_100921A				09/20/10 18:20
Calcium	569	mg/L	1.0	98	70	130			
Magnesium	496	mg/L	1.0	99	70	130			
Potassium	272	mg/L	6.7	106	70	130			
Silicon	64.2	mg/L	0.10	102	70	130			
Sodium	678	mg/L	1.4	106	70	130			
Silica	137	mg/L	0.21	102	70	130			
Sample ID: B10091650-009BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A				09/20/10 18:52
Calcium	589	mg/L	1.0	106	70	130	3.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R154154
Sample ID: B10091650-009BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A				09/20/10 18:52
Magnesium	514	mg/L	1.0	107	70	130	3.6	20	
Potassium	275	mg/L	6.7	107	70	130	0.9	20	
Silicon	66.2	mg/L	0.10	106	70	130	3.2	20	
Sodium	688	mg/L	1.4	110	70	130	1.5	20	
Silica	142	mg/L	0.21	106	70	130	3.2	20	
Sample ID: B10091601-002CMS2	Sample Matrix Spike				Run: ICP202-B_100921A				09/20/10 23:52
Calcium	187	mg/L	1.0	102	70	130			
Magnesium	180	mg/L	1.0	102	70	130			
Potassium	108	mg/L	4.1	106	70	130			
Silicon	28.2	mg/L	0.10	97	70	130			
Sodium	151	mg/L	1.0	104	70	130			
Silica	60.3	mg/L	0.21	97	70	130			
Sample ID: B10091601-002CMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A				09/21/10 00:04
Calcium	182	mg/L	1.0	97	70	130	2.5	20	
Magnesium	182	mg/L	1.0	103	70	130	0.8	20	
Potassium	105	mg/L	4.1	103	70	130	2.7	20	
Silicon	27.8	mg/L	0.10	95	70	130	1.5	20	
Sodium	151	mg/L	1.0	104	70	130	0	20	
Silica	59.4	mg/L	0.21	95	70	130	1.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP202-B_100923A	
Sample ID: ICV	Continuing Calibration Verification Standard							09/23/10 12:52	
Calcium	24.6	mg/L	1.0	99	95	105			
Magnesium	24.9	mg/L	1.0	100	95	105			
Potassium	25.1	mg/L	1.0	100	95	105			
Sodium	25.8	mg/L	1.0	103	95	105			
Method: E200.7								Batch: R154417	
Sample ID: MB-SPDIS100923A	Method Blank				Run: ICP202-B_100923A			09/23/10 12:12	
Calcium	ND	mg/L	0.02						
Magnesium	ND	mg/L	0.006						
Potassium	0.03	mg/L	0.007						
Sodium	0.02	mg/L	0.01						
Sample ID: LFB-SPDIS100923A	Laboratory Fortified Blank				Run: ICP202-B_100923A			09/23/10 12:16	
Calcium	47.8	mg/L	1.0	96	85	115			
Magnesium	49.1	mg/L	1.0	98	85	115			
Potassium	49.0	mg/L	1.3	98	85	115			
Sodium	50.1	mg/L	1.0	100	85	115			
Sample ID: B10091601-006BMS2	Sample Matrix Spike				Run: ICP202-B_100923A			09/23/10 12:36	
Calcium	461	mg/L	1.0	99	70	130			
Magnesium	829	mg/L	1.0	106	70	130			
Potassium	279	mg/L	6.7	104	70	130			
Sodium	508	mg/L	1.4	112	70	130			
Sample ID: B10091601-006BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100923A			09/23/10 12:40	
Calcium	456	mg/L	1.0	97	70	130	1.1	20	
Magnesium	824	mg/L	1.0	104	70	130	0.6	20	
Potassium	273	mg/L	6.7	102	70	130	2.1	20	
Sodium	503	mg/L	1.4	110	70	130	0.9	20	
Sample ID: B10091984-001BMS2	Sample Matrix Spike				Run: ICP202-B_100923A			09/23/10 13:33	
Calcium	102	mg/L	1.0	93	70	130			
Magnesium	69.5	mg/L	1.0	100	70	130			
Potassium	55.6	mg/L	1.3	99	70	130			
Sodium	61.1	mg/L	1.0	101	70	130			
Sample ID: B10091984-001BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100923A			09/23/10 13:37	
Calcium	104	mg/L	1.0	95	70	130	1.2	20	
Magnesium	69.0	mg/L	1.0	99	70	130	0.7	20	
Potassium	56.6	mg/L	1.3	101	70	130	1.8	20	
Sodium	61.1	mg/L	1.0	101	70	130	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**								Analytical Run: IC202-B_100920A	
Sample ID:	**ICV092010-11**	Initial Calibration Verification Standard							09/20/10 12:01	
Chloride		22.9	mg/L	1.0	92	90	110			
Sulfate		96.4	mg/L	1.0	96	90	110			
Method:	**E300.0**								Batch: R154113	
Sample ID:	**ICB092010-12**	Method Blank				Run: IC202-B_100920A			09/20/10 12:12	
Chloride		ND	mg/L	0.2						
Sulfate		ND	mg/L	1						
Sample ID:	**LFB092010-13**	Laboratory Fortified Blank				Run: IC202-B_100920A			09/20/10 12:24	
Chloride		22.7	mg/L	1.0	91	90	110			
Sulfate		95.5	mg/L	1.1	95	90	110			
Sample ID:	**B10091640-006AMS**	Sample Matrix Spike				Run: IC202-B_100920A			09/21/10 21:13	
Chloride		55.3	mg/L	1.0	108	90	110			
Sulfate		524	mg/L	1.1		90	110			A
Sample ID:	**B10091640-006AMSD**	Sample Matrix Spike Duplicate				Run: IC202-B_100920A			09/21/10 21:25	
Chloride		54.2	mg/L	1.0	104	90	110	2	20	
Sulfate		525	mg/L	1.1		90	110	0	20	A
Sample ID:	**B10091658-001AMS**	Sample Matrix Spike				Run: IC202-B_100920A			09/21/10 23:56	
Chloride		34.7	mg/L	1.0	108	90	110			
Sulfate		112	mg/L	1.1	107	90	110			
Sample ID:	**B10091658-001AMSD**	Sample Matrix Spike Duplicate				Run: IC202-B_100920A			09/22/10 00:08	
Chloride		34.2	mg/L	1.0	106	90	110	1.4	20	
Sulfate		112	mg/L	1.1	107	90	110	0.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC202-B_100922A	
Sample ID: ICV092210-11	Initial Calibration Verification Standard							09/22/10 09:35	
Chloride	22.7	mg/L	1.0	91	90	110			
Sulfate	97.3	mg/L	1.0	97	90	110			
Sample ID: ICV	Initial Calibration Verification Standard							09/24/10 09:47	
Chloride	22.6	mg/L	1.0	90	90	110			
Sulfate	95.3	mg/L	1.0	95	90	110			
Method: E300.0								Batch: R154324	
Sample ID: ICB092210-12	Method Blank				Run: IC202-B_100922A			09/22/10 09:47	
Chloride	0.08	mg/L	0.02						
Sulfate	ND	mg/L	0.2						
Sample ID: LFB092210-13	Laboratory Fortified Blank				Run: IC202-B_100922A			09/22/10 09:59	
Chloride	22.7	mg/L	1.0	90	90	110			
Sulfate	94.0	mg/L	1.1	94	90	110			
Sample ID: B10091403-001AMS	Sample Matrix Spike				Run: IC202-B_100922A			09/23/10 01:52	
Chloride	16200	mg/L	54	118	90	110			S
Sulfate	23500	mg/L	210	111	90	110			S
Sample ID: B10091403-001AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_100922A			09/23/10 02:27	
Chloride	16200	mg/L	54	117	90	110	0.4	20	S
Sulfate	23300	mg/L	210	110	90	110	0.9	20	
Sample ID: B10091650-001AMS	Sample Matrix Spike				Run: IC202-B_100922A			09/23/10 10:24	
Chloride	23300	mg/L	54	112	90	110			S
Sulfate	23200	mg/L	210	111	90	110			S
Sample ID: B10091650-001AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_100922A			09/23/10 10:35	
Chloride	23400	mg/L	54	114	90	110	0.4	20	S
Sulfate	23100	mg/L	210	110	90	110	0.5	20	
Sample ID: LFB	Laboratory Fortified Blank				Run: IC202-B_100922A			09/24/10 11:17	
Chloride	23.1	mg/L	1.0	92	90	110			
Sulfate	96.3	mg/L	1.1	96	90	110			
Sample ID: B10091487-001AMS	Sample Matrix Spike				Run: IC202-B_100922A			09/24/10 22:31	
Chloride	1570	mg/L	13		90	110			A
Sulfate	9100	mg/L	54		90	110			A
Sample ID: B10091487-001AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_100922A			09/24/10 22:43	
Chloride	1570	mg/L	13		90	110	0.3	20	A
Sulfate	9070	mg/L	54		90	110	0.4	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1								Analytical Run: FIA203-B_100922A	
Sample ID: ICV	Initial Calibration Verification Standard								09/22/10 08:43
Nitrogen, Ammonia as N	8.68	mg/L	0.30	102	90	110			
Method: E350.1									Batch: R154249
Sample ID: MBLK	Method Blank				Run: FIA203-B_100922A				09/22/10 08:44
Nitrogen, Ammonia as N	ND	mg/L	0.03						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_100922A				09/22/10 08:45
Nitrogen, Ammonia as N	1.00	mg/L	0.050	101	90	110			
Sample ID: B10091823-003CMS	Sample Matrix Spike				Run: FIA203-B_100922A				09/22/10 13:01
Nitrogen, Ammonia as N	0.995	mg/L	0.050	102	90	110			
Sample ID: B10091823-003CMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100922A				09/22/10 13:02
Nitrogen, Ammonia as N	1.01	mg/L	0.050	103	90	110	1.1	10	
Sample ID: B10091650-004DMS	Sample Matrix Spike				Run: FIA203-B_100922A				09/22/10 14:00
Nitrogen, Ammonia as N	0.903	mg/L	0.050	92	90	110			
Sample ID: B10091650-004DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100922A				09/22/10 14:01
Nitrogen, Ammonia as N	0.902	mg/L	0.050	92	90	110	0.1	10	
Sample ID: B10091678-003CMS	Sample Matrix Spike				Run: FIA203-B_100922A				09/22/10 14:16
Nitrogen, Ammonia as N	1.01	mg/L	0.050	103	90	110			
Sample ID: B10091678-003CMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100922A				09/22/10 14:17
Nitrogen, Ammonia as N	1.01	mg/L	0.050	103	90	110	0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-B_100927A	
Sample ID: ICV	Initial Calibration Verification Standard							09/27/10 09:14	
Nitrogen, Nitrate+Nitrite as N	30.3	mg/L	0.20	103	90	110			
Method: E353.2								Batch: R154507	
Sample ID: MBLK	Method Blank				Run: FIA203-B_100927A			09/27/10 09:15	
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.004						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_100927A			09/27/10 09:16	
Nitrogen, Nitrate+Nitrite as N	0.997	mg/L	0.010	102	90	110			
Sample ID: B10091650-008DMS	Sample Matrix Spike				Run: FIA203-B_100927A			09/27/10 11:34	
Nitrogen, Nitrate+Nitrite as N	2.91	mg/L	0.010	103	90	110			
Sample ID: B10091650-008DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100927A			09/27/10 11:35	
Nitrogen, Nitrate+Nitrite as N	2.90	mg/L	0.010	102	90	110	0.3	10	
Sample ID: B10091766-006DMS	Sample Matrix Spike				Run: FIA203-B_100927A			09/27/10 13:39	
Nitrogen, Nitrate+Nitrite as N	22.7	mg/L	0.10	105	90	110			
Sample ID: B10091766-006DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100927A			09/27/10 13:40	
Nitrogen, Nitrate+Nitrite as N	22.6	mg/L	0.10	105	90	110	0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/01/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Analytical Run: R154349
Sample ID: CCV_0922PE203r-W	Continuing Calibration Verification Standard								09/22/10 14:22
Methyl tert-butyl ether (MTBE)	56.8	ug/L	1.0	95	85	115			
Benzene	18.6	ug/L	0.50	93	85	115			
Toluene	54.8	ug/L	0.50	91	85	115			
Ethylbenzene	19.0	ug/L	0.50	95	85	115			
m+p-Xylenes	73.5	ug/L	0.50	92	85	115			
o-Xylene	38.1	ug/L	0.50	95	85	115			
Xylenes, Total	112	ug/L	0.50	93	85	115			
Surr: Trifluorotoluene			1.0	92	85	115			
Method: SW8021B									Batch: R154349
Sample ID: LCS_0922PE205r	Laboratory Control Sample				Run: PE2_100922A				09/22/10 15:32
Methyl tert-butyl ether (MTBE)	19.5	ug/L	1.0	98	70	130			
Benzene	19.4	ug/L	0.50	97	70	130			
Toluene	19.1	ug/L	0.50	96	70	130			
Ethylbenzene	18.8	ug/L	0.50	94	70	130			
m+p-Xylenes	37.7	ug/L	0.50	94	70	130			
o-Xylene	19.1	ug/L	0.50	96	70	130			
Xylenes, Total	56.8	ug/L	0.50	95	70	130			
Surr: Trifluorotoluene			1.0	94	80	120			
Sample ID: MBLK_0922PE208r	Method Blank				Run: PE2_100922A				09/22/10 17:18
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	86	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/01/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Analytical Run: R154464
Sample ID: CCV_0923PE203r-W	Continuing Calibration Verification Standard								09/23/10 13:31
Methyl tert-butyl ether (MTBE)	58.5	ug/L	1.0	97	85	115			
Benzene	19.6	ug/L	0.50	98	85	115			
Toluene	57.1	ug/L	0.50	95	85	115			
Ethylbenzene	19.6	ug/L	0.50	98	85	115			
m+p-Xylenes	75.6	ug/L	0.50	95	85	115			
o-Xylene	39.2	ug/L	0.50	98	85	115			
Xylenes, Total	115	ug/L	0.50	96	85	115			
Surr: Trifluorotoluene			1.0	95	85	115			
Sample ID: CCV_0923PE222r-W	Continuing Calibration Verification Standard								09/24/10 00:45
Methyl tert-butyl ether (MTBE)	58.4	ug/L	1.0	97	85	115			
Benzene	19.4	ug/L	0.50	97	85	115			
Toluene	57.0	ug/L	0.50	95	85	115			
Ethylbenzene	19.6	ug/L	0.50	98	85	115			
m+p-Xylenes	75.3	ug/L	0.50	94	85	115			
o-Xylene	39.0	ug/L	0.50	98	85	115			
Xylenes, Total	114	ug/L	0.50	95	85	115			
Surr: Trifluorotoluene			1.0	92	85	115			
Method: SW8021B									Batch: R154464
Sample ID: LCS_0923PE204r	Laboratory Control Sample				Run: PE2_100923A				09/23/10 14:07
Methyl tert-butyl ether (MTBE)	20.0	ug/L	1.0	100	70	130			
Benzene	19.7	ug/L	0.50	99	70	130			
Toluene	19.7	ug/L	0.50	98	70	130			
Ethylbenzene	19.5	ug/L	0.50	97	70	130			
m+p-Xylenes	39.1	ug/L	0.50	98	70	130			
o-Xylene	19.8	ug/L	0.50	99	70	130			
Xylenes, Total	59.0	ug/L	0.50	98	70	130			
Surr: Trifluorotoluene			1.0	94	80	120			
Sample ID: MBLK_0923PE206r	Method Blank				Run: PE2_100923A				09/23/10 15:17
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	95	80	120			
Sample ID: B10091650-001AMS	Sample Matrix Spike				Run: PE2_100923A				09/23/10 19:26
Methyl tert-butyl ether (MTBE)	50.6	ug/L	2.0	101	70	130			
Benzene	50.4	ug/L	1.0	101	70	130			
Toluene	47.2	ug/L	1.0	94	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/01/10
Work Order: B10091650

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Batch: R154464
Sample ID: B10091650-001AMS	Sample Matrix Spike				Run: PE2_100923A				09/23/10 19:26
Ethylbenzene	46.8	ug/L	1.0	94	70	130			
m+p-Xylenes	92.7	ug/L	1.0	93	70	130			
o-Xylene	47.8	ug/L	1.0	96	70	130			
Xylenes, Total	140	ug/L	1.0	94	70	130			
Surr: Trifluorotoluene			2.0	91	80	120			
Sample ID: B10091650-001AMSD	Sample Matrix Spike Duplicate				Run: PE2_100923A				09/23/10 20:37
Methyl tert-butyl ether (MTBE)	50.6	ug/L	2.0	101	70	130	0	20	
Benzene	51.0	ug/L	1.0	102	70	130	1.3	20	
Toluene	47.8	ug/L	1.0	96	70	130	1.3	20	
Ethylbenzene	47.4	ug/L	1.0	95	70	130	1.4	20	
m+p-Xylenes	94.1	ug/L	1.0	94	70	130	1.5	20	
o-Xylene	48.0	ug/L	1.0	96	70	130	0.4	20	
Xylenes, Total	142	ug/L	1.0	95	70	130			
Surr: Trifluorotoluene			2.0	92	80	120	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

USGS 93-3

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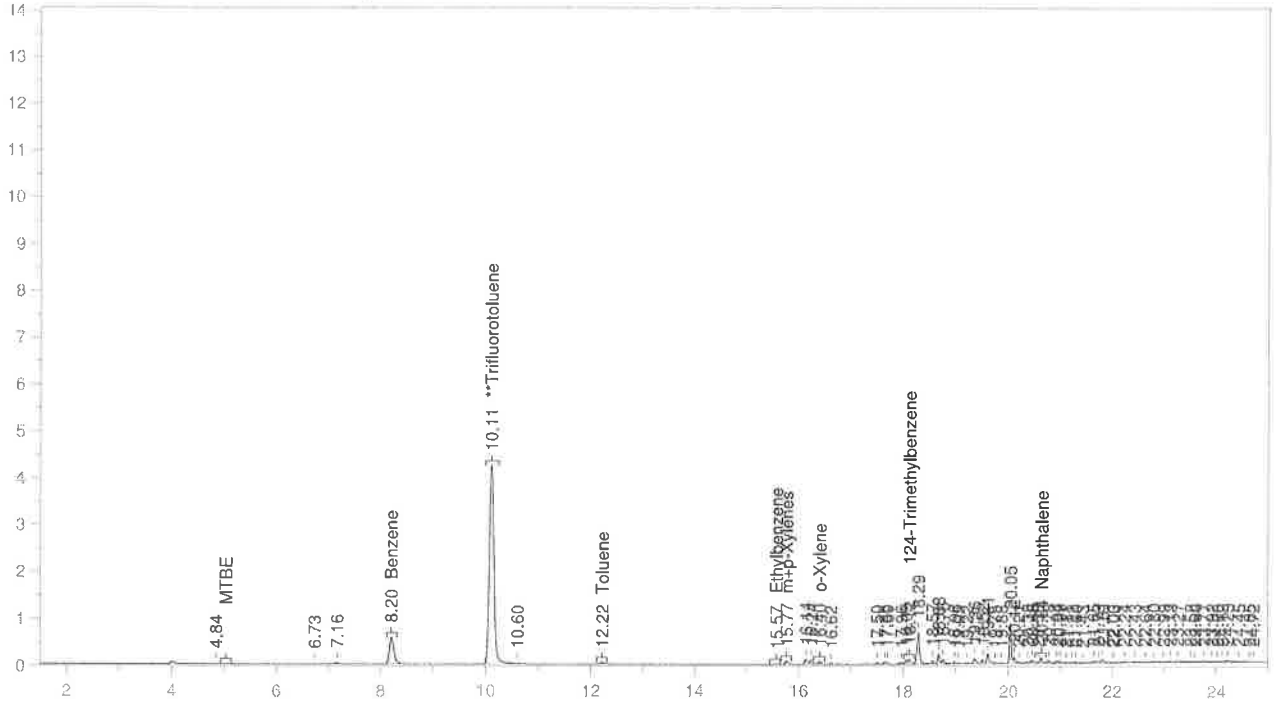

PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

Sample Name: B10091650-001F ;0922PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092210_b\0922PE2.0017.RAW
Date & Time Acquired: 9/22/2010 10:37:00 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.205	1.909	1.906	3652	1.955	
Toluene	12.224	12.224	12.224	301	.5	U
Ethylbenzene	15.566	15.566	15.566	84	.5	U
m+p-Xylenes	15.768	15.768	15.768	415	.5	U
o-Xylene	16.4	16.4	16.4	287	.5	U
124-Trimethylbenzene	18.117	18.117	18.117	379	2.	U
Naphthalene	20.64	20.64	20.64	407	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.111	50.	44.207	88.41	80-120

M-31

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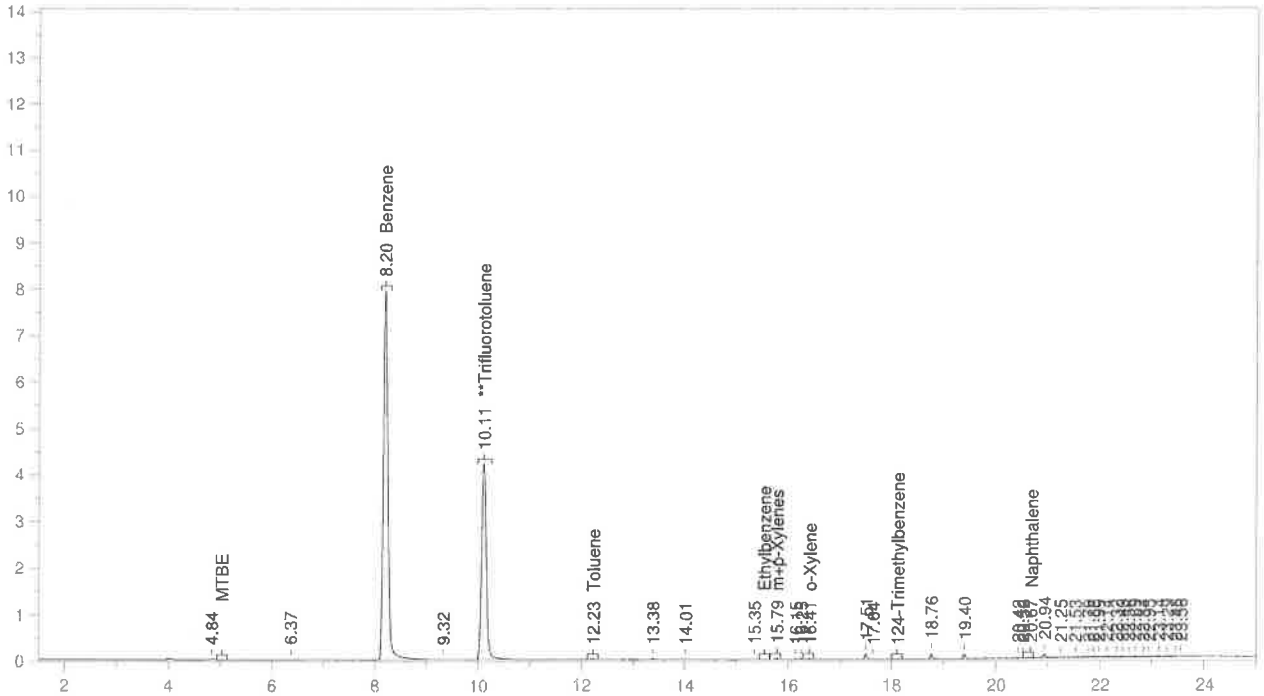

PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

Sample Name: B10091650-002A ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0010.RAW
Date & Time Acquired: 9/23/2010 5:39:53 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.2	1.909	1.909	49267	26.373	
Toluene	12.226	12.226	12.226	117	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.788	15.788	15.788	156	.5	U
o-Xylene	16.414	16.414	16.414	158	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.669	20.669	20.669	218	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.109	50.	44.311	88.62	80-120

M-28

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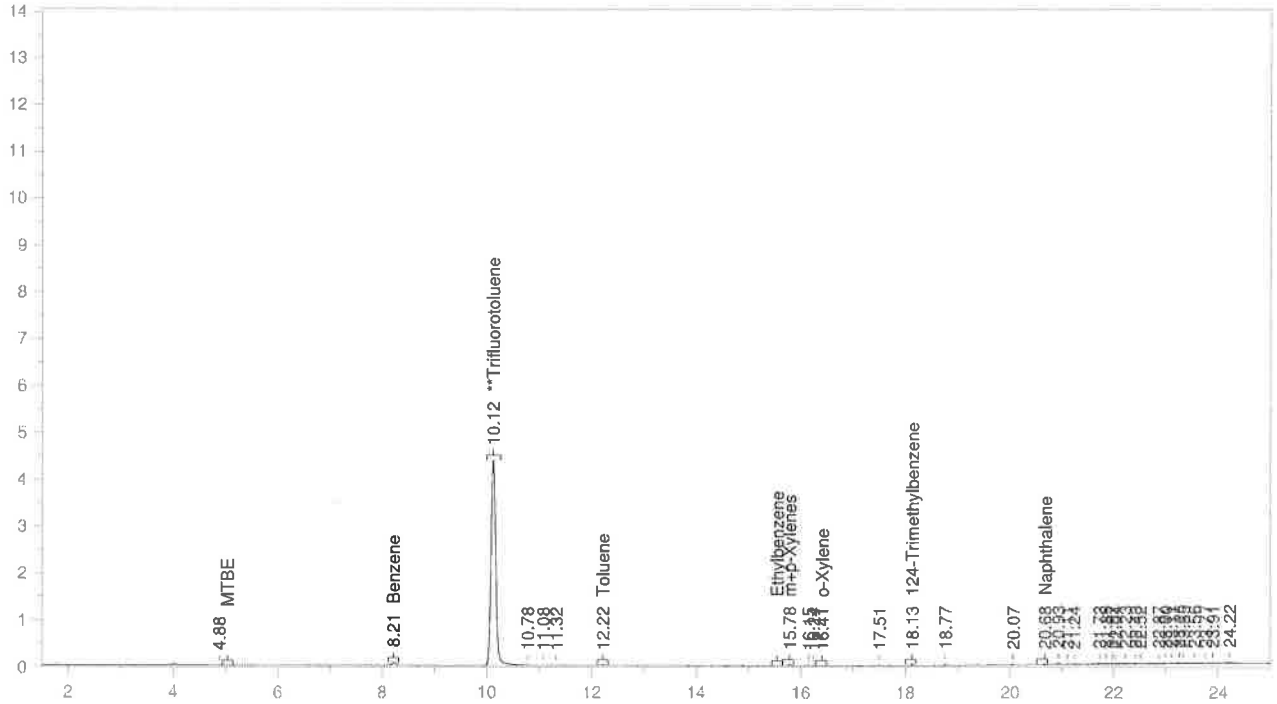

PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

Sample Name: B10091650-003F ;0922PE2 , $HC-BTEX-8021-W,
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Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.214	8.214	8.214	422	.5	U
Toluene	12.219	12.219	12.219	244	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.779	15.779	15.779	219	.5	U
o-Xylene	16.407	16.407	16.407	92	.5	U
124-Trimethylbenzene	18.131	18.131	18.131	140	2.	U
Naphthalene	20.679	20.679	20.679	109	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.117	50.	46.426	92.85	80-120

USGS 92-12

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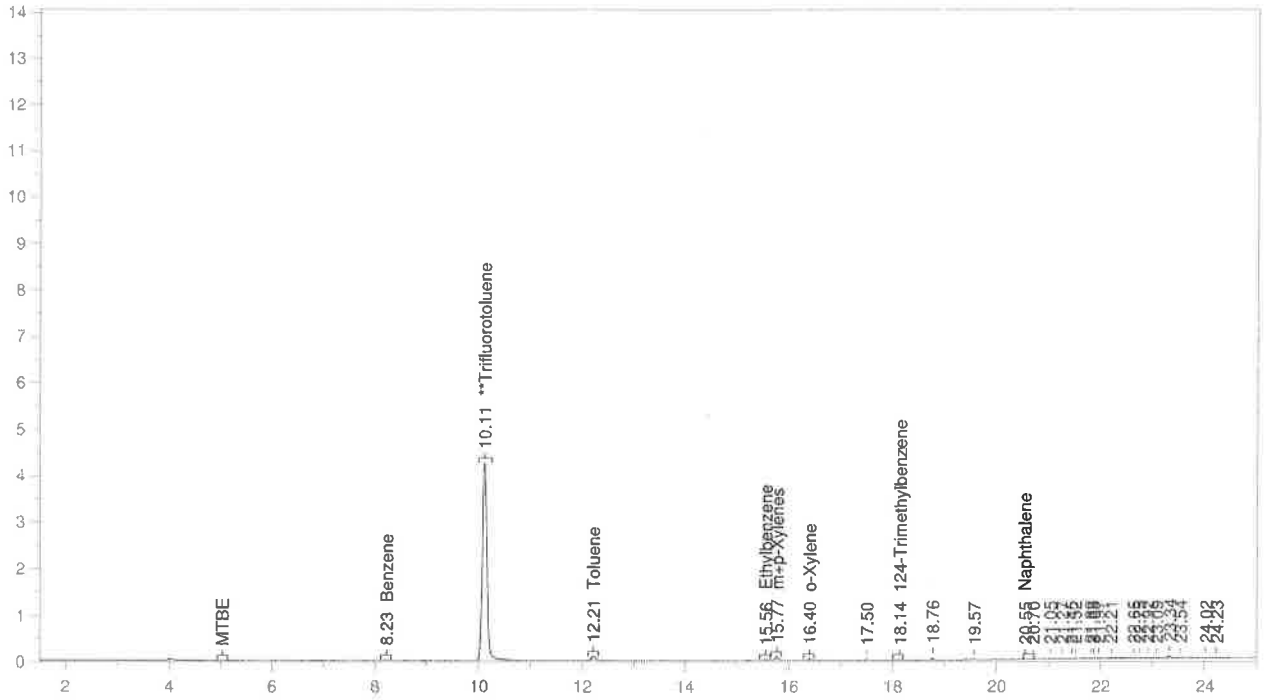

PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

Sample Name: B10091650-004F ;0923PE2 , $HC-BTEX-8021-W,
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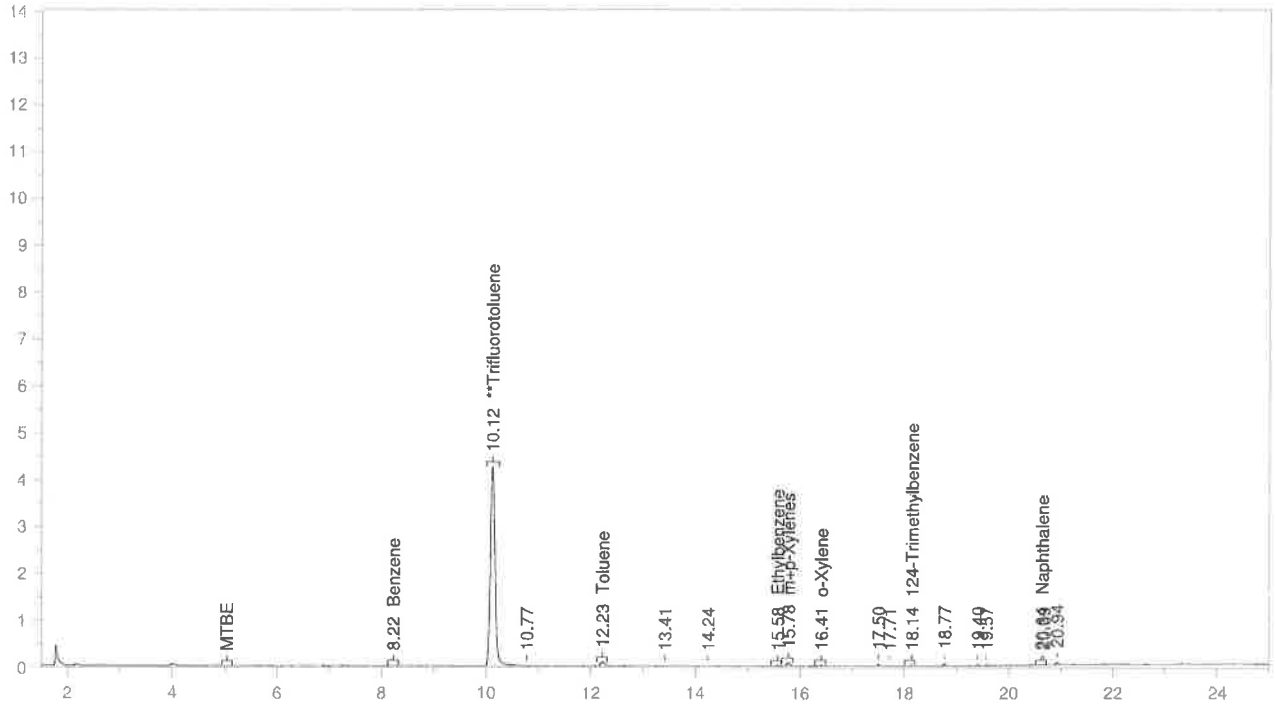
Date & Time Acquired: 9/23/2010 10:23:44 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.226	8.226	8.226	127	.5	U
Toluene	12.214	12.214	12.214	550	.5	U
Ethylbenzene	15.556	15.556	15.556	154	.5	U
m+p-Xylenes	15.771	15.771	15.771	475	.5	U
o-Xylene	16.401	16.401	16.401	140	.5	U
124-Trimethylbenzene	18.136	18.136	18.136	80	2.	U
Naphthalene	20.547	20.547	20.547	84	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.109	50.	44.868	89.74	80-120

PNR-12

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0020.RAW B10091650-005F ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

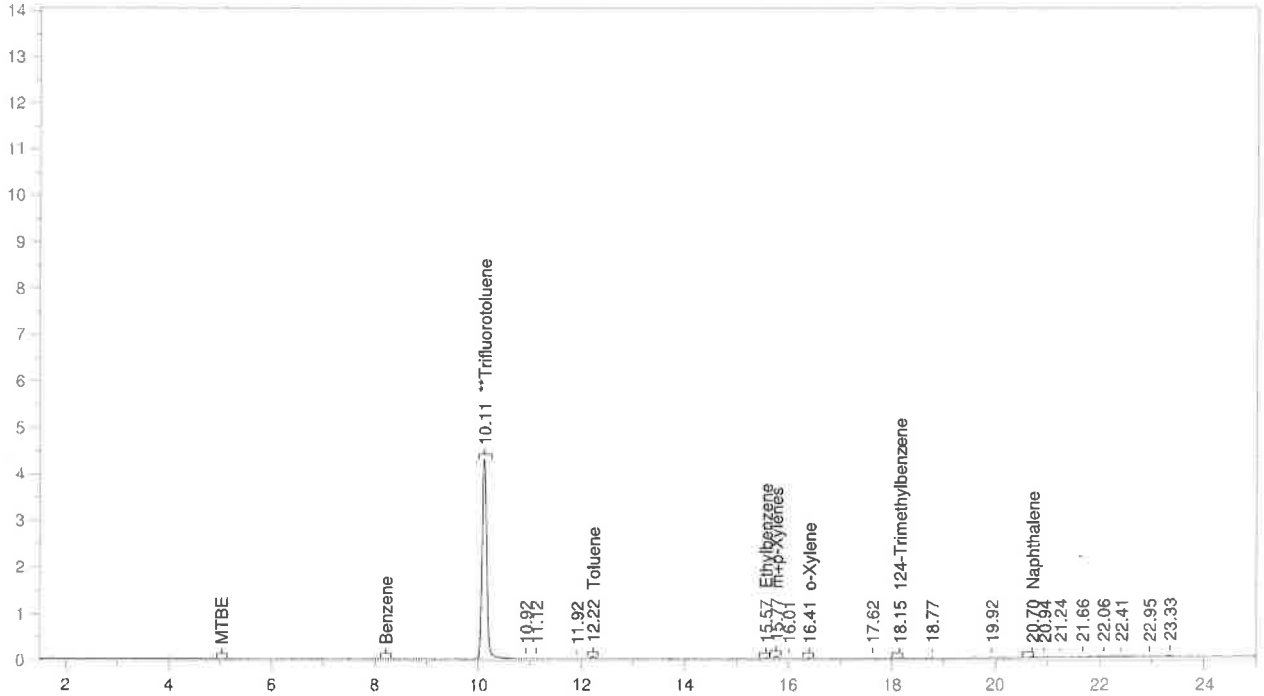
Sample Name: B10091650-005F ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0020.RAW
Date & Time Acquired: 9/23/2010 11:35:01 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.217	8.217	8.217	100	.5	U
Toluene	12.225	12.225	12.225	536	.5	U
Ethylbenzene	15.576	15.576	15.576	103	.5	U
m+p-Xylenes	15.777	15.777	15.777	357	.5	U
o-Xylene	16.409	16.409	16.409	175	.5	U
124-Trimethylbenzene	18.138	18.138	18.138	93	2.	U
Naphthalene	20.637	20.637	20.637	79	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.118	50.	44.802	89.6	80-120

MOC-1B

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0026.RAW B10091650-006F ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

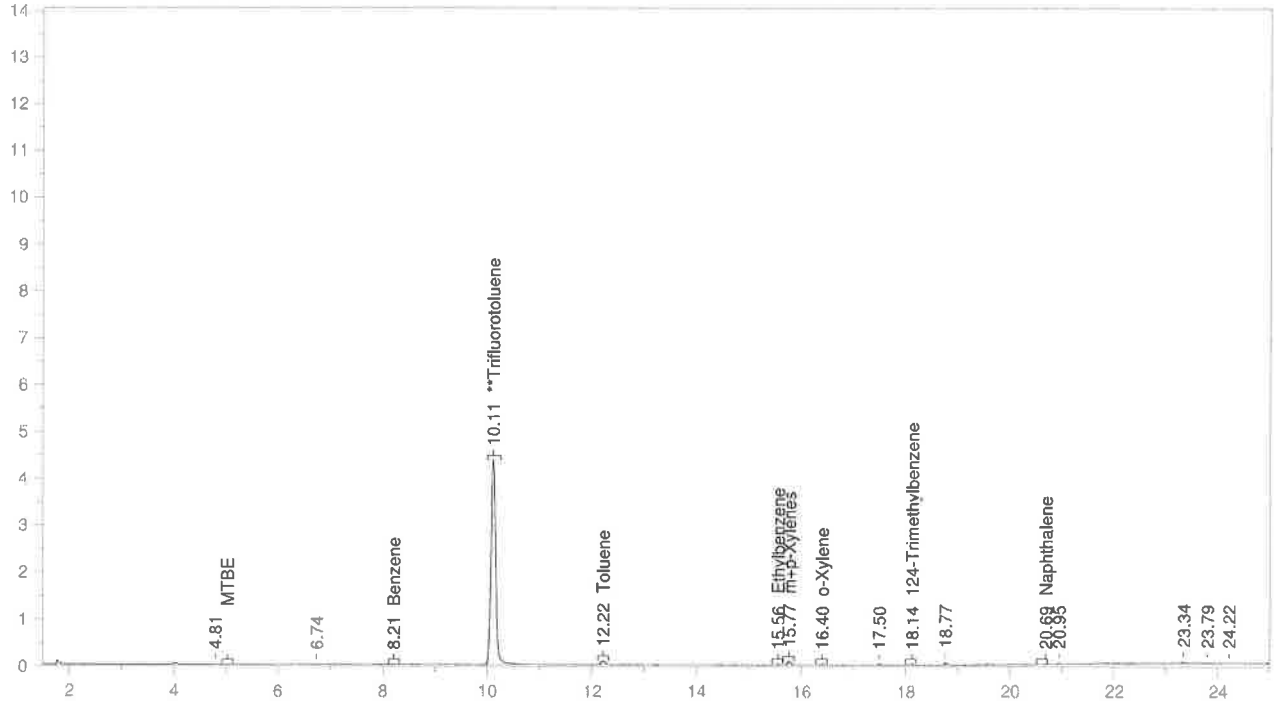
Sample Name: B10091650-006F ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0026.RAW
Date & Time Acquired: 9/24/2010 3:07:24 AM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.223	12.223	12.223	367	.5	U
Ethylbenzene	15.573	15.573	15.573	159	.5	U
m+p-Xylenes	15.775	15.775	15.775	391	.5	U
o-Xylene	16.407	16.407	16.407	202	.5	U
124-Trimethylbenzene	18.147	18.147	18.147	81	2.	U
Naphthalene	20.699	20.699	20.699	174	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.109	50.	45.72	91.44	80-120

MOC-3

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0028.RAW B10091650-007F ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

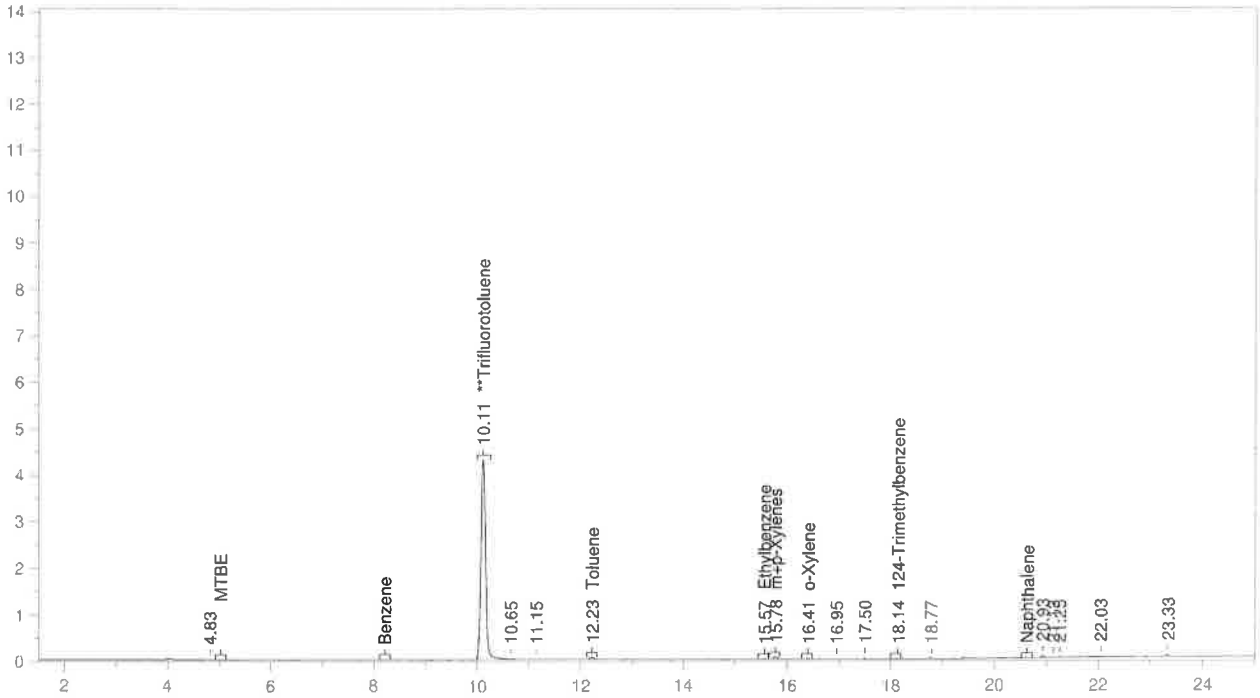
Sample Name: B10091650-007F ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0028.RAW
Date & Time Acquired: 9/24/2010 4:18:15 AM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.209	8.209	8.209	90	.5	U
Toluene	12.22	12.22	12.22	521	.5	U
Ethylbenzene	15.565	15.565	15.565	126	.5	U
m+p-Xylenes	15.772	15.772	15.772	497	.5	U
o-Xylene	16.403	16.403	16.403	130	.5	U
124-Trimethylbenzene	18.137	18.137	18.137	124	2.	U
Naphthalene	20.693	20.693	20.693	78	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.111	50.	46.315	92.63	80-120

PNR-6

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0030.RAW B10091650-008F ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

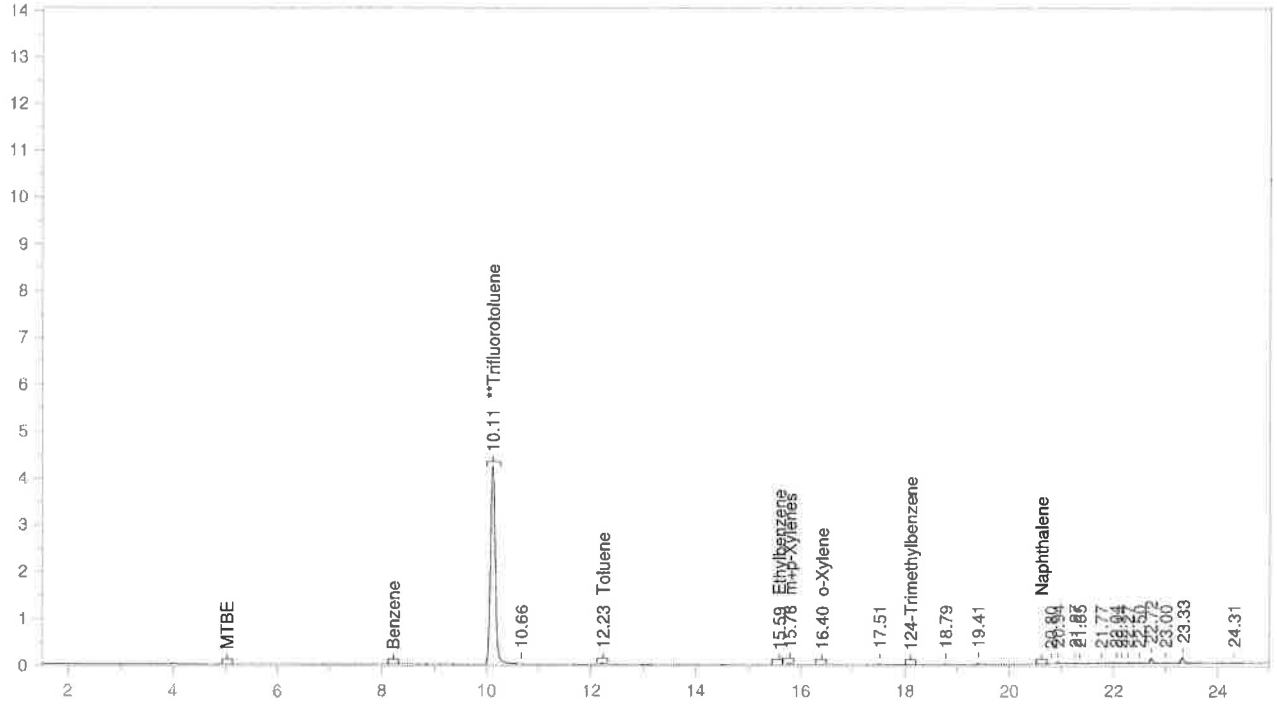
Sample Name: B10091650-008F ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0030.RAW
Date & Time Acquired: 9/24/2010 5:29:06 AM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.226	12.226	12.226	335	.5	U
Ethylbenzene	15.57	15.57	15.57	107	.5	U
m+p-Xylenes	15.775	15.775	15.775	305	.5	U
o-Xylene	16.409	16.409	16.409	151	.5	U
124-Trimethylbenzene	18.138	18.138	18.138	87	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.114	50.	44.972	89.94	80-120

PNR-18

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0032.RAW B10091650-009F ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

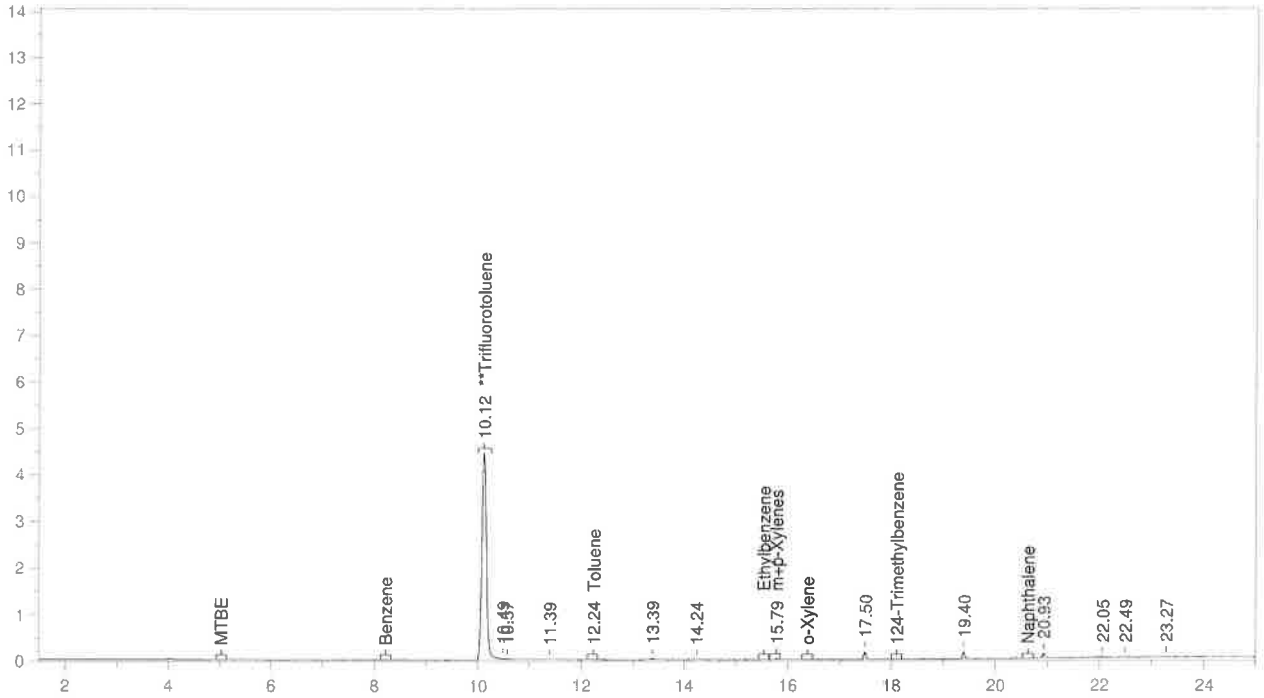
Sample Name: B10091650-009F ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0032.RAW
Date & Time Acquired: 9/24/2010 6:39:33 AM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.227	12.227	12.227	213	.5	U
Ethylbenzene	15.587	15.587	15.587	82	.5	U
m+p-Xylenes	15.782	15.782	15.782	278	.5	U
o-Xylene	16.404	16.404	16.404	76	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.11	50.	44.435	88.87	80-120

Trip Blank #1 Lot #091010, B-TS 0251

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0009.RAW B10091650-010A ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

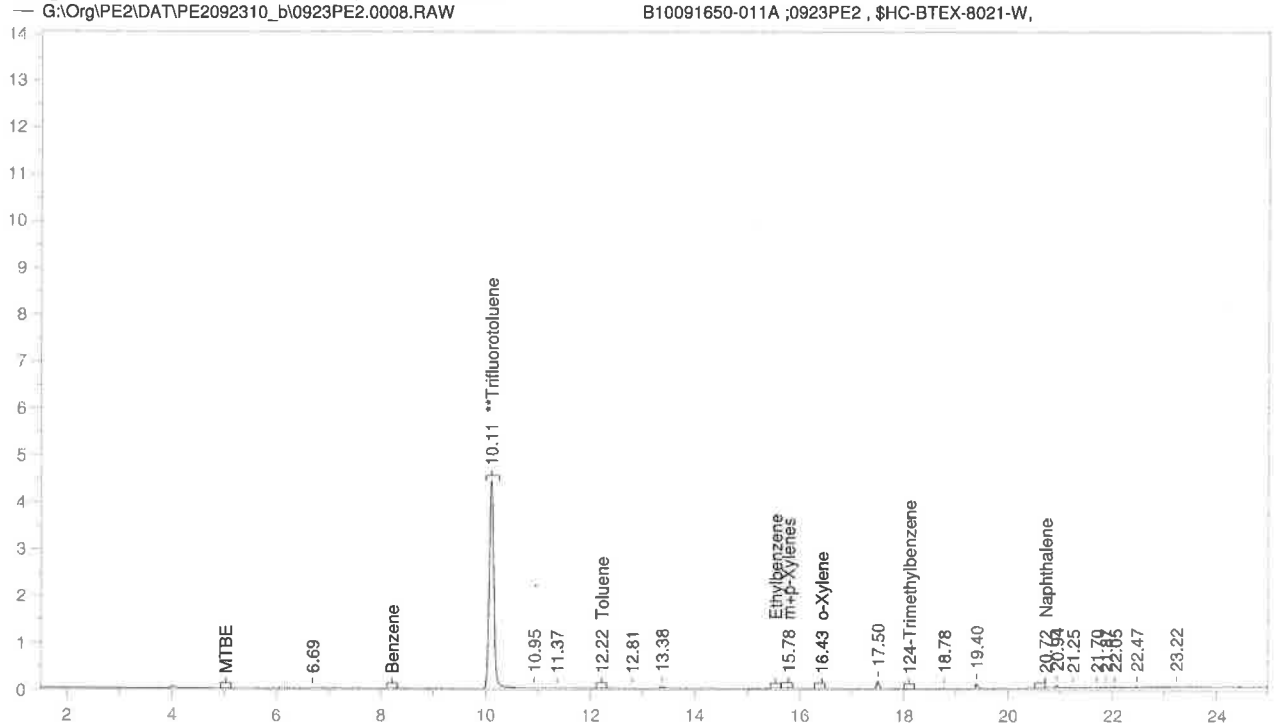
Sample Name: B10091650-010A ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0009.RAW
Date & Time Acquired: 9/23/2010 5:04:39 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.242	12.242	12.242	83	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.79	15.79	15.79	118	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.115	50.	46.285	92.57	80-120

Trip Blank #2 Lot #091010, B-TS 0251

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0008.RAW B10091650-011A ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

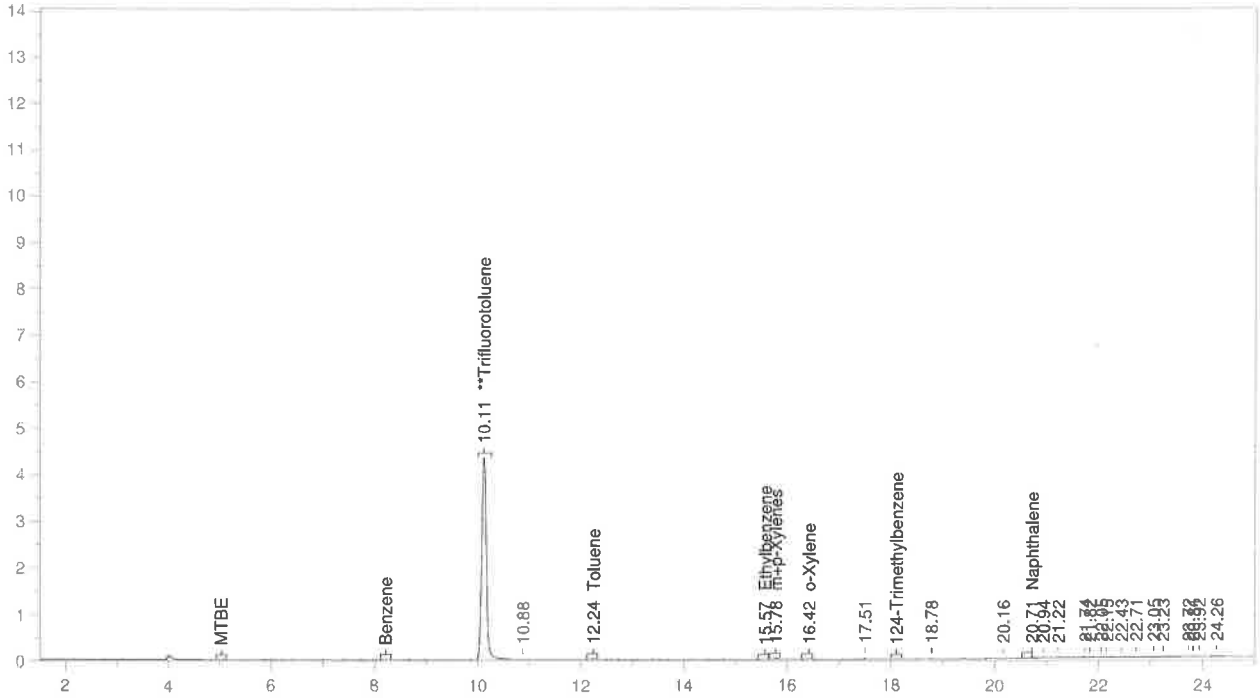
Sample Name: B10091650-011A ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0008.RAW
Date & Time Acquired: 9/23/2010 4:29:03 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.22	12.22	12.22	215	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.784	15.784	15.784	141	.5	U
o-Xylene	16.43	16.43	16.43	114	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.718	20.718	20.718	80	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.106	50.	46.603	93.21	80-120

Trip Blank #3 Lot #091010, B-TS 0251

— G:\Org\PE2\DAT\PE2092310_b\0923PE2.0007.RAW B10091650-012A ;0923PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

Sample Name: B10091650-012A ;0923PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092310_b\0923PE2.0007.RAW
Date & Time Acquired: 9/23/2010 3:53:50 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.238	12.238	12.238	166	.5	U
Ethylbenzene	15.574	15.574	15.574	76	.5	U
m+p-Xylenes	15.781	15.781	15.781	225	.5	U
o-Xylene	16.422	16.422	16.422	104	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.71	20.71	20.71	167	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.113	50.	45.849	91.7	80-120

Workorder Receipt Checklist

B10091650

DOWL HKM

Login completed by: Darwin C. Miller
Reviewed by: BL2000\kmcdonald
Reviewed Date: 9/20/2010

Date Received: 9/17/2010
Received by: klb
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	4°C On Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Samples for Dissolved Metals/Hardness were subsampled, filtered and preserved with 2 mL nitric acid in the laboratory upon receipt to pH <2.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: DOWL HKM	Project Name, PWS, Permit, Etc.: Biere Well Remediation	Sample Origin State: MT	EPA/State Compliance: Yes ☒ No ☐
Report Mail Address: 920 Technology Blvd Bozeman MT 59718	Contact Name: Nate Peterson Phone/Fax: 586-8834	Email: npeterson@dowlhkm.com	Sampler: (Please Print) Nate Peterson
Invoice Address: Same	Invoice Contact & Phone: Same	Purchase Order: 148805101.01	Quote/Bottle Order: 78

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

ANALYSIS REQUESTED: See Quote #78

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand

Cooler ID(s):

Receipt Temp 4 °C

Ice: Yes No

Custody Seal Y N

Bottles/Coolers B C

Intact Y N

Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers / Sample Type: A W S V B O / Air Water Solids/Solids Vegetation Bioassay Other	MATRIX	LABORATORY USE ONLY
3	1 USGS 93-3	9/16/10	1025		GW	B10091650-001
3	2 M-31		1110			-002
3	3 M-28		1145			-003
2	4 USGS 92-12		1400			-004
2	5 PNR-12		1450			-005
2	6 MOC-1B		1530			-006
1	7 MOC-3		1600			-007
1	8 PNR-6		1630			-008
1	9 PNR-18		1700			-009
	10 TB1, 2, 3 TS0251	9-10-10				Trip #1-010 #2-011 #3-012

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Nate Peterson	9/16/10 18:40				
Jim Potts	9/17/10 11:33				

Received by Laboratory: Ellis Buckler 9-17-10 11:33

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

October 01, 2010

DOWL HKM
920 Technology Blvd STE A
Bozeman, MT 59718-4001

Workorder No.: B10091684 Quote ID: B78 - Pioneer Natural Resources-Poplar Biere Well Site

Project Name: Biere Well Remediation

Energy Laboratories Inc received the following 4 samples for DOWL HKM on 9/17/2010 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B10091684-001	MOC-20A	09/17/10 9:30	09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091684-002	PNR-36-07	09/17/10 10:30	09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved

ANALYTICAL SUMMARY REPORT

B10091684-003	PNR-13	09/17/10 11:15	09/17/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091684-004	Trip Blank Lot091010 B-TS SHP0251	09/17/10 9:30	09/17/10	Trip Blank	Purgeable Aromatics

This report was prepared by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By: William T Brown
President

Digitally signed by
Bill Brown
Date: 2010.10.01 14:32:42 -06:00

CLIENT: DOWL HKM
Project: Biere Well Remediation
Sample Delivery Group: B10091684

Report Date: 10/01/10

CASE NARRATIVE

Tests associated with analyst identified as ELI-G were subcontracted to Energy Laboratories, 400 W Boxelder Rd, Gillette, WY, EPA Number WY00006.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091684-001
Client Sample ID MOC-20A

Report Date: 10/01/10
Collection Date: 09/17/10 09:30
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.3	s.u.		0.1		A4500-H B	09/20/10 10:17 / caw
Conductivity @ 25 C	5540	umhos/cm		5		A2510 B	09/20/10 10:17 / caw
Solids, Total Dissolved TDS @ 180 C	5590	mg/L		10		A2540 C	09/20/10 18:08 / qed
INORGANICS							
Alkalinity, Total as CaCO3	306	mg/L		4		A2320 B	09/21/10 19:26 / ehb
Bicarbonate as HCO3	373	mg/L		4		A2320 B	09/21/10 19:26 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/21/10 19:26 / ehb
Chloride	110	mg/L	D	5		E300.0	09/23/10 20:52 / kh
Sulfate	3190	mg/L	D	20		E300.0	09/23/10 20:52 / kh
Fluoride	0.4	mg/L		0.1		A4500-F C	09/21/10 19:26 / ehb
Hardness as CaCO3	2920	mg/L		1		A2340 B	09/20/10 20:01 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.06	mg/L		0.05		E350.1	09/22/10 14:09 / bls
Nitrogen, Nitrate+Nitrite as N	18.7	mg/L	D	0.1		E353.2	09/27/10 11:43 / bls
METALS, DISSOLVED							
Calcium	478	mg/L		1		E200.7	09/20/10 20:01 / rlh
Magnesium	419	mg/L		1		E200.7	09/20/10 20:01 / rlh
Potassium	25	mg/L		1		E200.7	09/20/10 20:01 / rlh
Silica	27.1	mg/L		0.2		E200.7	09/20/10 20:01 / rlh
Sodium	480	mg/L		1		E200.7	09/20/10 20:01 / rlh
METALS, TOTAL							
Silica	35.1	mg/L		0.2		E200.7	09/22/10 00:11 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-3.33					Calculation	09/24/10 10:34 / rls
Anions	75.6	meq/L		0.01		Calculation	09/24/10 10:34 / rls
Cations	79.9	meq/L		0.01		Calculation	09/24/10 10:34 / rls
A/C Balance	2.74	%				Calculation	09/24/10 10:34 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 07:50 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 07:50 / bjm
Toluene	0.83	ug/L		0.50		SW8021B	09/24/10 07:50 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 07:50 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 07:50 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 07:50 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 07:50 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	09/24/10 07:50 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:36 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091684-002
Client Sample ID PNR-36-07

Report Date: 10/01/10
Collection Date: 09/17/10 10:30
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/20/10 10:23 / caw
Conductivity @ 25 C	3630	umhos/cm		5		A2510 B	09/20/10 10:23 / caw
Solids, Total Dissolved TDS @ 180 C	3180	mg/L		10		A2540 C	09/20/10 18:09 / qed
INORGANICS							
Alkalinity, Total as CaCO3	430	mg/L		4		A2320 B	09/21/10 19:51 / ehb
Bicarbonate as HCO3	525	mg/L		4		A2320 B	09/21/10 19:51 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/21/10 19:51 / ehb
Chloride	119	mg/L	D	5		E300.0	09/23/10 21:03 / kh
Sulfate	1360	mg/L	D	20		E300.0	09/23/10 21:03 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/21/10 19:51 / ehb
Hardness as CaCO3	1680	mg/L		1		A2340 B	09/20/10 20:05 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/22/10 14:10 / bls
Nitrogen, Nitrate+Nitrite as N	60.2	mg/L	D	0.2		E353.2	09/27/10 11:45 / bls
METALS, DISSOLVED							
Calcium	322	mg/L		1		E200.7	09/20/10 20:05 / rlh
Magnesium	214	mg/L		1		E200.7	09/20/10 20:05 / rlh
Potassium	12	mg/L		1		E200.7	09/20/10 20:05 / rlh
Silica	19.2	mg/L		0.2		E200.7	09/20/10 20:05 / rlh
Sodium	268	mg/L		1		E200.7	09/20/10 20:05 / rlh
METALS, TOTAL							
Silica	20.8	mg/L		0.2		E200.7	09/22/10 00:15 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-1.45					Calculation	09/28/10 10:17 / rls
Anions	44.5	meq/L		0.01		Calculation	09/28/10 10:17 / rls
Cations	45.7	meq/L		0.01		Calculation	09/28/10 10:17 / rls
A/C Balance	1.28	%				Calculation	09/28/10 10:17 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 09:01 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 09:01 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 09:01 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 09:01 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 09:01 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 09:01 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 09:01 / bjm
Surr: Trifluorotoluene	88.0	%REC		80-120		SW8021B	09/24/10 09:01 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:37 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091684-003
Client Sample ID PNR-13

Report Date: 10/01/10
Collection Date: 09/17/10 11:15
DateReceived: 09/17/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/20/10 10:26 / caw
Conductivity @ 25 C	3900	umhos/cm		5		A2510 B	09/20/10 10:26 / caw
Solids, Total Dissolved TDS @ 180 C	3340	mg/L		10		A2540 C	09/20/10 18:10 / qed
INORGANICS							
Alkalinity, Total as CaCO3	452	mg/L		4		A2320 B	09/21/10 19:58 / ehb
Bicarbonate as HCO3	551	mg/L		4		A2320 B	09/21/10 19:58 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/21/10 19:58 / ehb
Chloride	181	mg/L	D	5		E300.0	09/23/10 21:15 / kh
Sulfate	1560	mg/L	D	20		E300.0	09/23/10 21:15 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/21/10 19:58 / ehb
Hardness as CaCO3	1650	mg/L		1		A2340 B	09/20/10 20:09 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	1.14	mg/L		0.05		E350.1	09/22/10 14:11 / bls
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	09/27/10 11:46 / bls
METALS, DISSOLVED							
Calcium	328	mg/L		1		E200.7	09/20/10 20:09 / rlh
Magnesium	201	mg/L		1		E200.7	09/20/10 20:09 / rlh
Potassium	12	mg/L		1		E200.7	09/20/10 20:09 / rlh
Silica	24.8	mg/L		0.2		E200.7	09/20/10 20:09 / rlh
Sodium	376	mg/L		1		E200.7	09/20/10 20:09 / rlh
METALS, TOTAL							
Silica	33.2	mg/L		0.2		E200.7	09/22/10 00:19 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-3.71					Calculation	09/24/10 10:34 / rls
Anions	46.6	meq/L		0.01		Calculation	09/24/10 10:34 / rls
Cations	49.7	meq/L		0.01		Calculation	09/24/10 10:34 / rls
A/C Balance	3.20	%				Calculation	09/24/10 10:34 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 10:11 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 10:11 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 10:11 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 10:11 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 10:11 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 10:11 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 10:11 / bjm
Surr: Trifluorotoluene	87.0	%REC		80-120		SW8021B	09/24/10 10:11 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	09/28/10 15:38 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10091684-004
Client Sample ID Trip Blank Lot091010 B-TS SHP0251

Report Date: 10/01/10
Collection Date: 09/17/10 09:30
DateReceived: 09/17/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/27/10 16:49 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/27/10 16:49 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/27/10 16:49 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/27/10 16:49 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/27/10 16:49 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/27/10 16:49 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/27/10 16:49 / bjm
Surr: Trifluorotoluene	88.0	%REC		80-120		SW8021B	09/27/10 16:49 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R154222
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100921B				09/21/10 19:01
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100921B				09/21/10 19:07
Alkalinity, Total as CaCO3	94.4	mg/L	4.0	94	90	110			
Sample ID: B10091684-001AMS	Sample Matrix Spike				Run: MAN-TECH_100921B				09/21/10 19:34
Alkalinity, Total as CaCO3	427	mg/L	4.0	91	80	120			
Sample ID: B10091684-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100921B				09/21/10 19:43
Alkalinity, Total as CaCO3	417	mg/L	4.0	83	80	120	2.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Batch: R154055
Sample ID: SC 150	Laboratory Control Sample				Run: PHSC_101-B_100920A				09/20/10 09:28
Conductivity @ 25 C	156	umhos/cm	5.0	99	90	110			
Sample ID: SC 5000	Laboratory Control Sample				Run: PHSC_101-B_100920A				09/20/10 09:31
Conductivity @ 25 C	4980	umhos/cm	5.0	99	90	110			
Sample ID: SC 20000	Laboratory Control Sample				Run: PHSC_101-B_100920A				09/20/10 09:34
Conductivity @ 25 C	19600	umhos/cm	5.0	98	90	110			
Sample ID: MBLK	Method Blank				Run: PHSC_101-B_100920A				09/20/10 09:44
Conductivity @ 25 C	5	umhos/cm							
Sample ID: B10091684-001ADUP	Sample Duplicate				Run: PHSC_101-B_100920A				09/20/10 10:20
Conductivity @ 25 C	5500	umhos/cm	5.0				0.8	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: TDS100920A
Sample ID: MBLK2	Method Blank				Run: CPA124S_100920B				09/20/10 18:06
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
Sample ID: LFB2	Laboratory Fortified Blank				Run: CPA124S_100920B				09/20/10 18:07
Solids, Total Dissolved TDS @ 180 C	1080	mg/L	10	100	90	110			
Sample ID: B10091684-001A MS	Sample Matrix Spike				Run: CPA124S_100920B				09/20/10 18:08
Solids, Total Dissolved TDS @ 180 C	10500	mg/L	10	101	90	110			
Sample ID: B10091684-002A DUP	Sample Duplicate				Run: CPA124S_100920B				09/20/10 18:09
Solids, Total Dissolved TDS @ 180 C	3170	mg/L	10		90	110	0.2	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C								Analytical Run: MAN-TECH_100921B	
Sample ID: ICV	Initial Calibration Verification Standard							09/21/10 14:38	
Fluoride	1.03	mg/L	0.10	103	90	110			
Method: A4500-F C								Batch: R154222	
Sample ID: MB	Method Blank				Run: MAN-TECH_100921B			09/21/10 14:29	
Fluoride	ND	mg/L	0.01						
Sample ID: LFB	Laboratory Fortified Blank				Run: MAN-TECH_100921B			09/21/10 14:36	
Fluoride	0.920	mg/L	0.10	92	90	110			
Sample ID: B10091684-001AMS	Sample Matrix Spike				Run: MAN-TECH_100921B			09/21/10 19:34	
Fluoride	1.38	mg/L	0.10	95	80	120			
Sample ID: B10091684-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100921B			09/21/10 19:43	
Fluoride	1.25	mg/L	0.10	82	80	120	9.9	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Batch: R154055
Sample ID: pH 4	Laboratory Control Sample				Run: PHSC_101-B_100920A				09/20/10 09:18
pH	4.00	s.u.	0.10	100	97	103			
Sample ID: pH 7	Laboratory Control Sample				Run: PHSC_101-B_100920A				09/20/10 09:20
pH	7.02	s.u.	0.10	100	98	102			
Sample ID: B10091684-001ADUP	Sample Duplicate				Run: PHSC_101-B_100920A				09/20/10 10:20
pH	7.31	s.u.	0.10				0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E1664A									Batch: G_TPH100928A
Sample ID: MBLK1009280848	Method Blank				Run: SUB-G180585				09/28/10 15:01
Total Petroleum Hydrocarbons	ND	mg/L	0.4						
Sample ID: LCS1009280848	Laboratory Control Sample				Run: SUB-G180585				09/28/10 15:08
Total Petroleum Hydrocarbons	16	mg/L	1.0	81	64	132			
Sample ID: LCSD1009280848	Laboratory Control Sample Duplicate				Run: SUB-G180585				09/28/10 15:41
Total Petroleum Hydrocarbons	16	mg/L	1.0	81	64	132	0.6	34	
Sample ID: G10090531-001AMS	Sample Matrix Spike				Run: SUB-G180585				09/28/10 16:20
Total Petroleum Hydrocarbons	18	mg/L	1.0	85	64	132			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP202-B_100921A	
Sample ID: ICV	Continuing Calibration Verification Standard							09/20/10 11:36	
Calcium	24.6	mg/L	1.0	98	95	105			
Magnesium	24.6	mg/L	1.0	98	95	105			
Potassium	24.7	mg/L	1.0	99	95	105			
Sodium	24.9	mg/L	1.0	100	95	105			
Silicon	5.17	mg/L	0.10	103	95	105			
Method: E200.7								Batch: R154154	
Sample ID: MB-SPDIS100920A	Method Blank				Run: ICP202-B_100921A			09/20/10 11:44	
Calcium	ND	mg/L	0.02						
Magnesium	ND	mg/L	0.006						
Potassium	ND	mg/L	0.007						
Sodium	ND	mg/L	0.01						
Silicon	ND	mg/L	0.007						
Sample ID: LFB-SPDIS100920A	Laboratory Fortified Blank				Run: ICP202-B_100921A			09/20/10 11:48	
Calcium	46.9	mg/L	1.0	94	85	115			
Magnesium	47.4	mg/L	1.0	95	85	115			
Potassium	48.8	mg/L	1.3	98	85	115			
Sodium	48.9	mg/L	1.0	98	85	115			
Silicon	9.81	mg/L	0.10	98	85	115			
Sample ID: B10091675-002BMS2	Sample Matrix Spike				Run: ICP202-B_100921A			09/20/10 19:45	
Calcium	330	mg/L	1.0	99	70	130			
Magnesium	282	mg/L	1.0	99	70	130			
Potassium	259	mg/L	6.7	102	70	130			
Silicon	58.4	mg/L	0.10	103	70	130			
Sodium	323	mg/L	1.4	104	70	130			
Silica	125	mg/L	0.21	103	70	130			
Sample ID: B10091675-002BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A			09/20/10 19:49	
Calcium	346	mg/L	1.0	105	70	130	4.6	20	
Magnesium	287	mg/L	1.0	101	70	130	1.6	20	
Potassium	268	mg/L	6.7	105	70	130	3.7	20	
Silicon	59.1	mg/L	0.10	104	70	130	1.1	20	
Sodium	328	mg/L	1.4	105	70	130	1.3	20	
Silica	126	mg/L	0.21	104	70	130	1.1	20	
Sample ID: B10091451-001BMS2	Sample Matrix Spike				Run: ICP202-B_100921A			09/20/10 20:38	
Calcium	83.3	mg/L	1.0	97	70	130			
Magnesium	54.6	mg/L	1.0	92	70	130			
Potassium	48.8	mg/L	2.0	97	70	130			
Silicon	14.4	mg/L	0.10	101	70	130			
Sodium	47.5	mg/L	1.0	92	70	130			
Silica	30.8	mg/L	0.21	101	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R154154
Sample ID: B10091451-001BMS2	Sample Matrix Spike				Run: ICP202-B_100921A				09/20/10 20:38
Sample ID: B10091451-001BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100921A				09/20/10 20:42
Calcium	85.2	mg/L	1.0	100	70	130	2.2	20	
Magnesium	57.7	mg/L	1.0	98	70	130	5.5	20	
Potassium	51.3	mg/L	2.0	102	70	130	5	20	
Silicon	14.1	mg/L	0.10	98	70	130	1.7	20	
Sodium	49.1	mg/L	1.0	95	70	130	3.2	20	
Silica	30.2	mg/L	0.21	98	70	130	1.7	20	
Method: E200.7									Analytical Run: ICP202-B_100921B
Sample ID: ICV	Continuing Calibration Verification Standard								09/21/10 12:16
Silicon	5.10	mg/L	0.10	102	95	105			
Method: E200.7									Batch: 49172
Sample ID: MB-49172	Method Blank				Run: ICP202-B_100921B				09/21/10 22:18
Silicon	ND	mg/L	0.009						
Silica	ND	mg/L	0.02						
Sample ID: LCS-49172	Laboratory Control Sample				Run: ICP202-B_100921B				09/21/10 22:22
Silicon	5.13	mg/L	0.10	103	85	115			
Silica	11.0	mg/L	0.21	103	85	115			
Sample ID: B10091666-001BMS3	Sample Matrix Spike				Run: ICP202-B_100921B				09/21/10 22:46
Silicon	27.7	mg/L	0.10		70	130			A
Silica	59.2	mg/L	0.21		70	130			A
Sample ID: B10091666-001BMSD3	Sample Matrix Spike Duplicate				Run: ICP202-B_100921B				09/21/10 22:50
Silicon	24.5	mg/L	0.10		70	130	12	20	A
Silica	52.4	mg/L	0.21		70	130	12	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC202-B_100922A	
Sample ID: ICV092210-11	Initial Calibration Verification Standard							09/22/10 09:35	
Chloride	22.7	mg/L	1.0	91	90	110			
Sulfate	97.3	mg/L	1.0	97	90	110			
Method: E300.0								Batch: R154324	
Sample ID: ICB092210-12	Method Blank				Run: IC202-B_100922A			09/22/10 09:47	
Chloride	0.08	mg/L	0.02						
Sulfate	ND	mg/L	0.2						
Sample ID: LFB092210-13	Laboratory Fortified Blank				Run: IC202-B_100922A			09/22/10 09:59	
Chloride	22.7	mg/L	1.0	90	90	110			
Sulfate	94.0	mg/L	1.1	94	90	110			
Sample ID: B10091669-006AMS	Sample Matrix Spike				Run: IC202-B_100922A			09/23/10 19:42	
Chloride	645	mg/L	5.4	98	90	110			
Sulfate	7090	mg/L	21	103	90	110			
Sample ID: B10091669-006AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_100922A			09/23/10 19:54	
Chloride	637	mg/L	5.4	96	90	110	1.2	20	
Sulfate	7060	mg/L	21	102	90	110	0.3	20	
Sample ID: LFB	Laboratory Fortified Blank				Run: IC202-B_100922A			09/24/10 11:17	
Chloride	23.1	mg/L	1.0	92	90	110			
Sulfate	96.3	mg/L	1.1	96	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1								Analytical Run: FIA203-B_100922A	
Sample ID: ICV	Initial Calibration Verification Standard							09/22/10 08:43	
Nitrogen, Ammonia as N	8.68	mg/L	0.30	102	90	110			
Method: E350.1								Batch: R154249	
Sample ID: MBLK	Method Blank				Run: FIA203-B_100922A			09/22/10 08:44	
Nitrogen, Ammonia as N	ND	mg/L	0.03						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_100922A			09/22/10 08:45	
Nitrogen, Ammonia as N	1.00	mg/L	0.050	101	90	110			
Sample ID: B10091678-003CMS	Sample Matrix Spike				Run: FIA203-B_100922A			09/22/10 14:16	
Nitrogen, Ammonia as N	1.01	mg/L	0.050	103	90	110			
Sample ID: B10091678-003CMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100922A			09/22/10 14:17	
Nitrogen, Ammonia as N	1.01	mg/L	0.050	103	90	110	0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 09/30/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-B_100927A	
Sample ID: ICV	Initial Calibration Verification Standard								09/27/10 09:14
Nitrogen, Nitrate+Nitrite as N	30.3	mg/L	0.20	103	90	110			
Method: E353.2									Batch: R154507
Sample ID: MBLK	Method Blank				Run: FIA203-B_100927A				09/27/10 09:15
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.004						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_100927A				09/27/10 09:16
Nitrogen, Nitrate+Nitrite as N	0.997	mg/L	0.010	102	90	110			
Sample ID: B10091640-003CMS	Sample Matrix Spike				Run: FIA203-B_100927A				09/27/10 09:39
Nitrogen, Nitrate+Nitrite as N	0.600	mg/L	0.010	61	90	110			S
Sample ID: B10091640-003CMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100927A				09/27/10 09:40
Nitrogen, Nitrate+Nitrite as N	0.583	mg/L	0.010	59	90	110	2.9	10	S
Sample ID: B10091779-001CMS	Sample Matrix Spike				Run: FIA203-B_100927A				09/27/10 11:51
Nitrogen, Nitrate+Nitrite as N	1.12	mg/L	0.010	102	90	110			
Sample ID: B10091779-001CMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100927A				09/27/10 11:52
Nitrogen, Nitrate+Nitrite as N	1.12	mg/L	0.010	102	90	110	0	10	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/01/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B								Analytical Run: R154464	
Sample ID: CCV_0923PE222r-W	Continuing Calibration Verification Standard							09/24/10 00:45	
Methyl tert-butyl ether (MTBE)	58.4	ug/L	1.0	97	85	115			
Benzene	19.4	ug/L	0.50	97	85	115			
Toluene	57.0	ug/L	0.50	95	85	115			
Ethylbenzene	19.6	ug/L	0.50	98	85	115			
m+p-Xylenes	75.3	ug/L	0.50	94	85	115			
o-Xylene	39.0	ug/L	0.50	98	85	115			
Xylenes, Total	114	ug/L	0.50	95	85	115			
Surr: Trifluorotoluene			1.0	92	85	115			
Method: SW8021B								Batch: R154464	
Sample ID: LCS_0923PE204r	Laboratory Control Sample				Run: PE2_100923A			09/23/10 14:07	
Methyl tert-butyl ether (MTBE)	20.0	ug/L	1.0	100	70	130			
Benzene	19.7	ug/L	0.50	99	70	130			
Toluene	19.7	ug/L	0.50	98	70	130			
Ethylbenzene	19.5	ug/L	0.50	97	70	130			
m+p-Xylenes	39.1	ug/L	0.50	98	70	130			
o-Xylene	19.8	ug/L	0.50	99	70	130			
Xylenes, Total	59.0	ug/L	0.50	98	70	130			
Surr: Trifluorotoluene			1.0	94	80	120			
Sample ID: MBLK_0923PE206r	Method Blank				Run: PE2_100923A			09/23/10 15:17	
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	95	80	120			
Sample ID: B10091650-001AMS	Sample Matrix Spike				Run: PE2_100923A			09/23/10 19:26	
Methyl tert-butyl ether (MTBE)	50.6	ug/L	2.0	101	70	130			
Benzene	50.4	ug/L	1.0	101	70	130			
Toluene	47.2	ug/L	1.0	94	70	130			
Ethylbenzene	46.8	ug/L	1.0	94	70	130			
m+p-Xylenes	92.7	ug/L	1.0	93	70	130			
o-Xylene	47.8	ug/L	1.0	96	70	130			
Xylenes, Total	140	ug/L	1.0	94	70	130			
Surr: Trifluorotoluene			2.0	91	80	120			
Sample ID: B10091650-001AMSD	Sample Matrix Spike Duplicate				Run: PE2_100923A			09/23/10 20:37	
Methyl tert-butyl ether (MTBE)	50.6	ug/L	2.0	101	70	130	0	20	
Benzene	51.0	ug/L	1.0	102	70	130	1.3	20	
Toluene	47.8	ug/L	1.0	96	70	130	1.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/01/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B								Batch: R154464	
Sample ID: B10091650-001AMSD	Sample Matrix Spike Duplicate				Run: PE2_100923A			09/23/10 20:37	
Ethylbenzene	47.4	ug/L	1.0	95	70	130	1.4	20	
m+p-Xylenes	94.1	ug/L	1.0	94	70	130	1.5	20	
o-Xylene	48.0	ug/L	1.0	96	70	130	0.4	20	
Xylenes, Total	142	ug/L	1.0	95	70	130			
Surr: Trifluorotoluene			2.0	92	80	120	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/01/10
Work Order: B10091684

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Analytical Run: R154632
Sample ID: CCV_0927PE204r-W	Continuing Calibration Verification Standard								09/27/10 12:05
Methyl tert-butyl ether (MTBE)	55.4	ug/L	1.0	92	85	115			
Benzene	18.7	ug/L	0.50	94	85	115			
Toluene	54.8	ug/L	0.50	91	85	115			
Ethylbenzene	18.8	ug/L	0.50	94	85	115			
m+p-Xylenes	72.5	ug/L	0.50	91	85	115			
o-Xylene	37.2	ug/L	0.50	93	85	115			
Xylenes, Total	110	ug/L	0.50	91	85	115			
Surr: Trifluorotoluene			1.0	87	85	115			
Sample ID: CCV_0927PE224r-W	Continuing Calibration Verification Standard								09/27/10 23:57
Methyl tert-butyl ether (MTBE)	52.3	ug/L	1.0	87	85	115			
Benzene	13.4	ug/L	0.50	67	85	115			S
Toluene	40.2	ug/L	0.50	67	85	115			S
Ethylbenzene	14.7	ug/L	0.50	73	85	115			S
m+p-Xylenes	57.0	ug/L	0.50	71	85	115			S
o-Xylene	31.9	ug/L	0.50	80	85	115			S
Xylenes, Total	88.9	ug/L	0.50	74	85	115			S
Surr: Trifluorotoluene			1.0	59	85	115			S

- This comment applies only to the Trip Blank (B10091684-004). The bracketing CCV was below QC advisory limits on 27-Sept. The fresh CCV that ran the next morning was within QC limits. There was no additional sample available for re-analysis.

Method: SW8021B									Batch: R154632
Sample ID: LCS_0927PE205r	Laboratory Control Sample				Run: PE2_100927A				09/27/10 12:40
Methyl tert-butyl ether (MTBE)	18.7	ug/L	1.0	93	70	130			
Benzene	18.4	ug/L	0.50	92	70	130			
Toluene	18.2	ug/L	0.50	91	70	130			
Ethylbenzene	18.0	ug/L	0.50	90	70	130			
m+p-Xylenes	36.2	ug/L	0.50	90	70	130			
o-Xylene	18.3	ug/L	0.50	92	70	130			
Xylenes, Total	54.5	ug/L	0.50	91	70	130			
Surr: Trifluorotoluene			1.0	87	80	120			
Sample ID: MBLK_0927PE207r	Method Blank				Run: PE2_100927A				09/27/10 13:51
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	80	80	120			

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist

B10091684

DOWL HKM

Login completed by: Gina McCartney
Reviewed by: BL2000\kmcdonald
Reviewed Date: 9/20/2010

Date Received: 9/17/2010
Received by: klb
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	5°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Samples for Dissolved Metals/Hardness were subsampled, filtered and preserved with 2 mL nitric acid in the laboratory upon receipt to pH <2.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: DOWL HKM	Project Name, PWS, Permit, Etc.: Biere Well Remediation	Sample Origin State: MT	EPA/State Compliance: Yes ☒ No ☐
Report Mail Address: 920 Technology Blvd Bozeman MT 59718	Contact Name: Nate Peterson Phone/Fax: 586-8834 Email: npeterson@dowlhkm.com		Sampler: (Please Print) Nate Peterson
Invoice Address: Same	Invoice Contact & Phone: Same	Purchase Order: 148805101.01	Quote/Bottle Order: #78

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

ANALYSIS REQUESTED

Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other

See Quote #78

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand

Cooler ID(s):

Receipt Temp 5 °C

Opened: Yes No

Custody Seal Y N

Bottles/Coolers B C

Intact Y N

Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	LABORATORY USE ONLY
1	MOC-20A	9/17/10	9:30	GW	B0091684001
2	PNR-36-07		10:30		-002
3	PNR-13		11:15		-003
4					
5	TB 0251	9-10-10	TS		-004
6					
7					
8					
9					
10					

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Nate Peterson	9/17/10 16:40				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Nina Buehler	9-17-10	1640

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

October 11, 2010

DOWL HKM
920 Technology Blvd STE A
Bozeman, MT 59718-4001

Workorder No.: B10091864 Quote ID: B78 - Pioneer Natural Resources-Poplar Biere Well Site

Project Name: Biere Well

Energy Laboratories Inc received the following 15 samples for DOWL HKM on 9/21/2010 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B10091864-001	PNR-RW-1	09/17/10 13:35	09/21/10	Aqueous	Conductivity Purgeable Aromatics Anions by Ion Chromatography
B10091864-002	PNR-RW-2	09/17/10 14:00	09/21/10	Aqueous	Same As Above
B10091864-003	PNR-RW-3	09/17/10 14:10	09/21/10	Aqueous	Same As Above
B10091864-004	PNR-RW-4	09/17/10 14:20	09/21/10	Aqueous	Same As Above
B10091864-005	PNR-RW-5	09/17/10 14:30	09/21/10	Aqueous	Same As Above
B10091864-006	PNR-RW-6	09/17/10 14:45	09/21/10	Aqueous	Same As Above
B10091864-007	PNR-RW-12	09/17/10 14:55	09/21/10	Aqueous	Same As Above
B10091864-008	PNR-RW-11	09/17/10 15:10	09/21/10	Aqueous	Same As Above
B10091864-009	PNR-RW-9	09/17/10 15:20	09/21/10	Aqueous	Same As Above
B10091864-010	PNR-22	09/18/10 10:45	09/21/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10091864-011	PNR-29	09/18/10 11:45	09/21/10	Aqueous	Same As Above
B10091864-012	PNR-16	09/18/10 13:00	09/21/10	Aqueous	Same As Above
B10091864-013	PNR-35-07	09/18/10 14:30	09/21/10	Aqueous	Same As Above
B10091864-014	Trip Blank 1 Lot091010 B-TS SHP0251	09/17/10 13:35	09/21/10	Trip Blank	Purgeable Aromatics
B10091864-015	Trip Blank 2 Lot091010 B-TS SHP0251	09/18/10 13:00	09/21/10	Trip Blank	Same As Above

This report was prepared by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

ANALYTICAL SUMMARY REPORT

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By: Supervisor, Wet Chemistry

Digitally signed by
Keri Conter
Date: 2010.10.11 15:40:28 -06:00

CLIENT: DOWL HKM
Project: Biere Well
Sample Delivery Group: B10091864

Report Date: 10/11/10

CASE NARRATIVE

Tests associated with analyst identified as ELI-G were subcontracted to Energy Laboratories, 400 W Boxelder Rd, Gillette, WY, EPA Number WY00006.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-001
Client Sample ID PNR-RW-1

Report Date: 10/11/10
Collection Date: 09/17/10 13:35
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	54100	umhos/cm	E	5		A2510 B	09/21/10 16:55 / caw
INORGANICS							
Chloride	22600	mg/L	D	50		E300.0	09/28/10 14:03 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 16:08 / bjm
Benzene	17	ug/L		0.50		SW8021B	09/24/10 16:08 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 16:08 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 16:08 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 16:08 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 16:08 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 16:08 / bjm
Surr: Trifluorotoluene	87.0	%REC		80-120		SW8021B	09/24/10 16:08 / bjm

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-002
Client Sample ID PNR-RW-2

Report Date: 10/11/10
Collection Date: 09/17/10 14:00
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	45600	umhos/cm	E	5		A2510 B	09/21/10 16:58 / caw
INORGANICS							
Chloride	18500	mg/L	D	50		E300.0	09/28/10 14:14 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 17:19 / bjm
Benzene	15	ug/L		0.50		SW8021B	09/24/10 17:19 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 17:19 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 17:19 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 17:19 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 17:19 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 17:19 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	09/24/10 17:19 / bjm

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-003
Client Sample ID PNR-RW-3

Report Date: 10/11/10
Collection Date: 09/17/10 14:10
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	29400	umhos/cm	E	5		A2510 B	09/21/10 17:00 / caw
INORGANICS							
Chloride	11200	mg/L	D	50		E300.0	09/28/10 14:49 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 17:54 / bjm
Benzene	18	ug/L		0.50		SW8021B	09/24/10 17:54 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 17:54 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 17:54 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 17:54 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 17:54 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 17:54 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	09/24/10 17:54 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-004
Client Sample ID PNR-RW-4

Report Date: 10/11/10
Collection Date: 09/17/10 14:20
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	37900	umhos/cm	E	5		A2510 B	09/21/10 17:02 / caw
INORGANICS							
Chloride	14700	mg/L	D	50		E300.0	09/28/10 15:01 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 18:30 / bjm
Benzene	5.9	ug/L		0.50		SW8021B	09/24/10 18:30 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 18:30 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 18:30 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 18:30 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 18:30 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 18:30 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	09/24/10 18:30 / bjm

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-005
Client Sample ID PNR-RW-5

Report Date: 10/11/10
Collection Date: 09/17/10 14:30
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	32400	umhos/cm	E	5		A2510 B	09/21/10 17:05 / caw
INORGANICS							
Chloride	12300	mg/L	D	50		E300.0	09/28/10 15:12 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 19:40 / bjm
Benzene	3.5	ug/L		0.50		SW8021B	09/24/10 19:40 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 19:40 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 19:40 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 19:40 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 19:40 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 19:40 / bjm
Surr: Trifluorotoluene	91.0	%REC		80-120		SW8021B	09/24/10 19:40 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-006
Client Sample ID PNR-RW-6

Report Date: 10/11/10
Collection Date: 09/17/10 14:45
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	46200	umhos/cm	E	5		A2510 B	09/21/10 17:08 / caw
INORGANICS							
Chloride	19200	mg/L	D	50		E300.0	09/28/10 15:24 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 20:16 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 20:16 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 20:16 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 20:16 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 20:16 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 20:16 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 20:16 / bjm
Surr: Trifluorotoluene	88.0	%REC		80-120		SW8021B	09/24/10 20:16 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-007
Client Sample ID PNR-RW-12

Report Date: 10/11/10
Collection Date: 09/17/10 14:55
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	47100	umhos/cm	E	5		A2510 B	09/21/10 17:10 / caw
INORGANICS							
Chloride	19200	mg/L	D	50		E300.0	09/28/10 15:59 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 20:52 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 20:52 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 20:52 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 20:52 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 20:52 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 20:52 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 20:52 / bjm
Surr: Trifluorotoluene	89.0	%REC		80-120		SW8021B	09/24/10 20:52 / bjm

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-008
Client Sample ID PNR-RW-11

Report Date: 10/11/10
Collection Date: 09/17/10 15:10
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	58300	umhos/cm	E	5		A2510 B	09/21/10 17:16 / caw
INORGANICS							
Chloride	24700	mg/L	D	50		E300.0	09/28/10 16:11 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 22:02 / bjm
Benzene	9.9	ug/L		0.50		SW8021B	09/24/10 22:02 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 22:02 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 22:02 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 22:02 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 22:02 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 22:02 / bjm
Surr: Trifluorotoluene	88.0	%REC		80-120		SW8021B	09/24/10 22:02 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-009
Client Sample ID PNR-RW-9

Report Date: 10/11/10
Collection Date: 09/17/10 15:20
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	33300	umhos/cm	E	5		A2510 B	09/21/10 17:18 / caw
INORGANICS							
Chloride	12300	mg/L	D	50		E300.0	09/28/10 16:22 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 22:38 / bjm
Benzene	0.91	ug/L		0.50		SW8021B	09/24/10 22:38 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 22:38 / bjm
Ethylbenzene	8.2	ug/L		0.50		SW8021B	09/24/10 22:38 / bjm
m+p-Xylenes	2.9	ug/L		0.50		SW8021B	09/24/10 22:38 / bjm
o-Xylene	0.60	ug/L		0.50		SW8021B	09/24/10 22:38 / bjm
Xylenes, Total	3.5	ug/L		0.50		SW8021B	09/24/10 22:38 / bjm
Surr: Trifluorotoluene	86.0	%REC		80-120		SW8021B	09/24/10 22:38 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-010
Client Sample ID PNR-22

Report Date: 10/11/10
Collection Date: 09/18/10 10:45
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/21/10 17:21 / caw
Conductivity @ 25 C	4670	umhos/cm		5		A2510 B	09/21/10 17:21 / caw
Solids, Total Dissolved TDS @ 180 C	3320	mg/L		10		A2540 C	09/21/10 18:04 / qed
INORGANICS							
Alkalinity, Total as CaCO3	729	mg/L		4		A2320 B	09/22/10 21:06 / ehb
Bicarbonate as HCO3	889	mg/L		4		A2320 B	09/22/10 21:06 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/22/10 21:06 / ehb
Chloride	631	mg/L	D	5		E300.0	09/28/10 16:34 / kh
Sulfate	939	mg/L	D	20		E300.0	09/28/10 16:34 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/22/10 21:06 / ehb
Hardness as CaCO3	1560	mg/L		1		A2340 B	09/23/10 12:03 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	4.29	mg/L		0.05		E350.1	09/24/10 11:31 / bls
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	09/29/10 08:02 / bls
METALS, DISSOLVED							
Calcium	252	mg/L		1		E200.7	09/22/10 18:03 / rlh
Magnesium	226	mg/L		1		E200.7	09/22/10 18:03 / rlh
Potassium	10	mg/L		1		E200.7	09/22/10 18:03 / rlh
Silica	29.2	mg/L		0.2		E200.7	09/22/10 18:03 / rlh
Sodium	499	mg/L		1		E200.7	09/22/10 18:03 / rlh
METALS, TOTAL							
Silica	30.8	mg/L		0.2		E200.7	10/06/10 12:52 / tao
QUALITY CONTROL							
A/C Balance Sigma	-1.63					Calculation	09/29/10 10:03 / rls
Anions	52.0	meq/L		0.01		Calculation	09/29/10 10:03 / rls
Cations	53.4	meq/L		0.01		Calculation	09/29/10 10:03 / rls
A/C Balance	1.41	%				Calculation	09/29/10 10:03 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/25/10 19:57 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/25/10 19:57 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/25/10 19:57 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/25/10 19:57 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/25/10 19:57 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/25/10 19:57 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/25/10 19:57 / bjm
Surr: Trifluorotoluene	89.0	%REC		80-120		SW8021B	09/25/10 19:57 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-010
Client Sample ID PNR-22

Report Date: 10/11/10
Collection Date: 09/18/10 10:45
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 11:52 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-011
Client Sample ID PNR-29

Report Date: 10/11/10
Collection Date: 09/18/10 11:45
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	09/21/10 17:24 / caw
Conductivity @ 25 C	5460	umhos/cm		5		A2510 B	09/21/10 17:24 / caw
Solids, Total Dissolved TDS @ 180 C	4880	mg/L		10		A2540 C	09/21/10 18:17 / qed
INORGANICS							
Alkalinity, Total as CaCO3	682	mg/L		4		A2320 B	09/22/10 21:27 / ehb
Bicarbonate as HCO3	832	mg/L		4		A2320 B	09/22/10 21:27 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/22/10 21:27 / ehb
Chloride	97	mg/L	D	5		E300.0	09/28/10 17:09 / kh
Sulfate	1980	mg/L	D	20		E300.0	09/28/10 17:09 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/22/10 21:27 / ehb
Hardness as CaCO3	2340	mg/L		1		A2340 B	09/23/10 12:03 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/10 13:36 / bls
Nitrogen, Nitrate+Nitrite as N	183	mg/L	D	1		E353.2	09/29/10 08:03 / bls
METALS, DISSOLVED							
Calcium	435	mg/L		1		E200.7	09/22/10 18:07 / rlh
Magnesium	305	mg/L		1		E200.7	09/22/10 18:07 / rlh
Potassium	12	mg/L		1		E200.7	09/22/10 18:07 / rlh
Silica	27.4	mg/L		0.2		E200.7	09/22/10 18:07 / rlh
Sodium	504	mg/L	D	3		E200.7	09/22/10 18:07 / rlh
METALS, TOTAL							
Silica	27.7	mg/L		0.2		E200.7	09/23/10 00:31 / rlh
QUALITY CONTROL							
A/C Balance Sigma	1.34					Calculation	09/29/10 10:03 / rls
Anions	70.6	meq/L		0.01		Calculation	09/29/10 10:03 / rls
Cations	69.0	meq/L		0.01		Calculation	09/29/10 10:03 / rls
A/C Balance	-1.15	%				Calculation	09/29/10 10:03 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/25/10 21:08 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/25/10 21:08 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/25/10 21:08 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/25/10 21:08 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/25/10 21:08 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/25/10 21:08 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/25/10 21:08 / bjm
Surr: Trifluorotoluene	84.0	%REC		80-120		SW8021B	09/25/10 21:08 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-011
Client Sample ID PNR-29

Report Date: 10/11/10
Collection Date: 09/18/10 11:45
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 11:53 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-012
Client Sample ID PNR-16

Report Date: 10/11/10
Collection Date: 09/18/10 13:00
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.3	s.u.		0.1		A4500-H B	09/21/10 17:26 / caw
Conductivity @ 25 C	4570	umhos/cm		5		A2510 B	09/21/10 17:26 / caw
Solids, Total Dissolved TDS @ 180 C	4350	mg/L		10		A2540 C	09/21/10 18:17 / qed
INORGANICS							
Alkalinity, Total as CaCO3	444	mg/L		4		A2320 B	09/22/10 21:35 / ehb
Bicarbonate as HCO3	541	mg/L		4		A2320 B	09/22/10 21:35 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/22/10 21:35 / ehb
Chloride	18	mg/L	D	5		E300.0	09/28/10 17:21 / kh
Sulfate	2510	mg/L	D	20		E300.0	09/28/10 17:21 / kh
Fluoride	0.5	mg/L		0.1		A4500-F C	09/22/10 21:35 / ehb
Hardness as CaCO3	2540	mg/L		1		A2340 B	09/23/10 12:03 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.18	mg/L		0.05		E350.1	09/24/10 11:33 / bls
Nitrogen, Nitrate+Nitrite as N	22.1	mg/L	D	0.1		E353.2	09/29/10 08:04 / bls
METALS, DISSOLVED							
Calcium	398	mg/L		1		E200.7	09/22/10 18:11 / rlh
Magnesium	375	mg/L		1		E200.7	09/22/10 18:11 / rlh
Potassium	20	mg/L		1		E200.7	09/22/10 18:11 / rlh
Silica	26.2	mg/L		0.2		E200.7	09/22/10 18:11 / rlh
Sodium	276	mg/L		1		E200.7	09/22/10 18:11 / rlh
METALS, TOTAL							
Silica	58.2	mg/L		0.2		E200.7	09/23/10 00:35 / rlh
QUALITY CONTROL							
A/C Balance Sigma	0.03					Calculation	09/29/10 10:04 / rls
Anions	63.3	meq/L		0.01		Calculation	09/29/10 10:04 / rls
Cations	63.2	meq/L		0.01		Calculation	09/29/10 10:04 / rls
A/C Balance	-0.02	%				Calculation	09/29/10 10:04 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/25/10 22:18 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/25/10 22:18 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/25/10 22:18 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/25/10 22:18 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/25/10 22:18 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/25/10 22:18 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/25/10 22:18 / bjm
Surr: Trifluorotoluene	89.0	%REC		80-120		SW8021B	09/25/10 22:18 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-012
Client Sample ID PNR-16

Report Date: 10/11/10
Collection Date: 09/18/10 13:00
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 11:54 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-013
Client Sample ID PNR-35-07

Report Date: 10/11/10
Collection Date: 09/18/10 14:30
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.3	s.u.		0.1		A4500-H B	09/21/10 17:29 / caw
Conductivity @ 25 C	4000	umhos/cm		5		A2510 B	09/21/10 17:29 / caw
Solids, Total Dissolved TDS @ 180 C	3210	mg/L		10		A2540 C	09/21/10 18:16 / qed
INORGANICS							
Alkalinity, Total as CaCO3	650	mg/L		4		A2320 B	09/22/10 22:01 / ehb
Bicarbonate as HCO3	792	mg/L		4		A2320 B	09/22/10 22:01 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/22/10 22:01 / ehb
Chloride	114	mg/L	D	5		E300.0	09/28/10 17:32 / kh
Sulfate	1480	mg/L	D	20		E300.0	09/28/10 17:32 / kh
Fluoride	0.4	mg/L		0.1		A4500-F C	09/22/10 22:01 / ehb
Hardness as CaCO3	1390	mg/L		1		A2340 B	09/23/10 12:03 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.40	mg/L		0.05		E350.1	09/24/10 11:34 / bls
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	09/29/10 08:05 / bls
METALS, DISSOLVED							
Calcium	254	mg/L		1		E200.7	09/22/10 18:15 / rlh
Magnesium	184	mg/L		1		E200.7	09/22/10 18:15 / rlh
Potassium	10	mg/L		1		E200.7	09/22/10 18:15 / rlh
Silica	22.8	mg/L		0.2		E200.7	09/22/10 18:15 / rlh
Sodium	509	mg/L		1		E200.7	09/22/10 18:15 / rlh
METALS, TOTAL							
Silica	107	mg/L		0.2		E200.7	09/23/10 00:48 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-3.87					Calculation	09/29/10 10:04 / rls
Anions	47.0	meq/L		0.01		Calculation	09/29/10 10:04 / rls
Cations	50.3	meq/L		0.01		Calculation	09/29/10 10:04 / rls
A/C Balance	3.32	%				Calculation	09/29/10 10:04 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/25/10 23:30 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/25/10 23:30 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/25/10 23:30 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/25/10 23:30 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/25/10 23:30 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/25/10 23:30 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/25/10 23:30 / bjm
Surr: Trifluorotoluene	87.0	%REC		80-120		SW8021B	09/25/10 23:30 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-013
Client Sample ID PNR-35-07

Report Date: 10/11/10
Collection Date: 09/18/10 14:30
DateReceived: 09/21/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:28 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-014
Client Sample ID Trip Blank 1 Lot091010 B-TS SHP0251

Report Date: 10/11/10
Collection Date: 09/17/10 13:35
DateReceived: 09/21/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 15:33 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 15:33 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 15:33 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 15:33 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 15:33 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 15:33 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 15:33 / bjm
Surr: Trifluorotoluene	63.0	%REC	S	80-120		SW8021B	09/24/10 15:33 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
S - Spike recovery outside of advisory limits.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well
Lab ID: B10091864-015
Client Sample ID Trip Blank 2 Lot091010 B-TS SHP0251

Report Date: 10/11/10
Collection Date: 09/18/10 13:00
DateReceived: 09/21/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/24/10 14:57 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/24/10 14:57 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/24/10 14:57 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/24/10 14:57 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/24/10 14:57 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/24/10 14:57 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/24/10 14:57 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	09/24/10 14:57 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R154321
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100922B				09/22/10 21:10
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100922B				09/22/10 21:15
Alkalinity, Total as CaCO3	96.0	mg/L	4.0	96	90	110			
Sample ID: B10091864-012AMS	Sample Matrix Spike				Run: MAN-TECH_100922B				09/22/10 21:44
Alkalinity, Total as CaCO3	559	mg/L	4.0	87	80	120			
Sample ID: B10091864-012AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100922B				09/22/10 21:52
Alkalinity, Total as CaCO3	551	mg/L	4.0	80	80	120	1.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Batch: R154148
Sample ID: SC 150	Laboratory Control Sample				Run: PHSC _101-B_100921A				09/21/10 08:59
Conductivity @ 25 C	156	umhos/cm	5.0	104	90	110			
Sample ID: SC 5000	Laboratory Control Sample				Run: PHSC _101-B_100921A				09/21/10 09:02
Conductivity @ 25 C	4980	umhos/cm	5.0	100	90	110			
Sample ID: SC 20000	Laboratory Control Sample				Run: PHSC _101-B_100921A				09/21/10 09:05
Conductivity @ 25 C	19900	umhos/cm	5.0	99	90	110			
Sample ID: MBLK	Method Blank				Run: PHSC _101-B_100921A				09/21/10 09:14
Conductivity @ 25 C	4	umhos/cm							
Sample ID: B10091864-007ADUP	Sample Duplicate				Run: PHSC _101-B_100921A				09/21/10 17:13
Conductivity @ 25 C	47100	umhos/cm	5.0				0.1	10	
Sample ID: B10091864-013ADUP	Sample Duplicate				Run: PHSC _101-B_100921A				09/21/10 17:32
Conductivity @ 25 C	4000	umhos/cm	5.0				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: TDS100921A
Sample ID: MBLK2	Method Blank				Run: CPA124S_100921B				09/21/10 17:48
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	9						
Sample ID: LFB2	Laboratory Fortified Blank				Run: CPA124S_100921B				09/21/10 17:49
Solids, Total Dissolved TDS @ 180 C	1060	mg/L	10	98	90	110			
Sample ID: B10091839-007A MS	Sample Matrix Spike				Run: CPA124S_100921B				09/21/10 17:50
Solids, Total Dissolved TDS @ 180 C	2000	mg/L	10	102	90	110			
Sample ID: B10091852-007A DUP	Sample Duplicate				Run: CPA124S_100921B				09/21/10 18:02
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10		90	110		5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C								Analytical Run: MAN-TECH_100922B	
Sample ID: ICV	Initial Calibration Verification Standard								09/22/10 14:42
Fluoride	1.02	mg/L	0.10	102	90	110			
Method: A4500-F C								Batch: R154321	
Sample ID: MB	Method Blank				Run: MAN-TECH_100922B				09/22/10 14:36
Fluoride	ND	mg/L	0.01						
Sample ID: LFB	Laboratory Fortified Blank				Run: MAN-TECH_100922B				09/22/10 14:39
Fluoride	0.950	mg/L	0.10	95	90	110			
Sample ID: B10091864-012AMS	Sample Matrix Spike				Run: MAN-TECH_100922B				09/22/10 21:44
Fluoride	1.38	mg/L	0.10	86	80	120			
Sample ID: B10091864-012AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100922B				09/22/10 21:52
Fluoride	1.37	mg/L	0.10	85	80	120	0.7	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Batch: R154148
Sample ID: pH 4	Laboratory Control Sample				Run: PHSC_101-B_100921A				09/21/10 08:49
pH	4.00	s.u.	0.10	100	97	103			
Sample ID: pH 7	Laboratory Control Sample				Run: PHSC_101-B_100921A				09/21/10 08:52
pH	7.02	s.u.	0.10	100	98	102			
Sample ID: B10091864-013ADUP	Sample Duplicate				Run: PHSC_101-B_100921A				09/21/10 17:32
pH	7.23	s.u.	0.10				0.3	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP202-B_100922A	
Sample ID: ICV	Continuing Calibration Verification Standard							09/22/10 11:56	
Calcium	25.9	mg/L	1.0	104	95	105			
Magnesium	24.8	mg/L	1.0	99	95	105			
Potassium	25.3	mg/L	1.0	101	95	105			
Sodium	25.0	mg/L	1.0	100	95	105			
Silicon	5.26	mg/L	0.10	105	95	105			
Method: E200.7								Batch: 49227	
Sample ID: MB-49227	Method Blank				Run: ICP202-B_100922A			09/22/10 22:14	
Silicon	ND	mg/L	0.009						
Silica	ND	mg/L	0.02						
Sample ID: LCS-49227	Laboratory Control Sample				Run: ICP202-B_100922A			09/22/10 22:26	
Silicon	5.16	mg/L	0.10	103	85	115			
Silica	11.0	mg/L	0.21	103	85	115			
Sample ID: B10091840-001BMS3	Sample Matrix Spike				Run: ICP202-B_100922A			09/22/10 22:42	
Silicon	17.5	mg/L	0.10	152	70	130			S
Silica	37.4	mg/L	0.21	152	70	130			S
Sample ID: B10091840-001BMSD3	Sample Matrix Spike Duplicate				Run: ICP202-B_100922A			09/22/10 22:46	
Silicon	17.3	mg/L	0.10	148	70	130	1.2	20	S
Silica	37.0	mg/L	0.21	148	70	130	1.2	20	S
Method: E200.7								Batch: 49229	
Sample ID: MB-49229	Method Blank				Run: ICP202-B_100922A			09/23/10 00:40	
Silicon	ND	mg/L	0.009						
Silica	ND	mg/L	0.02						
Sample ID: LCS-49229	Laboratory Control Sample				Run: ICP202-B_100922A			09/23/10 00:44	
Silicon	5.12	mg/L	0.10	102	85	115			
Silica	11.0	mg/L	0.21	102	85	115			
Sample ID: B10091864-013CMS3	Sample Matrix Spike				Run: ICP202-B_100922A			09/23/10 01:00	
Silicon	68.0	mg/L	0.10		70	130			A
Silica	145	mg/L	0.21		70	130			A
Sample ID: B10091864-013CMSD3	Sample Matrix Spike Duplicate				Run: ICP202-B_100922A			09/23/10 01:12	
Silicon	77.2	mg/L	0.10		70	130	13	20	A
Silica	165	mg/L	0.21		70	130	13	20	A
Method: E200.7								Batch: R154328	
Sample ID: MB-SPDIS100922A	Method Blank				Run: ICP202-B_100922A			09/22/10 12:04	
Calcium	ND	mg/L	0.02						
Magnesium	ND	mg/L	0.006						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Batch: R154328
Sample ID:	**MB-SPDIS100922A**	Method Blank				Run: ICP202-B_100922A				09/22/10 12:04
Potassium		0.008	mg/L	0.007						
Sodium		0.01	mg/L	0.01						
Silicon		ND	mg/L	0.007						
Sample ID:	**LFB-SPDIS100922A**	Laboratory Fortified Blank				Run: ICP202-B_100922A				09/22/10 12:08
Calcium		52.3	mg/L	1.0	105	85	115			
Magnesium		50.7	mg/L	1.0	101	85	115			
Potassium		49.1	mg/L	1.3	98	85	115			
Sodium		49.3	mg/L	1.0	99	85	115			
Silicon		10.7	mg/L	0.10	107	85	115			
Sample ID:	**MB-49191**	Method Blank				Run: ICP202-B_100922A				09/22/10 16:30
Calcium		ND	mg/L	0.02						
Magnesium		ND	mg/L	0.006						
Potassium		0.4	mg/L	0.007						
Silicon		ND	mg/L	0.007						
Sodium		0.1	mg/L	0.01						
Silica		ND	mg/L	0.01						
Sample ID:	**B10091839-009BMS2**	Sample Matrix Spike				Run: ICP202-B_100922A				09/22/10 17:39
Calcium		295	mg/L	1.0	96	70	130			
Magnesium		143	mg/L	1.0	99	70	130			
Potassium		104	mg/L	2.7	101	70	130			
Silicon		28.6	mg/L	0.10	101	70	130			
Sodium		101	mg/L	1.0	94	70	130			
Silica		61.2	mg/L	0.21	101	70	130			
Sample ID:	**B10091839-009BMSD2**	Sample Matrix Spike Duplicate				Run: ICP202-B_100922A				09/22/10 17:43
Calcium		290	mg/L	1.0	91	70	130	1.8	20	
Magnesium		141	mg/L	1.0	97	70	130	1.6	20	
Potassium		106	mg/L	2.7	104	70	130	2.6	20	
Silicon		28.7	mg/L	0.10	101	70	130	0.3	20	
Sodium		102	mg/L	1.0	95	70	130	0.8	20	
Silica		61.3	mg/L	0.21	101	70	130	0.3	20	
Sample ID:	**B10091869-004BMS2**	Sample Matrix Spike				Run: ICP202-B_100922A				09/22/10 20:49
Calcium		50.3	mg/L	1.0	101	70	130			
Magnesium		47.9	mg/L	1.0	96	70	130			
Potassium		51.2	mg/L	2.0	102	70	130			
Silicon		9.78	mg/L	0.10	98	70	130			
Sodium		49.4	mg/L	1.0	99	70	130			
Silica		20.9	mg/L	0.21	98	70	130			
Sample ID:	**B10091869-004BMSD2**	Sample Matrix Spike Duplicate				Run: ICP202-B_100922A				09/22/10 20:53
Calcium		49.8	mg/L	1.0	100	70	130	1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R154328
Sample ID: B10091869-004BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100922A				09/22/10 20:53
Magnesium	48.4	mg/L	1.0	97	70	130	1.1	20	
Potassium	52.7	mg/L	2.0	105	70	130	3	20	
Silicon	10.2	mg/L	0.10	102	70	130	4.6	20	
Sodium	48.9	mg/L	1.0	98	70	130	1	20	
Silica	21.9	mg/L	0.21	102	70	130	4.6	20	
Method: E200.7									Analytical Run: ICP202-B_101006A
Sample ID: ICV	Continuing Calibration Verification Standard								10/06/10 11:49
Silicon	5.01	mg/L	0.10	100	95	105			
Method: E200.7									Batch: R155123
Sample ID: MB-SPDIS101006A	Method Blank				Run: ICP202-B_101006A				10/06/10 12:37
Silicon	0.01	mg/L	0.007						
Sample ID: LFB-SPDIS101006A	Laboratory Fortified Blank				Run: ICP202-B_101006A				10/06/10 12:41
Silicon	9.00	mg/L	0.10	90	85	115			
Sample ID: B10092330-001BMS2	Sample Matrix Spike				Run: ICP202-B_101006A				10/06/10 13:33
Silicon	59.1	mg/L	0.10	101	70	130			
Silica	126	mg/L	0.21	100	70	130			
Sample ID: B10092330-001BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_101006A				10/06/10 13:36
Silicon	58.1	mg/L	0.10	96	70	130	1.7	20	
Silica	124	mg/L	0.21	96	70	130	1.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC202-B_100928A	
Sample ID: ICV092810-11	Initial Calibration Verification Standard							09/28/10 11:55	
Chloride	25.3	mg/L	1.0	101	90	110			
Sulfate	93.7	mg/L	1.0	94	90	110			
Method: E300.0								Batch: R154675	
Sample ID: ICB092810-12	Method Blank				Run: IC202-B_100928A			09/28/10 12:07	
Chloride	0.1	mg/L	0.02						
Sulfate	ND	mg/L	0.2						
Sample ID: LFB092810-13	Laboratory Fortified Blank				Run: IC202-B_100928A			09/28/10 12:18	
Chloride	25.0	mg/L	1.0	99	90	110			
Sulfate	92.5	mg/L	1.1	93	90	110			
Sample ID: B10091640-002AMS	Sample Matrix Spike				Run: IC202-B_100928A			09/28/10 12:53	
Chloride	280	mg/L	2.7	100	90	110			
Sulfate	2260	mg/L	11	41	90	110			S
Sample ID: B10091640-002AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_100928A			09/28/10 13:05	
Chloride	279	mg/L	2.7	100	90	110	0.2	20	
Sulfate	2240	mg/L	11	38	90	110	1.1	20	S
Sample ID: B10091864-006AMS	Sample Matrix Spike				Run: IC202-B_100928A			09/28/10 15:36	
Chloride	23800	mg/L	54	92	90	110			
Sulfate	20900	mg/L	210	98	90	110			
Sample ID: B10091864-006AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_100928A			09/28/10 15:47	
Chloride	24200	mg/L	54	100	90	110	1.5	20	
Sulfate	20800	mg/L	210	98	90	110	0.2	20	
Sample ID: B10091866-003CMS	Sample Matrix Spike				Run: IC202-B_100928A			09/28/10 18:19	
Chloride	299	mg/L	1.0		90	110			A
Sulfate	143	mg/L	1.1	106	90	110			
Sample ID: B10091866-003CMSD	Sample Matrix Spike Duplicate				Run: IC202-B_100928A			09/28/10 18:31	
Chloride	299	mg/L	1.0		90	110	0.2	20	A
Sulfate	144	mg/L	1.1	107	90	110	0.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1								Analytical Run: FIA203-B_100924A	
Sample ID: ICV	Initial Calibration Verification Standard								09/24/10 08:34
Nitrogen, Ammonia as N	8.68	mg/L	0.30	102	90	110			
Method: E350.1									Batch: R154428
Sample ID: MBLK	Method Blank				Run: FIA203-B_100924A				09/24/10 08:35
Nitrogen, Ammonia as N	ND	mg/L	0.03						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_100924A				09/24/10 08:36
Nitrogen, Ammonia as N	0.990	mg/L	0.050	100	90	110			
Sample ID: B10092275-001DMS	Sample Matrix Spike				Run: FIA203-B_100924A				09/24/10 11:28
Nitrogen, Ammonia as N	1.07	mg/L	0.050	109	90	110			
Sample ID: B10092275-001DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100924A				09/24/10 11:29
Nitrogen, Ammonia as N	1.02	mg/L	0.050	104	90	110	5.2	10	
Sample ID: B10092284-001AMS	Sample Matrix Spike				Run: FIA203-B_100924A				09/24/10 13:29
Nitrogen, Ammonia as N	1.13	mg/L	0.050	104	90	110			
Sample ID: B10092284-001AMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100924A				09/24/10 13:30
Nitrogen, Ammonia as N	1.13	mg/L	0.050	103	90	110	0.2	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/11/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-B_100929A	
Sample ID: ICV	Initial Calibration Verification Standard							09/29/10 06:57	
Nitrogen, Nitrate+Nitrite as N	30.1	mg/L	0.20	103	90	110			
Method: E353.2								Batch: R154665	
Sample ID: MBLK	Method Blank				Run: FIA203-B_100929A			09/29/10 06:58	
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.004						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_100929A			09/29/10 07:00	
Nitrogen, Nitrate+Nitrite as N	1.01	mg/L	0.010	103	90	110			
Sample ID: B10091844-001AMS	Sample Matrix Spike				Run: FIA203-B_100929A			09/29/10 07:56	
Nitrogen, Nitrate+Nitrite as N	1.03	mg/L	0.010	105	90	110			
Sample ID: B10091844-001AMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100929A			09/29/10 07:57	
Nitrogen, Nitrate+Nitrite as N	1.02	mg/L	0.010	104	90	110	0.8	10	
Sample ID: B10091869-002CMS	Sample Matrix Spike				Run: FIA203-B_100929A			09/29/10 09:14	
Nitrogen, Nitrate+Nitrite as N	1.60	mg/L	0.010	105	90	110			
Sample ID: B10091869-002CMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_100929A			09/29/10 09:15	
Nitrogen, Nitrate+Nitrite as N	1.62	mg/L	0.010	107	90	110	1.3	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/09/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E1664A									Batch: G_TPH101001A
Sample ID: MBLK1010010000	Method Blank				Run: SUB-G180654				10/01/10 11:45
Total Petroleum Hydrocarbons	ND	mg/L	0.4						
Sample ID: LCS1010010000	Laboratory Control Sample				Run: SUB-G180654				10/01/10 11:46
Total Petroleum Hydrocarbons	14	mg/L	1.0	68	64	132			
Sample ID: LCSD1010010000	Laboratory Control Sample Duplicate				Run: SUB-G180654				10/01/10 11:47
Total Petroleum Hydrocarbons	17	mg/L	1.0	84	64	132	21	34	
Sample ID: G10090577-001EMS	Sample Matrix Spike				Run: SUB-G180654				10/01/10 11:50
Total Petroleum Hydrocarbons	16	mg/L	1.0	78	64	132			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/09/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Analytical Run: R154518
Sample ID: CCV_0925PE204r-W	Continuing Calibration Verification Standard								09/25/10 16:59
Methyl tert-butyl ether (MTBE)	56.2	ug/L	1.0	94	85	115			
Benzene	19.0	ug/L	0.50	95	85	115			
Toluene	55.1	ug/L	0.50	92	85	115			
Ethylbenzene	19.1	ug/L	0.50	95	85	115			
m+p-Xylenes	73.5	ug/L	0.50	92	85	115			
o-Xylene	38.1	ug/L	0.50	95	85	115			
Xylenes, Total	112	ug/L	0.50	93	85	115			
Surr: Trifluorotoluene			1.0	90	85	115			
Method: SW8021B									Batch: R154518
Sample ID: LCS_0925PE205r	Laboratory Control Sample				Run: PE2_100925A				09/25/10 17:35
Methyl tert-butyl ether (MTBE)	19.0	ug/L	1.0	95	70	130			
Benzene	19.3	ug/L	0.50	97	70	130			
Toluene	18.8	ug/L	0.50	94	70	130			
Ethylbenzene	18.8	ug/L	0.50	94	70	130			
m+p-Xylenes	37.8	ug/L	0.50	94	70	130			
o-Xylene	19.0	ug/L	0.50	95	70	130			
Xylenes, Total	56.8	ug/L	0.50	95	70	130			
Surr: Trifluorotoluene			1.0	90	80	120			
Sample ID: MBLK_0925PE208r	Method Blank				Run: PE2_100925A				09/25/10 19:21
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	88	80	120			
Sample ID: B10091864-001BMS	Sample Matrix Spike				Run: PE2_100925A				09/26/10 00:40
Methyl tert-butyl ether (MTBE)	45.9	ug/L	2.0	92	70	130			
Benzene	59.4	ug/L	1.0	85	70	130			
Toluene	43.6	ug/L	1.0	87	70	130			
Ethylbenzene	43.3	ug/L	1.0	87	70	130			
m+p-Xylenes	86.3	ug/L	1.0	86	70	130			
o-Xylene	44.1	ug/L	1.0	88	70	130			
Xylenes, Total	130	ug/L	1.0	87	70	130			
Surr: Trifluorotoluene			2.0	82	80	120			
Sample ID: B10091864-001BMSD	Sample Matrix Spike Duplicate				Run: PE2_100925A				09/26/10 01:51
Methyl tert-butyl ether (MTBE)	50.4	ug/L	2.0	101	70	130	9.3	20	
Benzene	64.4	ug/L	1.0	95	70	130	8.1	20	
Toluene	47.2	ug/L	1.0	94	70	130	7.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well

Report Date: 10/09/10
Work Order: B10091864

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Batch: R154518
Sample ID: B10091864-001BMSD	Sample Matrix Spike Duplicate				Run: PE2_100925A				09/26/10 01:51
Ethylbenzene	46.9	ug/L	1.0	94	70	130	8.1	20	
m+p-Xylenes	93.4	ug/L	1.0	93	70	130	7.9	20	
o-Xylene	47.8	ug/L	1.0	96	70	130	7.9	20	
Xylenes, Total	141	ug/L	1.0	94	70	130			
Surr: Trifluorotoluene			2.0	87	80	120	0	20	
Method: SW8021B									Analytical Run: R154525
Sample ID: CCV_0924PE201r-W	Continuing Calibration Verification Standard								09/24/10 11:22
Methyl tert-butyl ether (MTBE)	58.4	ug/L	1.0	97	85	115			
Benzene	19.7	ug/L	0.50	99	85	115			
Toluene	57.8	ug/L	0.50	96	85	115			
Ethylbenzene	19.6	ug/L	0.50	98	85	115			
m+p-Xylenes	75.5	ug/L	0.50	94	85	115			
o-Xylene	39.4	ug/L	0.50	99	85	115			
Xylenes, Total	115	ug/L	0.50	96	85	115			
Surr: Trifluorotoluene			1.0	92	85	115			
Method: SW8021B									Batch: R154525
Sample ID: LCS_0924PE202r	Laboratory Control Sample				Run: PE2_100924A				09/24/10 12:35
Methyl tert-butyl ether (MTBE)	20.7	ug/L	1.0	104	70	130			
Benzene	20.5	ug/L	0.50	103	70	130			
Toluene	20.3	ug/L	0.50	101	70	130			
Ethylbenzene	19.7	ug/L	0.50	99	70	130			
m+p-Xylenes	39.8	ug/L	0.50	100	70	130			
o-Xylene	20.2	ug/L	0.50	101	70	130			
Xylenes, Total	60.0	ug/L	0.50	100	70	130			
Surr: Trifluorotoluene			1.0	95	80	120			
Sample ID: MBLK_0924PE204r	Method Blank				Run: PE2_100924A				09/24/10 13:46
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	92	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

PNR-RW-1

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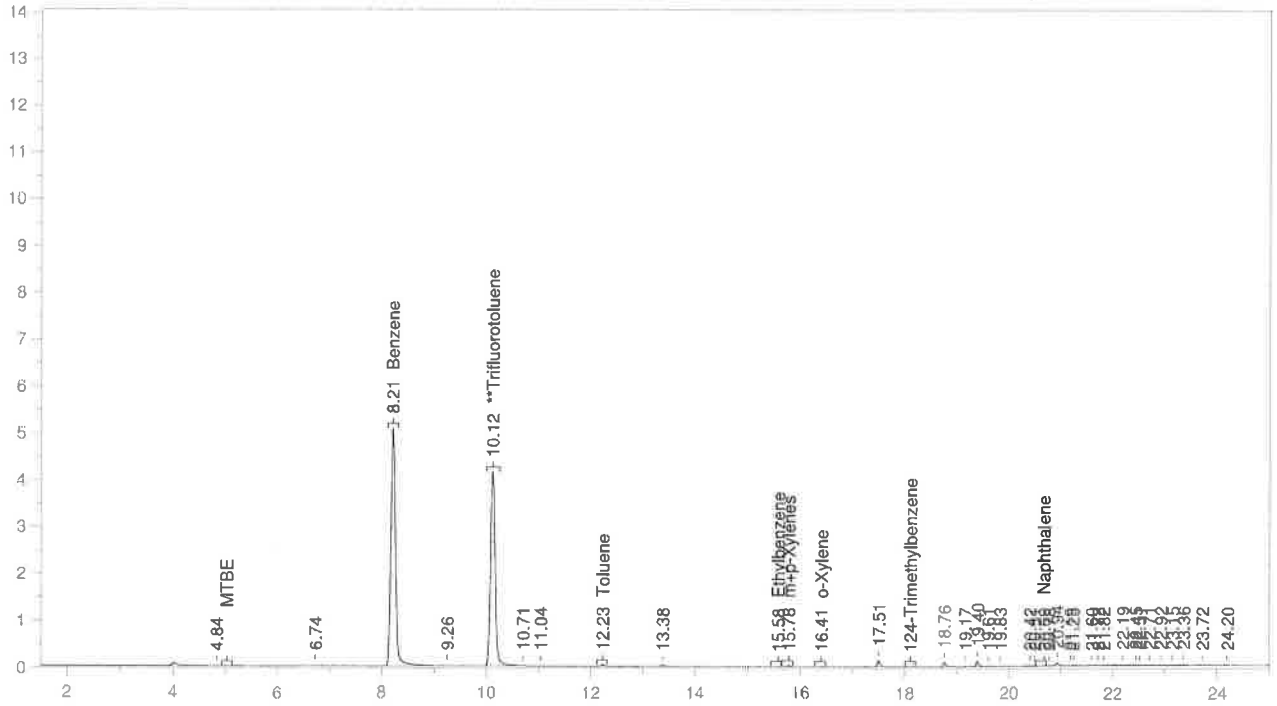


PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

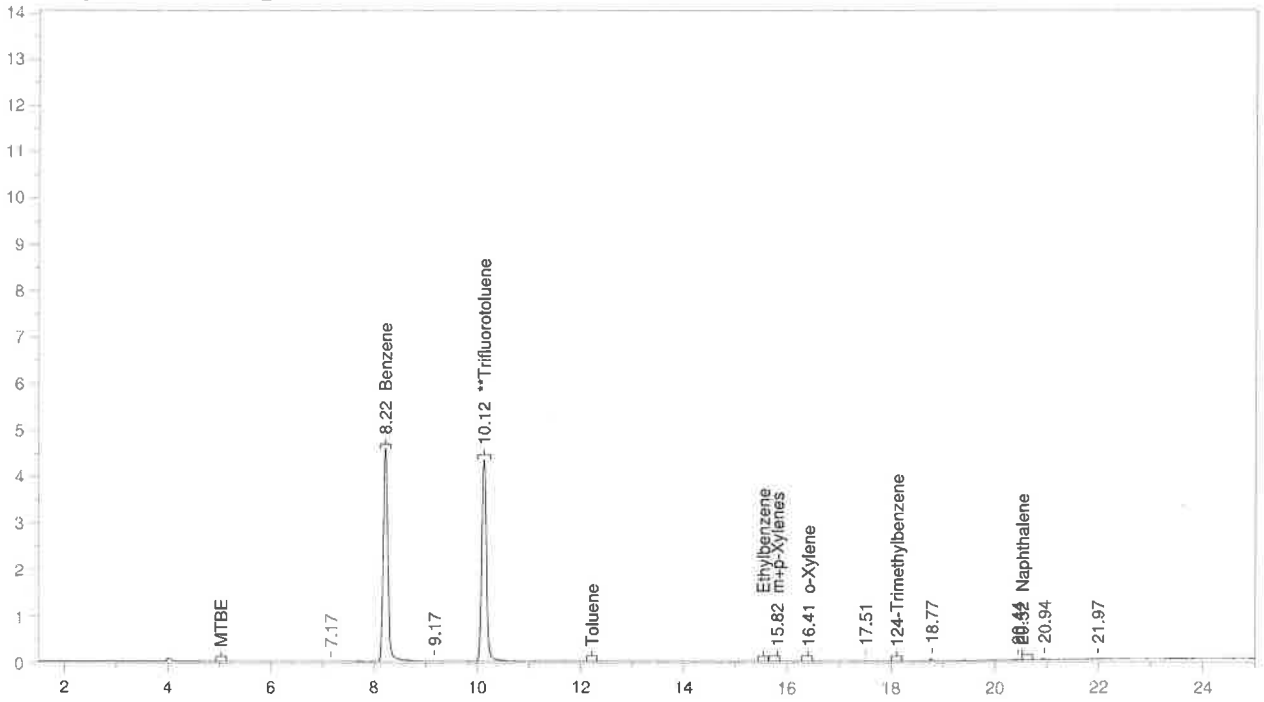
Sample Name: B10091864-001B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0008.RAW
Date & Time Acquired: 9/24/2010 4:08:15 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.209	1.909	1.907	31780	17.012	
Toluene	12.23	12.23	12.23	240	.5	U
Ethylbenzene	15.583	15.583	15.583	75	.5	U
m+p-Xylenes	15.783	15.783	15.783	207	.5	U
o-Xylene	16.409	16.409	16.409	94	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.688	20.688	20.688	126	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.116	50.	43.714	87.43	80-120

PNR-RW-2

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0010.RAW B10091864-002B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

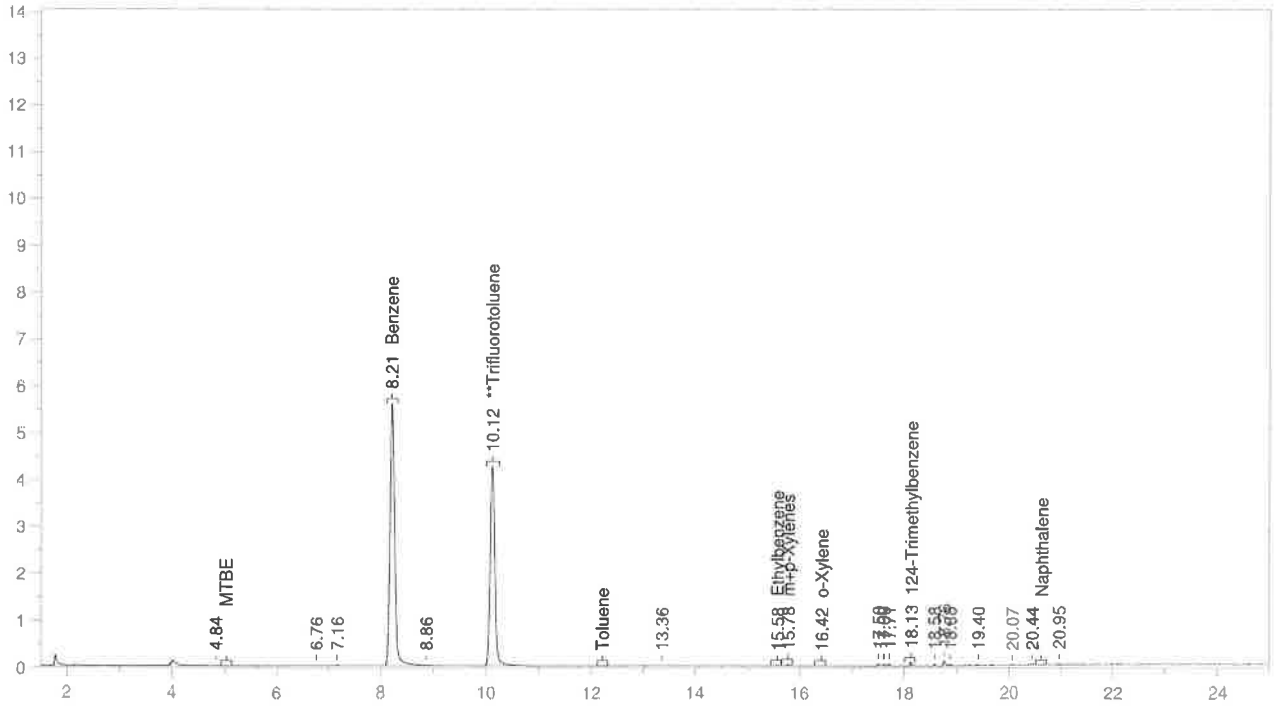
Sample Name: B10091864-002B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0010.RAW
Date & Time Acquired: 9/24/2010 5:19:23 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.216	1.909	1.908	28681	15.353	
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.816	15.816	15.816	155	.5	U
o-Xylene	16.413	16.413	16.413	127	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.523	20.523	20.523	174	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.125	50.	45.095	90.19	80-120

PNR-RW-3

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0011.RAW B10091864-003B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

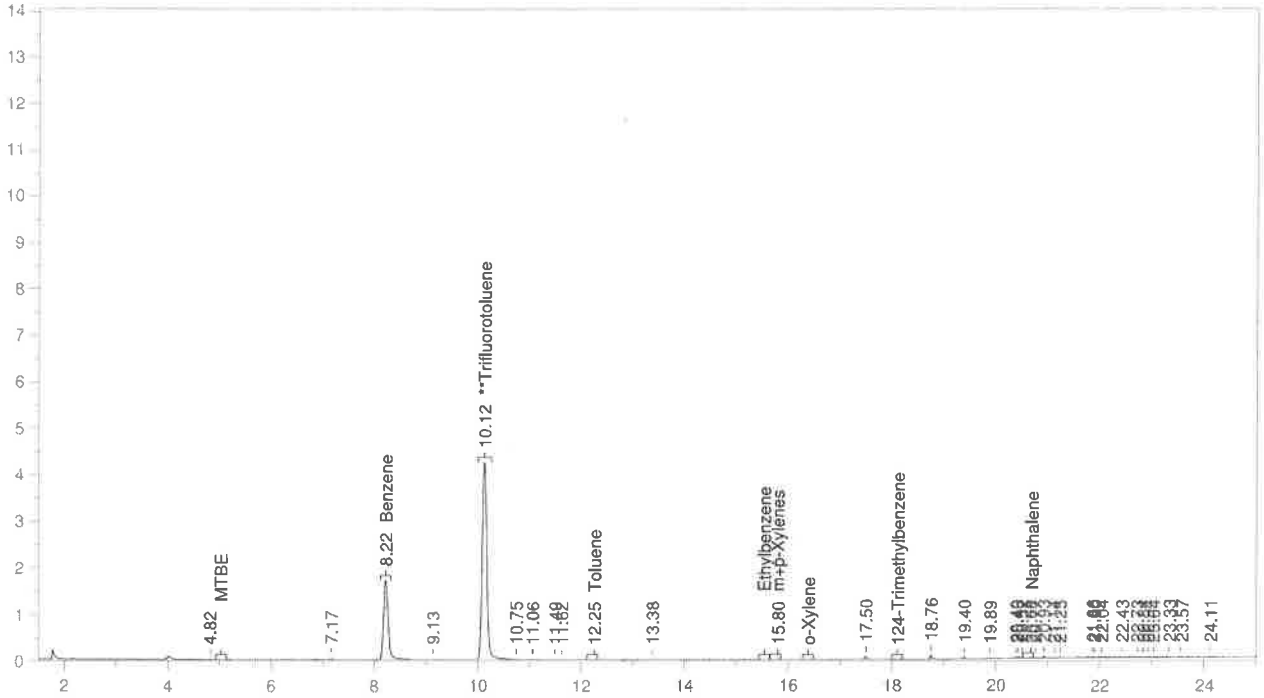
Sample Name: B10091864-003B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0011.RAW
Date & Time Acquired: 9/24/2010 5:54:28 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.209	1.909	1.907	34497	18.466	
Toluene	.	.	.		.5	U
Ethylbenzene	15.575	15.575	15.575	115	.5	U
m+p-Xylenes	15.78	15.78	15.78	312	.5	U
o-Xylene	16.42	16.42	16.42	98	.5	U
124-Trimethylbenzene	18.126	18.126	18.126	269	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.116	50.	44.757	89.51	80-120

PNR-RW-4

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0012.RAW B10091864-004B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

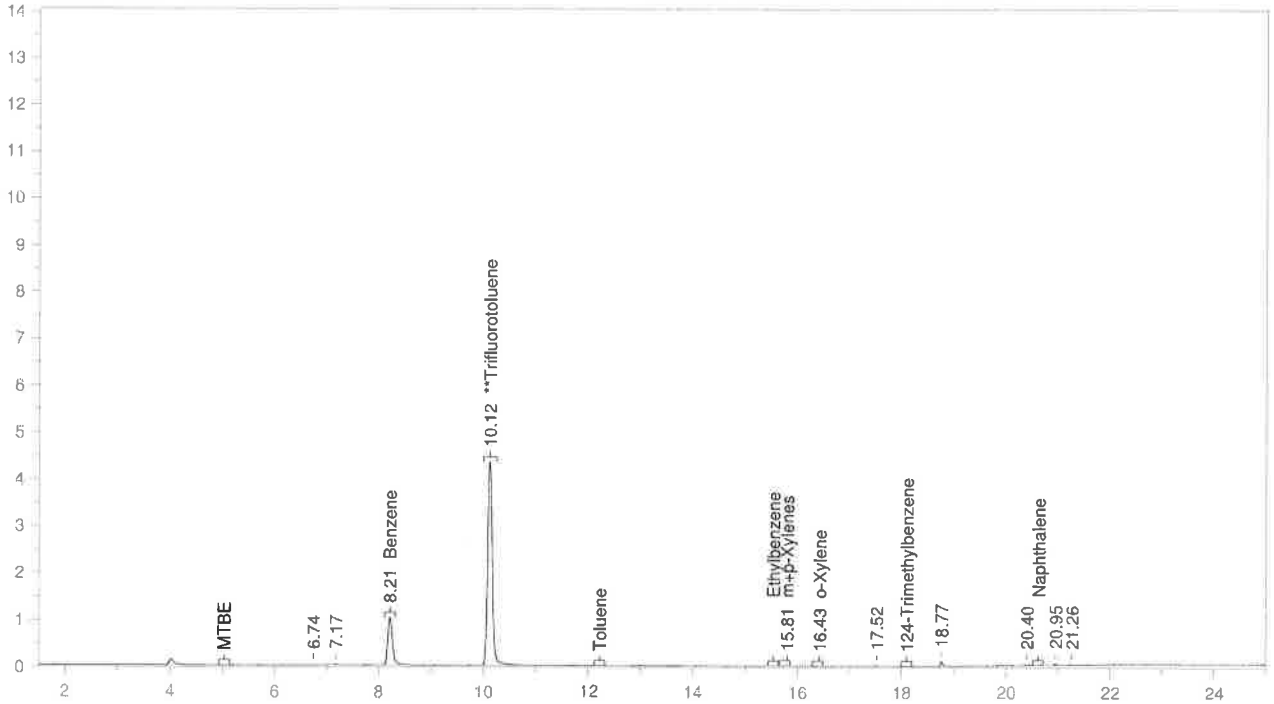
Sample Name: B10091864-004B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0012.RAW
Date & Time Acquired: 9/24/2010 6:30:12 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.217	1.909	1.906	11100	5.942	
Toluene	12.253	12.253	12.253	82	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.801	15.801	15.801	120	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.681	20.681	20.681	113	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.124	50.	44.858	89.72	80-120

PNR-RW-5

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0014.RAW B10091864-005B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

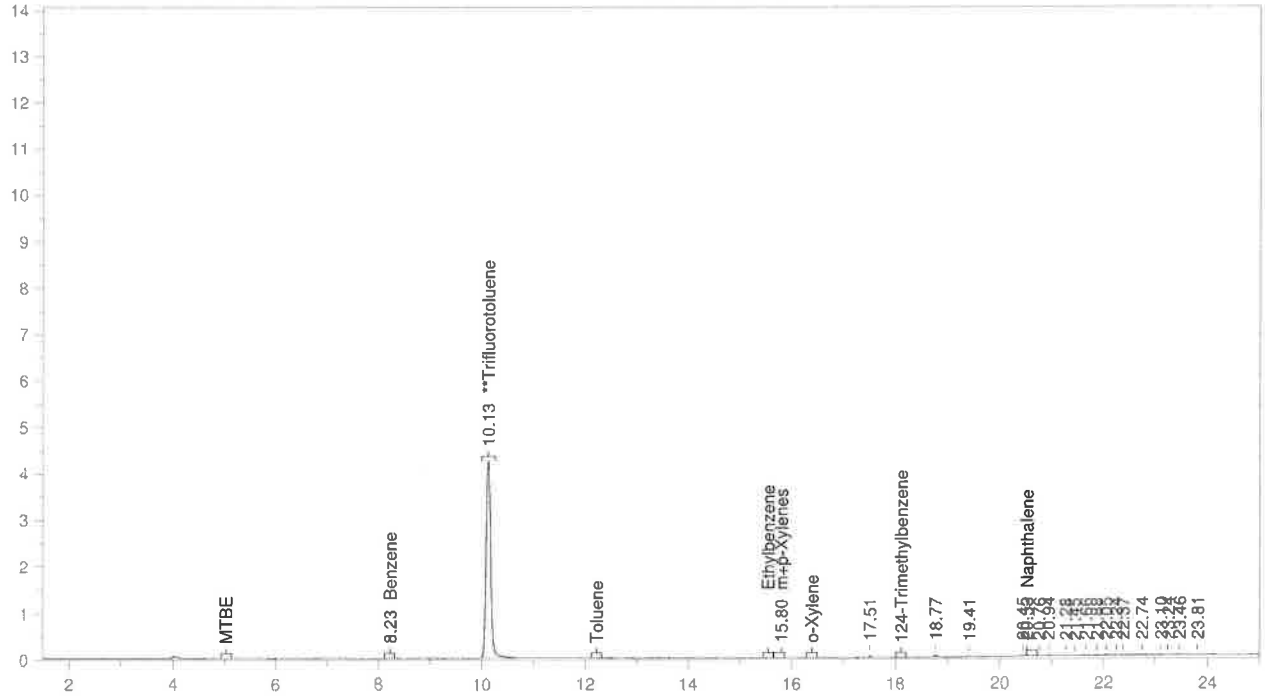
Sample Name: B10091864-005B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0014.RAW
Date & Time Acquired: 9/24/2010 7:40:48 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.213	1.909	1.907	6457	3.457	
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.809	15.809	15.809	112	.5	U
o-Xylene	16.43	16.43	16.43	108	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.12	50.	45.729	91.46	80-120

PNR-RW-6

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0015.RAW B10091864-006B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

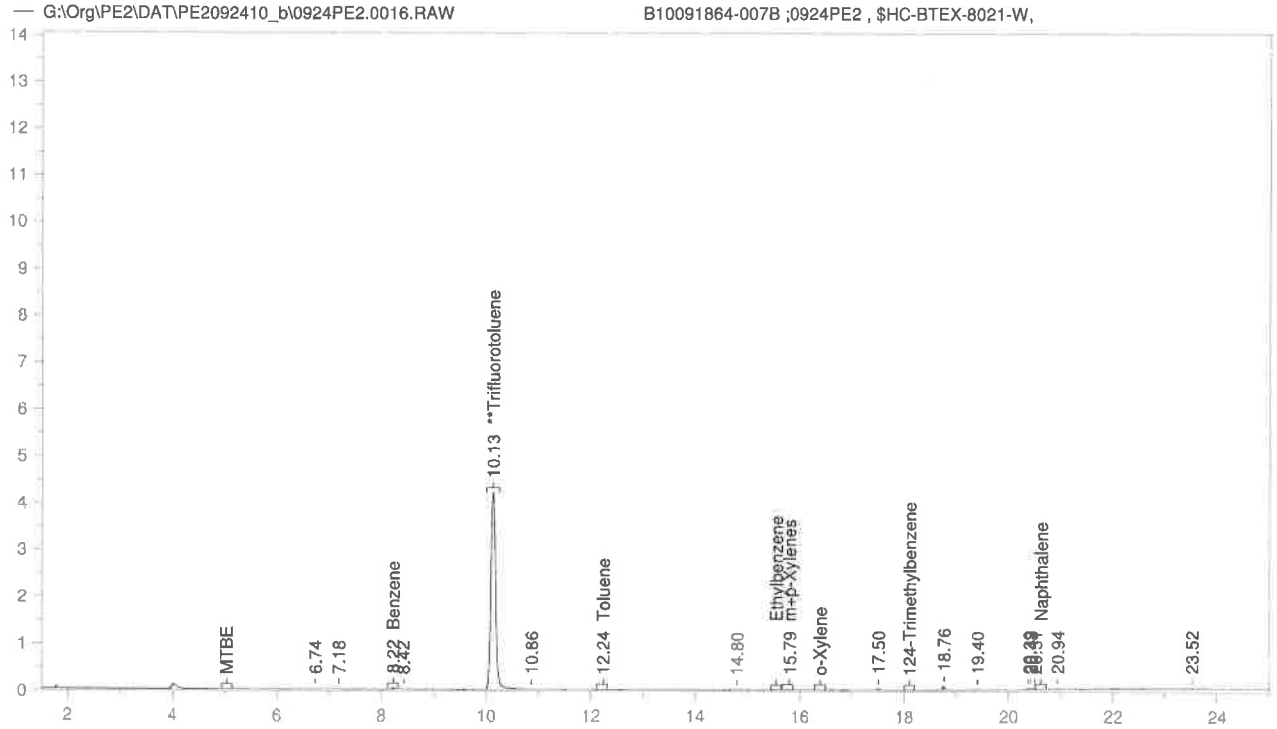
Sample Name: B10091864-006B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0015.RAW
Date & Time Acquired: 9/24/2010 8:16:20 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.225	8.225	8.225	76	.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.8	15.8	15.8	125	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.527	20.527	20.527	137	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.125	50.	44.081	88.16	80-120

PNR-RW-12

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0016.RAW B10091864-007B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

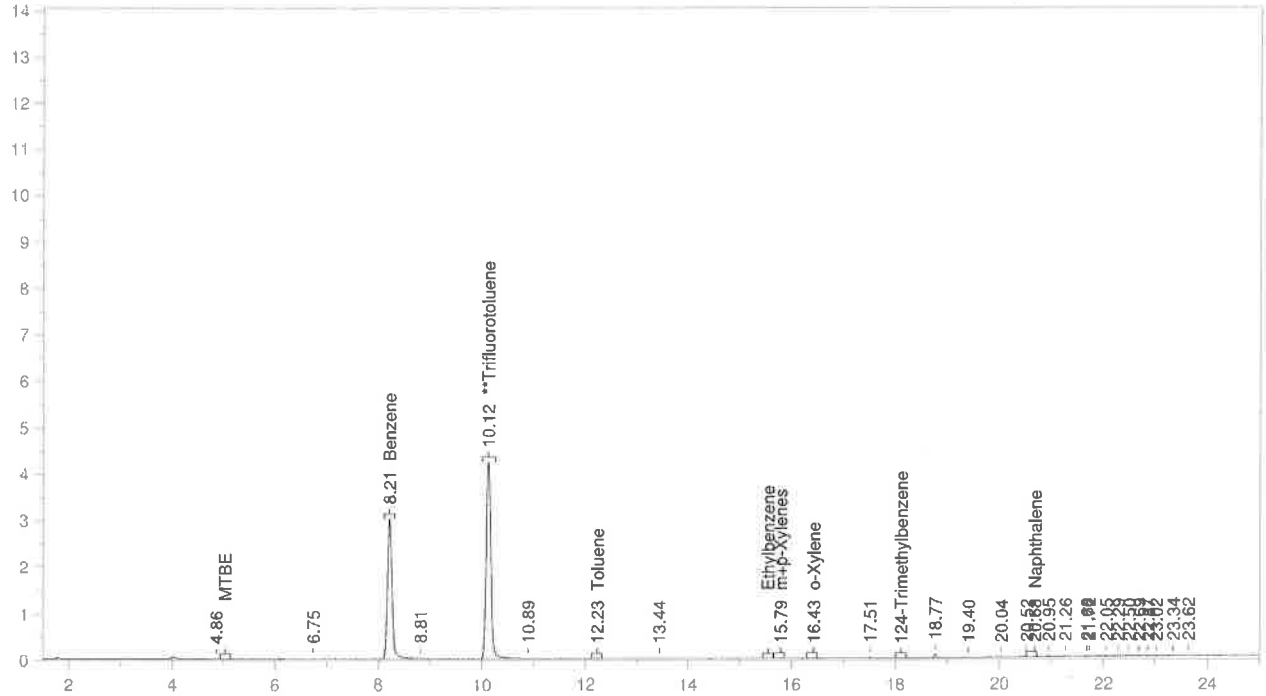
Sample Name: B10091864-007B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0016.RAW
Date & Time Acquired: 9/24/2010 8:52:04 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.22	8.22	8.22	221	.5	U
Toluene	12.24	12.24	12.24	118	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.793	15.793	15.793	124	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.127	50.	44.617	89.23	80-120

PNR-RW-11

-- G:\Org\PE2\DAT\PE2092410_b\0924PE2.0018.RAW B10091864-008B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

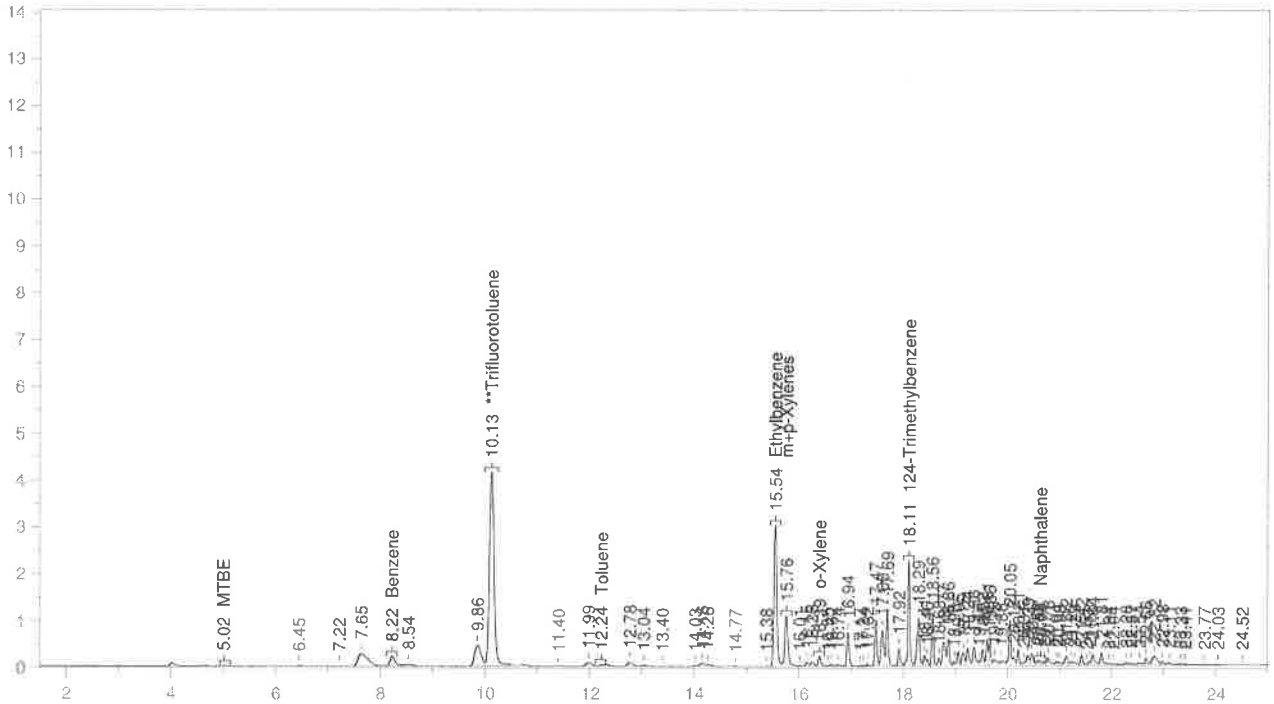
Sample Name: B10091864-008B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0018.RAW
Date & Time Acquired: 9/24/2010 10:02:32 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.214	1.909	1.905	18534	9.922	
Toluene	12.228	12.228	12.228	139	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.792	15.792	15.792	92	.5	U
o-Xylene	16.426	16.426	16.426	96	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.684	20.684	20.684	96	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.119	50.	44.17	88.34	80-120

PNR-RW-9

G:\Org\PE2\DAT\PE2092410_b\0924PE2.0019.RAW B10091864-009B ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

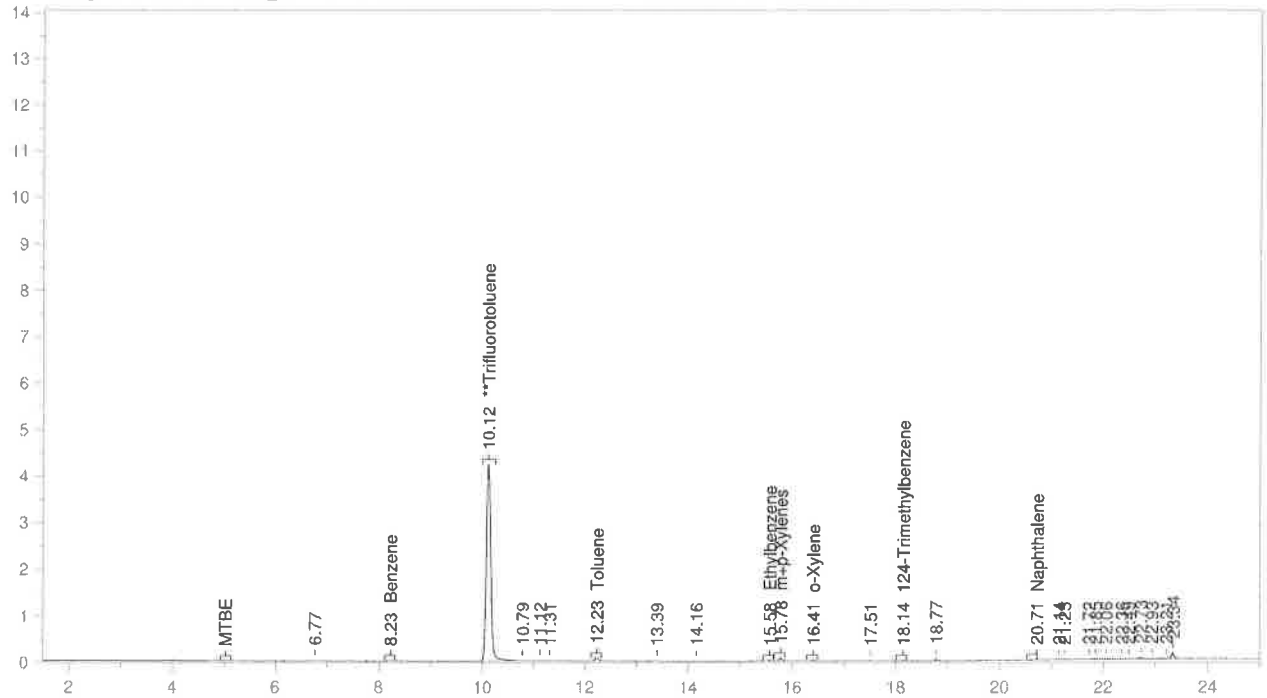
Sample Name: B10091864-009B ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0019.RAW
Date & Time Acquired: 9/24/2010 10:38:17 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	5.016	5.016	5.016	114	1.	U
Benzene	8.225	1.909	1.903	1694	.907	
Toluene	12.236	12.236	12.236	648	.5	U
Ethylbenzene	15.544	-5.421	-5.417	11789	8.172	
m+p-Xylenes	15.758	-5.633	-5.631	4775	2.856	
o-Xylene	16.393	-6.262	-6.266	874	.597	
124-Trimethylbenzene	18.11	-7.983	-7.983	6188	4.554	
Naphthalene	20.631	20.631	20.631	336	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.127	50.	43.229	86.46	80-120

PNR-22

— G:\Org\PE2\DAT\PE2092510_b\0925PE2.0009.RAW B10091864-010F ;0925PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

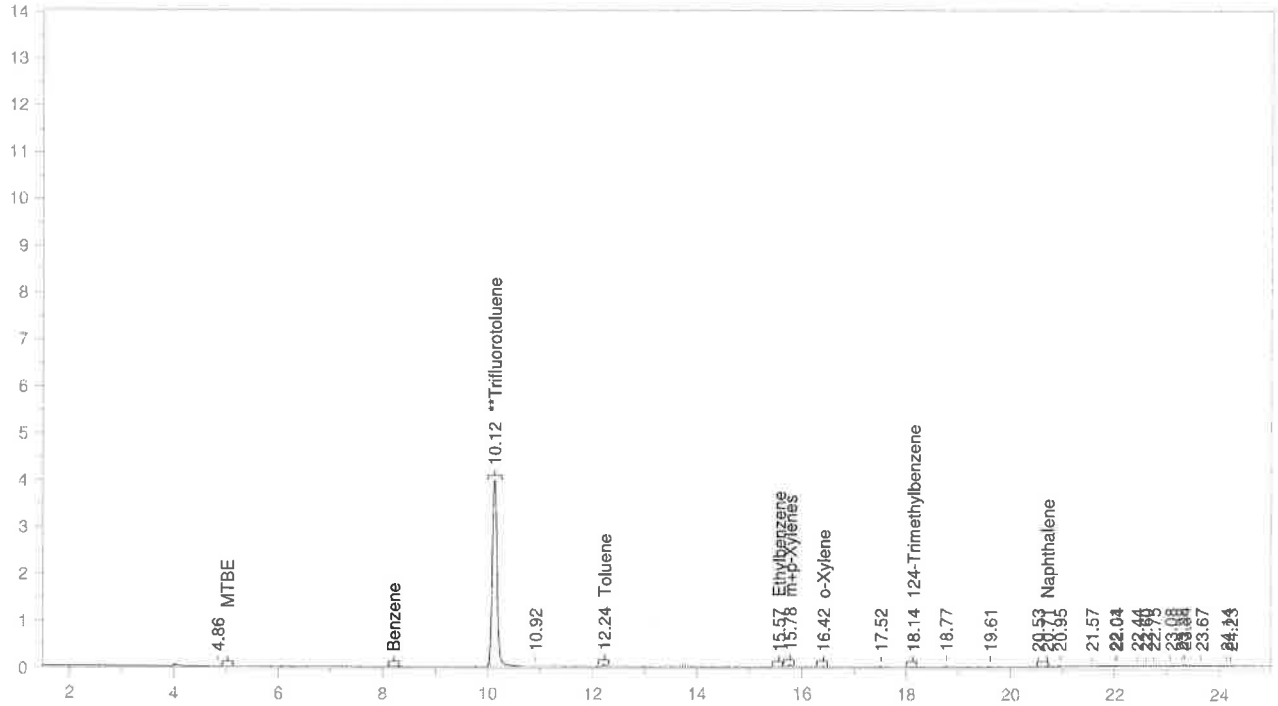
Sample Name: B10091864-010F ;0925PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092510_b\0925PE2.0009.RAW
Date & Time Acquired: 9/25/2010 7:57:04 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.226	8.226	8.226	76	.5	U
Toluene	12.228	12.228	12.228	499	.5	U
Ethylbenzene	15.575	15.575	15.575	138	.5	U
m+p-Xylenes	15.781	15.781	15.781	395	.5	U
o-Xylene	16.409	16.409	16.409	130	.5	U
124-Trimethylbenzene	18.139	18.139	18.139	78	2.	U
Naphthalene	20.711	20.711	20.711	89	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.117	50.	44.279	88.56	80-120

PNR-29

— G:\Org\PE2\DAT\PE2092510_b\0925PE2.0011.RAW B10091864-011F ;0925PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

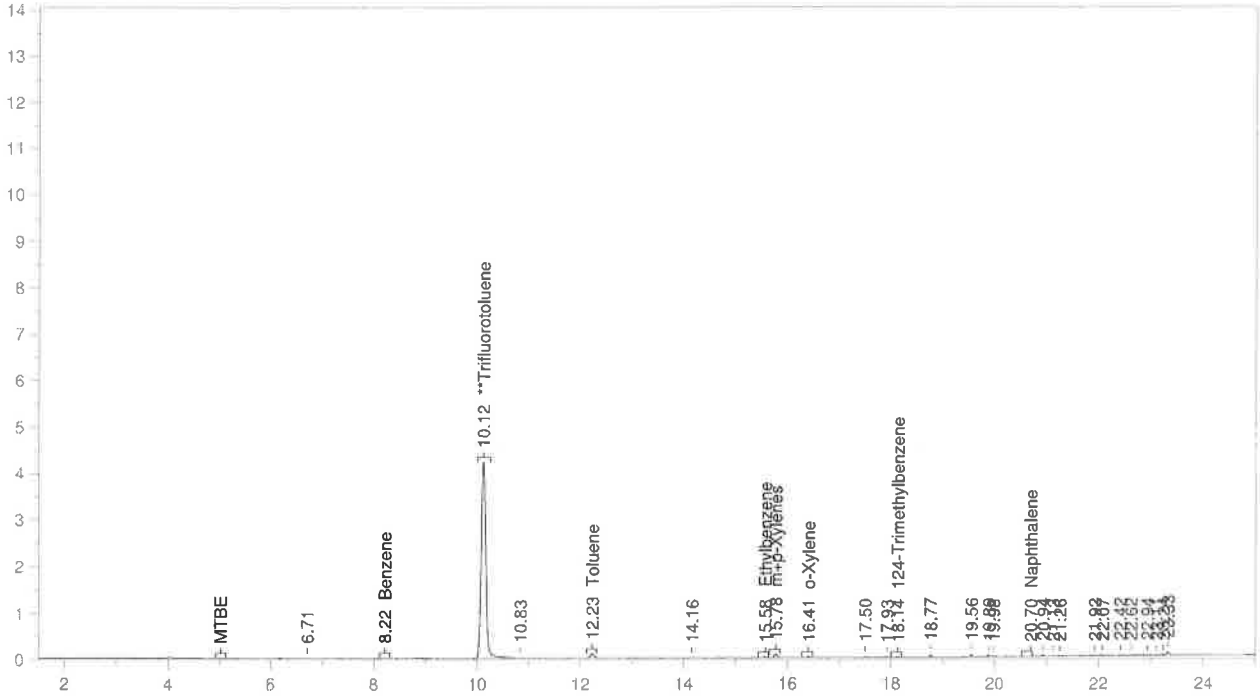
Sample Name: B10091864-011F ;0925PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092510_b\0925PE2.0011.RAW
Date & Time Acquired: 9/25/2010 9:08:19 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.237	12.237	12.237	295	.5	U
Ethylbenzene	15.57	15.57	15.57	97	.5	U
m+p-Xylenes	15.779	15.779	15.779	335	.5	U
o-Xylene	16.416	16.416	16.416	104	.5	U
124-Trimethylbenzene	18.142	18.142	18.142	117	2.	U
Naphthalene	20.708	20.708	20.708	145	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.125	50.	42.198	84.4	80-120

PNR-16

— G:\Org\PE2\DAT\PE2092510_b\0925PE2.0013.RAW B10091864-012F ;0925PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

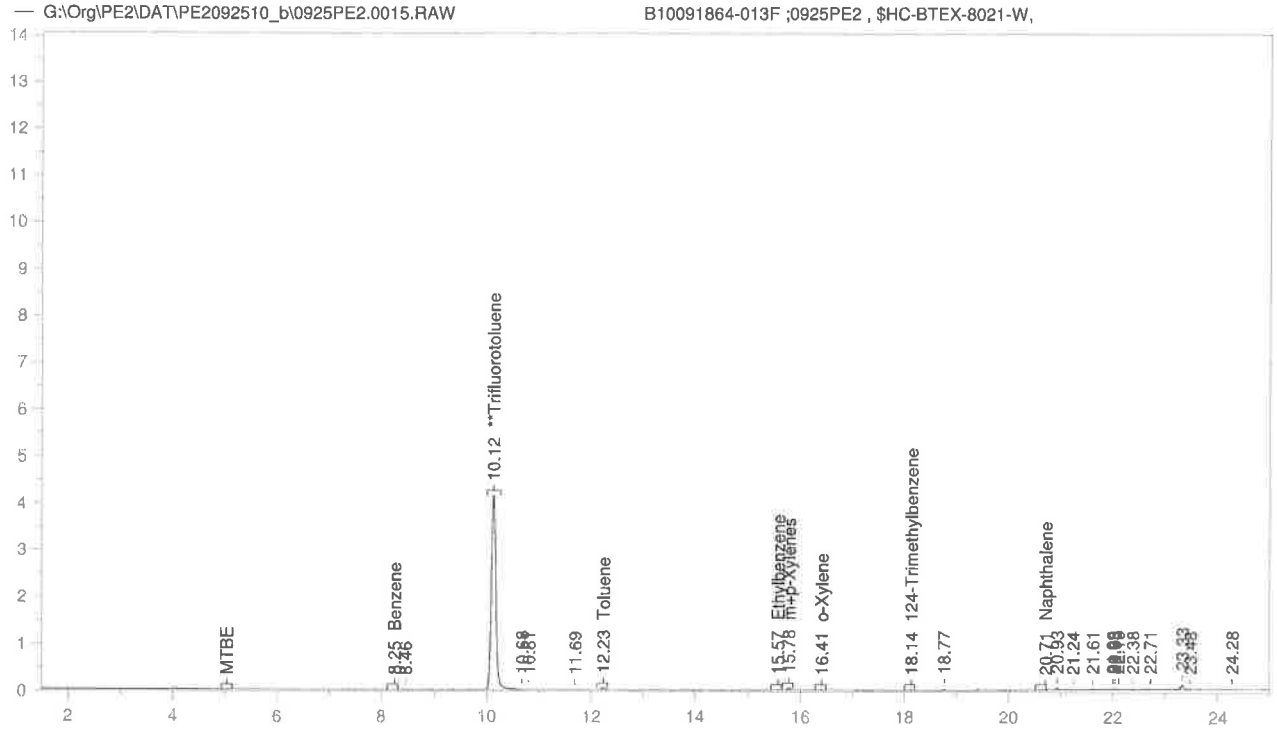
Sample Name: B10091864-012F ;0925PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092510_b\0925PE2.0013.RAW
Date & Time Acquired: 9/25/2010 10:18:57 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.222	8.222	8.222	98	.5	U
Toluene	12.23	12.23	12.23	697	.5	U
Ethylbenzene	15.579	15.579	15.579	132	.5	U
m+p-Xylenes	15.778	15.778	15.778	424	.5	U
o-Xylene	16.413	16.413	16.413	179	.5	U
124-Trimethylbenzene	18.137	18.137	18.137	120	2.	U
Naphthalene	20.697	20.697	20.697	84	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.118	50.	44.567	89.13	80-120

PNR-35-07

— G:\Org\PE2\DAT\PE2092510_b\0925PE2.0015.RAW B10091864-013F ;0925PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

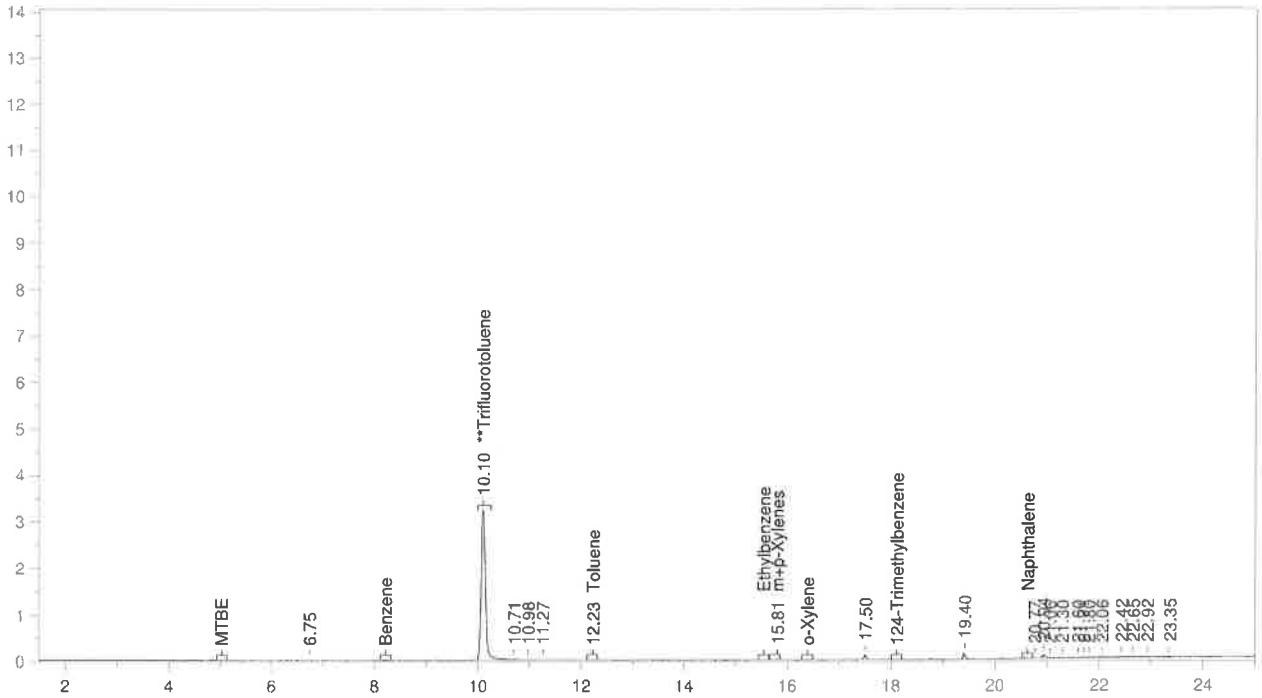
Sample Name: B10091864-013F ;0925PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092510_b\0925PE2.0015.RAW
Date & Time Acquired: 9/25/2010 11:30:02 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.251	8.251	8.251	89	.5	U
Toluene	12.232	12.232	12.232	447	.5	U
Ethylbenzene	15.574	15.574	15.574	85	.5	U
m+p-Xylenes	15.779	15.779	15.779	295	.5	U
o-Xylene	16.415	16.415	16.415	135	.5	U
124-Trimethylbenzene	18.136	18.136	18.136	92	2.	U
Naphthalene	20.713	20.713	20.713	86	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.124	50.	43.551	87.1	80-120

Trip Blank 1 Lot091010 B-TS SHP0251

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0007.RAW B10091864-014A ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

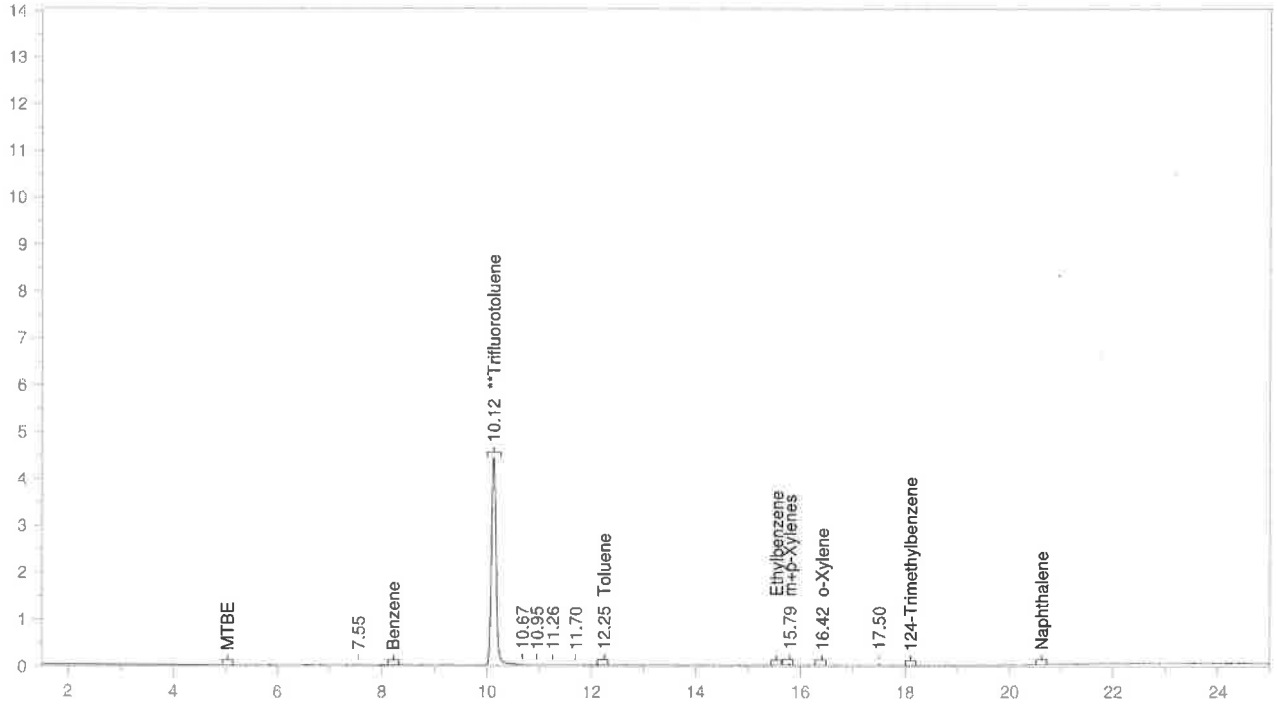
Sample Name: B10091864-014A ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0007.RAW
Date & Time Acquired: 9/24/2010 3:33:04 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.233	12.233	12.233	102	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.809	15.809	15.809	152	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.104	50.	31.588	63.18	80-120

Trip Blank 2 Lot091010 B-TS SHP0251

— G:\Org\PE2\DAT\PE2092410_b\0924PE2.0006.RAW B10091864-015A ;0924PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

Sample Name: B10091864-015A ;0924PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2092410_b\0924PE2.0006.RAW
Date & Time Acquired: 9/24/2010 2:57:18 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.246	12.246	12.246	138	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.793	15.793	15.793	133	.5	U
o-Xylene	16.422	16.422	16.422	100	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.12	50.	46.728	93.46	80-120

Workorder Receipt Checklist

B10091864

DOWL HKM

Login completed by: Gina McCartney
Reviewed by: BL2000\kmcdonald
Reviewed Date: 9/21/2010

Date Received: 9/21/2010
Received by: lg
Carrier name: Return-UPS Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	5°C On Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Samples for Dissolved Metals/Hardness were subsampled, filtered and preserved with 2 mL nitric acid in the laboratory upon receipt to pH <2.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page ____ of ____

PLEASE PRINT- Provide as much information as possible.

Company Name:	Project Name, PWS, Permit, Etc.	Sample Origin	EPA/State Compliance:
DOW HKM	Bicle Well	State:	Yes ☐ No ☐
Report Mail Address:	**Contact Name:** / **Phone/Fax:**	**Email:**	**Sampler: (Please Print)**
Bozeman	Nate Peterson		
Invoice Address:	**Invoice Contact & Phone:**	**Purchase Order:**	**Quote/Bottle Order:**
	Nate P.		

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: RYAN WSGRD

Cooler ID(s):

Receipt Temp 5 °C

On Ice: (Yes) No

Custody Seal (Y) N

Bottles/Coolers (B) (C)

Intact (Y) N

Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other)	BTEX	SC	Chloride							SEE ATTACHED	Normal Turnaround (TAT)	RUSH	LABORATORY USE ONLY
1	PNR-RW-1	9-17-10	13:35	4W	X	X	X										B1009186400 1
2	PNR-RW-2	" "	14:00	"													-002
3	PNR-RW-3		14:10	"													-003
4	PNR-RW-4		14:20														-004
5	PNR-RW-5		14:30														-005
6	PNR-RW-~~8~~6 CLP		14:45														-006
7	PNR-RW-12		14:55														-007
8	PNR-RW-11		15:10														-008
9	PNR-RW-9		15:20														-009
10	~~PNR-RW-10~~																

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
[illegible]	9-20-10		UPS		
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: _____			Received by Laboratory:	Date/Time: 9-21-10 9:00	Signature: [illegible]

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page ____ of ____

PLEASE PRINT- Provide as much information as possible.

Company Name:	Project Name, PWS, Permit, Etc.	Sample Origin	EPA/State Compliance:
DOWL HKM	Bice Well	State: MT	Yes ☐ No ☐
Report Mail Address: Nate Peterson Bozeman	Contact Name: Nate Peterson Phone/Fax:	Email:	Sampler: (Please Print)
Invoice Address:	Invoice Contact & Phone: Nate P.	Purchase Order:	Quote/Bottle Order:

Special Report/Formats -- ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA ☐ EDD/EDT (Electronic Data) Format: _____ ☐ LEVEL IV ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: FEDEX UPS Grd

Cooler ID(s):

Receipt Temp 5 °C

On Ice: Yes No

Custody Seal Y N

Bottles/Coolers B C

Intact Y N

Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Quote 78									SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments:	LABORATORY USE ONLY
1	PNR-22	9-18-10	10:45	7W	X													B10091864-010
2	PNR-29	9-18-10	11:45	7W	X													-011
3	PNR-16	9-18-10	13:00	7W	X													-012
4	PNR-35-07	9-18-10	14:30	7W	X													-013
5	TB1 TS0251	9-10-10																-014
6	TB2 TS0251	9-10-10																-015
7																		
8																		
9																		
10																		

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
[signature]	9-20-10		UPS Shipping		
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time: 9-21-10 9:00	Signature: [signature]

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

October 15, 2010

DOWL HKM
PO Box 31318
Billings, MT 59107-1318

Workorder No.: B10092352 Quote ID: B78 - Pioneer Natural Resources-Poplar Biere Well Site

Project Name: Biere Well Remediation

Energy Laboratories Inc received the following 34 samples for DOWL HKM on 9/24/2010 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B10092352-001	PNR-9	09/20/10 15:40	09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10092352-002	PNR-10	09/20/10 12:30	09/24/10	Aqueous	Same As Above
B10092352-003	PNR-38-08	09/20/10 13:35	09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10092352-004	PNR-14	09/20/10 14:50	09/24/10	Aqueous	Same As Above
B10092352-005	M-18	09/20/10 16:45	09/24/10	Aqueous	Same As Above
B10092352-006	PNR-23	09/21/10 10:30	09/24/10	Aqueous	Same As Above
B10092352-007	PNR-5	09/21/10 11:15	09/24/10	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

B10092352-008	PNR-28	09/21/10 12:15 09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10092352-009	PNR-27	09/21/10 13:25 09/24/10	Aqueous	Same As Above
B10092352-010	M-27	09/21/10 15:00 09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10092352-011	PNR-33-06	09/21/10 12:18 09/24/10	Aqueous	Same As Above
B10092352-012	MOC-20B	09/21/10 13:27 09/24/10	Aqueous	Same As Above
B10092352-013	MOC-2	09/21/10 14:21 09/24/10	Aqueous	Same As Above
B10092352-014	PNR-39-08	09/21/10 15:45 09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved

ANALYTICAL SUMMARY REPORT

B10092352-015	PNR-34-07	09/21/10 16:20 09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10092352-016	MOC-4	09/22/10 12:25 09/24/10	Aqueous	Same As Above
B10092352-017	PNR-8	09/22/10 13:10 09/24/10	Aqueous	Same As Above
B10092352-018	Whitmer	09/22/10 15:00 09/24/10	Aqueous	Same As Above
B10092352-019	PNR-21	09/21/10 16:20 09/24/10	Aqueous	Same As Above
B10092352-020	PNR-15	09/22/10 11:30 09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10092352-021	PNR-19	09/22/10 12:30 09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved

ANALYTICAL SUMMARY REPORT

B10092352-022	PNR-20	09/22/10 13:15 09/24/10	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity Mineral Balance Review Anion - Cation Balance Conductivity Fluoride Purgeable Aromatics Hydrocarbons, Total Petroleum Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Metals Preparation by EPA 200.2 Preparation, Dissolved Filtration Solids, Total Dissolved
B10092352-023	PNR-7	09/22/10 14:00 09/24/10	Aqueous	Same As Above
B10092352-024	PNR-RW-10	09/21/10 10:00 09/24/10	Aqueous	Conductivity Purgeable Aromatics Anions by Ion Chromatography
B10092352-025	PNR-RW-7A	09/22/10 16:00 09/24/10	Aqueous	Same As Above
B10092352-026	Trip Blank #1 Lot #091010, B-ST SHP0251	09/21/10 13:25 09/24/10	Aqueous	Purgeable Aromatics
B10092352-027	Trip Blank #2 Lot #091010, B-TS SHP0251	09/22/10 12:25 09/24/10	Aqueous	Same As Above
B10092352-028	Trip Blank #3 Lot #091010, B-TS SHP0251	09/21/10 15:45 09/24/10	Aqueous	Same As Above
B10092352-029	Trip Blank #4 Lot #091010, B-TS SHP0251	09/21/10 10:30 09/24/10	Aqueous	Same As Above
B10092352-030	Trip Blank #5 Lot #091010, B-TS SHP0251	09/22/10 13:15 09/24/10	Aqueous	Same As Above
B10092352-031	Trip Blank #6 Lot #091010, B-TS SHP0251	09/20/10 12:30 09/24/10	Aqueous	Same As Above
B10092352-032	Trip Blank #7 Lot #091010, B-TS SHP0251	09/21/10 12:18 09/24/10	Aqueous	Same As Above
B10092352-033	Trip Blank #8 Lot #091010, B-TS SHP0251	09/22/10 11:30 09/24/10	Aqueous	Same As Above
B10092352-034	Trip Blank #9 Lot #091010, B-TS SHP0251	09/20/10 14:50 09/24/10	Aqueous	Same As Above

This report was prepared by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By: William T Brown
President

Digitally signed by
Bill Brown
Date: 2010.10.15 13:21:34 -06:00

CLIENT: DOWL HKM
Project: Biere Well Remediation
Sample Delivery Group: B10092352

Report Date: 10/15/10

CASE NARRATIVE

Tests associated with analyst identified as ELI-G were subcontracted to Energy Laboratories, 400 W Boxelder Rd, Gillette, WY, EPA Number WY00006.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-001
Client Sample ID PNR-9

Report Date: 10/15/10
Collection Date: 09/20/10 15:40
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	6.9	s.u.		0.1		A4500-H B	09/24/10 18:33 / sam
Conductivity @ 25 C	15600	umhos/cm		5		A2510 B	09/24/10 18:33 / sam
Solids, Total Dissolved TDS @ 180 C	12200	mg/L		10		A2540 C	09/24/10 19:19 / qed
INORGANICS							
Alkalinity, Total as CaCO3	256	mg/L		4		A2320 B	09/27/10 18:27 / ehb
Bicarbonate as HCO3	313	mg/L		4		A2320 B	09/27/10 18:27 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/27/10 18:27 / ehb
Chloride	5330	mg/L	D	20		E300.0	10/06/10 18:56 / kh
Sulfate	699	mg/L	D	100		E300.0	10/06/10 18:56 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/27/10 18:27 / ehb
Hardness as CaCO3	4280	mg/L		1		A2340 B	10/06/10 13:44 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	2.45	mg/L		0.05		E350.1	10/01/10 10:24 / bls
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	10/04/10 09:39 / sam
METALS, DISSOLVED							
Calcium	918	mg/L		1		E200.7	10/06/10 13:44 / tao
Magnesium	482	mg/L		1		E200.7	10/06/10 13:44 / tao
Potassium	25	mg/L		1		E200.7	10/06/10 13:44 / tao
Silica	15.8	mg/L	D	0.3		E200.7	09/28/10 22:13 / rlh
Sodium	1810	mg/L	D	5		E200.7	10/06/10 13:44 / tao
METALS, TOTAL							
Silica	22.2	mg/L	D	0.4		E200.7	09/29/10 04:44 / rlh
QUALITY CONTROL							
A/C Balance Sigma	2.66					Calculation	10/07/10 12:17 / rls
Anions	172	meq/L		0.01		Calculation	10/07/10 12:17 / rls
Cations	165	meq/L		0.01		Calculation	10/07/10 12:17 / rls
A/C Balance	-2.19	%				Calculation	10/07/10 12:17 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/29/10 20:47 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/29/10 20:47 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/29/10 20:47 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/29/10 20:47 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/29/10 20:47 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/29/10 20:47 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/29/10 20:47 / bjm
Surr: Trifluorotoluene	89.0	%REC		80-120		SW8021B	09/29/10 20:47 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:08 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-002
Client Sample ID PNR-10

Report Date: 10/15/10
Collection Date: 09/20/10 12:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.0	s.u.		0.1		A4500-H B	09/24/10 18:36 / sam
Conductivity @ 25 C	6590	umhos/cm		5		A2510 B	09/24/10 18:36 / sam
Solids, Total Dissolved TDS @ 180 C	4820	mg/L		10		A2540 C	09/24/10 19:20 / qed
INORGANICS							
Alkalinity, Total as CaCO3	414	mg/L		4		A2320 B	09/27/10 22:28 / ehb
Bicarbonate as HCO3	505	mg/L		4		A2320 B	09/27/10 22:28 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/27/10 22:28 / ehb
Chloride	1350	mg/L	D	5		E300.0	10/06/10 19:08 / kh
Sulfate	1330	mg/L	D	20		E300.0	10/06/10 19:08 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/27/10 22:28 / ehb
Hardness as CaCO3	2050	mg/L		1		A2340 B	09/28/10 22:17 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	1.81	mg/L		0.05		E350.1	10/01/10 10:25 / bls
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	10/04/10 09:43 / sam
METALS, DISSOLVED							
Calcium	408	mg/L		1		E200.7	09/28/10 22:17 / rlh
Magnesium	250	mg/L		1		E200.7	09/28/10 22:17 / rlh
Potassium	11	mg/L		1		E200.7	09/28/10 22:17 / rlh
Silica	23.6	mg/L		0.2		E200.7	09/28/10 22:17 / rlh
Sodium	712	mg/L	D	3		E200.7	09/28/10 22:17 / rlh
METALS, TOTAL							
Silica	30.4	mg/L		0.2		E200.7	09/29/10 04:48 / rlh
QUALITY CONTROL							
A/C Balance Sigma	3.93					Calculation	10/07/10 12:18 / rls
Anions	77.4	meq/L		0.01		Calculation	10/07/10 12:18 / rls
Cations	72.3	meq/L		0.01		Calculation	10/07/10 12:18 / rls
A/C Balance	-3.43	%				Calculation	10/07/10 12:18 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/29/10 21:56 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/29/10 21:56 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/29/10 21:56 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/29/10 21:56 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/29/10 21:56 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/29/10 21:56 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/29/10 21:56 / bjm
Surr: Trifluorotoluene	91.0	%REC		80-120		SW8021B	09/29/10 21:56 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:09 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-003
Client Sample ID PNR-38-08

Report Date: 10/15/10
Collection Date: 09/20/10 13:35
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.1	s.u.		0.1		A4500-H B	09/24/10 18:39 / sam
Conductivity @ 25 C	6740	umhos/cm		5		A2510 B	09/24/10 18:39 / sam
Solids, Total Dissolved TDS @ 180 C	4740	mg/L		10		A2540 C	09/24/10 19:21 / qed
INORGANICS							
Alkalinity, Total as CaCO3	442	mg/L		4		A2320 B	09/27/10 22:36 / ehb
Bicarbonate as HCO3	539	mg/L		4		A2320 B	09/27/10 22:36 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/27/10 22:36 / ehb
Chloride	1580	mg/L	D	5		E300.0	10/05/10 05:38 / kh
Sulfate	1070	mg/L	D	20		E300.0	10/05/10 05:38 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/27/10 22:36 / ehb
Hardness as CaCO3	2250	mg/L		1		A2340 B	09/28/10 22:47 / mep
NUTRIENTS							
Nitrogen, Ammonia as N	1.89	mg/L		0.05		E350.1	10/01/10 10:26 / bls
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	10/04/10 09:46 / sam
METALS, DISSOLVED							
Calcium	451	mg/L		1		E200.7	09/28/10 22:47 / rlh
Magnesium	273	mg/L		1		E200.7	09/28/10 22:47 / rlh
Potassium	12	mg/L		1		E200.7	09/28/10 22:47 / rlh
Silica	22.3	mg/L		0.2		E200.7	09/28/10 22:47 / rlh
Sodium	669	mg/L	D	3		E200.7	09/28/10 22:47 / rlh
METALS, TOTAL							
Silica	27.2	mg/L		0.2		E200.7	09/28/10 12:41 / rlh
QUALITY CONTROL							
A/C Balance Sigma	1.32					Calculation	10/05/10 11:25 / mep
Anions	76.2	meq/L		0.01		Calculation	10/05/10 11:25 / mep
Cations	74.5	meq/L		0.01		Calculation	10/05/10 11:25 / mep
A/C Balance	-1.12	%				Calculation	10/05/10 11:25 / mep
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/29/10 23:05 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/29/10 23:05 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/29/10 23:05 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/29/10 23:05 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/29/10 23:05 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/29/10 23:05 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/29/10 23:05 / bjm
Surr: Trifluorotoluene	94.0	%REC		80-120		SW8021B	09/29/10 23:05 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:09 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-004
Client Sample ID PNR-14

Report Date: 10/15/10
Collection Date: 09/20/10 14:50
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	6.9	s.u.		0.1		A4500-H B	09/24/10 18:42 / sam
Conductivity @ 25 C	15700	umhos/cm		5		A2510 B	09/24/10 18:42 / sam
Solids, Total Dissolved TDS @ 180 C	10500	mg/L		10		A2540 C	09/24/10 19:22 / qed
INORGANICS							
Alkalinity, Total as CaCO3	695	mg/L		4		A2320 B	09/27/10 23:18 / ehb
Bicarbonate as HCO3	847	mg/L		4		A2320 B	09/27/10 23:18 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/27/10 23:18 / ehb
Chloride	4500	mg/L	D	20		E300.0	10/05/10 05:50 / kh
Sulfate	1290	mg/L	D	100		E300.0	10/05/10 05:50 / kh
Fluoride	0.5	mg/L		0.1		A4500-F C	09/27/10 23:18 / ehb
Hardness as CaCO3	2540	mg/L		1		A2340 B	09/28/10 22:50 / mep
NUTRIENTS							
Nitrogen, Ammonia as N	2.4	mg/L	D	0.3		E350.1	10/01/10 10:27 / bls
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	10/04/10 09:47 / sam
METALS, DISSOLVED							
Calcium	464	mg/L		1		E200.7	09/28/10 22:50 / rlh
Magnesium	336	mg/L		1		E200.7	09/28/10 22:50 / rlh
Potassium	53	mg/L		1		E200.7	09/28/10 22:50 / rlh
Silica	31.3	mg/L	D	0.3		E200.7	09/28/10 22:50 / rlh
Sodium	2930	mg/L	D	5		E200.7	09/28/10 22:50 / rlh
METALS, TOTAL							
Silica	32.6	mg/L	D	0.4		E200.7	09/28/10 12:45 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-3.09					Calculation	10/05/10 11:26 / mep
Anions	171	meq/L		0.01		Calculation	10/05/10 11:26 / mep
Cations	180	meq/L		0.01		Calculation	10/05/10 11:26 / mep
A/C Balance	2.43	%				Calculation	10/05/10 11:26 / mep
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 00:14 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/30/10 00:14 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 00:14 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 00:14 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 00:14 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 00:14 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 00:14 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	09/30/10 00:14 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:10 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-005
Client Sample ID M-18

Report Date: 10/15/10
Collection Date: 09/20/10 16:45
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	6.2	s.u.		0.1		A4500-H B	09/27/10 23:37 / ehb
Conductivity @ 25 C	15600	umhos/cm		5		A2510 B	09/24/10 18:50 / sam
Solids, Total Dissolved TDS @ 180 C	9370	mg/L		10		A2540 C	09/24/10 19:23 / qed
INORGANICS							
Alkalinity, Total as CaCO3	7	mg/L		4		A2320 B	09/27/10 23:37 / ehb
Bicarbonate as HCO3	8	mg/L		4		A2320 B	09/27/10 23:37 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/27/10 23:37 / ehb
Chloride	5300	mg/L	D	20		E300.0	10/05/10 06:25 / kh
Sulfate	643	mg/L	D	100		E300.0	10/05/10 06:25 / kh
Fluoride	ND	mg/L		0.1		A4500-F C	09/27/10 23:37 / ehb
Hardness as CaCO3	2520	mg/L		1		A2340 B	09/28/10 23:05 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	3.1	mg/L	D	0.1		E350.1	10/01/10 10:29 / bls
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	10/04/10 09:49 / sam
METALS, DISSOLVED							
Calcium	427	mg/L		1		E200.7	09/28/10 23:05 / rlh
Magnesium	352	mg/L		1		E200.7	09/28/10 23:05 / rlh
Potassium	23	mg/L		1		E200.7	09/28/10 23:05 / rlh
Silica	0.6	mg/L	D	0.3		E200.7	09/28/10 23:05 / rlh
Sodium	2650	mg/L	D	5		E200.7	09/28/10 23:05 / rlh
METALS, TOTAL							
Silica	0.4	mg/L	D	0.4		E200.7	09/28/10 12:49 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-1.28					Calculation	10/06/10 09:42 / rls
Anions	163	meq/L		0.01		Calculation	10/06/10 09:42 / rls
Cations	166	meq/L		0.01		Calculation	10/06/10 09:42 / rls
A/C Balance	1.03	%				Calculation	10/06/10 09:42 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 18:03 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/30/10 18:03 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 18:03 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 18:03 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 18:03 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 18:03 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 18:03 / bjm
Surr: Trifluorotoluene	109	%REC		80-120		SW8021B	09/30/10 18:03 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:11 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-006
Client Sample ID PNR-23

Report Date: 10/15/10
Collection Date: 09/21/10 10:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	8.0	s.u.		0.1		A4500-H B	10/06/10 12:53 / sam
Conductivity @ 25 C	10400	umhos/cm		5		A2510 B	09/24/10 18:57 / sam
Solids, Total Dissolved TDS @ 180 C	6940	mg/L		10		A2540 C	09/24/10 19:24 / qed
INORGANICS							
Alkalinity, Total as CaCO3	1010	mg/L		4		A2320 B	09/27/10 23:48 / ehb
Bicarbonate as HCO3	1230	mg/L		4		A2320 B	09/27/10 23:48 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/27/10 23:48 / ehb
Chloride	2370	mg/L	D	10		E300.0	10/05/10 06:37 / kh
Sulfate	830	mg/L	D	50		E300.0	10/05/10 06:37 / kh
Fluoride	11.0	mg/L	D	0.5		A4500-F C	09/28/10 15:17 / ehb
Hardness as CaCO3	175	mg/L		1		A2340 B	09/28/10 23:09 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	1.7	mg/L	D	0.3		E350.1	10/01/10 10:30 / bls
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	10/04/10 11:49 / sam
METALS, DISSOLVED							
Calcium	39	mg/L		1		E200.7	09/28/10 23:09 / rlh
Magnesium	19	mg/L		1		E200.7	09/28/10 23:09 / rlh
Potassium	30	mg/L		1		E200.7	09/28/10 23:09 / rlh
Silica	36.8	mg/L	D	0.3		E200.7	09/28/10 23:09 / rlh
Sodium	2460	mg/L	D	5		E200.7	09/28/10 23:09 / rlh
METALS, TOTAL							
Silica	41.5	mg/L	D	0.4		E200.7	09/29/10 04:52 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-3.87					Calculation	10/06/10 09:42 / rls
Anions	105	meq/L		0.01		Calculation	10/06/10 09:42 / rls
Cations	112	meq/L		0.01		Calculation	10/06/10 09:42 / rls
A/C Balance	3.10	%				Calculation	10/06/10 09:42 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/04/10 15:32 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/04/10 15:32 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/04/10 15:32 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/04/10 15:32 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/04/10 15:32 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/04/10 15:32 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/04/10 15:32 / bjm
Surr: Trifluorotoluene	105	%REC		80-120		SW8021B	10/04/10 15:32 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:54 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-007
Client Sample ID PNR-5

Report Date: 10/15/10
Collection Date: 09/21/10 11:15
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.8	s.u.		0.1		A4500-H B	09/27/10 23:59 / ehb
Conductivity @ 25 C	16400	umhos/cm		5		A2510 B	09/24/10 18:59 / sam
Solids, Total Dissolved TDS @ 180 C	10100	mg/L		10		A2540 C	09/24/10 19:25 / qed
INORGANICS							
Alkalinity, Total as CaCO3	1210	mg/L		4		A2320 B	09/27/10 23:59 / ehb
Bicarbonate as HCO3	1470	mg/L		4		A2320 B	09/27/10 23:59 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/27/10 23:59 / ehb
Chloride	4840	mg/L	D	20		E300.0	10/05/10 06:49 / kh
Sulfate	619	mg/L	D	100		E300.0	10/05/10 06:49 / kh
Fluoride	1.8	mg/L		0.1		A4500-F C	09/27/10 23:59 / ehb
Hardness as CaCO3	197	mg/L		1		A2340 B	09/28/10 23:13 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	2.6	mg/L	D	0.3		E350.1	10/01/10 10:37 / bls
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	10/04/10 11:50 / sam
METALS, DISSOLVED							
Calcium	50	mg/L		1		E200.7	09/28/10 23:13 / rlh
Magnesium	17	mg/L		1		E200.7	09/28/10 23:13 / rlh
Potassium	59	mg/L		1		E200.7	09/28/10 23:13 / rlh
Silica	35.7	mg/L	D	0.3		E200.7	09/28/10 23:13 / rlh
Sodium	3980	mg/L	D	5		E200.7	09/28/10 23:13 / rlh
METALS, TOTAL							
Silica	37.1	mg/L	D	0.4		E200.7	09/29/10 05:03 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-1.94					Calculation	10/06/10 09:43 / rls
Anions	173	meq/L		0.01		Calculation	10/06/10 09:43 / rls
Cations	179	meq/L		0.01		Calculation	10/06/10 09:43 / rls
A/C Balance	1.54	%				Calculation	10/06/10 09:43 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/04/10 16:41 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/04/10 16:41 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/04/10 16:41 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/04/10 16:41 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/04/10 16:41 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/04/10 16:41 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/04/10 16:41 / bjm
Surr: Trifluorotoluene	101	%REC		80-120		SW8021B	10/04/10 16:41 / bjm
- The sample was received in the laboratory with a pH > 2. The pH was 6.							
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:55 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-008
Client Sample ID PNR-28

Report Date: 10/15/10
Collection Date: 09/21/10 12:15
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.1	s.u.		0.1		A4500-H B	10/01/10 11:12 / ehb
Conductivity @ 25 C	36500	umhos/cm	E	5		A2510 B	09/24/10 19:02 / sam
Solids, Total Dissolved TDS @ 180 C	27200	mg/L		10		A2540 C	09/24/10 19:26 / qed
INORGANICS							
Alkalinity, Total as CaCO3	510	mg/L		4		A2320 B	09/28/10 00:06 / ehb
Bicarbonate as HCO3	622	mg/L		4		A2320 B	09/28/10 00:06 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/28/10 00:06 / ehb
Chloride	14800	mg/L	D	50		E300.0	10/05/10 07:00 / kh
Sulfate	1290	mg/L	D	200		E300.0	10/05/10 07:00 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 00:06 / ehb
Hardness as CaCO3	10600	mg/L		1		A2340 B	10/07/10 12:49 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/01/10 10:38 / bls
Nitrogen, Nitrate+Nitrite as N	29.9	mg/L	D	0.06		E353.2	10/04/10 11:52 / sam
METALS, DISSOLVED							
Calcium	2040	mg/L		1		E200.7	10/07/10 12:49 / tao
Magnesium	1340	mg/L		1		E200.7	10/07/10 12:49 / tao
Potassium	49	mg/L		1		E200.7	10/07/10 12:49 / tao
Silica	22.2	mg/L	D	0.7		E200.7	09/28/10 23:16 / rlh
Sodium	5490	mg/L	D	10		E200.7	10/07/10 12:49 / tao
METALS, TOTAL							
Silica	23.0	mg/L	D	0.9		E200.7	09/29/10 05:07 / rlh
QUALITY CONTROL							
A/C Balance Sigma	0.72					Calculation	10/08/10 10:32 / rls
Anions	457	meq/L		0.01		Calculation	10/08/10 10:32 / rls
Cations	452	meq/L		0.01		Calculation	10/08/10 10:32 / rls
A/C Balance	-0.57	%				Calculation	10/08/10 10:32 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 19:12 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/30/10 19:12 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 19:12 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 19:12 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 19:12 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 19:12 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 19:12 / bjm
Surr: Trifluorotoluene	109	%REC		80-120		SW8021B	09/30/10 19:12 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:56 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-009
Client Sample ID PNR-27

Report Date: 10/15/10
Collection Date: 09/21/10 13:25
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.1	s.u.		0.1		A4500-H B	10/01/10 11:14 / ehb
Conductivity @ 25 C	36800	umhos/cm	E	5		A2510 B	09/24/10 19:05 / sam
Solids, Total Dissolved TDS @ 180 C	26500	mg/L		10		A2540 C	09/24/10 19:27 / qed
INORGANICS							
Alkalinity, Total as CaCO3	574	mg/L		4		A2320 B	09/28/10 00:15 / ehb
Bicarbonate as HCO3	700	mg/L		4		A2320 B	09/28/10 00:15 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/28/10 00:15 / ehb
Chloride	14000	mg/L	D	50		E300.0	10/07/10 14:09 / kh
Sulfate	1420	mg/L	D	200		E300.0	10/05/10 07:12 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 00:15 / ehb
Hardness as CaCO3	9670	mg/L		1		A2340 B	09/28/10 23:20 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/01/10 10:39 / bls
Nitrogen, Nitrate+Nitrite as N	34.5	mg/L	D	0.2		E353.2	10/04/10 17:07 / sam
METALS, DISSOLVED							
Calcium	1900	mg/L		1		E200.7	09/28/10 23:20 / rlh
Magnesium	1200	mg/L		1		E200.7	09/28/10 23:20 / rlh
Potassium	45	mg/L		1		E200.7	09/28/10 23:20 / rlh
Silica	24.5	mg/L	D	0.7		E200.7	09/28/10 23:20 / rlh
Sodium	5380	mg/L	D	10		E200.7	09/28/10 23:20 / rlh
METALS, TOTAL							
Silica	26.1	mg/L	D	0.9		E200.7	09/29/10 05:10 / rlh
QUALITY CONTROL							
A/C Balance Sigma	1.30					Calculation	10/08/10 10:34 / rls
Anions	437	meq/L		0.01		Calculation	10/08/10 10:34 / rls
Cations	428	meq/L		0.01		Calculation	10/08/10 10:34 / rls
A/C Balance	-1.03	%				Calculation	10/08/10 10:34 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 20:22 / bjm
Benzene	1.6	ug/L		0.50		SW8021B	09/30/10 20:22 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 20:22 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 20:22 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 20:22 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 20:22 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 20:22 / bjm
Surr: Trifluorotoluene	109	%REC		80-120		SW8021B	09/30/10 20:22 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:56 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-010
Client Sample ID M-27

Report Date: 10/15/10
Collection Date: 09/21/10 15:00
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	5.3	s.u.		0.1		A4500-H B	10/01/10 11:17 / ehb
Conductivity @ 25 C	17400	umhos/cm		5		A2510 B	10/06/10 12:58 / sam
Solids, Total Dissolved TDS @ 180 C	14000	mg/L		10		A2540 C	09/27/10 16:39 / qed
INORGANICS							
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/28/10 00:22 / ehb
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	09/28/10 00:22 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/28/10 00:22 / ehb
Chloride	6310	mg/L	D	20		E300.0	10/05/10 07:24 / kh
Sulfate	715	mg/L	D	100		E300.0	10/05/10 07:24 / kh
Fluoride	ND	mg/L		0.1		A4500-F C	09/28/10 00:22 / ehb
Hardness as CaCO3	3760	mg/L		1		A2340 B	09/28/10 23:31 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	3.2	mg/L	D	0.1		E350.1	10/01/10 10:41 / bls
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	10/04/10 11:54 / sam
METALS, DISSOLVED							
Calcium	716	mg/L		1		E200.7	09/28/10 23:31 / rlh
Magnesium	479	mg/L		1		E200.7	09/28/10 23:31 / rlh
Potassium	25	mg/L		1		E200.7	09/28/10 23:31 / rlh
Silica	ND	mg/L	D	0.3		E200.7	09/28/10 23:31 / rlh
Sodium	2570	mg/L	D	5		E200.7	09/28/10 23:31 / rlh
METALS, TOTAL							
Silica	ND	mg/L	D	0.4		E200.7	09/29/10 05:14 / rlh
QUALITY CONTROL							
A/C Balance Sigma	1.57					Calculation	10/06/10 09:43 / rls
Anions	193	meq/L		0.01		Calculation	10/06/10 09:43 / rls
Cations	188	meq/L		0.01		Calculation	10/06/10 09:43 / rls
A/C Balance	-1.27	%				Calculation	10/06/10 09:43 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 18:38 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 18:38 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 18:38 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 18:38 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 18:38 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 18:38 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 18:38 / bjm
Surr: Trifluorotoluene	109	%REC		80-120		SW8021B	10/01/10 18:38 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:57 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-011
Client Sample ID PNR-33-06

Report Date: 10/15/10
Collection Date: 09/21/10 12:18
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.6	s.u.		0.1		A4500-H B	10/04/10 09:59 / ehb
Conductivity @ 25 C	4930	umhos/cm		5		A2510 B	09/24/10 19:11 / sam
Solids, Total Dissolved TDS @ 180 C	4890	mg/L		10		A2540 C	09/27/10 16:41 / qed
INORGANICS							
Alkalinity, Total as CaCO3	372	mg/L		4		A2320 B	09/28/10 00:30 / ehb
Bicarbonate as HCO3	453	mg/L		4		A2320 B	09/28/10 00:30 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/28/10 00:30 / ehb
Chloride	101	mg/L	D	5		E300.0	10/05/10 07:35 / kh
Sulfate	2660	mg/L	D	20		E300.0	10/05/10 07:35 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/28/10 00:30 / ehb
Hardness as CaCO3	2830	mg/L		1		A2340 B	09/28/10 23:35 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/01/10 10:17 / bls
Nitrogen, Nitrate+Nitrite as N	43.2	mg/L	D	0.2		E353.2	10/04/10 11:58 / sam
METALS, DISSOLVED							
Calcium	523	mg/L		1		E200.7	09/28/10 23:35 / rlh
Magnesium	370	mg/L		1		E200.7	09/28/10 23:35 / rlh
Potassium	17	mg/L		1		E200.7	09/28/10 23:35 / rlh
Silica	26.3	mg/L		0.2		E200.7	09/28/10 23:35 / rlh
Sodium	299	mg/L		1		E200.7	09/28/10 23:35 / rlh
METALS, TOTAL							
Silica	26.8	mg/L		0.2		E200.7	09/28/10 12:52 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-1.03					Calculation	10/06/10 09:43 / rls
Anions	68.8	meq/L		0.01		Calculation	10/06/10 09:43 / rls
Cations	70.0	meq/L		0.01		Calculation	10/06/10 09:43 / rls
A/C Balance	0.87	%				Calculation	10/06/10 09:43 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 19:57 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 19:57 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 19:57 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 19:57 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 19:57 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 19:57 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 19:57 / bjm
Surr: Trifluorotoluene	92.0	%REC		80-120		SW8021B	10/01/10 19:57 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:57 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-012
Client Sample ID MOC-20B

Report Date: 10/15/10
Collection Date: 09/21/10 13:27
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.4	s.u.		0.1		A4500-H B	10/04/10 10:02 / ehb
Conductivity @ 25 C	4420	umhos/cm		5		A2510 B	09/24/10 19:13 / sam
Solids, Total Dissolved TDS @ 180 C	3870	mg/L		10		A2540 C	09/27/10 16:43 / qed
INORGANICS							
Alkalinity, Total as CaCO3	400	mg/L		4		A2320 B	09/28/10 00:39 / ehb
Bicarbonate as HCO3	488	mg/L		4		A2320 B	09/28/10 00:39 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/28/10 00:39 / ehb
Chloride	195	mg/L	D	5		E300.0	10/05/10 08:10 / kh
Sulfate	1970	mg/L	D	20		E300.0	10/05/10 08:10 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/28/10 00:39 / ehb
Hardness as CaCO3	1730	mg/L		1		A2340 B	09/28/10 23:39 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	1.18	mg/L		0.05		E350.1	10/01/10 10:42 / bls
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	10/04/10 11:59 / sam
METALS, DISSOLVED							
Calcium	355	mg/L		1		E200.7	09/28/10 23:39 / rlh
Magnesium	205	mg/L		1		E200.7	09/28/10 23:39 / rlh
Potassium	9	mg/L		1		E200.7	09/28/10 23:39 / rlh
Silica	26.4	mg/L		0.2		E200.7	09/28/10 23:39 / rlh
Sodium	512	mg/L		1		E200.7	09/28/10 23:39 / rlh
METALS, TOTAL							
Silica	28.5	mg/L		0.2		E200.7	09/29/10 05:25 / rlh
QUALITY CONTROL							
A/C Balance Sigma	0.59					Calculation	10/06/10 09:43 / rls
Anions	57.7	meq/L		0.01		Calculation	10/06/10 09:43 / rls
Cations	57.1	meq/L		0.01		Calculation	10/06/10 09:43 / rls
A/C Balance	-0.51	%				Calculation	10/06/10 09:43 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 21:08 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 21:08 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 21:08 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 21:08 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 21:08 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 21:08 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 21:08 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	10/01/10 21:08 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:58 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-013
Client Sample ID MOC-2

Report Date: 10/15/10
Collection Date: 09/21/10 14:21
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.4	s.u.		0.1		A4500-H B	10/06/10 13:00 / sam
Conductivity @ 25 C	20000	umhos/cm		5		A2510 B	10/06/10 13:00 / sam
Solids, Total Dissolved TDS @ 180 C	15100	mg/L		10		A2540 C	09/27/10 16:56 / qed
INORGANICS							
Alkalinity, Total as CaCO3	279	mg/L		4		A2320 B	09/28/10 00:46 / ehb
Bicarbonate as HCO3	341	mg/L		4		A2320 B	09/28/10 00:46 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/28/10 00:46 / ehb
Chloride	7030	mg/L	D	20		E300.0	10/05/10 08:45 / kh
Sulfate	1140	mg/L	D	100		E300.0	10/05/10 08:45 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 00:46 / ehb
Hardness as CaCO3	4480	mg/L		1		A2340 B	09/28/10 23:43 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	3.7	mg/L	D	0.1		E350.1	10/01/10 10:43 / bls
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	10/04/10 12:00 / sam
METALS, DISSOLVED							
Calcium	989	mg/L		1		E200.7	09/28/10 23:43 / rlh
Magnesium	488	mg/L		1		E200.7	09/28/10 23:43 / rlh
Potassium	26	mg/L		1		E200.7	09/28/10 23:43 / rlh
Silica	22.1	mg/L	D	0.3		E200.7	09/28/10 23:43 / rlh
Sodium	3100	mg/L	D	7		E200.7	09/28/10 23:43 / rlh
METALS, TOTAL							
Silica	25.3	mg/L	D	0.5		E200.7	09/29/10 05:52 / rlh
QUALITY CONTROL							
A/C Balance Sigma	0.66					Calculation	10/06/10 09:43 / rls
Anions	228	meq/L		0.01		Calculation	10/06/10 09:43 / rls
Cations	225	meq/L		0.01		Calculation	10/06/10 09:43 / rls
A/C Balance	-0.53	%				Calculation	10/06/10 09:43 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 22:18 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 22:18 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 22:18 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 22:18 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 22:18 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 22:18 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 22:18 / bjm
Surr: Trifluorotoluene	94.0	%REC		80-120		SW8021B	10/01/10 22:18 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:59 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-014
Client Sample ID PNR-39-08

Report Date: 10/15/10
Collection Date: 09/21/10 15:45
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.2	s.u.		0.1		A4500-H B	10/06/10 14:23 / sam
Conductivity @ 25 C	28900	umhos/cm	E	5		A2510 B	10/06/10 14:23 / sam
Solids, Total Dissolved TDS @ 180 C	26200	mg/L		10		A2540 C	09/27/10 16:58 / qed
INORGANICS							
Alkalinity, Total as CaCO3	464	mg/L		4		A2320 B	09/30/10 13:32 / ehb
Bicarbonate as HCO3	566	mg/L		4		A2320 B	09/30/10 13:32 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 13:32 / ehb
Chloride	11500	mg/L	D	50		E300.0	10/07/10 14:20 / kh
Sulfate	1270	mg/L	D	200		E300.0	10/07/10 14:20 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 15:24 / ehb
Hardness as CaCO3	10700	mg/L		1		A2340 B	09/28/10 23:46 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	10/01/10 10:44 / bls
Nitrogen, Nitrate+Nitrite as N	27.4	mg/L	D	0.06		E353.2	10/04/10 12:01 / sam
METALS, DISSOLVED							
Calcium	1940	mg/L		1		E200.7	09/28/10 23:46 / rlh
Magnesium	1420	mg/L		1		E200.7	09/28/10 23:46 / rlh
Potassium	38	mg/L		1		E200.7	09/28/10 23:46 / rlh
Silica	18.7	mg/L	D	0.7		E200.7	09/28/10 23:46 / rlh
Sodium	2920	mg/L	D	10		E200.7	09/28/10 23:46 / rlh
METALS, TOTAL							
Silica	17.4	mg/L	D	0.9		E200.7	09/29/10 05:55 / rlh
QUALITY CONTROL							
A/C Balance Sigma	3.85					Calculation	10/11/10 10:27 / rls
Anions	363	meq/L		0.01		Calculation	10/11/10 10:27 / rls
Cations	341	meq/L		0.01		Calculation	10/11/10 10:27 / rls
A/C Balance	-3.14	%				Calculation	10/11/10 10:27 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 23:30 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 23:30 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 23:30 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 23:30 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 23:30 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 23:30 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 23:30 / bjm
Surr: Trifluorotoluene	91.0	%REC		80-120		SW8021B	10/01/10 23:30 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:52 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-015
Client Sample ID PNR-34-07

Report Date: 10/15/10
Collection Date: 09/21/10 16:20
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.1	s.u.		0.1		A4500-H B	09/30/10 13:37 / ehb
Conductivity @ 25 C	43200	umhos/cm	E	5		A2510 B	09/24/10 19:22 / sam
Solids, Total Dissolved TDS @ 180 C	33700	mg/L		10		A2540 C	09/27/10 17:00 / qed
INORGANICS							
Alkalinity, Total as CaCO3	511	mg/L		4		A2320 B	09/30/10 13:37 / ehb
Bicarbonate as HCO3	623	mg/L		4		A2320 B	09/30/10 13:37 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 13:37 / ehb
Chloride	18200	mg/L	D	50		E300.0	10/05/10 09:08 / kh
Sulfate	1220	mg/L	D	200		E300.0	10/05/10 09:08 / kh
Fluoride	0.1	mg/L		0.1		A4500-F C	09/28/10 15:32 / ehb
Hardness as CaCO3	10400	mg/L		1		A2340 B	09/28/10 23:57 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.13	mg/L		0.05		E350.1	10/01/10 10:45 / bls
Nitrogen, Nitrate+Nitrite as N	8.53	mg/L	D	0.02		E353.2	10/04/10 12:02 / sam
METALS, DISSOLVED							
Calcium	1990	mg/L		1		E200.7	09/28/10 23:57 / rlh
Magnesium	1330	mg/L		1		E200.7	09/28/10 23:57 / rlh
Potassium	49	mg/L		1		E200.7	09/28/10 23:57 / rlh
Silica	12.7	mg/L	D	0.7		E200.7	09/28/10 23:57 / rlh
Sodium	7050	mg/L	D	10		E200.7	09/28/10 23:57 / rlh
METALS, TOTAL							
Silica	22.5	mg/L	D	0.9		E200.7	09/29/10 05:59 / rlh
QUALITY CONTROL							
A/C Balance Sigma	3.87					Calculation	10/06/10 09:44 / rls
Anions	550	meq/L		0.01		Calculation	10/06/10 09:44 / rls
Cations	517	meq/L		0.01		Calculation	10/06/10 09:44 / rls
A/C Balance	-3.13	%				Calculation	10/06/10 09:44 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 19:13 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 19:13 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 19:13 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 19:13 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 19:13 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 19:13 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 19:13 / bjm
Surr: Trifluorotoluene	107	%REC		80-120		SW8021B	10/01/10 19:13 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 12:59 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-016
Client Sample ID MOC-4

Report Date: 10/15/10
Collection Date: 09/22/10 12:25
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.5	s.u.		0.1		A4500-H B	09/30/10 13:57 / ehb
Conductivity @ 25 C	8600	umhos/cm		5		A2510 B	10/06/10 14:28 / sam
Solids, Total Dissolved TDS @ 180 C	5380	mg/L		10		A2540 C	09/27/10 16:44 / qed
INORGANICS							
Alkalinity, Total as CaCO3	344	mg/L		4		A2320 B	09/30/10 13:57 / ehb
Bicarbonate as HCO3	420	mg/L		4		A2320 B	09/30/10 13:57 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 13:57 / ehb
Chloride	2400	mg/L	D	10		E300.0	10/05/10 09:20 / kh
Sulfate	674	mg/L	D	50		E300.0	10/05/10 09:20 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 15:40 / ehb
Hardness as CaCO3	2000	mg/L		1		A2340 B	09/29/10 00:01 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	1.34	mg/L		0.05		E350.1	10/01/10 10:47 / bls
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	10/04/10 12:06 / sam
METALS, DISSOLVED							
Calcium	398	mg/L		1		E200.7	09/29/10 00:01 / rlh
Magnesium	245	mg/L		1		E200.7	09/29/10 00:01 / rlh
Potassium	15	mg/L		1		E200.7	09/29/10 00:01 / rlh
Silica	16.2	mg/L		0.2		E200.7	09/29/10 00:01 / rlh
Sodium	1160	mg/L	D	3		E200.7	09/29/10 00:01 / rlh
METALS, TOTAL							
Silica	18.8	mg/L		0.2		E200.7	09/29/10 06:03 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-1.68					Calculation	10/06/10 09:44 / rls
Anions	88.5	meq/L		0.01		Calculation	10/06/10 09:44 / rls
Cations	91.0	meq/L		0.01		Calculation	10/06/10 09:44 / rls
A/C Balance	1.38	%				Calculation	10/06/10 09:44 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 00:32 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 00:32 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 00:32 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 00:32 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 00:32 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 00:32 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 00:32 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	10/01/10 00:32 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:00 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-017
Client Sample ID PNR-8

Report Date: 10/15/10
Collection Date: 09/22/10 13:10
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.3	s.u.		0.1		A4500-H B	09/30/10 14:02 / ehb
Conductivity @ 25 C	8330	umhos/cm		5		A2510 B	10/06/10 14:31 / sam
Solids, Total Dissolved TDS @ 180 C	5020	mg/L		10		A2540 C	09/27/10 16:46 / qed
INORGANICS							
Alkalinity, Total as CaCO3	407	mg/L		4		A2320 B	09/30/10 14:02 / ehb
Bicarbonate as HCO3	496	mg/L		4		A2320 B	09/30/10 14:02 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 14:02 / ehb
Chloride	2190	mg/L	D	10		E300.0	10/05/10 09:31 / kh
Sulfate	945	mg/L	D	50		E300.0	10/05/10 09:31 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/28/10 15:48 / ehb
Hardness as CaCO3	2610	mg/L		1		A2340 B	09/29/10 00:05 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.61	mg/L		0.05		E350.1	10/01/10 10:57 / bls
Nitrogen, Nitrate+Nitrite as N	1.07	mg/L		0.01		E353.2	10/04/10 12:10 / sam
METALS, DISSOLVED							
Calcium	478	mg/L		1		E200.7	09/29/10 00:05 / rlh
Magnesium	343	mg/L		1		E200.7	09/29/10 00:05 / rlh
Potassium	16	mg/L		1		E200.7	09/29/10 00:05 / rlh
Silica	24.6	mg/L		0.2		E200.7	09/29/10 00:05 / rlh
Sodium	874	mg/L	D	3		E200.7	09/29/10 00:05 / rlh
METALS, TOTAL							
Silica	26.3	mg/L		0.2		E200.7	09/29/10 06:07 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-0.68					Calculation	10/06/10 09:44 / rls
Anions	89.5	meq/L		0.01		Calculation	10/06/10 09:44 / rls
Cations	90.6	meq/L		0.01		Calculation	10/06/10 09:44 / rls
A/C Balance	0.57	%				Calculation	10/06/10 09:44 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 22:10 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/30/10 22:10 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 22:10 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 22:10 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 22:10 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 22:10 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 22:10 / bjm
Surr: Trifluorotoluene	91.0	%REC		80-120		SW8021B	09/30/10 22:10 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:00 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-018
Client Sample ID Whitmer

Report Date: 10/15/10
Collection Date: 09/22/10 15:00
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.6	s.u.		0.1		A4500-H B	09/30/10 14:08 / ehb
Conductivity @ 25 C	8150	umhos/cm		5		A2510 B	10/06/10 14:34 / sam
Solids, Total Dissolved TDS @ 180 C	5340	mg/L		10		A2540 C	09/27/10 16:47 / qed
INORGANICS							
Alkalinity, Total as CaCO3	263	mg/L		4		A2320 B	09/30/10 14:08 / ehb
Bicarbonate as HCO3	321	mg/L		4		A2320 B	09/30/10 14:08 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 14:08 / ehb
Chloride	2480	mg/L	D	10		E300.0	10/05/10 09:43 / kh
Sulfate	310	mg/L	D	50		E300.0	10/05/10 09:43 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 16:13 / ehb
Hardness as CaCO3	2220	mg/L		1		A2340 B	09/29/10 00:16 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	1.43	mg/L		0.05		E350.1	10/01/10 10:33 / bls
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	10/04/10 12:11 / sam
METALS, DISSOLVED							
Calcium	430	mg/L		1		E200.7	09/29/10 00:16 / rlh
Magnesium	278	mg/L		1		E200.7	09/29/10 00:16 / rlh
Potassium	15	mg/L		1		E200.7	09/29/10 00:16 / rlh
Silica	15.2	mg/L		0.2		E200.7	09/29/10 00:16 / rlh
Sodium	877	mg/L	D	3		E200.7	09/29/10 00:16 / rlh
METALS, TOTAL							
Silica	17.9	mg/L		0.2		E200.7	09/28/10 12:56 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-0.96					Calculation	10/06/10 09:45 / rls
Anions	81.6	meq/L		0.01		Calculation	10/06/10 09:45 / rls
Cations	82.9	meq/L		0.01		Calculation	10/06/10 09:45 / rls
A/C Balance	0.80	%				Calculation	10/06/10 09:45 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 23:21 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/30/10 23:21 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 23:21 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 23:21 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 23:21 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 23:21 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 23:21 / bjm
Surr: Trifluorotoluene	95.0	%REC		80-120		SW8021B	09/30/10 23:21 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:01 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-019
Client Sample ID PNR-21

Report Date: 10/15/10
Collection Date: 09/21/10 16:20
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.1	s.u.		0.1		A4500-H B	09/30/10 14:17 / ehb
Conductivity @ 25 C	33100	umhos/cm	E	5		A2510 B	10/06/10 14:36 / sam
Solids, Total Dissolved TDS @ 180 C	21600	mg/L		10		A2540 C	09/27/10 16:48 / qed
INORGANICS							
Alkalinity, Total as CaCO3	694	mg/L		4		A2320 B	09/30/10 14:17 / ehb
Bicarbonate as HCO3	847	mg/L		4		A2320 B	09/30/10 14:17 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 14:17 / ehb
Chloride	12800	mg/L	D	50		E300.0	10/05/10 09:55 / kh
Sulfate	1310	mg/L	D	200		E300.0	10/05/10 09:55 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 16:22 / ehb
Hardness as CaCO3	4040	mg/L		1		A2340 B	09/29/10 00:20 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	16	mg/L	D	10		E350.1	10/01/10 10:58 / bls
Nitrogen, Nitrate+Nitrite as N	19	mg/L	D	10		E353.2	10/04/10 12:12 / sam
METALS, DISSOLVED							
Calcium	862	mg/L		1		E200.7	09/29/10 00:20 / rlh
Magnesium	458	mg/L		1		E200.7	09/29/10 00:20 / rlh
Potassium	36	mg/L		1		E200.7	09/29/10 00:20 / rlh
Silica	15.0	mg/L	D	0.7		E200.7	09/29/10 00:20 / rlh
Sodium	6800	mg/L	D	10		E200.7	09/29/10 00:20 / rlh
METALS, TOTAL							
Silica	17.1	mg/L	D	0.9		E200.7	09/29/10 06:10 / rlh
QUALITY CONTROL							
A/C Balance Sigma	3.90					Calculation	10/06/10 09:45 / rls
Anions	404	meq/L		0.01		Calculation	10/06/10 09:45 / rls
Cations	379	meq/L		0.01		Calculation	10/06/10 09:45 / rls
A/C Balance	-3.17	%				Calculation	10/06/10 09:45 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/04/10 14:35 / bjm
Benzene	2.1	ug/L		0.50		SW8021B	10/04/10 14:35 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/04/10 14:35 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/04/10 14:35 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/04/10 14:35 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/04/10 14:35 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/04/10 14:35 / bjm
Surr: Trifluorotoluene	93.0	%REC		80-120		SW8021B	10/04/10 14:35 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:02 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-020
Client Sample ID PNR-15

Report Date: 10/15/10
Collection Date: 09/22/10 11:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.7	s.u.		0.1		A4500-H B	09/30/10 14:38 / ehb
Conductivity @ 25 C	12300	umhos/cm		5		A2510 B	09/24/10 19:38 / sam
Solids, Total Dissolved TDS @ 180 C	8310	mg/L		10		A2540 C	09/27/10 16:51 / qed
INORGANICS							
Alkalinity, Total as CaCO3	722	mg/L		4		A2320 B	09/30/10 14:38 / ehb
Bicarbonate as HCO3	880	mg/L		4		A2320 B	09/30/10 14:38 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 14:38 / ehb
Chloride	2730	mg/L	D	20		E300.0	10/05/10 10:06 / kh
Sulfate	1440	mg/L	D	100		E300.0	10/07/10 14:32 / kh
Fluoride	0.9	mg/L		0.1		A4500-F C	09/28/10 16:30 / ehb
Hardness as CaCO3	418	mg/L		1		A2340 B	09/29/10 00:24 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	6	mg/L	D	5		E350.1	10/01/10 11:00 / bls
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	D	10		E353.2	10/04/10 12:13 / sam
METALS, DISSOLVED							
Calcium	100	mg/L		1		E200.7	09/29/10 00:24 / rlh
Magnesium	41	mg/L		1		E200.7	09/29/10 00:24 / rlh
Potassium	43	mg/L		1		E200.7	09/29/10 00:24 / rlh
Silica	21.1	mg/L	D	0.3		E200.7	09/29/10 00:24 / rlh
Sodium	2940	mg/L	D	5		E200.7	09/29/10 00:24 / rlh
METALS, TOTAL							
Silica	24.1	mg/L	D	0.5		E200.7	09/29/10 06:14 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-8.33					Calculation	10/08/10 10:37 / rls
Anions	121	meq/L		0.01		Calculation	10/08/10 10:37 / rls
Cations	138	meq/L		0.01		Calculation	10/08/10 10:37 / rls
A/C Balance	6.38	%				Calculation	10/08/10 10:37 / rls
- The Balance was confirmed by re-analysis of anions, cations, and alkalinity.							
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/04/10 16:32 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/04/10 16:32 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/04/10 16:32 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/04/10 16:32 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/04/10 16:32 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/04/10 16:32 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/04/10 16:32 / bjm
Surr: Trifluorotoluene	92.0	%REC		80-120		SW8021B	10/04/10 16:32 / bjm
- The sample was received in the laboratory with a pH > 2. The pH was 6.							
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	2.1	mg/L		1.0		E1664A	10/01/10 13:30 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-020
Client Sample ID PNR-15

Report Date: 10/15/10
Collection Date: 09/22/10 11:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By

ORGANIC CHARACTERISTICS

- The TPH value was confirmed by re-analysis

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-021
Client Sample ID PNR-19

Report Date: 10/15/10
Collection Date: 09/22/10 12:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.3	s.u.		0.1		A4500-H B	09/30/10 14:43 / ehb
Conductivity @ 25 C	23100	umhos/cm	E	5		A2510 B	10/06/10 14:42 / sam
Solids, Total Dissolved TDS @ 180 C	16200	mg/L		10		A2540 C	09/27/10 16:53 / qed
INORGANICS							
Alkalinity, Total as CaCO3	342	mg/L		4		A2320 B	09/30/10 14:43 / ehb
Bicarbonate as HCO3	417	mg/L		4		A2320 B	09/30/10 14:43 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 14:43 / ehb
Chloride	8470	mg/L	D	20		E300.0	10/05/10 10:18 / kh
Sulfate	1370	mg/L	D	100		E300.0	10/05/10 10:18 / kh
Fluoride	0.3	mg/L		0.1		A4500-F C	09/28/10 16:52 / ehb
Hardness as CaCO3	4130	mg/L		1		A2340 B	09/29/10 00:27 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.08	mg/L		0.05		E350.1	10/01/10 11:01 / bls
Nitrogen, Nitrate+Nitrite as N	27.8	mg/L	D	0.06		E353.2	10/04/10 12:14 / sam
METALS, DISSOLVED							
Calcium	809	mg/L		1		E200.7	09/29/10 00:27 / rlh
Magnesium	512	mg/L		1		E200.7	09/29/10 00:27 / rlh
Potassium	33	mg/L		1		E200.7	09/29/10 00:27 / rlh
Silica	22.0	mg/L	D	0.3		E200.7	09/29/10 00:27 / rlh
Sodium	4310	mg/L	D	7		E200.7	09/29/10 00:27 / rlh
METALS, TOTAL							
Silica	22.3	mg/L	D	0.5		E200.7	09/29/10 06:18 / rlh
QUALITY CONTROL							
A/C Balance Sigma	1.26					Calculation	10/06/10 09:45 / rls
Anions	276	meq/L		0.01		Calculation	10/06/10 09:45 / rls
Cations	271	meq/L		0.01		Calculation	10/06/10 09:45 / rls
A/C Balance	-1.01	%				Calculation	10/06/10 09:45 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 17:25 / bjm
Benzene	7.4	ug/L		0.50		SW8021B	09/30/10 17:25 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 17:25 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 17:25 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 17:25 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 17:25 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 17:25 / bjm
Surr: Trifluorotoluene	88.0	%REC		80-120		SW8021B	09/30/10 17:25 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:03 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-022
Client Sample ID PNR-20

Report Date: 10/15/10
Collection Date: 09/22/10 13:15
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.1	s.u.		0.1		A4500-H B	09/30/10 14:48 / ehb
Conductivity @ 25 C	51300	umhos/cm	E	5		A2510 B	09/24/10 19:44 / sam
Solids, Total Dissolved TDS @ 180 C	37900	mg/L		10		A2540 C	09/27/10 16:54 / qed
INORGANICS							
Alkalinity, Total as CaCO3	426	mg/L		4		A2320 B	09/30/10 14:48 / ehb
Bicarbonate as HCO3	520	mg/L		4		A2320 B	09/30/10 14:48 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 14:48 / ehb
Chloride	22000	mg/L	D	50		E300.0	10/05/10 11:16 / kh
Sulfate	1200	mg/L	D	200		E300.0	10/05/10 11:16 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 16:59 / ehb
Hardness as CaCO3	11100	mg/L		1		A2340 B	10/07/10 13:23 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.13	mg/L		0.05		E350.1	10/01/10 11:02 / bls
Nitrogen, Nitrate+Nitrite as N	12.2	mg/L	D	0.1		E353.2	10/04/10 17:11 / sam
METALS, DISSOLVED							
Calcium	2250	mg/L	D	2		E200.7	10/07/10 13:23 / tao
Magnesium	1330	mg/L		1		E200.7	10/07/10 13:23 / tao
Potassium	64	mg/L		1		E200.7	10/07/10 13:23 / tao
Silica	19	mg/L	D	1		E200.7	09/29/10 00:31 / rlh
Sodium	11600	mg/L	D	30		E200.7	10/07/10 13:23 / tao
METALS, TOTAL							
Silica	27	mg/L	D	2		E200.7	09/29/10 06:22 / rlh
QUALITY CONTROL							
A/C Balance Sigma	-3.96					Calculation	10/08/10 10:39 / rls
Anions	687	meq/L		0.01		Calculation	10/08/10 10:39 / rls
Cations	729	meq/L		0.01		Calculation	10/08/10 10:39 / rls
A/C Balance	3.01	%				Calculation	10/08/10 10:39 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 18:36 / bjm
Benzene	16	ug/L		0.50		SW8021B	09/30/10 18:36 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 18:36 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 18:36 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 18:36 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 18:36 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 18:36 / bjm
Surr: Trifluorotoluene	94.0	%REC		80-120		SW8021B	09/30/10 18:36 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:04 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-023
Client Sample ID PNR-7

Report Date: 10/15/10
Collection Date: 09/22/10 14:00
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.0	s.u.		0.1		A4500-H B	09/30/10 14:54 / ehb
Conductivity @ 25 C	62300	umhos/cm	E	5		A2510 B	09/24/10 19:46 / sam
Solids, Total Dissolved TDS @ 180 C	48600	mg/L		10		A2540 C	09/27/10 17:01 / qed
INORGANICS							
Alkalinity, Total as CaCO3	386	mg/L		4		A2320 B	09/30/10 14:54 / ehb
Bicarbonate as HCO3	471	mg/L		4		A2320 B	09/30/10 14:54 / ehb
Carbonate as CO3	ND	mg/L		4		A2320 B	09/30/10 14:54 / ehb
Chloride	28600	mg/L	D	100		E300.0	10/07/10 15:18 / kh
Sulfate	1060	mg/L	D	500		E300.0	10/07/10 15:18 / kh
Fluoride	0.2	mg/L		0.1		A4500-F C	09/28/10 17:07 / ehb
Hardness as CaCO3	12100	mg/L		1		A2340 B	10/07/10 13:26 / rls
NUTRIENTS							
Nitrogen, Ammonia as N	0.52	mg/L		0.05		E350.1	10/01/10 11:03 / bls
Nitrogen, Nitrate+Nitrite as N	3.12	mg/L		0.01		E353.2	10/04/10 12:17 / sam
METALS, DISSOLVED							
Calcium	2450	mg/L	D	2		E200.7	10/07/10 13:26 / tao
Magnesium	1440	mg/L		1		E200.7	10/07/10 13:26 / tao
Potassium	76	mg/L		1		E200.7	10/07/10 13:26 / tao
Silica	15	mg/L	D	1		E200.7	09/29/10 00:35 / rlh
Sodium	13100	mg/L	D	30		E200.7	10/07/10 13:26 / tao
METALS, TOTAL							
Silica	18	mg/L	D	2		E200.7	09/29/10 06:51 / rlh
QUALITY CONTROL							
A/C Balance Sigma	1.61					Calculation	10/08/10 10:41 / rls
Anions	835	meq/L		0.01		Calculation	10/08/10 10:41 / rls
Cations	814	meq/L		0.01		Calculation	10/08/10 10:41 / rls
A/C Balance	-1.28	%				Calculation	10/08/10 10:41 / rls
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 19:47 / bjm
Benzene	36	ug/L		0.50		SW8021B	09/30/10 19:47 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 19:47 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 19:47 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 19:47 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 19:47 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 19:47 / bjm
Surr: Trifluorotoluene	91.0	%REC		80-120		SW8021B	09/30/10 19:47 / bjm
ORGANIC CHARACTERISTICS							
Total Petroleum Hydrocarbons	ND	mg/L		1.0		E1664A	10/01/10 13:06 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-024
Client Sample ID PNR-RW-10

Report Date: 10/15/10
Collection Date: 09/21/10 10:00
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	4850	umhos/cm		5		A2510 B	09/24/10 19:49 / sam
INORGANICS							
Chloride	315	mg/L	D	5		E300.0	10/05/10 11:39 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 01:43 / bjm
Benzene	39	ug/L		0.50		SW8021B	10/01/10 01:43 / bjm
Toluene	139	ug/L		0.50		SW8021B	10/01/10 01:43 / bjm
Ethylbenzene	78	ug/L		0.50		SW8021B	10/01/10 01:43 / bjm
m+p-Xylenes	157	ug/L		0.50		SW8021B	10/01/10 01:43 / bjm
o-Xylene	55	ug/L		0.50		SW8021B	10/01/10 01:43 / bjm
Xylenes, Total	212	ug/L		0.50		SW8021B	10/01/10 01:43 / bjm
Surr: Trifluorotoluene	76.0	%REC	S	80-120		SW8021B	10/01/10 01:43 / bjm

- The sample was received in the laboratory with a pH > 2. The pH was 3.

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-025
Client Sample ID PNR-RW-7A

Report Date: 10/15/10
Collection Date: 09/22/10 16:00
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Conductivity @ 25 C	42500	umhos/cm	E	5		A2510 B	09/24/10 19:57 / sam
INORGANICS							
Chloride	17700	mg/L	D	50		E300.0	10/05/10 11:51 / kh
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	09/30/10 20:59 / bjm
Benzene	ND	ug/L		0.50		SW8021B	09/30/10 20:59 / bjm
Toluene	ND	ug/L		0.50		SW8021B	09/30/10 20:59 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	09/30/10 20:59 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	09/30/10 20:59 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	09/30/10 20:59 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	09/30/10 20:59 / bjm
Surr: Trifluorotoluene	94.0	%REC		80-120		SW8021B	09/30/10 20:59 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
E - Estimated value. Result exceeds the instrument upper quantitation limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-026
Client Sample ID Trip Blank #1 Lot #091010, B-ST SHP0251

Report Date: 10/15/10
Collection Date: 09/21/10 13:25
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 17:00 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 17:00 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 17:00 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 17:00 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 17:00 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 17:00 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 17:00 / bjm
Surr: Trifluorotoluene	98.0	%REC		80-120		SW8021B	10/01/10 17:00 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-027
Client Sample ID Trip Blank #2 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/22/10 12:25
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 17:35 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 17:35 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 17:35 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 17:35 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 17:35 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 17:35 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 17:35 / bjm
Surr: Trifluorotoluene	94.0	%REC		80-120		SW8021B	10/01/10 17:35 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-028
Client Sample ID Trip Blank #3 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/21/10 15:45
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 18:11 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 18:11 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 18:11 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 18:11 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 18:11 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 18:11 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 18:11 / bjm
Surr: Trifluorotoluene	95.0	%REC		80-120		SW8021B	10/01/10 18:11 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-029
Client Sample ID Trip Blank #4 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/21/10 10:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 18:46 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 18:46 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 18:46 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 18:46 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 18:46 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 18:46 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 18:46 / bjm
Surr: Trifluorotoluene	94.0	%REC		80-120		SW8021B	10/01/10 18:46 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-030
Client Sample ID Trip Blank #5 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/22/10 13:15
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 19:22 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 19:22 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 19:22 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 19:22 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 19:22 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 19:22 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 19:22 / bjm
Surr: Trifluorotoluene	90.0	%REC		80-120		SW8021B	10/01/10 19:22 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-031
Client Sample ID Trip Blank #6 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/20/10 12:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 16:20 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 16:20 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 16:20 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 16:20 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 16:20 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 16:20 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 16:20 / bjm
Surr: Trifluorotoluene	107	%REC		80-120		SW8021B	10/01/10 16:20 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-032
Client Sample ID Trip Blank #7 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/21/10 12:18
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 16:54 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 16:54 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 16:54 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 16:54 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 16:54 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 16:54 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 16:54 / bjm
Surr: Trifluorotoluene	110	%REC		80-120		SW8021B	10/01/10 16:54 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-033
Client Sample ID Trip Blank #8 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/22/10 11:30
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 17:29 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 17:29 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 17:29 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 17:29 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 17:29 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 17:29 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 17:29 / bjm
Surr: Trifluorotoluene	91.0	%REC		80-120		SW8021B	10/01/10 17:29 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: DOWL HKM
Project: Biere Well Remediation
Lab ID: B10092352-034
Client Sample ID Trip Blank #9 Lot #091010, B-TS SHP0251

Report Date: 10/15/10
Collection Date: 09/20/10 14:50
DateReceived: 09/24/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8021B	10/01/10 18:03 / bjm
Benzene	ND	ug/L		0.50		SW8021B	10/01/10 18:03 / bjm
Toluene	ND	ug/L		0.50		SW8021B	10/01/10 18:03 / bjm
Ethylbenzene	ND	ug/L		0.50		SW8021B	10/01/10 18:03 / bjm
m+p-Xylenes	ND	ug/L		0.50		SW8021B	10/01/10 18:03 / bjm
o-Xylene	ND	ug/L		0.50		SW8021B	10/01/10 18:03 / bjm
Xylenes, Total	ND	ug/L		0.50		SW8021B	10/01/10 18:03 / bjm
Surr: Trifluorotoluene	111	%REC		80-120		SW8021B	10/01/10 18:03 / bjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R154587
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100927B				09/27/10 16:27
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100927B				09/27/10 16:33
Alkalinity, Total as CaCO3	98.9	mg/L	4.0	99	90	110			
Sample ID: B10092352-001AMS	Sample Matrix Spike				Run: MAN-TECH_100927B				09/27/10 18:36
Alkalinity, Total as CaCO3	375	mg/L	4.0	89	80	120			
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100927B				09/27/10 18:40
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100927B				09/27/10 18:45
Alkalinity, Total as CaCO3	95.2	mg/L	4.0	95	90	110			
Sample ID: B10092352-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100927B				09/27/10 18:56
Alkalinity, Total as CaCO3	371	mg/L	4.0	86	80	120	1.1	20	
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100927B				09/27/10 21:05
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100927B				09/27/10 21:11
Alkalinity, Total as CaCO3	94.9	mg/L	4.0	95	90	110			
Sample ID: B10092352-003AMS	Sample Matrix Spike				Run: MAN-TECH_100927B				09/27/10 22:45
Alkalinity, Total as CaCO3	554	mg/L	4.0	84	80	120			
Sample ID: B10092352-003AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100927B				09/27/10 22:53
Alkalinity, Total as CaCO3	555	mg/L	4.0	85	80	120	0.2	20	
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100927B				09/27/10 23:22
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100927B				09/27/10 23:28
Alkalinity, Total as CaCO3	95.6	mg/L	4.0	96	90	110			
Sample ID: B10092352-013AMS	Sample Matrix Spike				Run: MAN-TECH_100927B				09/28/10 00:54
Alkalinity, Total as CaCO3	391	mg/L	4.0	84	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R154587
Sample ID: B10092352-013AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100927B				09/28/10 01:02
Alkalinity, Total as CaCO3	398	mg/L	4.0	89	80	120	1.7	20	
Method: A2320 B									Batch: R154826
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100930B				09/30/10 12:10
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100930B				09/30/10 12:15
Alkalinity, Total as CaCO3	97.0	mg/L	4.0	97	90	110			
Sample ID: B10092352-015AMS	Sample Matrix Spike				Run: MAN-TECH_100930B				09/30/10 13:44
Alkalinity, Total as CaCO3	645	mg/L	4.0	79	80	120			S
Sample ID: B10092352-015AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100930B				09/30/10 13:50
Alkalinity, Total as CaCO3	641	mg/L	4.0	76	80	120	0.7	20	S
Sample ID: MBLK	Method Blank				Run: MAN-TECH_100930B				09/30/10 14:22
Alkalinity, Total as CaCO3	ND	mg/L	4						
Bicarbonate as HCO3	ND	mg/L	4						
Carbonate as CO3	ND	mg/L	4						
Sample ID: LCS	Laboratory Control Sample				Run: MAN-TECH_100930B				09/30/10 14:27
Alkalinity, Total as CaCO3	94.6	mg/L	4.0	95	90	110			
Sample ID: B10092527-001BMS	Sample Matrix Spike				Run: MAN-TECH_100930B				09/30/10 15:36
Alkalinity, Total as CaCO3	327	mg/L	4.0	100	80	120			
Sample ID: B10092527-001BMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100930B				09/30/10 15:42
Alkalinity, Total as CaCO3	314	mg/L	4.0	92	80	120	4.1	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Batch: R154410
Sample ID: SC 150	Laboratory Control Sample				Run: PHSC _101-B_100924A				09/24/10 08:43
Conductivity @ 25 C	159	umhos/cm	5.0	106	90	110			
Sample ID: SC 5000	Laboratory Control Sample				Run: PHSC _101-B_100924A				09/24/10 08:47
Conductivity @ 25 C	5020	umhos/cm	5.0	100	90	110			
Sample ID: SC 20000	Laboratory Control Sample				Run: PHSC _101-B_100924A				09/24/10 08:50
Conductivity @ 25 C	19900	umhos/cm	5.0	99	90	110			
Sample ID: MBLK	Method Blank				Run: PHSC _101-B_100924A				09/24/10 09:00
Conductivity @ 25 C	5	umhos/cm							
Sample ID: B10092352-005ADUP	Sample Duplicate				Run: PHSC _101-B_100924A				09/24/10 18:54
Conductivity @ 25 C	15700	umhos/cm	5.0				0.5	10	
Sample ID: B10092352-015ADUP	Sample Duplicate				Run: PHSC _101-B_100924A				09/24/10 19:24
Conductivity @ 25 C	43200	umhos/cm	5.0				0	10	
Sample ID: B10092352-025ADUP	Sample Duplicate				Run: PHSC _101-B_100924A				09/24/10 20:00
Conductivity @ 25 C	43000	umhos/cm	5.0						
Method: A2510 B									Batch: R155066
Sample ID: SC 150	Laboratory Control Sample				Run: PHSC _101-B_101006A				10/06/10 11:39
Conductivity @ 25 C	160	umhos/cm	5.0	107	90	110			
Sample ID: SC 5000	Laboratory Control Sample				Run: PHSC _101-B_101006A				10/06/10 11:43
Conductivity @ 25 C	5060	umhos/cm	5.0	101	90	110			
Sample ID: SC 20000	Laboratory Control Sample				Run: PHSC _101-B_101006A				10/06/10 11:45
Conductivity @ 25 C	20000	umhos/cm	5.0	100	90	110			
Sample ID: MBLK	Method Blank				Run: PHSC _101-B_101006A				10/06/10 11:51
Conductivity @ 25 C	3	umhos/cm							
Sample ID: B10092352-014ADUP	Sample Duplicate				Run: PHSC _101-B_101006A				10/06/10 14:26
Conductivity @ 25 C	29000	umhos/cm	5.0				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C								Batch: TDS100924A	
Sample ID: MBLK5	Method Blank				Run: CPA124S_100924C			09/24/10 19:02	
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	9						
Sample ID: LFB5	Laboratory Fortified Blank				Run: CPA124S_100924C			09/24/10 19:02	
Solids, Total Dissolved TDS @ 180 C	1140	mg/L	10	101	90	110			
Sample ID: B10092350-007A MS	Sample Matrix Spike				Run: CPA124S_100924C			09/24/10 19:03	
Solids, Total Dissolved TDS @ 180 C	1110	mg/L	10	98	90	110			
Sample ID: B10092352-002A DUP	Sample Duplicate				Run: CPA124S_100924C			09/24/10 19:20	
Solids, Total Dissolved TDS @ 180 C	4810	mg/L	10		90	110	0.2	5	
Method: A2540 C								Batch: TDS100927A	
Sample ID: MBLK1	Method Blank				Run: CPA124S_100927B			09/27/10 16:38	
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	9						
Sample ID: LFB1	Laboratory Fortified Blank				Run: CPA124S_100927B			09/27/10 16:38	
Solids, Total Dissolved TDS @ 180 C	1110	mg/L	10	101	90	110			
Sample ID: B10092352-010A MS	Sample Matrix Spike				Run: CPA124S_100927B			09/27/10 16:40	
Solids, Total Dissolved TDS @ 180 C	34100	mg/L	10	100	90	110			
Sample ID: B10092352-011A DUP	Sample Duplicate				Run: CPA124S_100927B			09/27/10 16:41	
Solids, Total Dissolved TDS @ 180 C	4900	mg/L	10		90	110	0.1	5	
Sample ID: B10092352-019A DUP	Sample Duplicate				Run: CPA124S_100927B			09/27/10 16:49	
Solids, Total Dissolved TDS @ 180 C	21800	mg/L	10		90	110	1	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C								Analytical Run: MAN-TECH_100927B	
Sample ID: ICV	Initial Calibration Verification Standard							09/27/10 14:35	
Fluoride	1.07	mg/L	0.10	107	90	110			
Method: A4500-F C								Batch: R154587	
Sample ID: MB	Method Blank				Run: MAN-TECH_100927B			09/27/10 14:21	
Fluoride	ND	mg/L	0.01						
Sample ID: LFB	Laboratory Fortified Blank				Run: MAN-TECH_100927B			09/27/10 14:32	
Fluoride	1.00	mg/L	0.10	100	90	110			
Sample ID: B10092352-001AMS	Sample Matrix Spike				Run: MAN-TECH_100927B			09/27/10 18:36	
Fluoride	0.990	mg/L	0.10	82	80	120			
Sample ID: B10092352-001AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100927B			09/27/10 18:56	
Fluoride	1.00	mg/L	0.10	83	80	120	1	10	
Sample ID: B10092352-003AMS	Sample Matrix Spike				Run: MAN-TECH_100927B			09/27/10 22:45	
Fluoride	1.09	mg/L	0.10	88	80	120			
Sample ID: B10092352-003AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100927B			09/27/10 22:53	
Fluoride	1.12	mg/L	0.10	91	80	120	2.7	10	
Sample ID: B10092352-013AMS	Sample Matrix Spike				Run: MAN-TECH_100927B			09/28/10 00:54	
Fluoride	0.970	mg/L	0.10	80	80	120			
Sample ID: B10092352-013AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100927B			09/28/10 01:02	
Fluoride	1.03	mg/L	0.10	86	80	120	6	10	
Method: A4500-F C								Analytical Run: MAN-TECH_100929A	
Sample ID: ICV	Initial Calibration Verification Standard							09/28/10 14:26	
Fluoride	1.04	mg/L	0.10	104	90	110			
Method: A4500-F C								Batch: R154671	
Sample ID: MB	Method Blank				Run: MAN-TECH_100929A			09/28/10 14:20	
Fluoride	ND	mg/L	0.01						
Sample ID: LFB	Laboratory Fortified Blank				Run: MAN-TECH_100929A			09/28/10 14:23	
Fluoride	0.970	mg/L	0.10	97	90	110			
Sample ID: B10092352-017AMS	Sample Matrix Spike				Run: MAN-TECH_100929A			09/28/10 15:56	
Fluoride	1.20	mg/L	0.10	90	80	120			
Sample ID: B10092352-017AMSD	Sample Matrix Spike Duplicate				Run: MAN-TECH_100929A			09/28/10 16:05	
Fluoride	1.19	mg/L	0.10	89	80	120	0.8	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: MAN-TECH_100927B	
Sample ID: ICV-PHSC100305A	Initial Calibration Verification Standard							09/27/10 13:56	
pH	7.00	s.u.	0.10	100	98	102			
Method: A4500-H B								Analytical Run: MAN-TECH_100930B	
Sample ID: ICV-PHSC100305A	Initial Calibration Verification Standard							09/30/10 12:18	
pH	7.02	s.u.	0.10	100	98	102			
Method: A4500-H B								Batch: R154826	
Sample ID: B10092352-018ADUP	Sample Duplicate				Run: MAN-TECH_100930B			09/30/10 14:10	
pH	7.64	s.u.	0.10				0.4	10	
Method: A4500-H B								Analytical Run: MAN-TECH_101001A	
Sample ID: ICV-PH-4	Initial Calibration Verification Standard							10/01/10 09:19	
pH	4.01	s.u.	0.10	100	98	102			
Sample ID: ICV-PH-7	Initial Calibration Verification Standard							10/01/10 09:21	
pH	7.01	s.u.	0.10	100	98	102			
Method: A4500-H B								Batch: R154856	
Sample ID: B10092758-008ADUP	Sample Duplicate				Run: MAN-TECH_101001A			10/01/10 10:55	
pH	6.86	s.u.	0.10				0	10	
Method: A4500-H B								Analytical Run: MAN-TECH_101004A	
Sample ID: ICV-PH-4	Initial Calibration Verification Standard							10/04/10 09:40	
pH	4.01	s.u.	0.10	100	98	102			
Sample ID: ICV-PH-7	Initial Calibration Verification Standard							10/04/10 09:42	
pH	7.01	s.u.	0.10	100	98	102			
Method: A4500-H B								Batch: R154942	
Sample ID: B10092758-026ADUP	Sample Duplicate				Run: MAN-TECH_101004A			10/04/10 09:50	
pH	7.42	s.u.	0.10				0.3	10	
Method: A4500-H B								Batch: R154410	
Sample ID: pH 4	Laboratory Control Sample				Run: PHSC _101-B_100924A			09/24/10 08:34	
pH	4.00	s.u.	0.10	100	97	103			
Sample ID: pH 7	Laboratory Control Sample				Run: PHSC _101-B_100924A			09/24/10 08:37	
pH	6.98	s.u.	0.10	100	98	102			
Sample ID: B10092352-015ADUP	Sample Duplicate				Run: PHSC _101-B_100924A			09/24/10 19:24	
pH	6.85	s.u.	0.10				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Batch: R155066
Sample ID: pH 4	Laboratory Control Sample				Run: PHSC_101-B_101006A				10/06/10 11:31
pH	4.00	s.u.	0.10	100	97	103			
Sample ID: pH 7	Laboratory Control Sample				Run: PHSC_101-B_101006A				10/06/10 11:34
pH	7.01	s.u.	0.10	100	98	102			
Sample ID: B10092352-014ADUP	Sample Duplicate				Run: PHSC_101-B_101006A				10/06/10 14:26
pH	7.26	s.u.	0.10				0.3	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP202-B_100928A	
Sample ID: ICV	Continuing Calibration Verification Standard							09/28/10 10:43	
Calcium	25.1	mg/L	1.0	101	95	105			
Magnesium	24.9	mg/L	1.0	100	95	105			
Potassium	25.1	mg/L	1.0	100	95	105			
Sodium	24.6	mg/L	1.0	99	95	105			
Silicon	5.14	mg/L	0.10	103	95	105			
Method: E200.7								Batch: 49352	
Sample ID: MB-49352	Method Blank				Run: ICP202-B_100928A			09/29/10 03:41	
Silicon	ND	mg/L	0.009						
Silica	ND	mg/L	0.02						
Sample ID: LCS-49352	Laboratory Control Sample				Run: ICP202-B_100928A			09/29/10 03:44	
Silicon	5.34	mg/L	0.10	107	85	115			
Silica	11.4	mg/L	0.21	107	85	115			
Sample ID: B10092330-001BMS3	Sample Matrix Spike				Run: ICP202-B_100928A			09/29/10 04:07	
Silicon	46.6	mg/L	0.10		70	130			A
Silica	99.7	mg/L	0.21		70	130			A
Sample ID: B10092330-001BMSD3	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A			09/29/10 04:18	
Silicon	46.8	mg/L	0.10		70	130	0.3	20	A
Silica	100	mg/L	0.21		70	130	0.3	20	A
Method: E200.7								Batch: 49353	
Sample ID: MB-49353	Method Blank				Run: ICP202-B_100928A			09/29/10 05:18	
Silicon	ND	mg/L	0.009						
Silica	ND	mg/L	0.02						
Sample ID: LCS-49353	Laboratory Control Sample				Run: ICP202-B_100928A			09/29/10 05:22	
Silicon	5.15	mg/L	0.10	103	85	115			
Silica	11.0	mg/L	0.21	103	85	115			
Sample ID: B10092352-012CMS3	Sample Matrix Spike				Run: ICP202-B_100928A			09/29/10 05:37	
Silicon	19.5	mg/L	0.10	123	70	130			
Silica	41.7	mg/L	0.21	123	70	130			
Sample ID: B10092352-012CMSD3	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A			09/29/10 05:48	
Silicon	17.9	mg/L	0.10	91	70	130	8.6	20	
Silica	38.3	mg/L	0.21	91	70	130	8.6	20	
Method: E200.7								Batch: R154684	
Sample ID: MB-SPDIS100928A	Method Blank				Run: ICP202-B_100928A			09/28/10 11:35	
Calcium	ND	mg/L	0.02						
Magnesium	ND	mg/L	0.006						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R154684
Sample ID: MB-SPDIS100928A	Method Blank				Run: ICP202-B_100928A				09/28/10 11:35
Potassium	ND	mg/L	0.007						
Sodium	0.02	mg/L	0.01						
Silicon	0.009	mg/L	0.007						
Sample ID: LFB-SPDIS100928A	Laboratory Fortified Blank				Run: ICP202-B_100928A				09/28/10 11:39
Calcium	47.8	mg/L	1.0	96	85	115			
Magnesium	48.4	mg/L	1.0	97	85	115			
Potassium	51.0	mg/L	1.3	102	85	115			
Sodium	49.9	mg/L	1.0	100	85	115			
Silicon	10.3	mg/L	0.10	102	85	115			
Sample ID: B10092350-013CMS2	Sample Matrix Spike				Run: ICP202-B_100928A				09/28/10 12:23
Calcium	77.6	mg/L	1.0	99	70	130			
Magnesium	59.9	mg/L	1.0	103	70	130			
Potassium	53.0	mg/L	2.0	104	70	130			
Silicon	15.3	mg/L	0.10	109	70	130			
Sodium	54.4	mg/L	1.0	103	70	130			
Silica	32.8	mg/L	0.21	109	70	130			
Sample ID: B10092350-013CMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A				09/28/10 12:26
Calcium	76.8	mg/L	1.0	97	70	130	0.9	20	
Magnesium	60.0	mg/L	1.0	103	70	130	0.2	20	
Potassium	53.9	mg/L	2.0	106	70	130	1.5	20	
Silicon	15.4	mg/L	0.10	109	70	130	0.1	20	
Sodium	52.3	mg/L	1.0	99	70	130	3.9	20	
Silica	32.9	mg/L	0.21	109	70	130	0.1	20	
Sample ID: B10092375-002CMS2	Sample Matrix Spike				Run: ICP202-B_100928A				09/28/10 13:18
Calcium	53.4	mg/L	1.0	100	70	130			
Magnesium	51.7	mg/L	1.0	102	70	130			
Potassium	52.7	mg/L	2.0	102	70	130			
Silicon	15.5	mg/L	0.10	110	70	130			
Sodium	236	mg/L	1.0	127	70	130			
Silica	33.2	mg/L	0.21	110	70	130			
Sample ID: B10092375-002CMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A				09/28/10 13:22
Calcium	54.3	mg/L	1.0	102	70	130	1.7	20	
Magnesium	52.9	mg/L	1.0	105	70	130	2.4	20	
Potassium	53.7	mg/L	2.0	104	70	130	1.7	20	
Silicon	15.3	mg/L	0.10	108	70	130	1.2	20	
Sodium	224	mg/L	1.0	104	70	130	5	20	
Silica	32.8	mg/L	0.21	108	70	130	1.2	20	
Sample ID: MB-49298	Method Blank				Run: ICP202-B_100928A				09/28/10 20:15
Calcium	ND	mg/L	0.02						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R154684
Sample ID: MB-49298	Method Blank				Run: ICP202-B_100928A				09/28/10 20:15
Magnesium	ND	mg/L	0.006						
Potassium	0.3	mg/L	0.007						
Silicon	0.03	mg/L	0.007						
Sodium	0.06	mg/L	0.01						
Silica	0.06	mg/L	0.01						
Sample ID: B10092350-009BMS2	Sample Matrix Spike				Run: ICP202-B_100928A				09/28/10 21:44
Calcium	53.6	mg/L	1.0	96	70	130			
Magnesium	48.7	mg/L	1.0	94	70	130			
Potassium	49.7	mg/L	1.3	97	70	130			
Silicon	12.5	mg/L	0.10	100	70	130			
Sodium	48.7	mg/L	1.0	94	70	130			
Silica	26.8	mg/L	0.21	100	70	130			
Sample ID: B10092350-009BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A				09/28/10 21:47
Calcium	53.4	mg/L	1.0	96	70	130	0.4	20	
Magnesium	48.9	mg/L	1.0	94	70	130	0.5	20	
Potassium	50.8	mg/L	1.3	100	70	130	2.1	20	
Silicon	12.6	mg/L	0.10	101	70	130	1	20	
Sodium	49.1	mg/L	1.0	95	70	130	0.9	20	
Silica	27.1	mg/L	0.21	101	70	130	1	20	
Sample ID: B10092352-004BMS2	Sample Matrix Spike				Run: ICP202-B_100928A				09/28/10 22:58
Calcium	1440	mg/L	1.0	97	70	130			
Magnesium	1320	mg/L	1.0	98	70	130			
Potassium	1050	mg/L	27	100	70	130			
Silicon	219	mg/L	0.13	102	70	130			
Sodium	3970	mg/L	5.7	104	70	130			
Silica	468	mg/L	0.29	102	70	130			
Sample ID: B10092352-004BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A				09/28/10 23:02
Calcium	1470	mg/L	1.0	100	70	130	2.1	20	
Magnesium	1310	mg/L	1.0	97	70	130	0.6	20	
Potassium	1070	mg/L	27	101	70	130	1.6	20	
Silicon	223	mg/L	0.13	104	70	130	1.9	20	
Sodium	4050	mg/L	5.7	112	70	130	2.1	20	
Silica	477	mg/L	0.29	104	70	130	1.9	20	
Sample ID: B10092352-014BMS2	Sample Matrix Spike				Run: ICP202-B_100928A				09/28/10 23:50
Calcium	4450	mg/L	1.0	101	70	130			
Magnesium	3940	mg/L	1.0	101	70	130			
Potassium	2590	mg/L	67	102	70	130			
Silicon	514	mg/L	0.34	101	70	130			
Sodium	5440	mg/L	14	101	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Batch: R154684
Sample ID:	**B10092352-014BMS2**	Sample Matrix Spike				Run: ICP202-B_100928A				09/28/10 23:50
Silica		1100	mg/L	0.72	101	70	130			
Sample ID:	**B10092352-014BMSD2**	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A				09/28/10 23:54
Calcium		4400	mg/L	1.0	99	70	130	1.2	20	
Magnesium		3900	mg/L	1.0	99	70	130	1.2	20	
Potassium		2580	mg/L	67	102	70	130	0.4	20	
Silicon		519	mg/L	0.34	102	70	130	0.8	20	
Sodium		5580	mg/L	14	106	70	130	2.5	20	
Silica		1110	mg/L	0.72	102	70	130	0.8	20	
Sample ID:	**B10092267-002BMS2**	Sample Matrix Spike				Run: ICP202-B_100928A				09/29/10 01:01
Calcium		283	mg/L	1.0	101	70	130			
Magnesium		257	mg/L	1.0	96	70	130			
Potassium		250	mg/L	6.7	99	70	130			
Silicon		57.7	mg/L	0.10	111	70	130			
Sodium		260	mg/L	1.4	83	70	130			
Silica		123	mg/L	0.21	111	70	130			
Sample ID:	**B10092267-002BMSD2**	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A				09/29/10 01:04
Calcium		274	mg/L	1.0	98	70	130	3.1	20	
Magnesium		250	mg/L	1.0	94	70	130	2.6	20	
Potassium		252	mg/L	6.7	100	70	130	0.9	20	
Silicon		57.5	mg/L	0.10	111	70	130	0.3	20	
Sodium		263	mg/L	1.4	84	70	130	1.2	20	
Silica		123	mg/L	0.21	111	70	130	0.3	20	
Sample ID:	**B10092428-004AMS2**	Sample Matrix Spike				Run: ICP202-B_100928A				09/29/10 03:03
Calcium		98.2	mg/L	1.0	100	70	130			
Magnesium		61.4	mg/L	1.0	98	70	130			
Potassium		51.2	mg/L	1.3	98	70	130			
Silicon		16.9	mg/L	0.10	102	70	130			
Sodium		54.0	mg/L	1.0	97	70	130			
Silica		36.2	mg/L	0.21	102	70	130			
Sample ID:	**B10092428-004AMSD2**	Sample Matrix Spike Duplicate				Run: ICP202-B_100928A				09/29/10 03:07
Calcium		97.4	mg/L	1.0	98	70	130	0.7	20	
Magnesium		60.5	mg/L	1.0	97	70	130	1.5	20	
Potassium		51.6	mg/L	1.3	98	70	130	0.8	20	
Silicon		16.8	mg/L	0.10	101	70	130	0.9	20	
Sodium		54.6	mg/L	1.0	98	70	130	1.1	20	
Silica		35.8	mg/L	0.21	101	70	130	0.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP202-B_101006A	
Sample ID: ICV	Continuing Calibration Verification Standard							10/06/10 11:49	
Calcium	25.3	mg/L	1.0	101	95	105			
Magnesium	24.3	mg/L	1.0	97	95	105			
Potassium	23.8	mg/L	1.0	95	95	105			
Sodium	24.3	mg/L	1.0	97	95	105			
Method: E200.7								Batch: R155123	
Sample ID: MB-SPDIS101006A	Method Blank				Run: ICP202-B_101006A			10/06/10 12:37	
Calcium	ND	mg/L	0.02						
Magnesium	ND	mg/L	0.006						
Potassium	0.01	mg/L	0.007						
Sodium	ND	mg/L	0.01						
Sample ID: LFB-SPDIS101006A	Laboratory Fortified Blank				Run: ICP202-B_101006A			10/06/10 12:41	
Calcium	48.5	mg/L	1.0	97	85	115			
Magnesium	45.6	mg/L	1.0	91	85	115			
Potassium	49.5	mg/L	1.3	99	85	115			
Sodium	47.7	mg/L	1.0	95	85	115			
Sample ID: B10092330-001BMS2	Sample Matrix Spike				Run: ICP202-B_101006A			10/06/10 13:33	
Calcium	172	mg/L	1.0	107	70	130			
Magnesium	160	mg/L	1.0	100	70	130			
Potassium	120	mg/L	2.7	105	70	130			
Sodium	140	mg/L	1.0	100	70	130			
Sample ID: B10092330-001BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_101006A			10/06/10 13:36	
Calcium	172	mg/L	1.0	108	70	130	0.2	20	
Magnesium	157	mg/L	1.0	97	70	130	2.1	20	
Potassium	119	mg/L	2.7	104	70	130	1	20	
Sodium	145	mg/L	1.0	105	70	130	3.8	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**								Analytical Run: ICP202-B_101007A	
Sample ID:	**ICV**	Continuing Calibration Verification Standard							10/07/10 11:43	
Calcium		25.9	mg/L	1.0	103	95	105			
Magnesium		24.6	mg/L	1.0	98	95	105			
Potassium		24.2	mg/L	1.0	97	95	105			
Sodium		24.5	mg/L	1.0	98	95	105			
Method:	**E200.7**								Batch: R155211	
Sample ID:	**MB-SPDIS101007A**	Method Blank				Run: ICP202-B_101007A			10/07/10 12:31	
Calcium		0.04	mg/L	0.02						
Magnesium		ND	mg/L	0.006						
Potassium		0.01	mg/L	0.007						
Sodium		0.03	mg/L	0.01						
Sample ID:	**LFB-SPDIS101007A**	Laboratory Fortified Blank				Run: ICP202-B_101007A			10/07/10 12:35	
Calcium		49.4	mg/L	1.0	99	85	115			
Magnesium		45.1	mg/L	1.0	90	85	115			
Potassium		48.6	mg/L	1.3	97	85	115			
Sodium		46.2	mg/L	1.0	92	85	115			
Sample ID:	**MB-49298**	Method Blank				Run: ICP202-B_101007A			10/07/10 12:42	
Calcium		0.09	mg/L	0.08						
Magnesium		ND	mg/L	0.03						
Potassium		0.4	mg/L	0.03						
Sodium		0.07	mg/L	0.06						
Sample ID:	**B10092352-008BMS2**	Sample Matrix Spike				Run: ICP202-B_101007A			10/07/10 12:57	
Calcium		4800	mg/L	1.0	110	70	130			
Magnesium		3850	mg/L	1.0	100	70	130			
Potassium		2580	mg/L	67	101	70	130			
Sodium		8080	mg/L	14	104	70	130			
Sample ID:	**B10092352-008BMSD2**	Sample Matrix Spike Duplicate				Run: ICP202-B_101007A			10/07/10 13:01	
Calcium		5050	mg/L	1.0	120	70	130	5	20	
Magnesium		4040	mg/L	1.0	108	70	130	5	20	
Potassium		2480	mg/L	67	97	70	130	3.7	20	
Sodium		8820	mg/L	14	133	70	130	8.8	20	S
Sample ID:	**B10100491-001BMS2**	Sample Matrix Spike				Run: ICP202-B_101007A			10/07/10 13:37	
Calcium		107	mg/L	1.0	104	70	130			
Magnesium		60.7	mg/L	1.0	95	70	130			
Potassium		51.8	mg/L	1.3	100	70	130			
Sodium		77.4	mg/L	1.0	97	70	130			
Sample ID:	**B10100491-001BMSD2**	Sample Matrix Spike Duplicate				Run: ICP202-B_101007A			10/07/10 13:41	
Calcium		103	mg/L	1.0	96	70	130	3.8	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R155211
Sample ID: B10100491-001BMSD2	Sample Matrix Spike Duplicate				Run: ICP202-B_101007A			10/07/10 13:41	
Magnesium	59.4	mg/L	1.0	92	70	130	2.1	20	
Potassium	51.0	mg/L	1.3	98	70	130	1.6	20	
Sodium	78.4	mg/L	1.0	99	70	130	1.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC202-B_101004A	
Sample ID: ICV100410-11	Initial Calibration Verification Standard							10/04/10 11:14	
Chloride	22.8	mg/L	1.0	91	90	110			
Sulfate	95.7	mg/L	1.0	96	90	110			
Method: E300.0								Batch: R154986	
Sample ID: ICB100410-12	Method Blank				Run: IC202-B_101004A			10/04/10 11:26	
Chloride	0.09	mg/L	0.02						
Sulfate	ND	mg/L	0.2						
Sample ID: LFB100410-13	Laboratory Fortified Blank				Run: IC202-B_101004A			10/04/10 11:38	
Chloride	22.8	mg/L	1.0	91	90	110			
Sulfate	94.7	mg/L	1.1	95	90	110			
Sample ID: B10092352-001AMS	Sample Matrix Spike				Run: IC202-B_101004A			10/05/10 05:04	
Chloride	8160	mg/L	27	110	90	110			
Sulfate	10800	mg/L	110	101	90	110			
Sample ID: B10092352-001AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_101004A			10/05/10 05:15	
Chloride	7850	mg/L	27	97	90	110	3.9	20	
Sulfate	10800	mg/L	110	101	90	110	0.2	20	
Sample ID: B10092352-011AMS	Sample Matrix Spike				Run: IC202-B_101004A			10/05/10 07:47	
Chloride	595	mg/L	5.4	99	90	110			
Sulfate	4830	mg/L	21	109	90	110			
Sample ID: B10092352-011AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_101004A			10/05/10 07:58	
Chloride	597	mg/L	5.4	99	90	110	0.3	20	
Sulfate	4820	mg/L	21	108	90	110	0.4	20	
Sample ID: B10092352-021AMS	Sample Matrix Spike				Run: IC202-B_101004A			10/05/10 10:29	
Chloride	11100	mg/L	27	107	90	110			
Sulfate	11800	mg/L	110	105	90	110			
Sample ID: B10092352-021AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_101004A			10/05/10 11:04	
Chloride	10800	mg/L	27	91	90	110	3.5	20	
Sulfate	11700	mg/L	110	104	90	110	0.8	20	
Sample ID: B10092330-001AMS	Sample Matrix Spike				Run: IC202-B_101004A			10/06/10 18:22	
Chloride	51.8	mg/L	1.0	106	90	110			
Sulfate	753	mg/L	1.1		90	110			A
Sample ID: B10092330-001AMSD	Sample Matrix Spike Duplicate				Run: IC202-B_101004A			10/06/10 18:33	
Chloride	51.7	mg/L	1.0	106	90	110	0.3	20	
Sulfate	753	mg/L	1.1		90	110	0	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Batch: R154986
Sample ID:	**B10092352-008AMS**	Sample Matrix Spike				Run: IC202-B_101004A				10/07/10 13:45
Chloride		20300	mg/L	54	105	90	110			
Sulfate		22400	mg/L	210	106	90	110			
Sample ID:	**B10092352-008AMSD**	Sample Matrix Spike Duplicate				Run: IC202-B_101004A				10/07/10 13:57
Chloride		20400	mg/L	54	107	90	110	0.3	20	
Sulfate		22500	mg/L	210	106	90	110	0.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1								Analytical Run: FIA203-B_101001A	
Sample ID: ICV	Initial Calibration Verification Standard							10/01/10 09:53	
Nitrogen, Ammonia as N	8.58	mg/L	0.30	101	90	110			
Method: E350.1								Batch: R154863	
Sample ID: MBLK	Method Blank				Run: FIA203-B_101001A			10/01/10 09:54	
Nitrogen, Ammonia as N	ND	mg/L	0.03						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_101001A			10/01/10 09:55	
Nitrogen, Ammonia as N	0.981	mg/L	0.050	99	90	110			
Sample ID: B10092352-011DMS	Sample Matrix Spike				Run: FIA203-B_101001A			10/01/10 10:18	
Nitrogen, Ammonia as N	0.966	mg/L	0.050	99	90	110			
Sample ID: B10092352-011DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101001A			10/01/10 10:19	
Nitrogen, Ammonia as N	0.966	mg/L	0.050	99	90	110	0	10	
Sample ID: B10092352-018DMS	Sample Matrix Spike				Run: FIA203-B_101001A			10/01/10 10:35	
Nitrogen, Ammonia as N	2.35	mg/L	0.050	94	90	110			
Sample ID: B10092352-018DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101001A			10/01/10 10:36	
Nitrogen, Ammonia as N	2.36	mg/L	0.050	95	90	110	0.2	10	
Sample ID: B10092520-001DMS	Sample Matrix Spike				Run: FIA203-B_101001A			10/01/10 10:51	
Nitrogen, Ammonia as N	0.965	mg/L	0.050	98	90	110			
Sample ID: B10092520-001DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101001A			10/01/10 10:53	
Nitrogen, Ammonia as N	0.964	mg/L	0.050	98	90	110	0.1	10	
Sample ID: B10092509-002AMS	Sample Matrix Spike				Run: FIA203-B_101001A			10/01/10 11:08	
Nitrogen, Ammonia as N	0.936	mg/L	0.050	96	90	110			
Sample ID: B10092509-002AMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101001A			10/01/10 11:09	
Nitrogen, Ammonia as N	0.916	mg/L	0.050	93	90	110	2.2	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/11/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-B_101004A	
Sample ID: ICV	Initial Calibration Verification Standard							10/04/10 08:45	
Nitrogen, Nitrate+Nitrite as N	30.7	mg/L	0.10	105	90	110			
Method: E353.2								Batch: R154945	
Sample ID: MBLK	Method Blank				Run: FIA203-B_101004A			10/04/10 08:47	
Nitrogen, Nitrate+Nitrite as N	0.008	mg/L	0.004						
Sample ID: LFB	Laboratory Fortified Blank				Run: FIA203-B_101004A			10/04/10 08:48	
Nitrogen, Nitrate+Nitrite as N	1.04	mg/L	0.010	105	90	110			
Sample ID: B10092352-002DMS	Sample Matrix Spike				Run: FIA203-B_101004A			10/04/10 09:44	
Nitrogen, Nitrate+Nitrite as N	0.610	mg/L	0.010	59	90	110			S
Sample ID: B10092352-002DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101004A			10/04/10 09:45	
Nitrogen, Nitrate+Nitrite as N	0.596	mg/L	0.010	58	90	110	2.3	10	S
Sample ID: B10092352-010DMS	Sample Matrix Spike				Run: FIA203-B_101004A			10/04/10 11:55	
Nitrogen, Nitrate+Nitrite as N	0.365	mg/L	0.010	37	90	110			S
Sample ID: B10092352-010DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101004A			10/04/10 11:56	
Nitrogen, Nitrate+Nitrite as N	0.365	mg/L	0.010	37	90	110	0	10	S
Sample ID: B10092352-016DMS	Sample Matrix Spike				Run: FIA203-B_101004A			10/04/10 12:07	
Nitrogen, Nitrate+Nitrite as N	0.693	mg/L	0.010	69	90	110			S
Sample ID: B10092352-016DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101004A			10/04/10 12:08	
Nitrogen, Nitrate+Nitrite as N	0.700	mg/L	0.010	70	90	110	1	10	S
Sample ID: B10092355-003BMS	Sample Matrix Spike				Run: FIA203-B_101004A			10/04/10 12:24	
Nitrogen, Nitrate+Nitrite as N	36.1	mg/L	0.20	100	90	110			
Sample ID: B10092355-003BMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101004A			10/04/10 12:25	
Nitrogen, Nitrate+Nitrite as N	36.2	mg/L	0.20	101	90	110	0.3	10	
Sample ID: B10092352-022DMS	Sample Matrix Spike				Run: FIA203-B_101004A			10/04/10 17:12	
Nitrogen, Nitrate+Nitrite as N	22.1	mg/L	0.10	102	90	110			
Sample ID: B10092352-022DMSD	Sample Matrix Spike Duplicate				Run: FIA203-B_101004A			10/04/10 17:13	
Nitrogen, Nitrate+Nitrite as N	22.3	mg/L	0.10	103	90	110	0.7	10	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Analytical Run: R154785
Sample ID: CCV_0929VA204r-W	Continuing Calibration Verification Standard								09/29/10 13:49
Methyl tert-butyl ether (MTBE)	65.3	ug/L	1.0	109	85	115			
Benzene	21.4	ug/L	0.50	107	85	115			
Toluene	64.3	ug/L	0.50	107	85	115			
Ethylbenzene	21.5	ug/L	0.50	108	85	115			
m+p-Xylenes	82.1	ug/L	0.50	103	85	115			
o-Xylene	42.1	ug/L	0.50	105	85	115			
Xylenes, Total	124	ug/L	0.50	104	85	115			
Surr: Trifluorotoluene			1.0	102	85	115			
Method: SW8021B									Batch: R154785
Sample ID: LCS_0929VA205r	Laboratory Control Sample				Run: VARIAN2_100929A				09/29/10 14:24
Methyl tert-butyl ether (MTBE)	20.8	ug/L	1.0	104	70	130			
Benzene	21.3	ug/L	0.50	106	70	130			
Toluene	21.8	ug/L	0.50	109	70	130			
Ethylbenzene	20.5	ug/L	0.50	103	70	130			
m+p-Xylenes	43.5	ug/L	0.50	109	70	130			
o-Xylene	21.2	ug/L	0.50	106	70	130			
Xylenes, Total	64.7	ug/L	0.50	108	70	130			
Surr: Trifluorotoluene			1.0	99	80	120			
Sample ID: MBLK_0929VA211r	Method Blank				Run: VARIAN2_100929A				09/29/10 17:53
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	93	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B								Analytical Run: R154858	
Sample ID: CCV_0930VA204r-W	Continuing Calibration Verification Standard							09/30/10 14:34	
Methyl tert-butyl ether (MTBE)	63.0	ug/L	1.0	105	85	115			
Benzene	21.4	ug/L	0.50	107	85	115			
Toluene	64.5	ug/L	0.50	107	85	115			
Ethylbenzene	21.5	ug/L	0.50	107	85	115			
m+p-Xylenes	82.0	ug/L	0.50	103	85	115			
o-Xylene	42.2	ug/L	0.50	105	85	115			
Xylenes, Total	124	ug/L	0.50	104	85	115			
Surr: Trifluorotoluene			1.0	101	85	115			
Method: SW8021B								Batch: R154858	
Sample ID: LCS_0930VA205r	Laboratory Control Sample				Run: VARIAN2_100930A			09/30/10 15:09	
Methyl tert-butyl ether (MTBE)	20.1	ug/L	1.0	101	70	130			
Benzene	21.1	ug/L	0.50	106	70	130			
Toluene	21.5	ug/L	0.50	108	70	130			
Ethylbenzene	20.3	ug/L	0.50	102	70	130			
m+p-Xylenes	43.1	ug/L	0.50	108	70	130			
o-Xylene	21.1	ug/L	0.50	106	70	130			
Xylenes, Total	64.3	ug/L	0.50	107	70	130			
Surr: Trifluorotoluene			1.0	93	80	120			
Sample ID: MBLK_0930VA207r	Method Blank				Run: VARIAN2_100930A			09/30/10 16:19	
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	94	80	120			
Sample ID: B10092352-001FMS	Sample Matrix Spike				Run: VARIAN2_100930A			09/30/10 23:49	
Methyl tert-butyl ether (MTBE)	49.2	ug/L	2.0	98	70	130			
Benzene	50.5	ug/L	1.0	101	70	130			
Toluene	51.8	ug/L	1.0	104	70	130			
Ethylbenzene	48.6	ug/L	1.0	97	70	130			
m+p-Xylenes	102	ug/L	1.0	102	70	130			
o-Xylene	49.9	ug/L	1.0	100	70	130			
Xylenes, Total	151	ug/L	1.0	101	70	130			
Surr: Trifluorotoluene			2.0	103	80	120			
Sample ID: B10092352-001FMSD	Sample Matrix Spike Duplicate				Run: VARIAN2_100930A			10/01/10 00:58	
Methyl tert-butyl ether (MTBE)	49.2	ug/L	2.0	98	70	130	0.1	20	
Benzene	50.7	ug/L	1.0	101	70	130	0.3	20	
Toluene	51.5	ug/L	1.0	103	70	130	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Batch: R154858
Sample ID: B10092352-001FMSD	Sample Matrix Spike Duplicate				Run: VARIAN2_100930A			10/01/10 00:58	
Ethylbenzene	48.3	ug/L	1.0	97	70	130	0.7	20	
m+p-Xylenes	101	ug/L	1.0	101	70	130	0.8	20	
o-Xylene	49.9	ug/L	1.0	100	70	130	0.1	20	
Xylenes, Total	151	ug/L	1.0	100	70	130			
Surr: Trifluorotoluene			2.0	101	80	120	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B								Analytical Run: R154865	
Sample ID: CCV_0930PE204r-W	Continuing Calibration Verification Standard							09/30/10 15:03	
Methyl tert-butyl ether (MTBE)	60.5	ug/L	1.0	101	85	115			
Benzene	19.9	ug/L	0.50	100	85	115			
Toluene	58.0	ug/L	0.50	97	85	115			
Ethylbenzene	20.0	ug/L	0.50	100	85	115			
m+p-Xylenes	77.2	ug/L	0.50	96	85	115			
o-Xylene	40.1	ug/L	0.50	100	85	115			
Xylenes, Total	117	ug/L	0.50	98	85	115			
Surr: Trifluorotoluene			1.0	98	85	115			
Method: SW8021B								Batch: R154865	
Sample ID: LCS_0930PE205r	Laboratory Control Sample				Run: PE2_100930A			09/30/10 15:38	
Methyl tert-butyl ether (MTBE)	21.0	ug/L	1.0	105	70	130			
Benzene	20.4	ug/L	0.50	102	70	130			
Toluene	19.9	ug/L	0.50	99	70	130			
Ethylbenzene	19.6	ug/L	0.50	98	70	130			
m+p-Xylenes	39.5	ug/L	0.50	99	70	130			
o-Xylene	20.1	ug/L	0.50	100	70	130			
Xylenes, Total	59.6	ug/L	0.50	99	70	130			
Surr: Trifluorotoluene			1.0	99	80	120			
Sample ID: MBLK_0930PE207r	Method Blank				Run: PE2_100930A			09/30/10 16:50	
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	93	80	120			
Sample ID: B10092352-017FMS	Sample Matrix Spike				Run: PE2_100930A			10/07/10 21:23	
Methyl tert-butyl ether (MTBE)	47.7	ug/L	2.0	95	70	130			
Benzene	47.4	ug/L	1.0	95	70	130			
Toluene	46.7	ug/L	1.0	93	70	130			
Ethylbenzene	46.5	ug/L	1.0	93	70	130			
m+p-Xylenes	92.7	ug/L	1.0	93	70	130			
o-Xylene	47.3	ug/L	1.0	95	70	130			
Xylenes, Total	140	ug/L	1.0	93	70	130			
Surr: Trifluorotoluene			2.0	95	80	120			
Sample ID: B10092352-017FMSD	Sample Matrix Spike Duplicate				Run: PE2_100930A			10/07/10 22:34	
Methyl tert-butyl ether (MTBE)	47.8	ug/L	2.0	96	70	130	0.3	20	
Benzene	48.4	ug/L	1.0	97	70	130	2.1	20	
Toluene	47.9	ug/L	1.0	96	70	130	2.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Batch: R154865
Sample ID: B10092352-017FMSD	Sample Matrix Spike Duplicate				Run: PE2_100930A			10/07/10 22:34	
Ethylbenzene	48.2	ug/L	1.0	96	70	130	3.5	20	
m+p-Xylenes	95.9	ug/L	1.0	96	70	130	3.4	20	
o-Xylene	48.9	ug/L	1.0	98	70	130	3.2	20	
Xylenes, Total	145	ug/L	1.0	96	70	130			
Surr: Trifluorotoluene			2.0	95	80	120	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B								Analytical Run: R155030	
Sample ID: CCV_1001VA204r-W	Continuing Calibration Verification Standard							10/01/10 13:28	
Methyl tert-butyl ether (MTBE)	61.1	ug/L	1.0	102	85	115			
Benzene	20.7	ug/L	0.50	103	85	115			
Toluene	62.9	ug/L	0.50	105	85	115			
Ethylbenzene	21.0	ug/L	0.50	105	85	115			
m+p-Xylenes	80.4	ug/L	0.50	101	85	115			
o-Xylene	41.1	ug/L	0.50	103	85	115			
Xylenes, Total	122	ug/L	0.50	101	85	115			
Surr: Trifluorotoluene			1.0	110	85	115			
Method: SW8021B								Batch: R155030	
Sample ID: LCS_1001VA205r	Laboratory Control Sample				Run: VARIAN2_101001A			10/01/10 14:03	
Methyl tert-butyl ether (MTBE)	19.4	ug/L	1.0	97	70	130			
Benzene	20.2	ug/L	0.50	101	70	130			
Toluene	20.8	ug/L	0.50	104	70	130			
Ethylbenzene	19.6	ug/L	0.50	98	70	130			
m+p-Xylenes	41.9	ug/L	0.50	105	70	130			
o-Xylene	20.5	ug/L	0.50	103	70	130			
Xylenes, Total	62.4	ug/L	0.50	104	70	130			
Surr: Trifluorotoluene			1.0	104	80	120			
Sample ID: MBLK_1001VA207r	Method Blank				Run: VARIAN2_101001A			10/01/10 15:11	
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	104	80	120			
Sample ID: B10092352-010FMS	Sample Matrix Spike				Run: VARIAN2_101001A			10/07/10 17:41	
Methyl tert-butyl ether (MTBE)	49.1	ug/L	2.0	98	70	130			
Benzene	50.5	ug/L	1.0	101	70	130			
Toluene	52.6	ug/L	1.0	105	70	130			
Ethylbenzene	42.6	ug/L	1.0	85	70	130			
m+p-Xylenes	88.2	ug/L	1.0	88	70	130			
o-Xylene	44.7	ug/L	1.0	89	70	130			
Xylenes, Total	133	ug/L	1.0	89	70	130			
Surr: Trifluorotoluene			2.0	111	80	120			
Sample ID: B10092352-010FMSD	Sample Matrix Spike Duplicate				Run: VARIAN2_101001A			10/07/10 18:49	
Methyl tert-butyl ether (MTBE)	48.4	ug/L	2.0	97	70	130	1.6	20	
Benzene	49.5	ug/L	1.0	99	70	130	2.1	20	
Toluene	51.9	ug/L	1.0	104	70	130	1.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Batch: R155030
Sample ID: B10092352-010FMSD	Sample Matrix Spike Duplicate				Run: VARIAN2_101001A			10/07/10 18:49	
Ethylbenzene	49.3	ug/L	1.0	99	70	130	15	20	
m+p-Xylenes	101	ug/L	1.0	101	70	130	13	20	
o-Xylene	48.7	ug/L	1.0	97	70	130	8.6	20	
Xylenes, Total	149	ug/L	1.0	100	70	130			
Surr: Trifluorotoluene			2.0	110	80	120	0	20	
Method: SW8021B									Analytical Run: R155074
Sample ID: CCV_1004PE204r-W	Continuing Calibration Verification Standard							10/04/10 12:13	
Methyl tert-butyl ether (MTBE)	57.8	ug/L	1.0	96	85	115			
Benzene	19.5	ug/L	0.50	98	85	115			
Toluene	57.5	ug/L	0.50	96	85	115			
Ethylbenzene	19.8	ug/L	0.50	99	85	115			
m+p-Xylenes	76.3	ug/L	0.50	95	85	115			
o-Xylene	39.6	ug/L	0.50	99	85	115			
Xylenes, Total	116	ug/L	0.50	97	85	115			
Surr: Trifluorotoluene			1.0	97	85	115			
Method: SW8021B									Batch: R155074
Sample ID: LCS_1004PE205r	Laboratory Control Sample				Run: PE2_101004A			10/04/10 12:48	
Methyl tert-butyl ether (MTBE)	19.9	ug/L	1.0	99	70	130			
Benzene	19.8	ug/L	0.50	99	70	130			
Toluene	19.2	ug/L	0.50	96	70	130			
Ethylbenzene	19.2	ug/L	0.50	96	70	130			
m+p-Xylenes	38.5	ug/L	0.50	96	70	130			
o-Xylene	19.5	ug/L	0.50	98	70	130			
Xylenes, Total	58.0	ug/L	0.50	97	70	130			
Surr: Trifluorotoluene			1.0	96	80	120			
Sample ID: MBLK_1004PE210r	Method Blank				Run: PE2_101004A			10/04/10 15:51	
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	91	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Analytical Run: R155087
Sample ID: CCV_1004VA204r-W	Continuing Calibration Verification Standard								10/04/10 13:12
Methyl tert-butyl ether (MTBE)	60.5	ug/L	1.0	101	85	115			
Benzene	20.9	ug/L	0.50	104	85	115			
Toluene	63.0	ug/L	0.50	105	85	115			
Ethylbenzene	21.1	ug/L	0.50	105	85	115			
m+p-Xylenes	80.8	ug/L	0.50	101	85	115			
o-Xylene	41.4	ug/L	0.50	103	85	115			
Xylenes, Total	122	ug/L	0.50	102	85	115			
Surr: Trifluorotoluene			1.0	110	85	115			
Method: SW8021B									Batch: R155087
Sample ID: LCS_1004VA205r	Laboratory Control Sample				Run: VARIAN2_101004A				10/04/10 13:47
Methyl tert-butyl ether (MTBE)	20.2	ug/L	1.0	101	70	130			
Benzene	21.0	ug/L	0.50	105	70	130			
Toluene	21.7	ug/L	0.50	109	70	130			
Ethylbenzene	20.5	ug/L	0.50	102	70	130			
m+p-Xylenes	42.9	ug/L	0.50	107	70	130			
o-Xylene	20.8	ug/L	0.50	104	70	130			
Xylenes, Total	63.7	ug/L	0.50	106	70	130			
Surr: Trifluorotoluene			1.0	107	80	120			
Sample ID: MBLK_1004VA207r	Method Blank				Run: VARIAN2_101004A				10/04/10 14:57
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	94	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: DOWL HKM
Project: Biere Well Remediation

Report Date: 10/15/10
Work Order: B10092352

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8021B									Analytical Run: R155090
Sample ID: CCV_1001PE204r-W	Continuing Calibration Verification Standard								10/01/10 13:28
Methyl tert-butyl ether (MTBE)	58.1	ug/L	1.0	97	85	115			
Benzene	19.2	ug/L	0.50	96	85	115			
Toluene	56.5	ug/L	0.50	94	85	115			
Ethylbenzene	19.5	ug/L	0.50	97	85	115			
m+p-Xylenes	74.9	ug/L	0.50	94	85	115			
o-Xylene	38.7	ug/L	0.50	97	85	115			
Xylenes, Total	114	ug/L	0.50	95	85	115			
Surr: Trifluorotoluene			1.0	95	85	115			
Method: SW8021B									Batch: R155090
Sample ID: LCS_1001PE205r	Laboratory Control Sample				Run: PE2_101001A				10/01/10 14:03
Methyl tert-butyl ether (MTBE)	21.2	ug/L	1.0	106	70	130			
Benzene	20.7	ug/L	0.50	103	70	130			
Toluene	20.0	ug/L	0.50	100	70	130			
Ethylbenzene	20.0	ug/L	0.50	100	70	130			
m+p-Xylenes	40.2	ug/L	0.50	100	70	130			
o-Xylene	20.3	ug/L	0.50	102	70	130			
Xylenes, Total	60.5	ug/L	0.50	101	70	130			
Surr: Trifluorotoluene			1.0	101	80	120			
Sample ID: MBLK_1001PE207r	Method Blank				Run: PE2_101001A				10/01/10 15:14
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Benzene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: Trifluorotoluene			1.0	92	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

PNR-9

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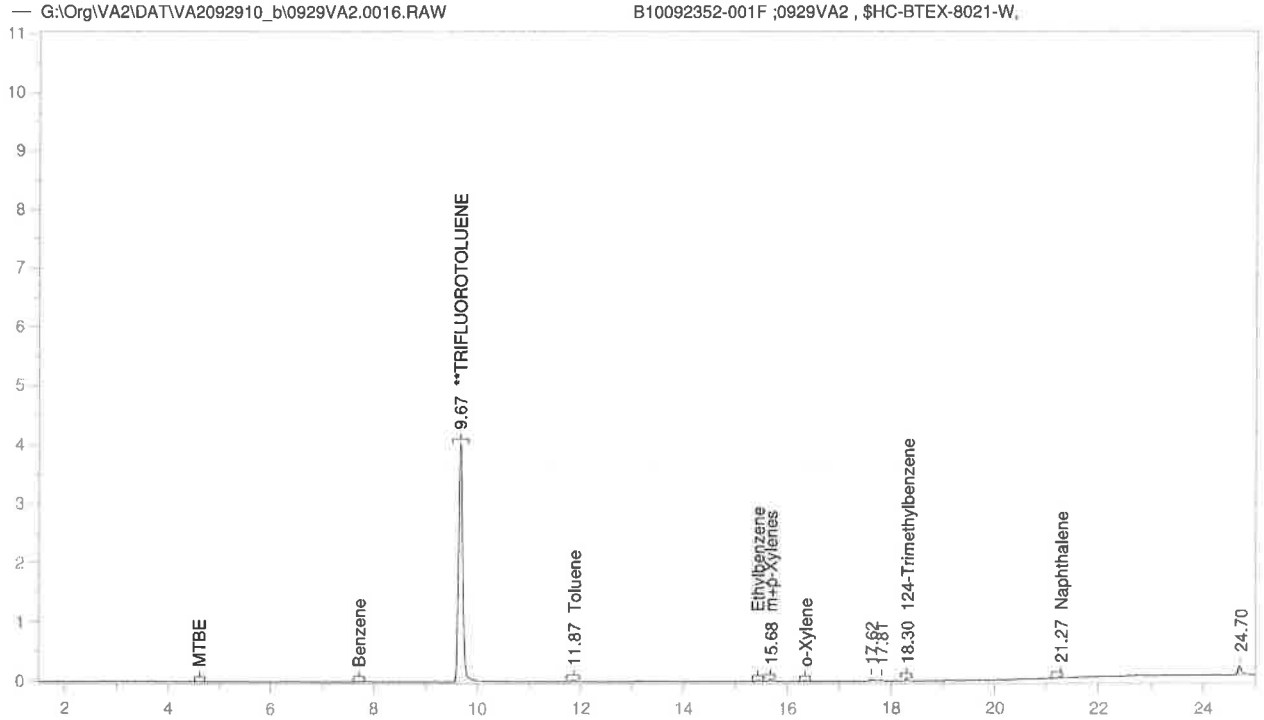


PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

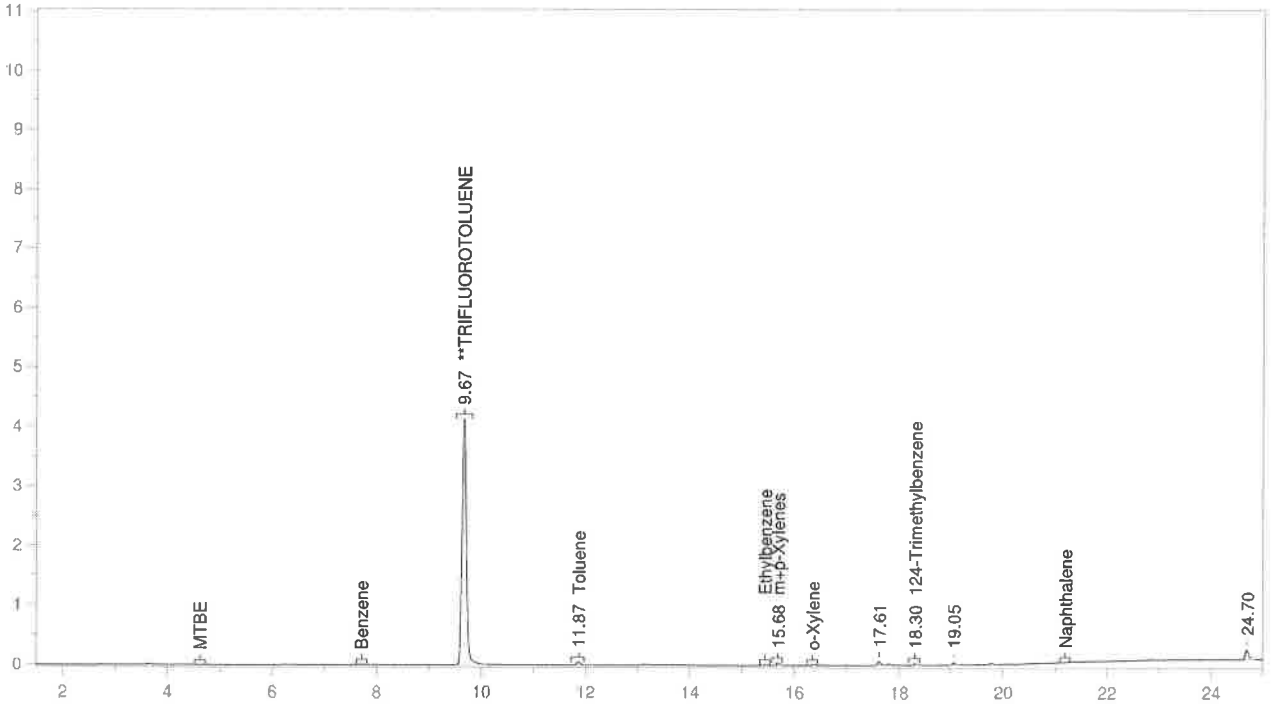
Sample Name: B10092352-001F ;0929VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2092910_b\0929VA2.0016.RAW
Date & Time Acquired: 9/29/2010 8:47:07 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	11.867	11.867	11.867	159	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.679	15.679	15.679	162	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.305	18.305	18.305	159	2.	U
Naphthalene	21.266	21.266	21.266	100	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.67	50.	44.462	88.92	80-120

PNR-10

— G:\Org\VA2\DAT\VA2092910_b\0929VA2.0018.RAW B10092352-002F ;0929VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

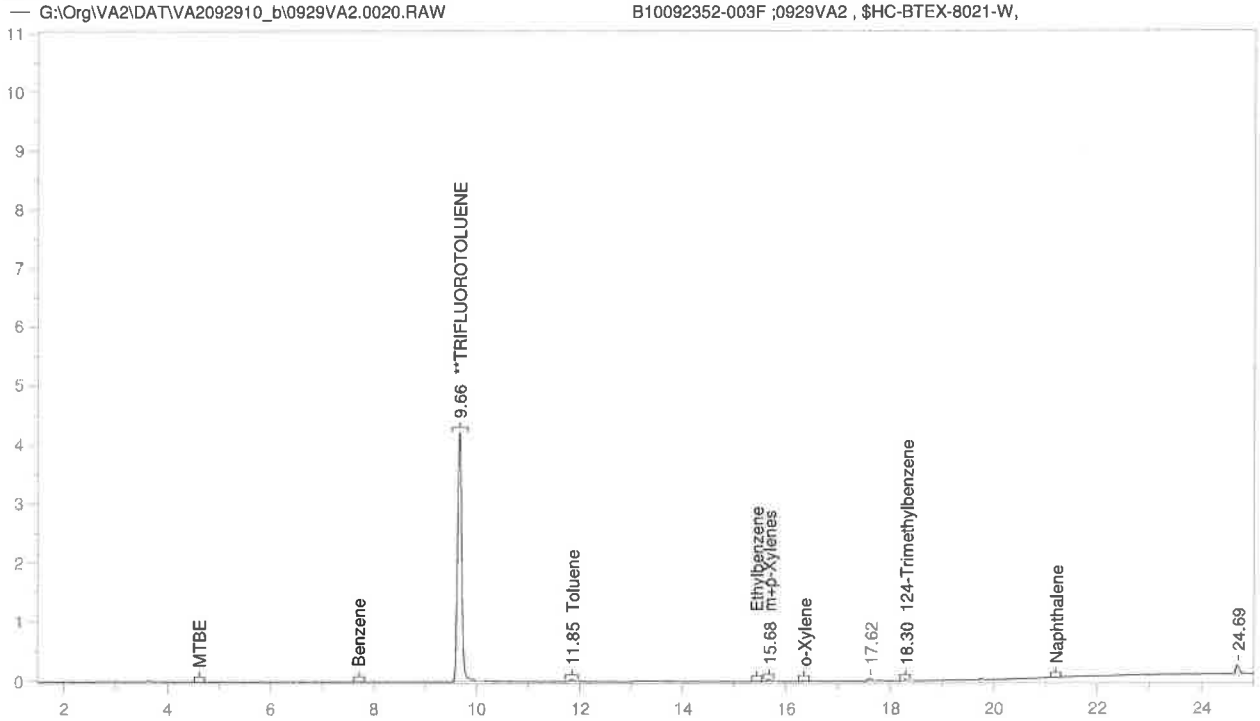
Sample Name: B10092352-002F ;0929VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2092910_b\0929VA2.0018.RAW
Date & Time Acquired: 9/29/2010 9:56:29 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	11.871	11.871	11.871	294	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.683	15.683	15.683	182	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.304	18.304	18.304	102	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.67	50.	45.616	91.23	80-120

PNR-38-08

— G:\Org\VA2\DAT\VA2092910_b\0929VA2.0020.RAW B10092352-003F ;0929VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

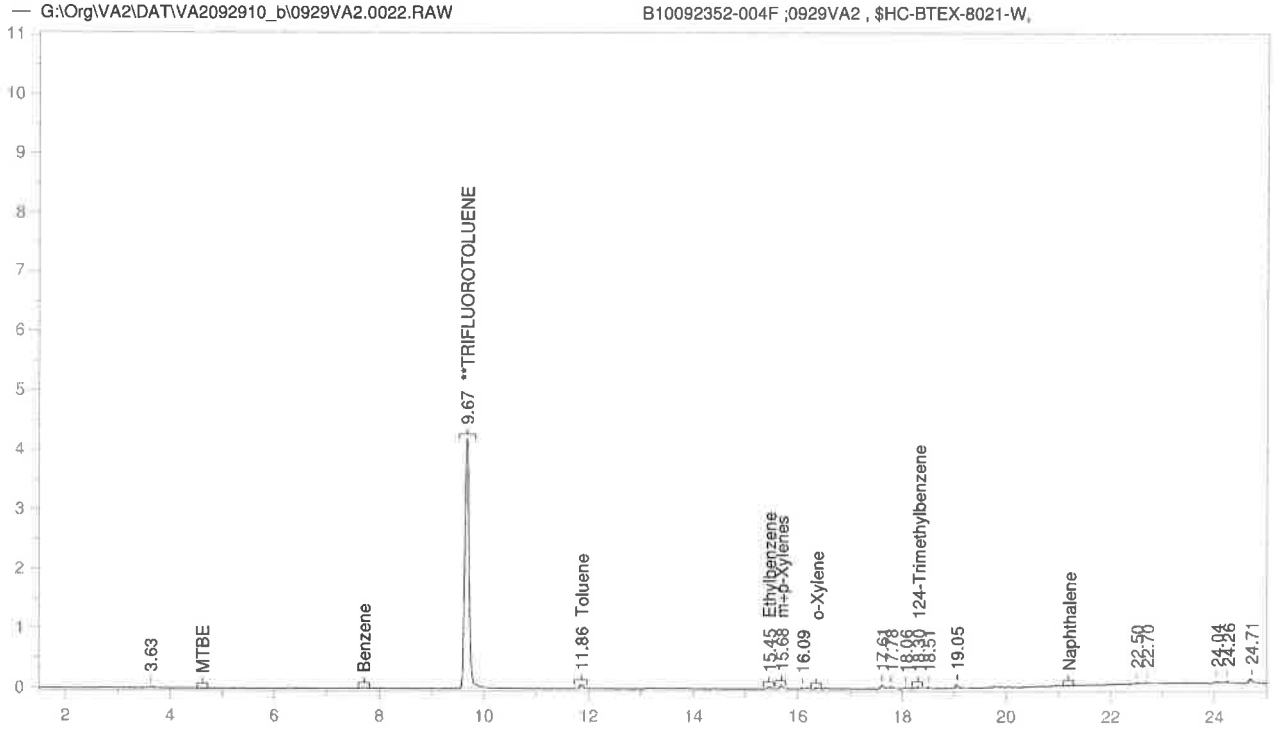
Sample Name: B10092352-003F ;0929VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2092910_b\0929VA2.0020.RAW
Date & Time Acquired: 9/29/2010 11:05:43 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	11.854	11.854	11.854	170	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.677	15.677	15.677	177	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.301	18.301	18.301	83	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.663	50.	47.098	94.2	80-120

PNR-14

— G:\Org\VA2\DAT\VA2092910_b\0929VA2.0022.RAW B10092352-004F ;0929VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

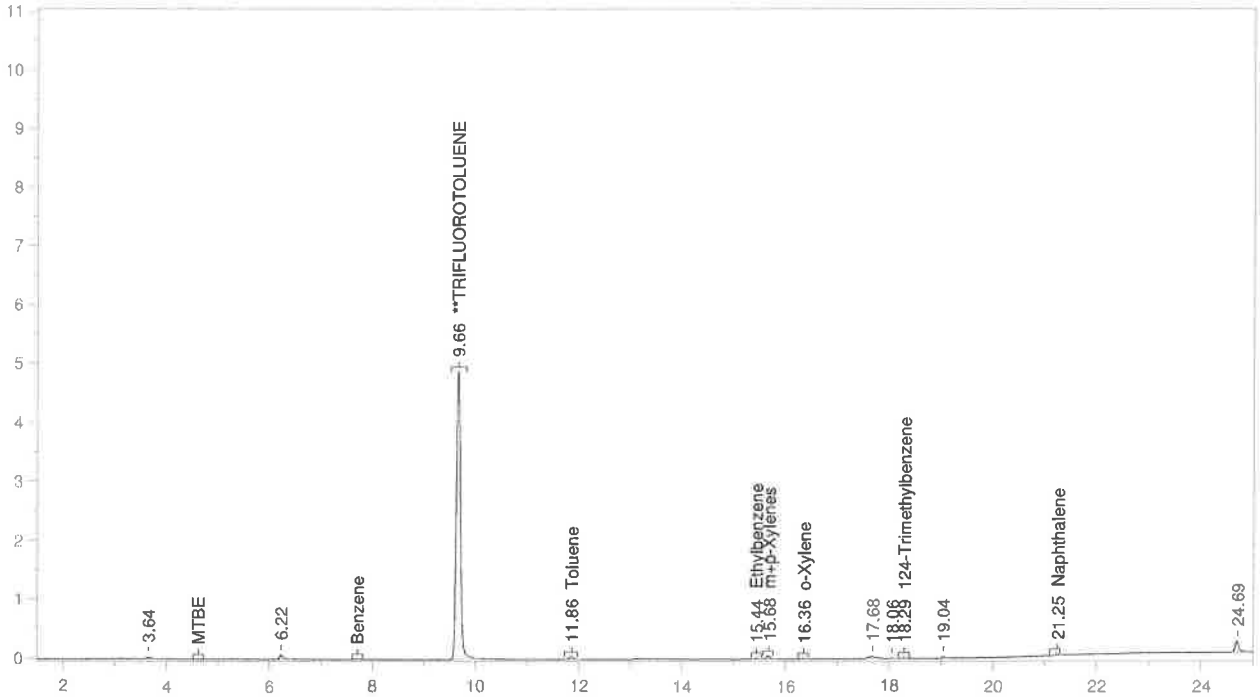
Sample Name: B10092352-004F ;0929VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2092910_b\0929VA2.0022.RAW
Date & Time Acquired: 9/30/2010 12:14:19 AM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	11.862	11.862	11.862	321	.5	U
Ethylbenzene	15.448	15.448	15.448	143	.5	U
m+p-Xylenes	15.684	15.684	15.684	201	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.303	18.303	18.303	96	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.671	50.	46.586	93.17	80-120

M-18

-- G:\Org\VA2\DAT\VA2093010_b\0930VA2.0010.RAW B10092352-005F ;0930VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

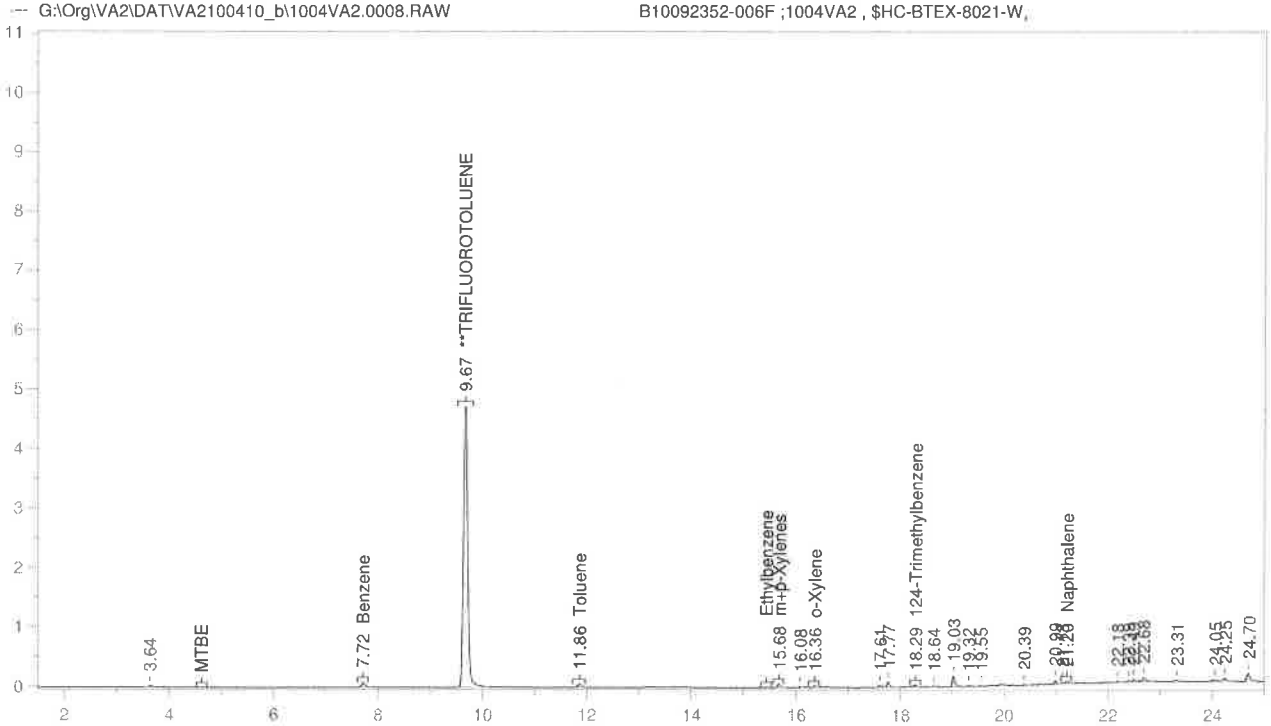
Sample Name: B10092352-005F ;0930VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2093010_b\0930VA2.0010.RAW
Date & Time Acquired: 9/30/2010 6:03:40 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	11.862	11.862	11.862	260	.5	U
Ethylbenzene	15.437	15.437	15.437	91	.5	U
m+p-Xylenes	15.678	15.678	15.678	227	.5	U
o-Xylene	16.357	16.357	16.357	83	.5	U
124-Trimethylbenzene	18.294	18.294	18.294	57	2.	U
Naphthalene	21.246	21.246	21.246	82	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.661	50.	54.399	108.8	80-120

PNR-23

-- G:\Org\VA2\DAT\VA2100410_b\1004VA2.0008.RAW B10092352-006F ;1004VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

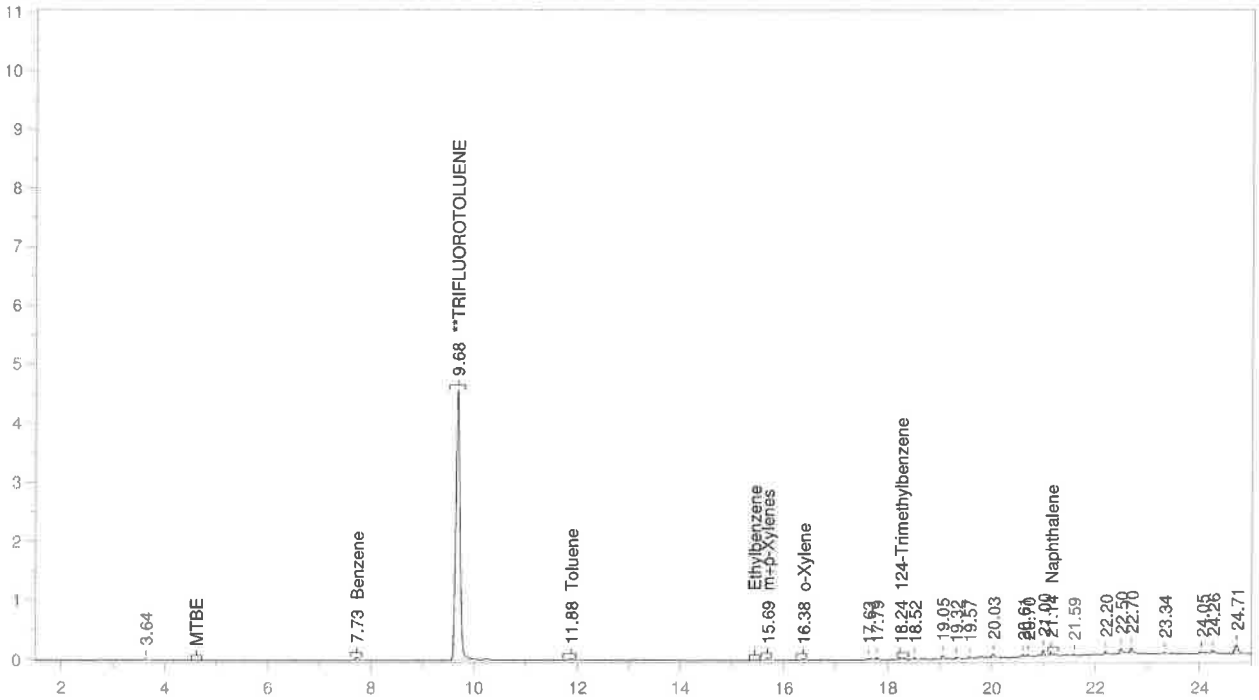
Sample Name: B10092352-006F ;1004VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100410_b\1004VA2.0008.RAW
Date & Time Acquired: 10/4/2010 3:32:21 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	7.718	7.718	7.718	408	.5	U
Toluene	11.861	11.861	11.861	266	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.679	15.679	15.679	225	.5	U
o-Xylene	16.361	16.361	16.361	91	.5	U
124-Trimethylbenzene	18.291	18.291	18.291	165	2.	U
Naphthalene	21.204	21.204	21.204	181	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.67	50.	52.314	104.63	80-120

PNR-5

— G:\Org\VA2\DAT\VA2100410_b\1004VA2.0010.RAW B10092352-007F ;1004VA2 , $HC-BTEX-8021-W,



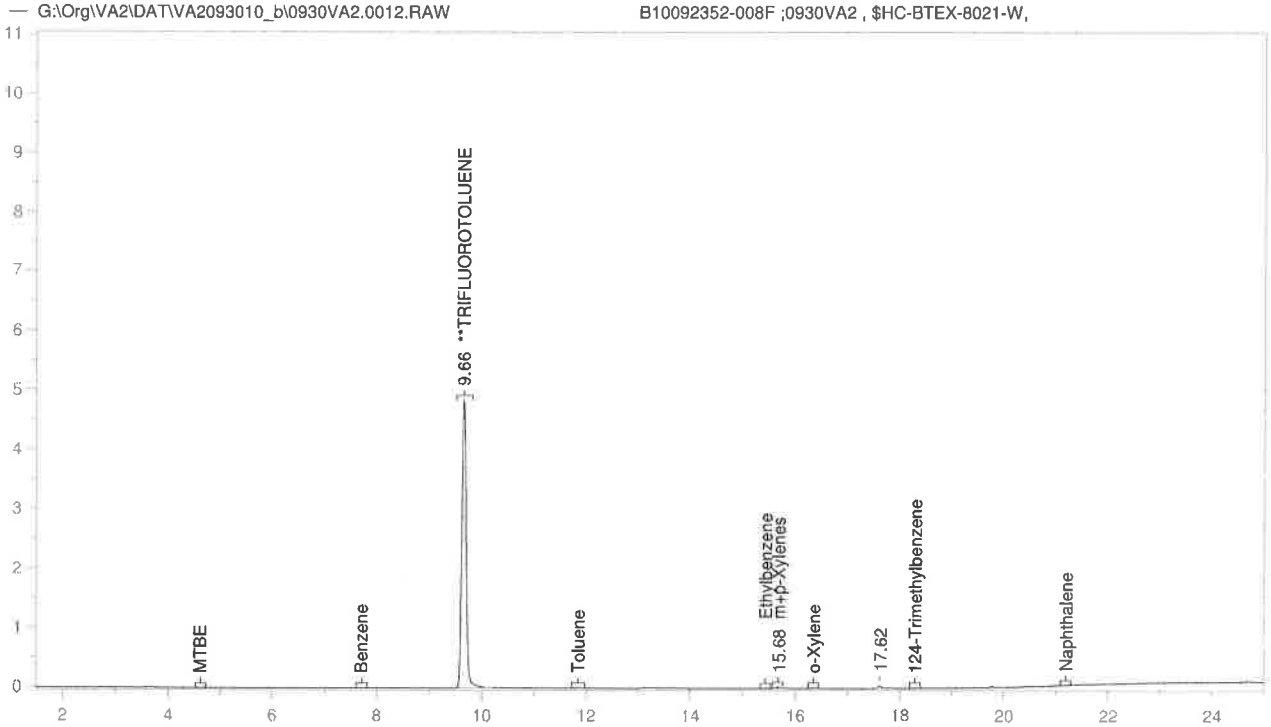
PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM
Sample Name: B10092352-007F ;1004VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100410_b\1004VA2.0010.RAW
Date & Time Acquired: 10/4/2010 4:41:35 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	7.731	7.731	7.731	235	.5	U
Toluene	11.878	11.878	11.878	177	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.687	15.687	15.687	164	.5	U
o-Xylene	16.38	16.38	16.38	81	.5	U
124-Trimethylbenzene	18.24	18.24	18.24	60	2.	U
Naphthalene	21.141	21.141	21.141	134	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.68	50.	50.368	100.74	80-120

PNR-28

— G:\Org\VA2\DAT\VA2093010_b\0930VA2.0012.RAW B10092352-008F ;0930VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

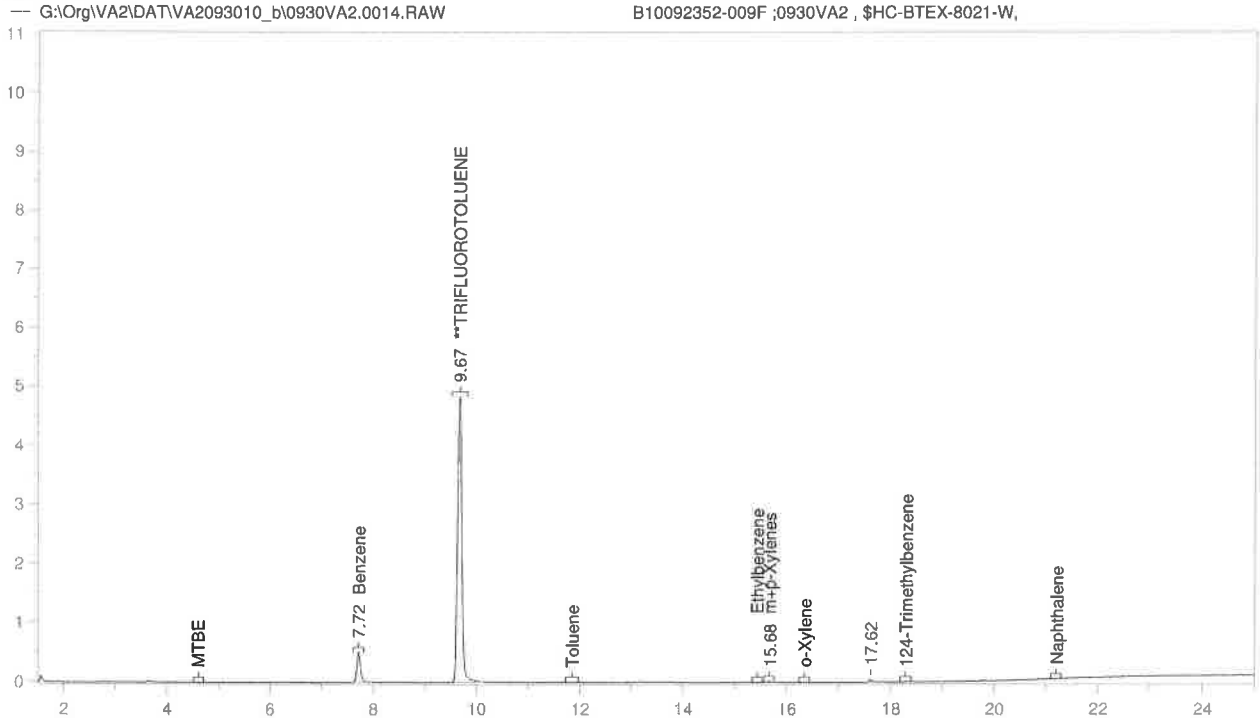
Sample Name: B10092352-008F ;0930VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2093010_b\0930VA2.0012.RAW
Date & Time Acquired: 9/30/2010 7:12:42 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.681	15.681	15.681	98	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.657	50.	54.454	108.91	80-120

PNR-27

— G:\Org\VA2\DAT\VA2093010_b\0930VA2.0014.RAW B10092352-009F ;0930VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

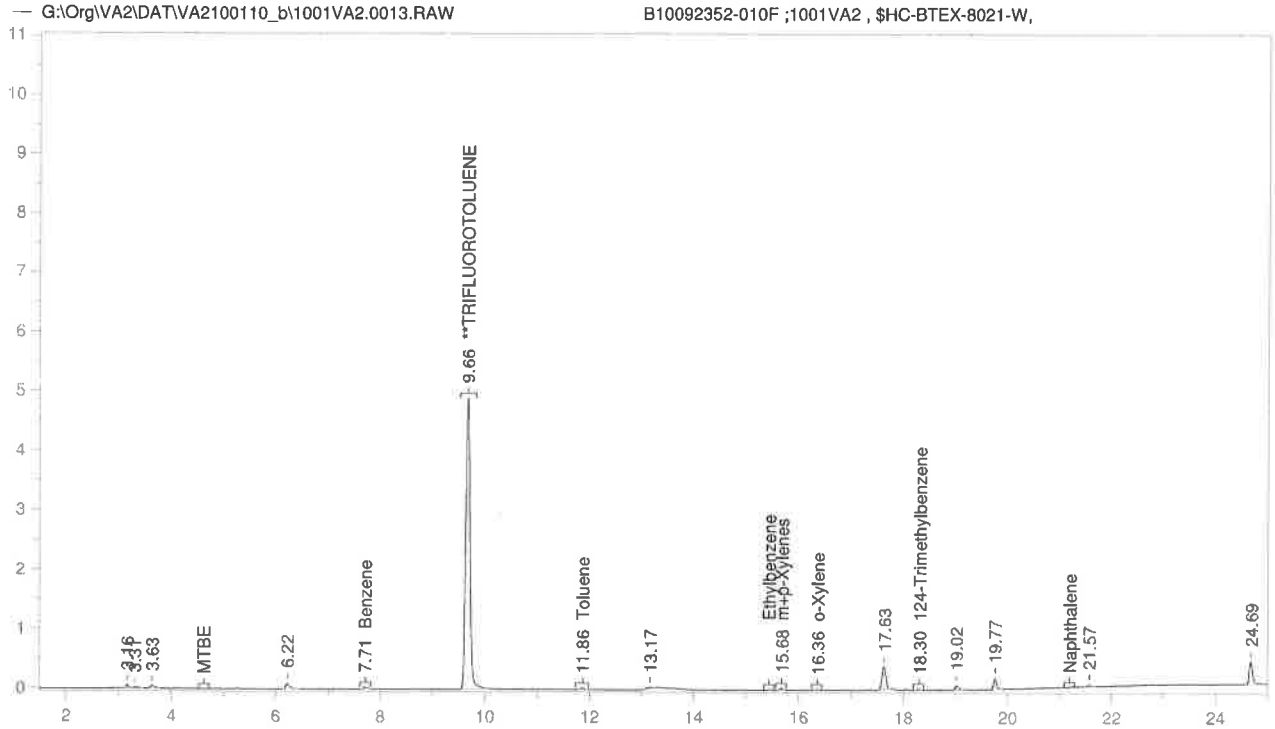
Sample Name: B10092352-009F ;0930VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2093010_b\0930VA2.0014.RAW
Date & Time Acquired: 9/30/2010 8:22:23 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	7.717	1.958	1.952	2553	1.579	
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.676	15.676	15.676	100	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.669	50.	54.497	108.99	80-120

M-27

— G:\Org\VA2\DAT\VA2100110_b\1001VA2.0013.RAW B10092352-010F ;1001VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

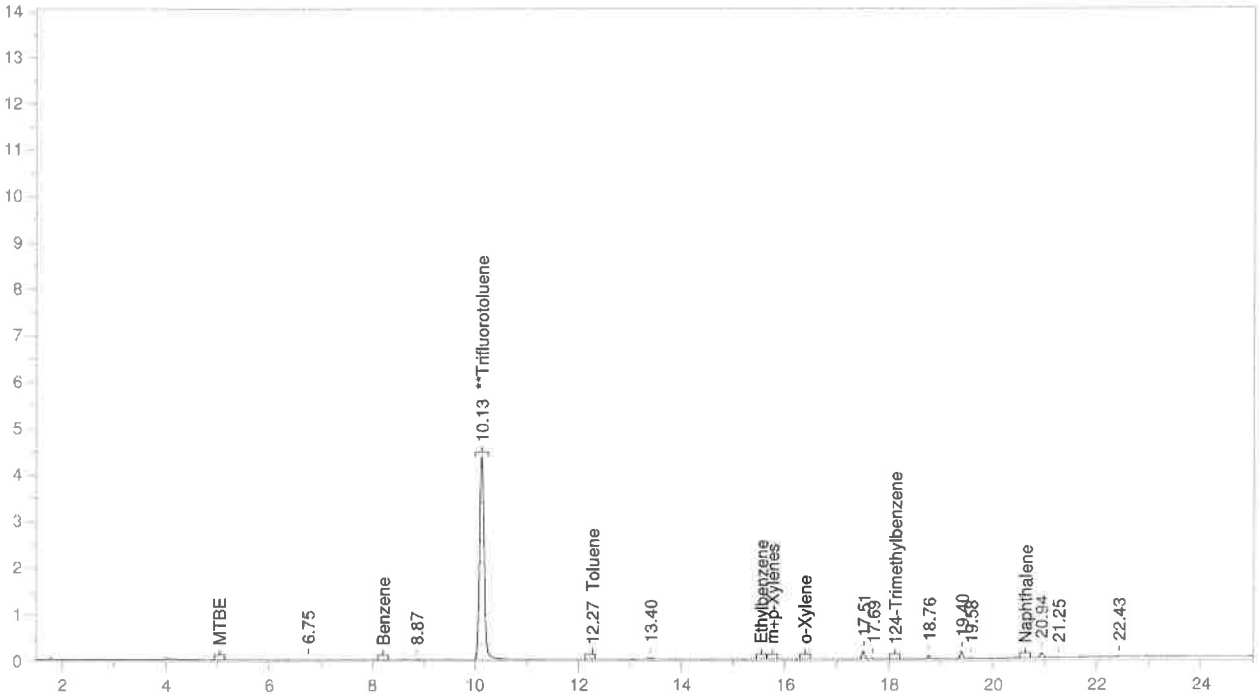
Sample Name: B10092352-010F ;1001VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100110_b\1001VA2.0013.RAW
Date & Time Acquired: 10/1/2010 6:38:41 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	7.711	7.711	7.711	160	.5	U
Toluene	11.861	11.861	11.861	143	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.677	15.677	15.677	129	.5	U
o-Xylene	16.357	16.357	16.357	76	.5	U
124-Trimethylbenzene	18.303	18.303	18.303	54	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.664	50.	54.685	109.37	80-120

PNR-33-06

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0015.RAW B10092352-011F ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

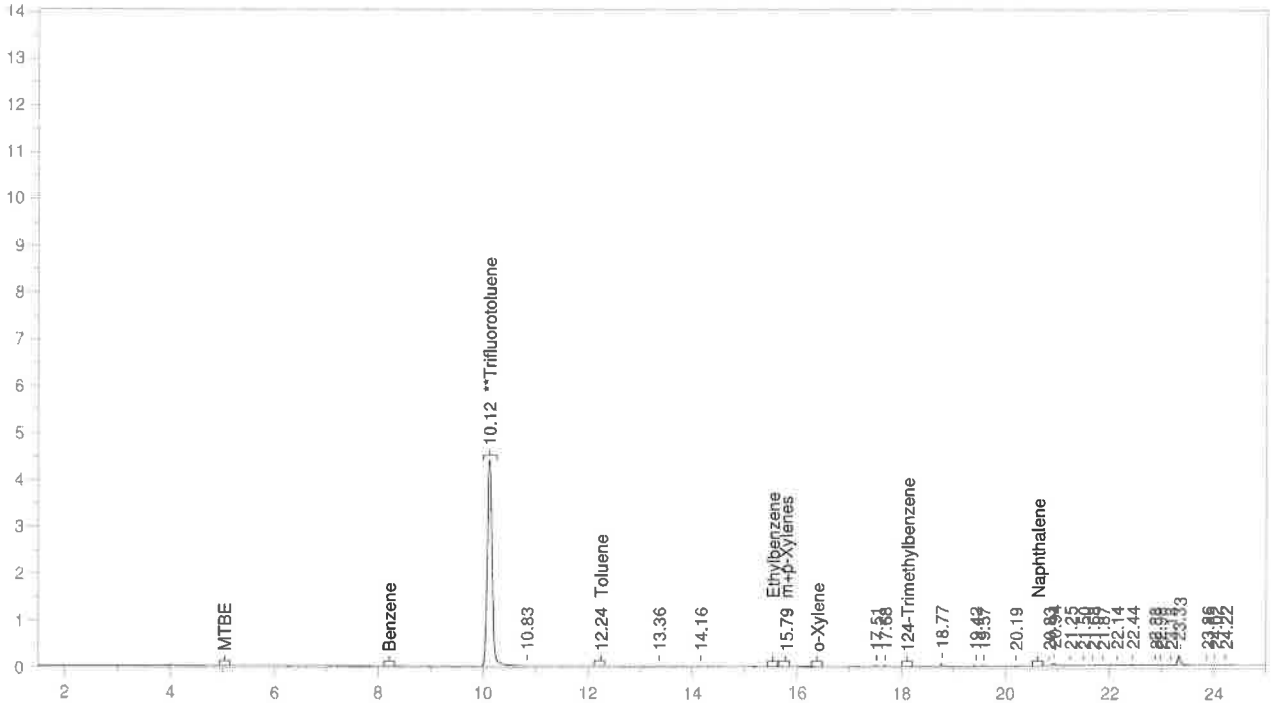
Sample Name: B10092352-011F ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0015.RAW
Date & Time Acquired: 10/1/2010 7:57:35 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.265	12.265	12.265	104	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	.	.	.		.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.127	50.	46.218	92.44	80-120

MOC-20B

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0017.RAW B10092352-012F ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

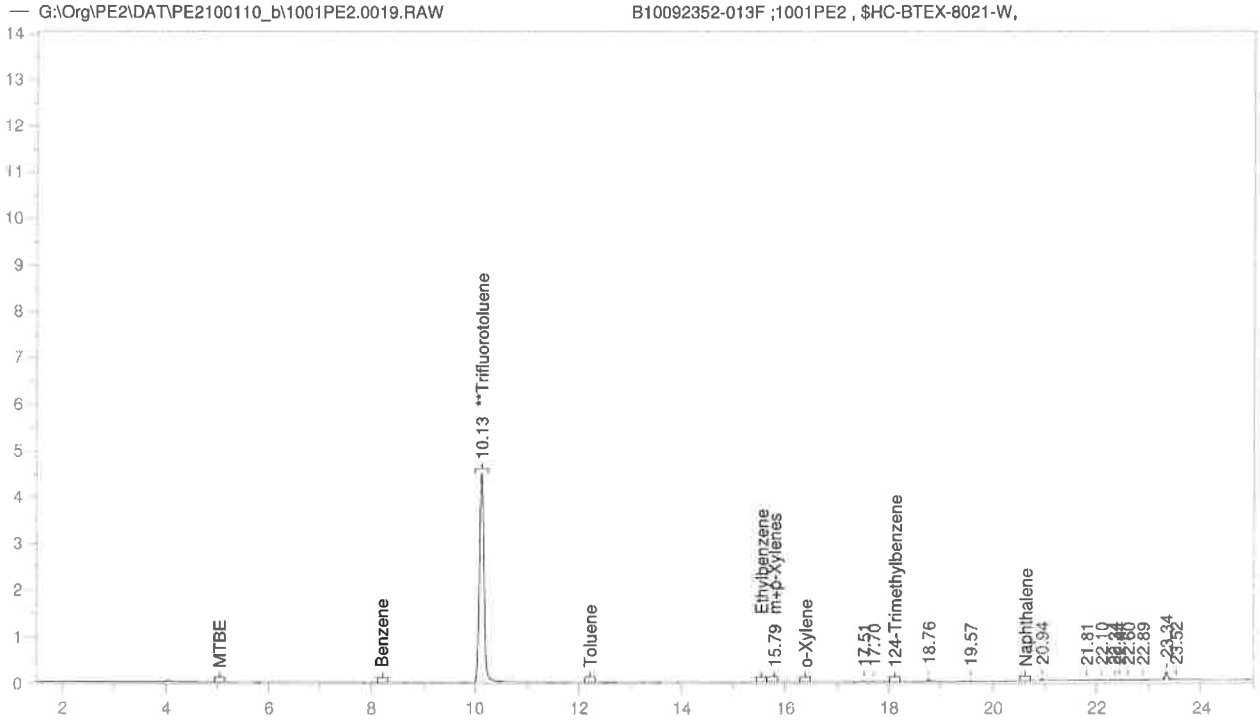
Sample Name: B10092352-012F ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0017.RAW
Date & Time Acquired: 10/1/2010 9:08:05 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.244	12.244	12.244	158	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.79	15.79	15.79	84	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.118	50.	46.454	92.91	80-120

MOC-2

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0019.RAW B10092352-013F ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

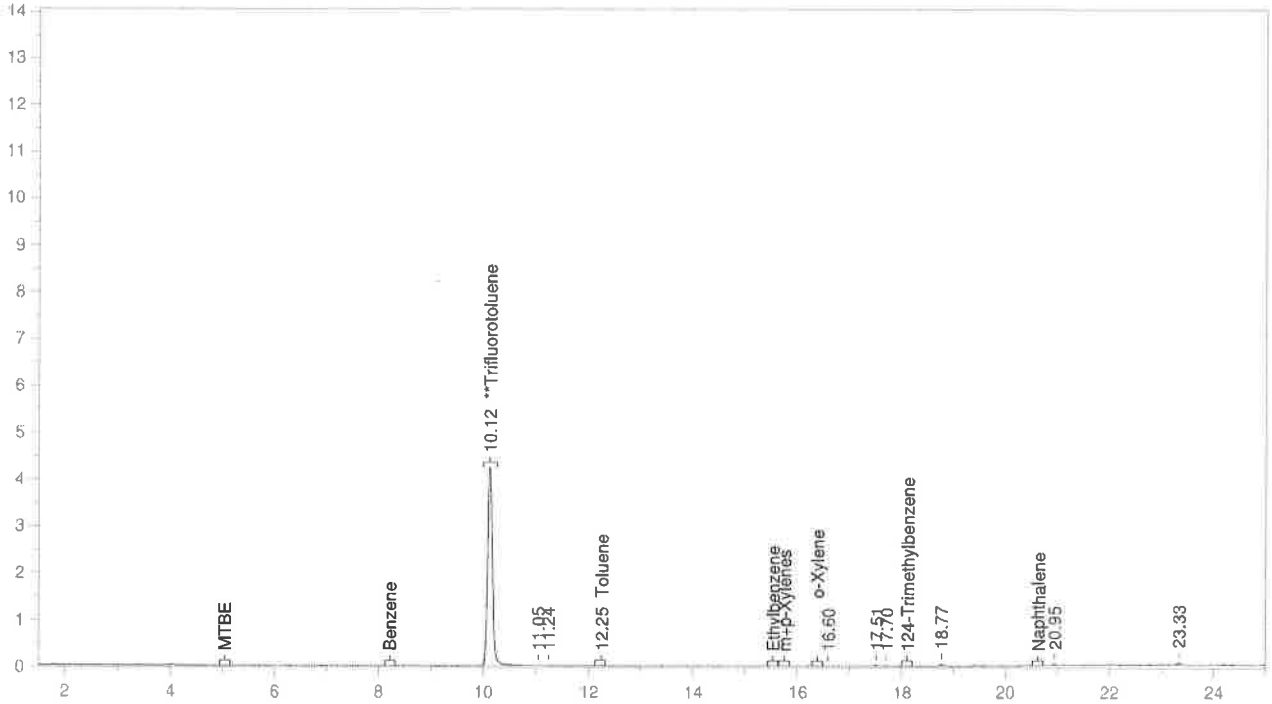
Sample Name: B10092352-013F ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0019.RAW
Date & Time Acquired: 10/1/2010 10:18:55 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.791	15.791	15.791	76	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.127	50.	46.873	93.75	80-120

PNR-39-08

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0021.RAW B10092352-014F ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

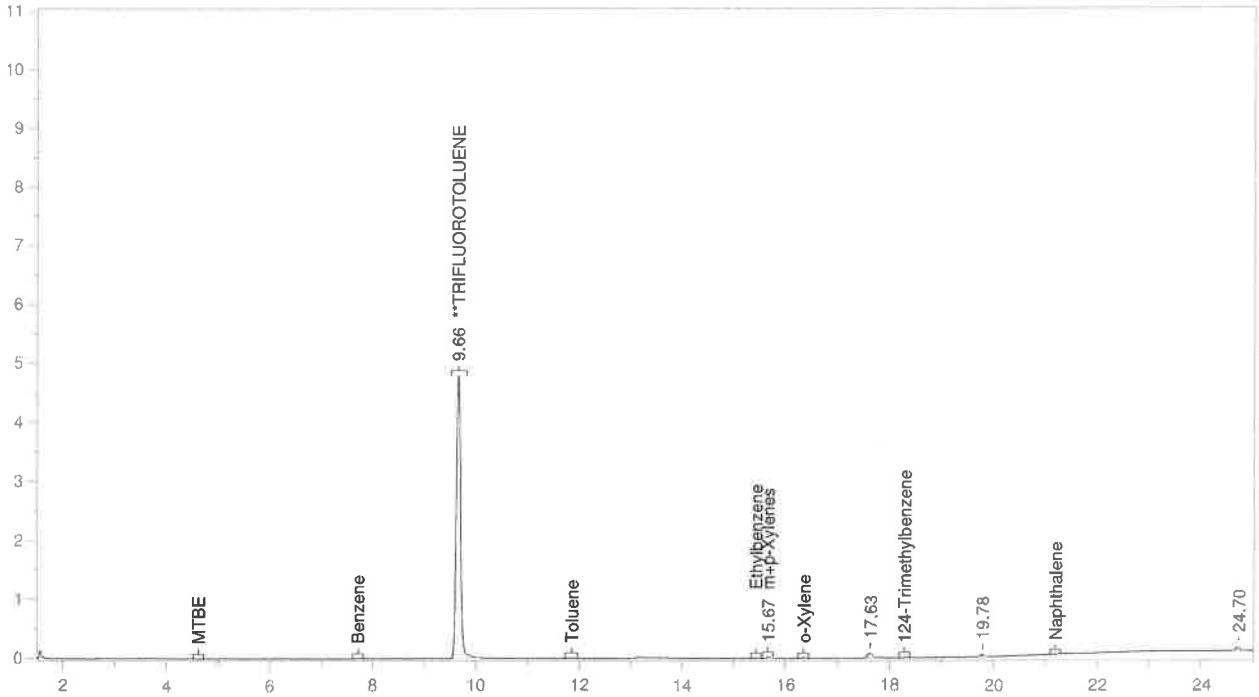
Sample Name: B10092352-014F ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0021.RAW
Date & Time Acquired: 10/1/2010 11:30:04 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.248	12.248	12.248	93	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	.	.	.		.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.123	50.	45.412	90.82	80-120

PNR-34-07

— G:\Org\VA2\DAT\VA2100110_b\1001VA2.0014.RAW B10092352-015F ;1001VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

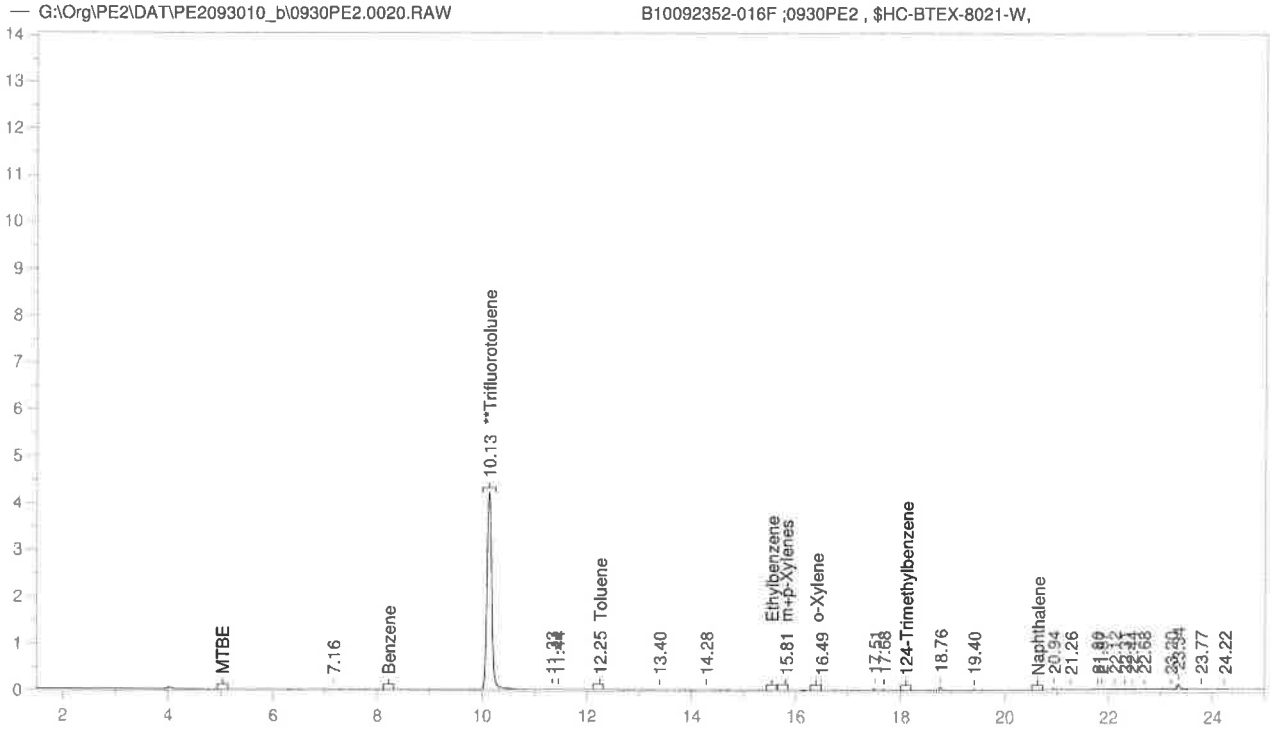
Sample Name: B10092352-015F ;1001VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100110_b\1001VA2.0014.RAW
Date & Time Acquired: 10/1/2010 7:13:13 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.667	15.667	15.667	105	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.657	50.	53.705	107.41	80-120

MOC-4

— G:\Org\PE2\DAT\PE2093010_b\0930PE2.0020.RAW B10092352-016F ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

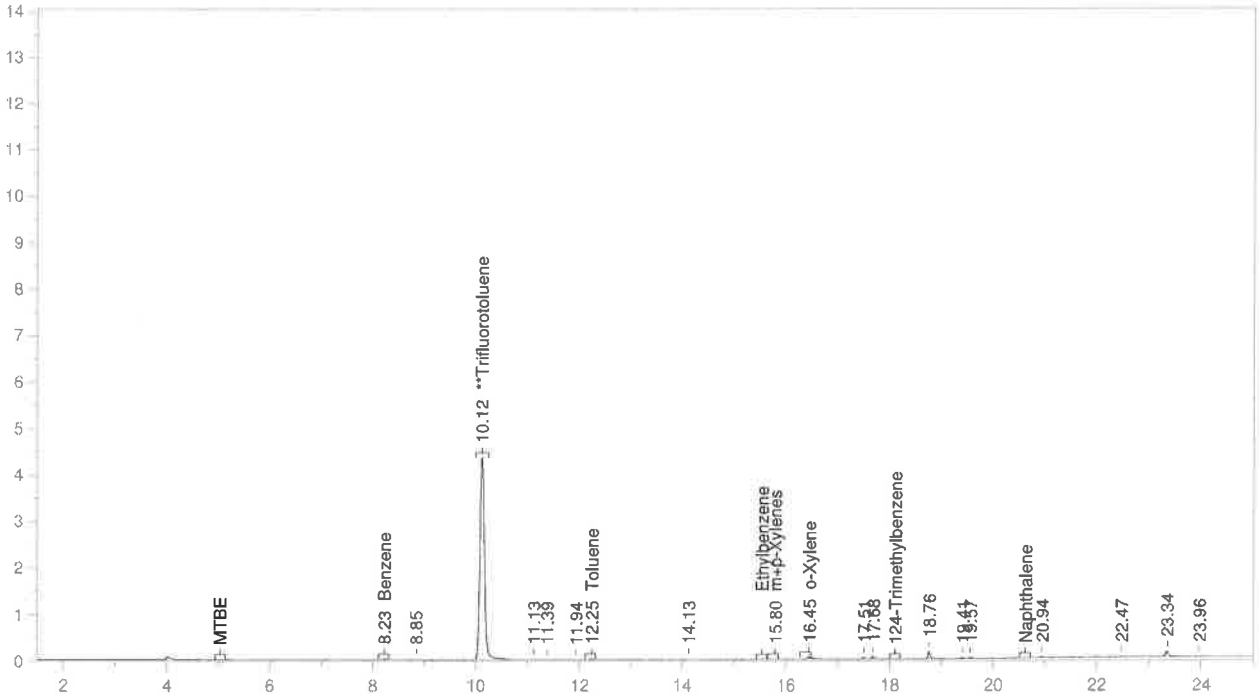
Sample Name: B10092352-016F ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0020.RAW
Date & Time Acquired: 10/1/2010 12:32:22 AM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.248	12.248	12.248	154	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.811	15.811	15.811	84	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.13	50.	44.855	89.71	80-120

PNR-8

— G:\Org\PE2\DAT\PE2093010_b\0930PE2.0016.RAW B10092352-017F ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

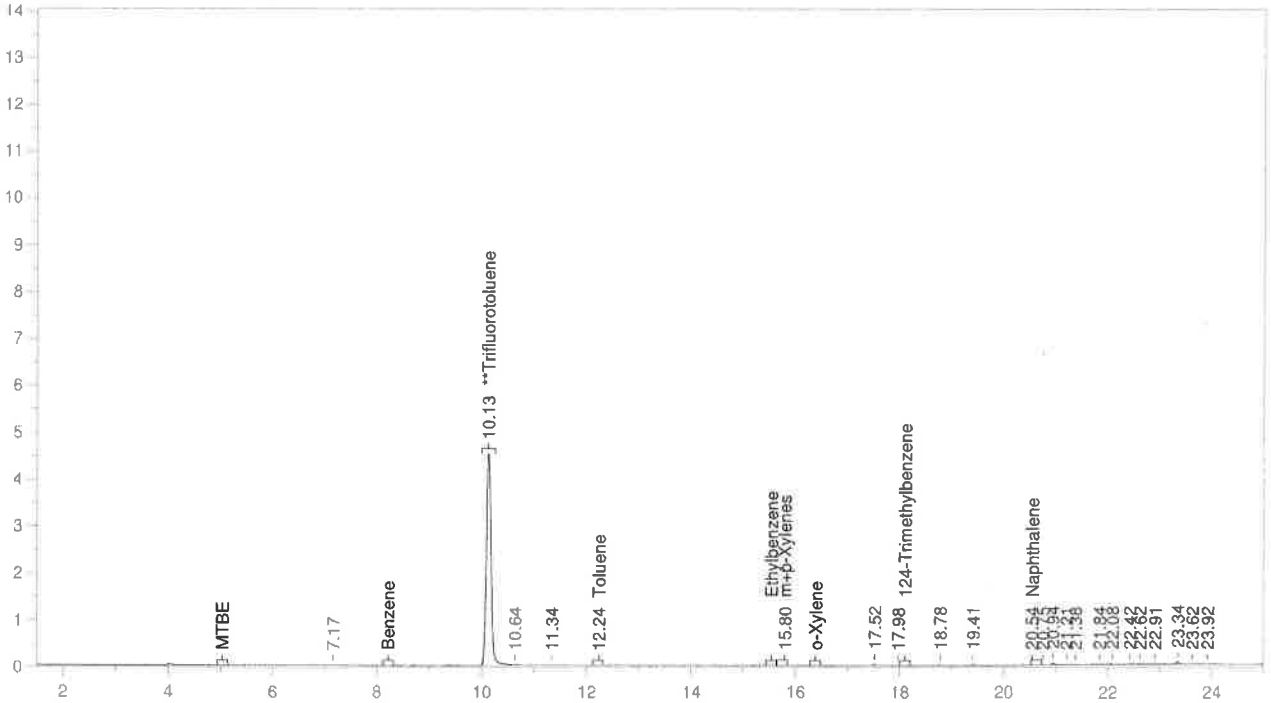
Sample Name: B10092352-017F ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0016.RAW
Date & Time Acquired: 9/30/2010 10:10:02 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.23	8.23	8.23	187	.5	U
Toluene	12.245	12.245	12.245	249	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.797	15.797	15.797	83	.5	U
o-Xylene	16.454	16.454	16.454	415	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.125	50.	45.601	91.2	80-120

Whitmer

— G:\Org\PE2\DAT\PE2093010_b\0930PE2.0018.RAW B10092352-018F ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

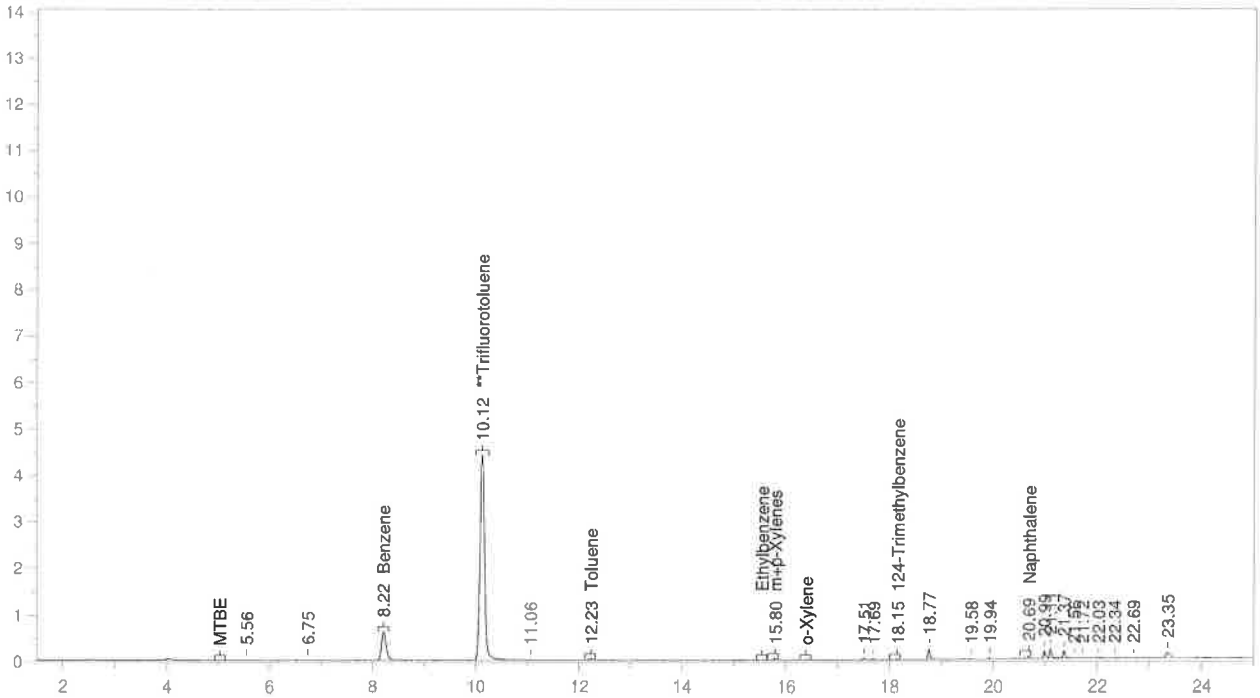
Sample Name: B10092352-018F ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0018.RAW
Date & Time Acquired: 9/30/2010 11:21:14 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.239	12.239	12.239	76	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.804	15.804	15.804	77	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.542	20.542	20.542	106	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.125	50.	47.379	94.76	80-120

PNR-21

— G:\Org\PE2\DAT\PE2100410_b\1004PE2.0008.RAW B10092352-019F ;1004PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

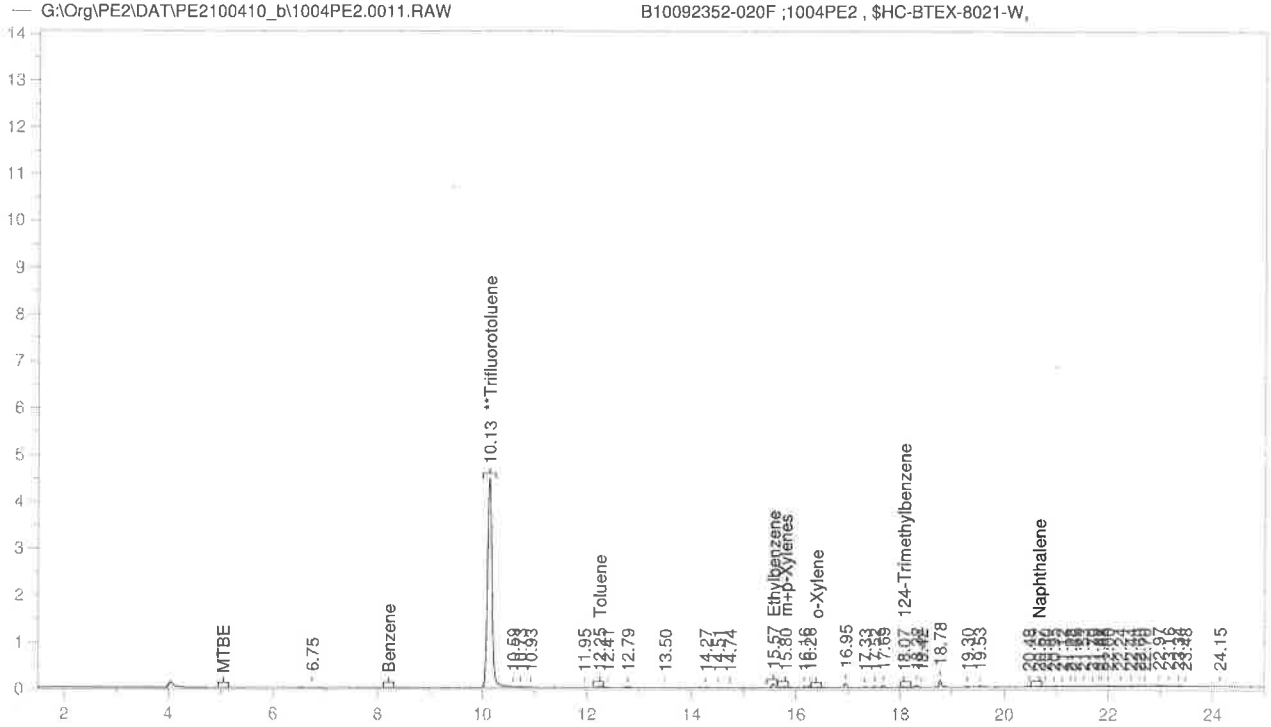
Sample Name: B10092352-019F ;1004PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100410_b\1004PE2.0008.RAW
Date & Time Acquired: 10/4/2010 2:35:13 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.216	1.909	1.905	3852	2.062	
Toluene	12.232	12.232	12.232	201	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.796	15.796	15.796	157	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.15	18.15	18.15	75	2.	U
Naphthalene	20.69	20.69	20.69	304	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.121	50.	46.356	92.71	80-120

PNR-15

— G:\Org\PE2\DAT\PE2100410_b\1004PE2.0011.RAW B10092352-020F ;1004PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

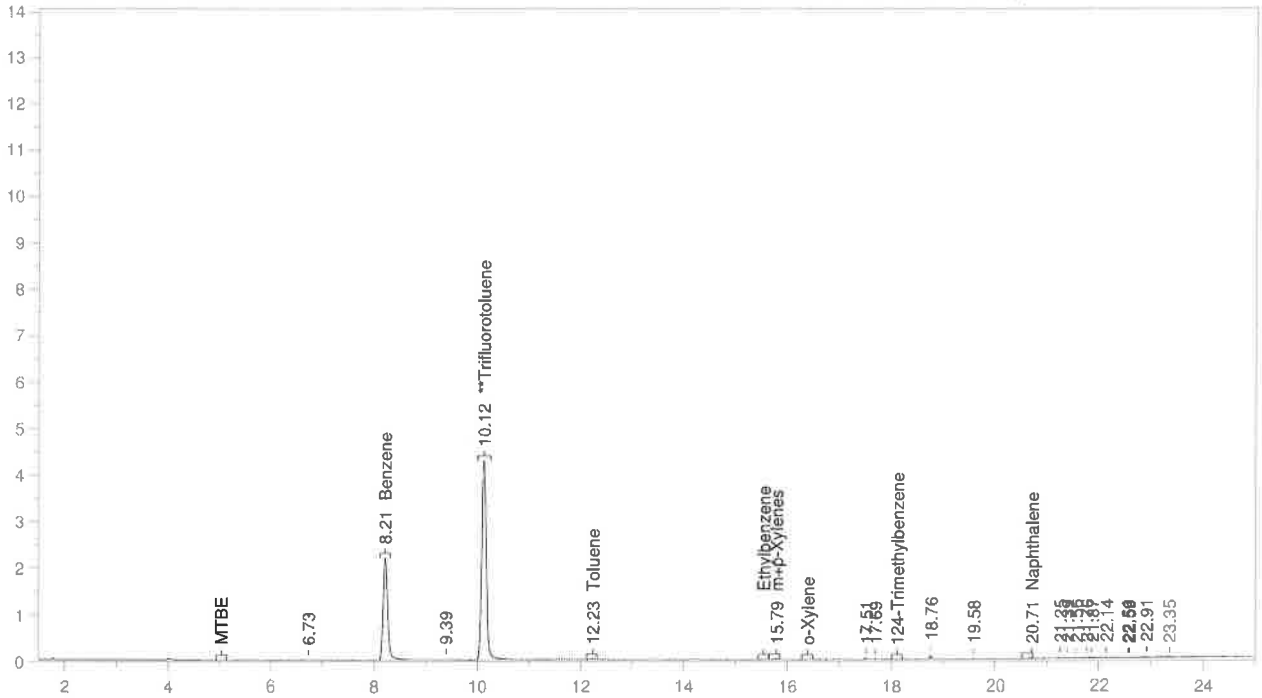
Sample Name: B10092352-020F ;1004PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100410_b\1004PE2.0011.RAW
Date & Time Acquired: 10/4/2010 4:32:27 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.248	12.248	12.248	278	.5	U
Ethylbenzene	15.571	15.571	15.571	358	.5	U
m+p-Xylenes	15.796	15.796	15.796	178	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.07	18.07	18.07	82	2.	U
Naphthalene	20.669	20.669	20.669	96	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.133	50.	46.115	92.23	80-120

PNR-19

— G:\Org\PE2\DAT\PE2093010_b\0930PE2.0008.RAW B10092352-021F ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

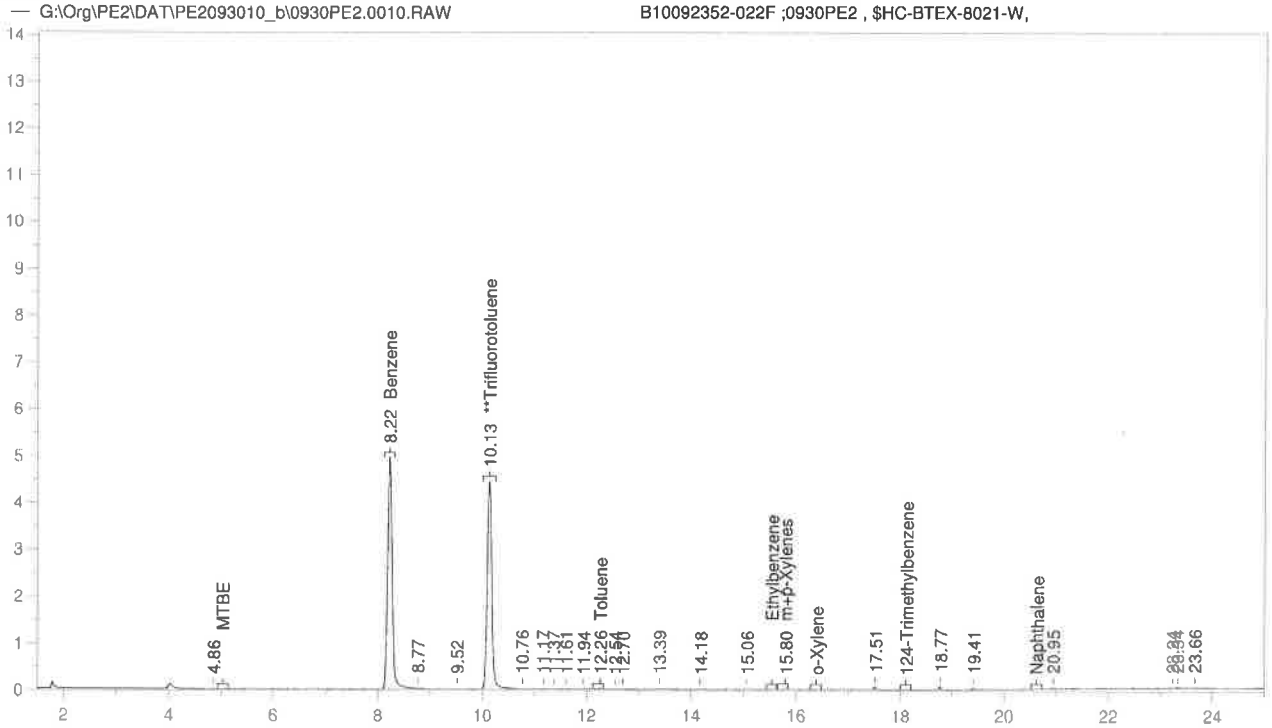
Sample Name: B10092352-021F ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0008.RAW
Date & Time Acquired: 9/30/2010 5:25:34 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.213	1.909	1.908	13809	7.392	
Toluene	12.233	12.233	12.233	232	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.788	15.788	15.788	189	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.708	20.708	20.708	141	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.121	50.	44.221	88.44	80-120

PNR-20

— G:\Org\PE2\DAT\PE2093010_b\0930PE2.0010.RAW B10092352-022F ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

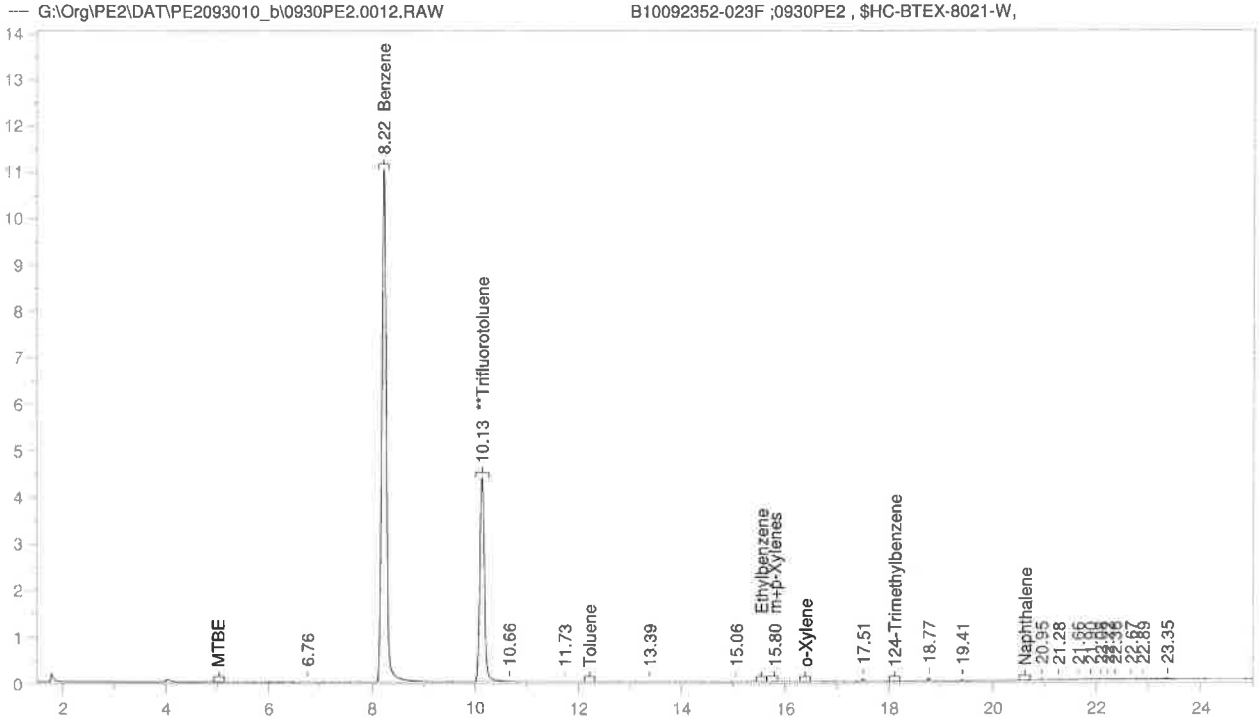
Sample Name: B10092352-022F ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0010.RAW
Date & Time Acquired: 9/30/2010 6:36:44 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.22	1.909	1.907	30165	16.147	
Toluene	12.257	12.257	12.257	172	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.803	15.803	15.803	162	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.128	50.	46.759	93.52	80-120

PNR-7

--- G:\Org\PE2\DAT\PE2093010_b\0930PE2.0012.RAW B10092352-023F ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

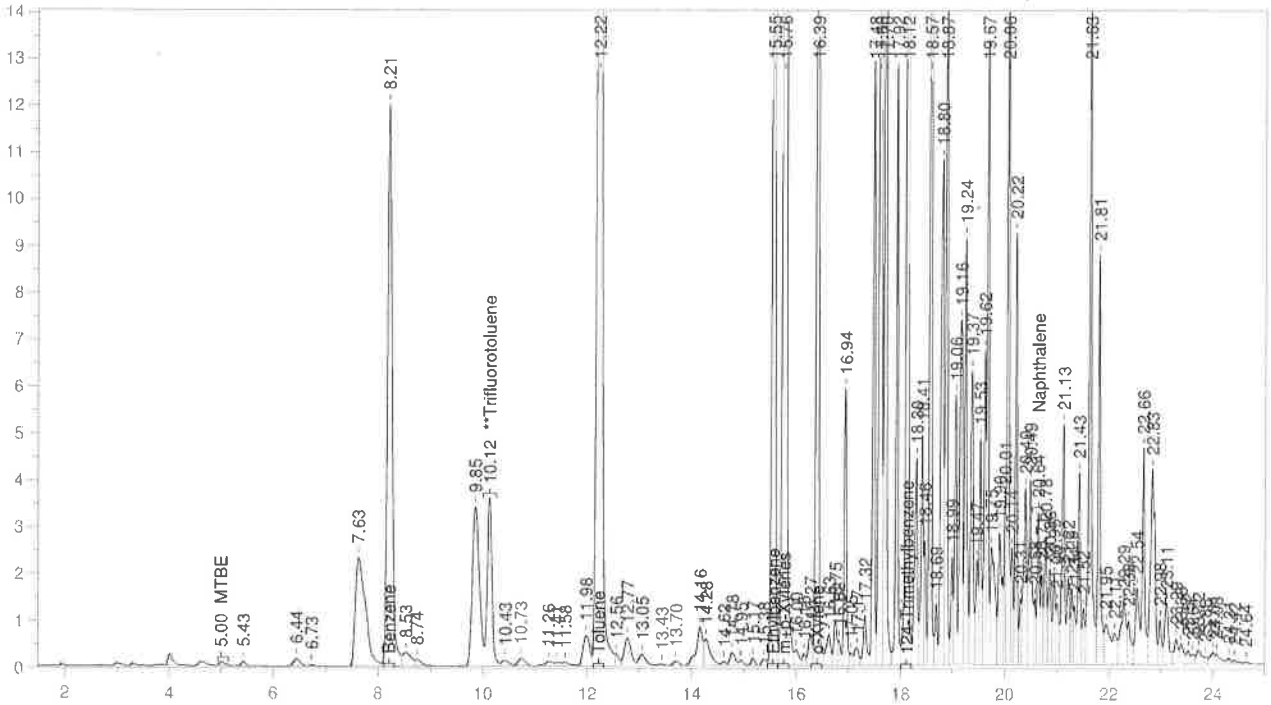
Sample Name: B10092352-023F ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0012.RAW
Date & Time Acquired: 9/30/2010 7:47:32 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.222	1.909	1.906	68143	36.477	
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.797	15.797	15.797	77	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.128	50.	45.708	91.42	80-120

PNR-RW-10

--- G:\Org\PE2\DAT\PE2093010_b\0930PE2.0022.RAW B10092352-024B ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

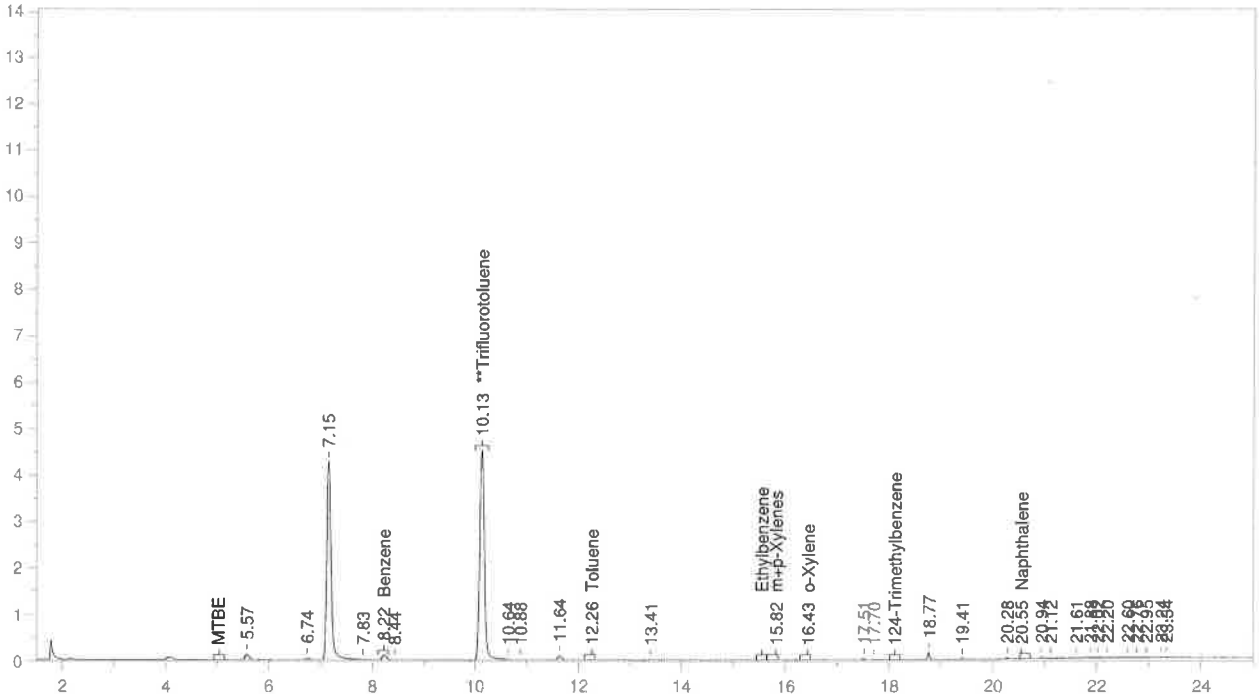
Sample Name: B10092352-024B ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0022.RAW
Date & Time Acquired: 10/1/2010 1:43:14 AM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	4.997	4.997	4.997	667	1.	U
Benzene	8.211	1.909	1.909	73487	39.338	
Toluene	12.217	-2.093	-2.097	234730	139.242	
Ethylbenzene	15.55	-5.421	-5.429	112054	77.671	
m+p-Xylenes	15.762	-5.633	-5.642	262991	157.279	
o-Xylene	16.393	-6.262	-6.272	80205	54.834	
124-Trimethylbenzene	18.118	-7.983	-7.997	168242	123.805	
Naphthalene	20.639	-10.498	-10.519	9468	6.449	

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.12	50.	37.822	75.64	80-120

PNR-RW-7A

— G:\Org\PE2\DAT\PE2093010_b\0930PE2.0014.RAW B10092352-025B ;0930PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

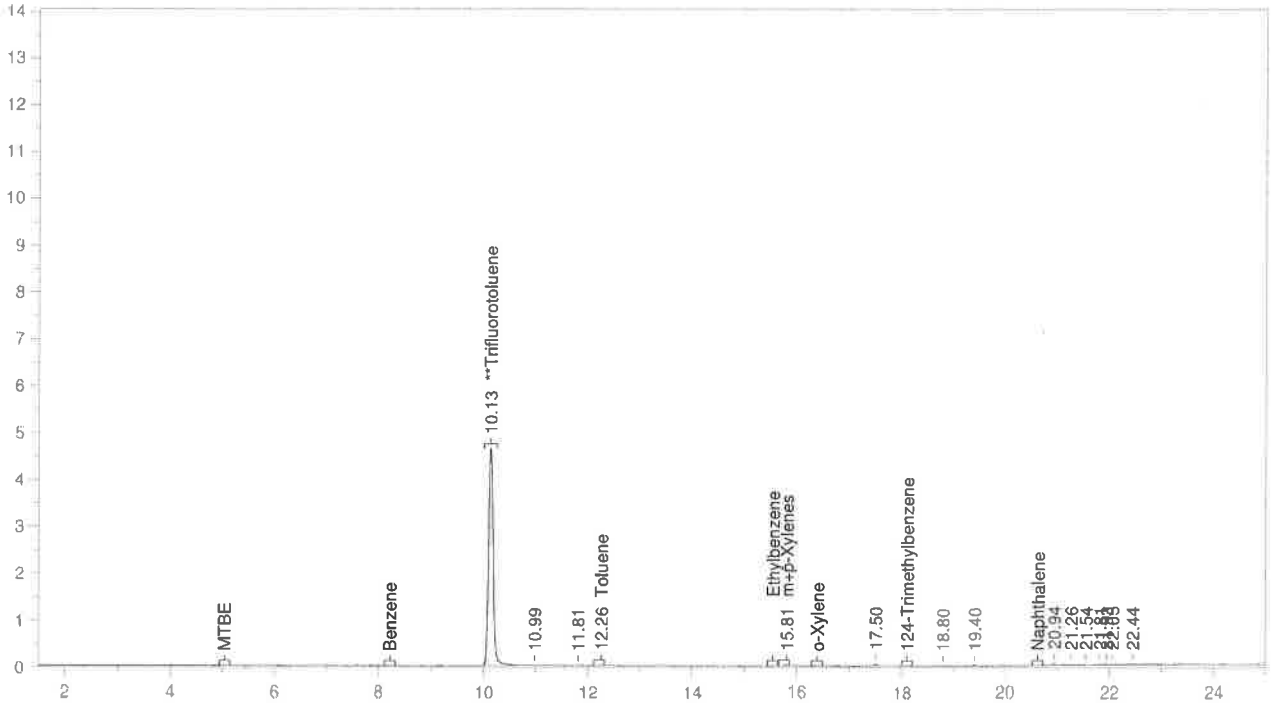
Sample Name: B10092352-025B ;0930PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2093010_b\0930PE2.0014.RAW
Date & Time Acquired: 9/30/2010 8:59:13 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.224	8.224	8.224	728	.5	U
Toluene	12.257	12.257	12.257	132	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.818	15.818	15.818	136	.5	U
o-Xylene	16.435	16.435	16.435	76	.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.551	20.551	20.551	80	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.132	50.	47.15	94.3	80-120

Trip Blank #1 Lot #091010, B-ST SHP0251

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0010.RAW B10092352-026A ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

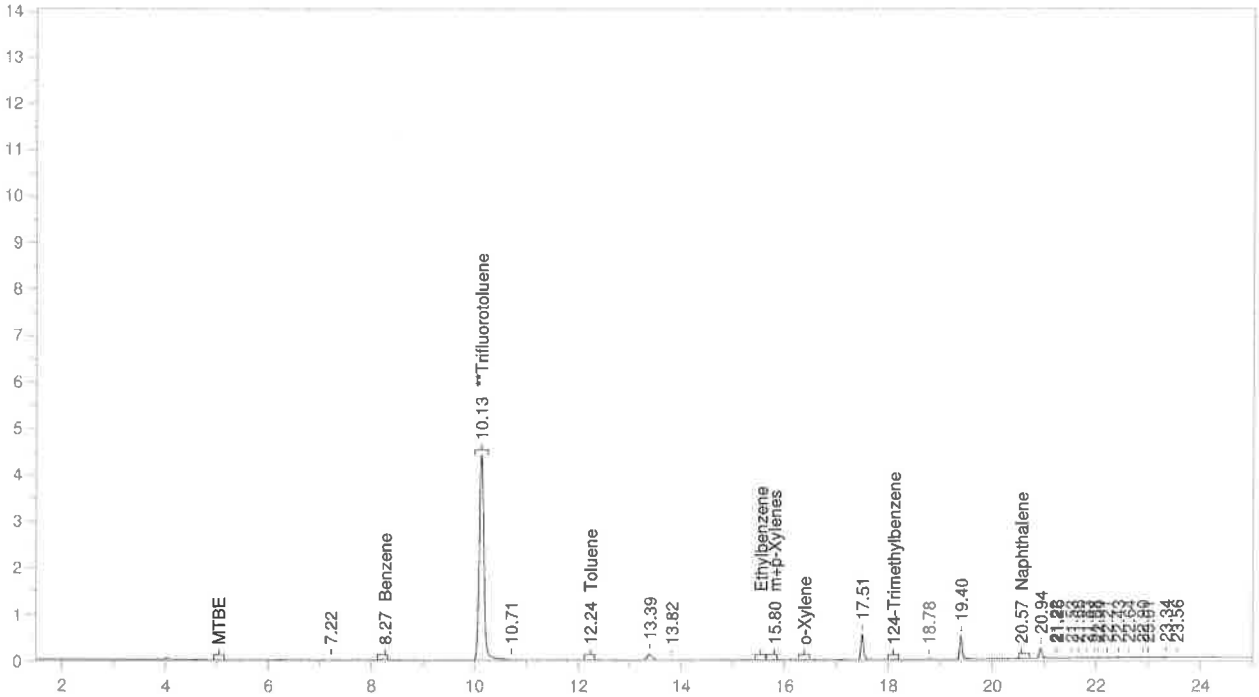
Sample Name: B10092352-026A ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0010.RAW
Date & Time Acquired: 10/1/2010 5:00:25 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.258	12.258	12.258	190	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.807	15.807	15.807	136	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.128	50.	49.039	98.08	80-120

Trip Blank #2 Lot #091010, B-TS SHP0251

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0011.RAW B10092352-027A ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

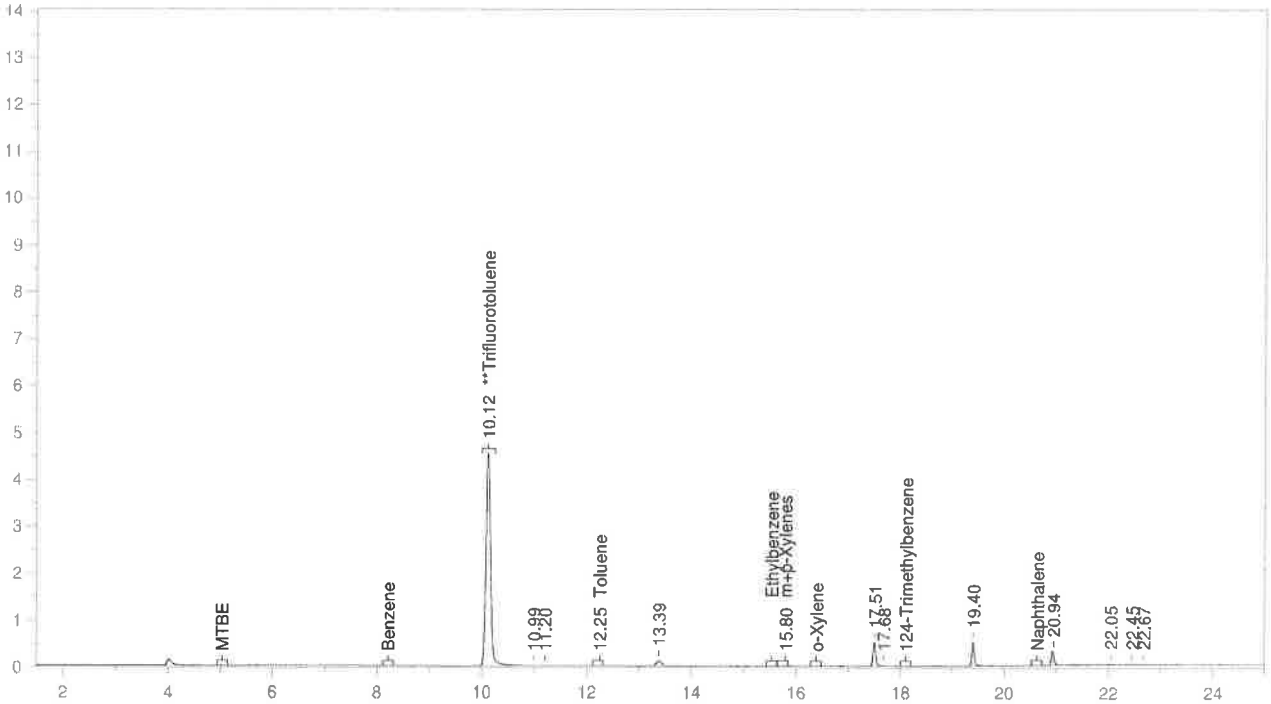
Sample Name: B10092352-027A ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0011.RAW
Date & Time Acquired: 10/1/2010 5:35:53 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	8.269	8.269	8.269	121	.5	U
Toluene	12.241	12.241	12.241	146	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.805	15.805	15.805	133	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.565	20.565	20.565	87	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.127	50.	46.86	93.72	80-120

Trip Blank #3 Lot #091010, B-TS SHP0251

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0012.RAW B10092352-028A ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

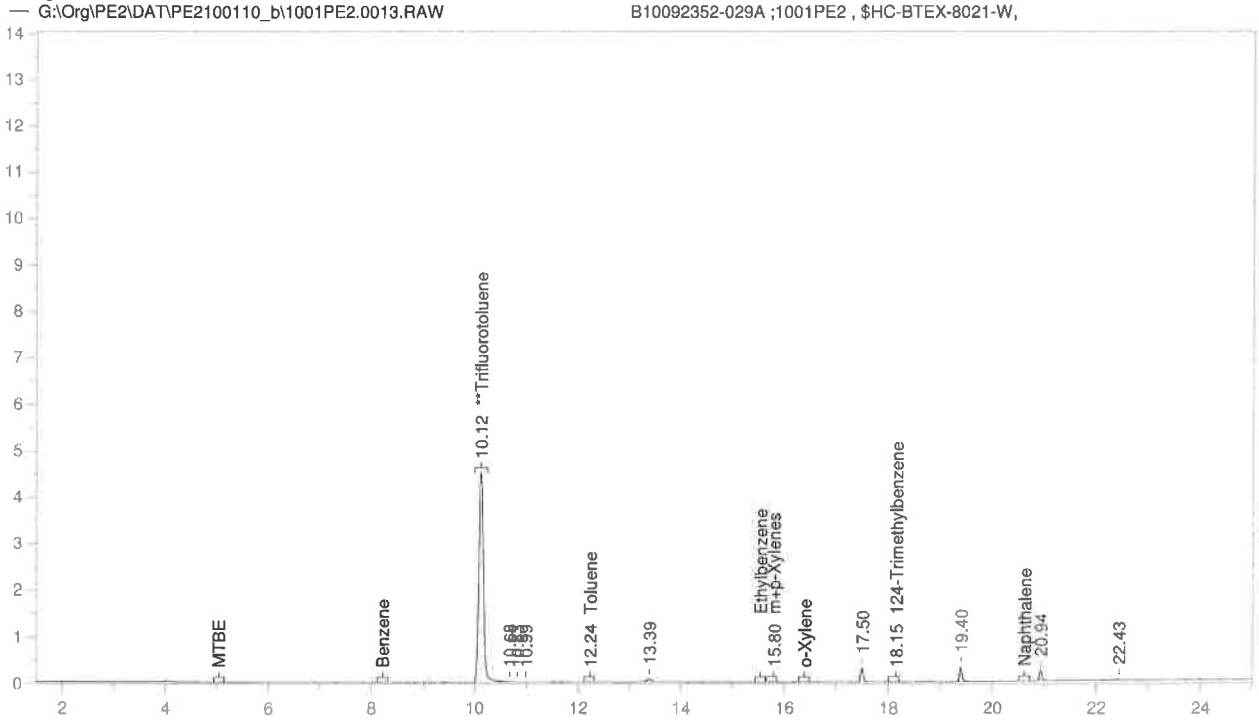
Sample Name: B10092352-028A ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0012.RAW
Date & Time Acquired: 10/1/2010 6:11:07 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.25	12.25	12.25	131	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.804	15.804	15.804	116	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.117	50.	47.523	95.05	80-120

Trip Blank #4 Lot #091010, B-TS SHP0251

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0013.RAW B10092352-029A ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

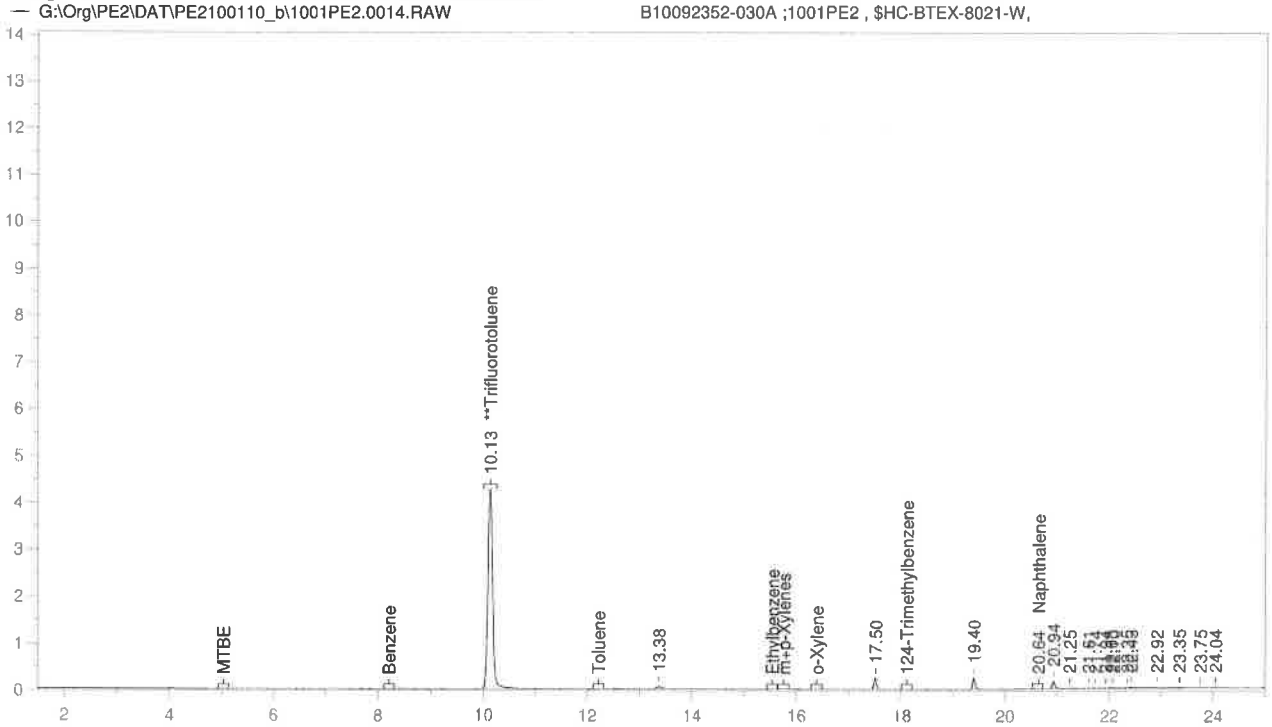
Sample Name: B10092352-029A ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0013.RAW
Date & Time Acquired: 10/1/2010 6:46:24 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	12.237	12.237	12.237	90	.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.801	15.801	15.801	121	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.147	18.147	18.147	85	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.122	50.	47.04	94.08	80-120

Trip Blank #5 Lot #091010, B-TS SHP0251

— G:\Org\PE2\DAT\PE2100110_b\1001PE2.0014.RAW B10092352-030A ;1001PE2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

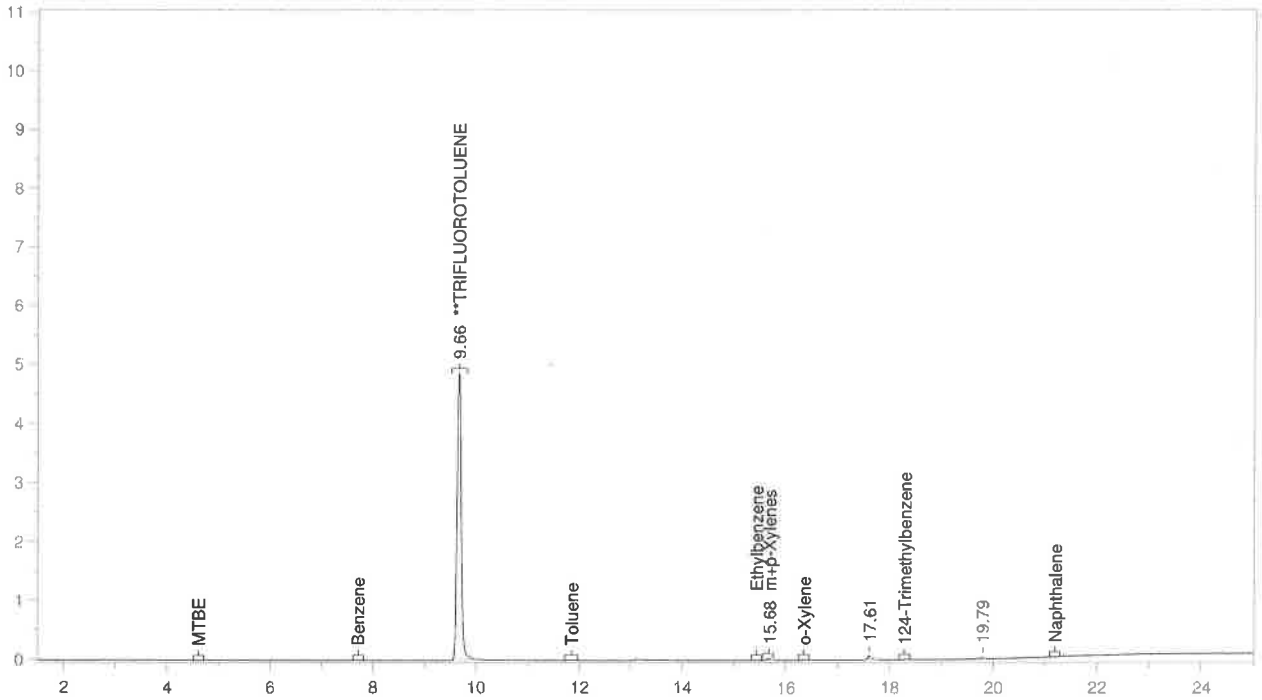
Sample Name: B10092352-030A ;1001PE2 , $HC-BTEX-8021-W,
Raw File: G:\Org\PE2\DAT\PE2100110_b\1001PE2.0014.RAW
Date & Time Acquired: 10/1/2010 7:22:09 PM
Method File: G:\Org\PE2\Methods\16P210LH.MET
Calibration File: G:\Org\PE2\Cals\16MAQ10.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	.	.	.		.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	20.645	20.645	20.645	83	1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**Trifluorotoluene	10.126	50.	44.79	89.58	80-120

Trip Blank #6 Lot #091010, B-TS SHP0251

— G:\Org\VA2\DAT\VA2100110_b\1001VA2.0009.RAW B10092352-031A ;1001VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

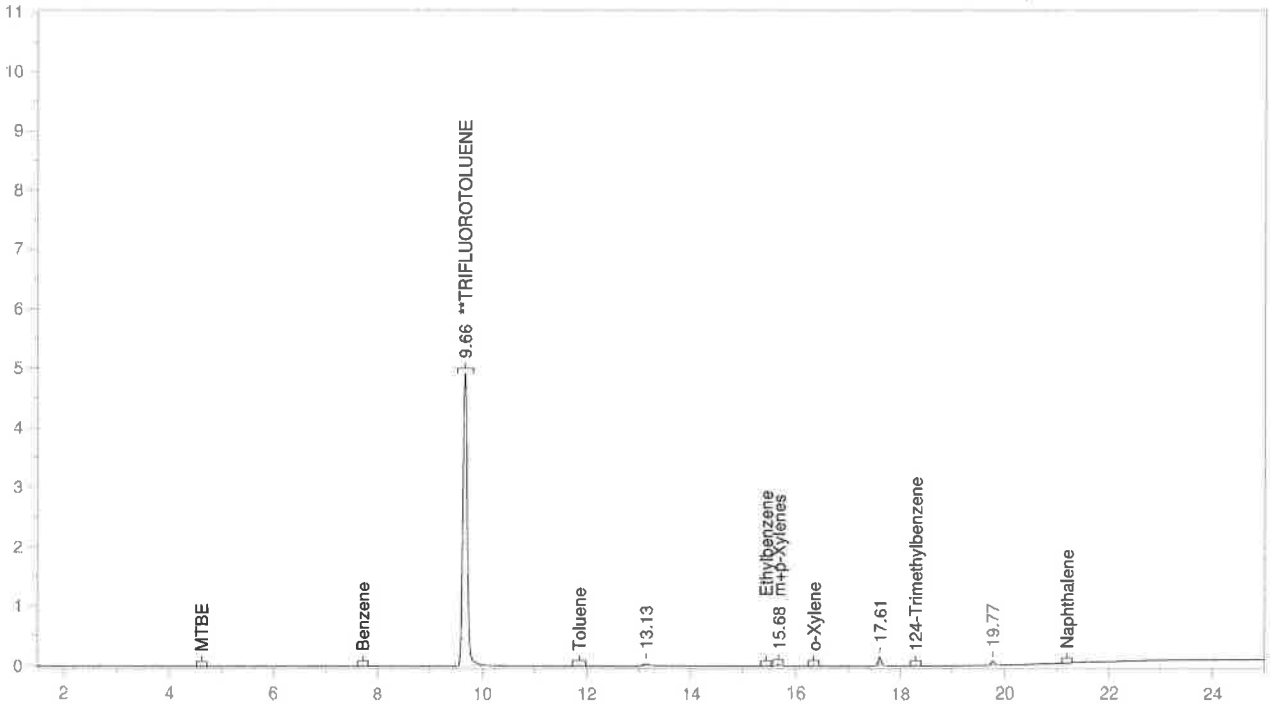
Sample Name: B10092352-031A ;1001VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100110_b\1001VA2.0009.RAW
Date & Time Acquired: 10/1/2010 4:20:35 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.683	15.683	15.683	139	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.663	50.	53.628	107.26	80-120

Trip Blank #7 Lot #091010, B-TS SHP0251

— G:\Org\VA2\DAT\VA2100110_b\1001VA2.0010.RAW B10092352-032A ;1001VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

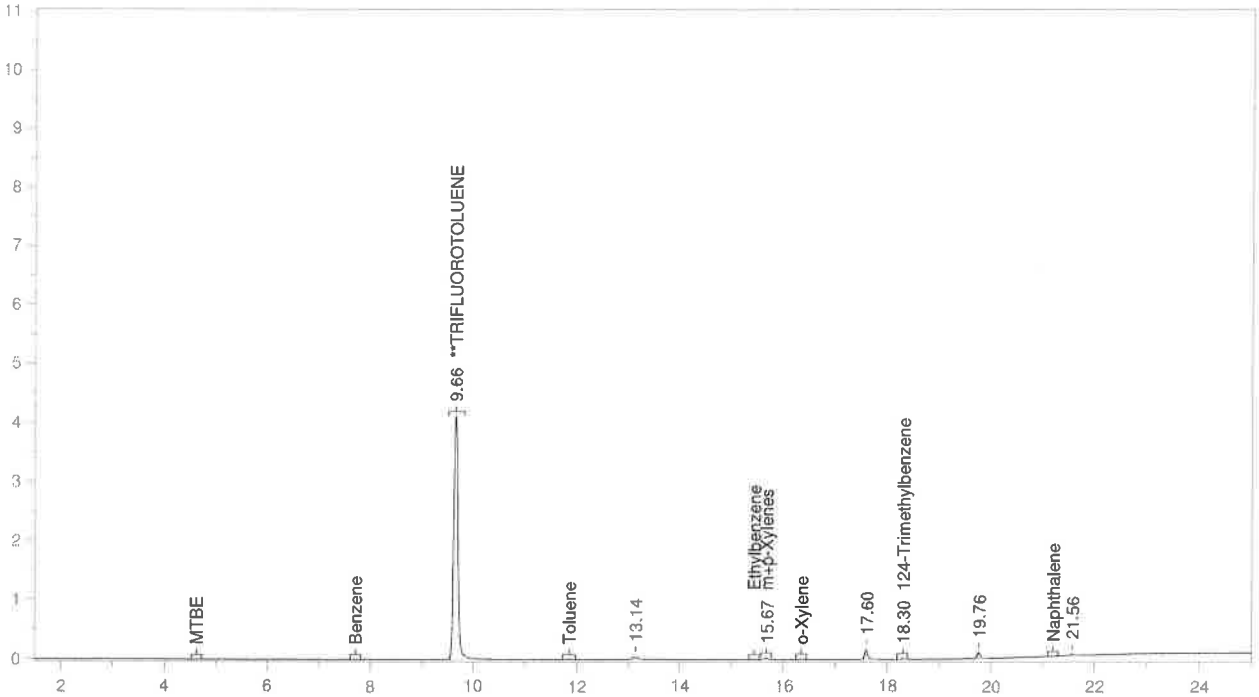
Sample Name: B10092352-032A ;1001VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100110_b\1001VA2.0010.RAW
Date & Time Acquired: 10/1/2010 4:54:54 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.681	15.681	15.681	106	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.662	50.	54.918	109.84	80-120

Trip Blank #8 Lot #091010, B-TS SHP0251

-- G:\Org\VA2\DAT\VA2100110_b\1001VA2.0011.RAW B10092352-033A ;1001VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

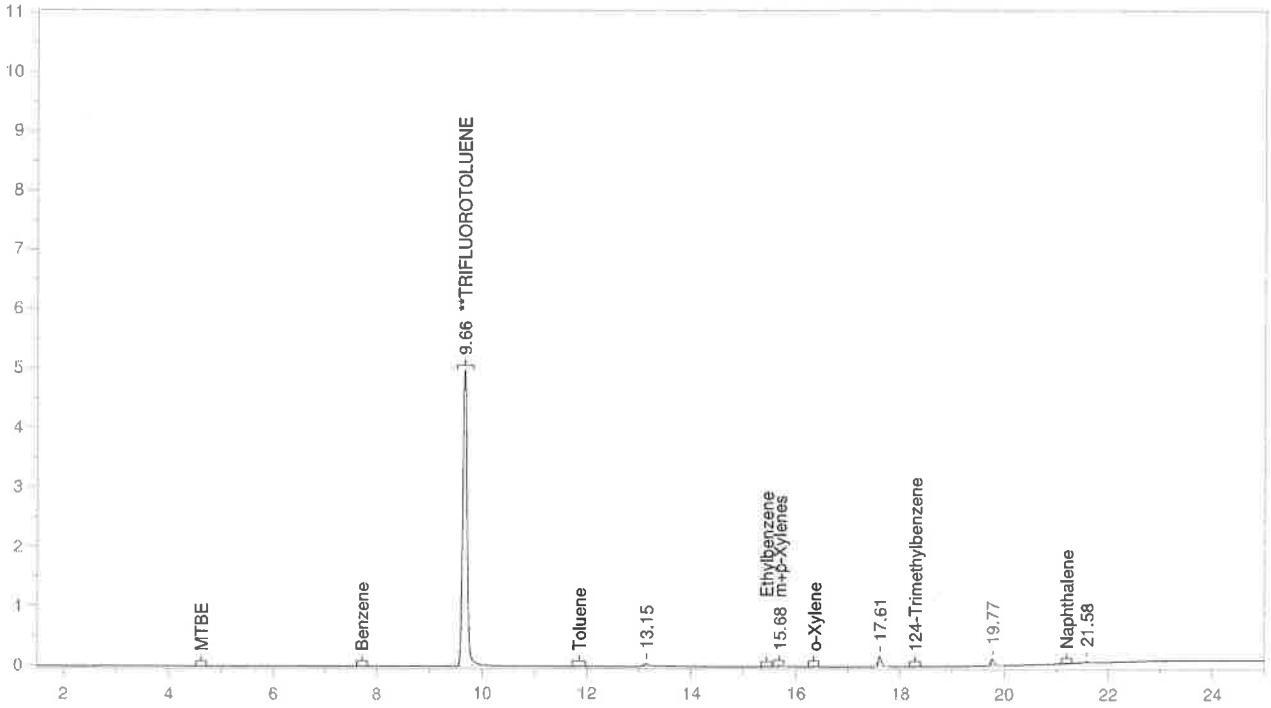
Sample Name: B10092352-033A ;1001VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100110_b\1001VA2.0011.RAW
Date & Time Acquired: 10/1/2010 5:29:07 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.675	15.675	15.675	112	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	18.301	18.301	18.301	77	2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.657	50.	45.588	91.18	80-120

Trip Blank #9 Lot #091010, B-TS SHP0251

— G:\Org\VA2\DAT\VA2100110_b\1001VA2.0012.RAW B10092352-034A ;1001VA2 , $HC-BTEX-8021-W,



PHOTOIONIZATION DETECTOR TARGET COMPOUND CHROMATOGRAM

Sample Name: B10092352-034A ;1001VA2 , $HC-BTEX-8021-W,
Raw File: G:\Org\VA2\DAT\VA2100110_b\1001VA2.0012.RAW
Date & Time Acquired: 10/1/2010 6:03:58 PM
Method File: G:\Org\VA2\Methods\13WLH210.MET
Calibration File: G:\Org\VA2\Cals\13mas10.cal
Sample Weight: 5 Dilution: 1 S.A.: 1

TARGET ANALYTES	RT	CAL RRT	RRT	AREA	AMOUNT	FLAG
MTBE	.	.	.		1.	U
Benzene	.	.	.		.5	U
Toluene	.	.	.		.5	U
Ethylbenzene	.	.	.		.5	U
m+p-Xylenes	15.683	15.683	15.683	118	.5	U
o-Xylene	.	.	.		.5	U
124-Trimethylbenzene	.	.	.		2.	U
Naphthalene	.	.	.		1.	U

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	QC LIMITS
**TRIFLUOROTOLUENE	9.663	50.	55.463	110.93	80-120

Workorder Receipt Checklist

B10092352

DOWL HKM

Login completed by: Darwin C. Miller
Reviewed by: BL2000\gmccartney
Reviewed Date: 9/27/2010

Date Received: 9/24/2010
Received by: klb
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	3°C On Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Sample PNR-5 for Nutrients was received at the lab with a pH~7, 2 mL sulfuric acid added to preserved to pH<2.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: DOWL HKM	Project Name, PWS, Permit, Etc.: Biere Well Remediation	Sample Origin State: MT	EPA/State Compliance: Yes ☑ No ☐
Report Mail Address: 920 Tech Blvd Boz MT 59718	Contact Name: N. Peterson Phone/Fax: 586-8834	Email:	Sampler: (Please Print) Charlie Peterson
Invoice Address: Same	Invoice Contact & Phone: Same	Purchase Order:	Quote/Bottle Order: 78

Special Report/Formats:

- ☐ DW
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

ANALYSIS REQUESTED

Number of Containers / Sample Type: A W S V B O DW / Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

See Quote # 78

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand

Cooler ID(s):

Receipt Temp 3 °C

On Ice: (Y) N

Custody Seal: On Bottle Y (N); On Cooler Y (N)

Intact Y N

Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	LABORATORY USE ONLY
9 1	PNR-9	9/20/10	15:40	GW	B10092352-001
6 2	PNR-10		1230		-002
6 3	PNR-38-08		1335		-003
9 4	PNR-14		1450		-004
6 5	M-18	—	1645		-005
4 6	PNR-23	9/21/10	1030		-006
4 7	PNR-5		1115		-007
4 8	PNR-28		1215		-008
1 9	PNR-27		1325		-009
1 10	M-27		1500		-010

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
[illegible]	9-24-10	16:35			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: _____			Received by Laboratory: Alex Buehler	Date/Time: 9-24-10	Signature: 16:35

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: DOWL HKM	Project Name, PWS, Permit, Etc.: Biere Well Remediation	Sample Origin State: MT	EPA/State Compliance: Yes ☑ No ☐
Report Mail Address: 920 Tech. Blvd Bozeman MT 59718	Contact Name: Nate Peterson Phone/Fax: 586-8834	Email:	Sampler: (Please Print) Nate Peterson
Invoice Address: Same	Invoice Contact & Phone: Same	Purchase Order: 14B805101.01	Quote/Bottle Order: 78

Special Report/Formats:

- ☐ DW
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED: See Quote ID 78

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand

Cooler ID(s):

Receipt Temp: 3 °C

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	See Quote ID 78	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments	LABORATORY USE ONLY
1	7 PNR-33-06	9/21/10	1218	9W					B	0092352-011
2	7 MOC-20B		1327							-012
3	7 MOC-2		1421							-013
4	3 PNR-39-08		1545							-014
5	3 PNR-34-07		1620							-015
6	2 MOC-4	9/22/10	1225							-016
7	2 PNR-8		1310							-017
8	2 Whitmer		1500							-018
9										
10										

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
[signature]	9-24-10	16:35			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Kris Buehler	9-24-10	1635

Sample Disposal: Return to Client: _____ Lab Disposal: _____

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ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: DOWL HKM	Project Name, PWS, Permit, Etc.: Biere Well Remediation	Sample Origin State: MT	EPA/State Compliance: Yes ☑ No ☐
Report Mail Address:	Contact Name: Phone/Fax:	Email:	Sampler: (Please Print) Charlie Peterson
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order: 78

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data) Format: _____
☐ POTW/WWTP ☐ LEVEL IV
☐ State: _____ ☐ NELAC
☐ Other: _____

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand

Cooler ID(s):

Receipt Temp 3 °C

On Ice: Y N

Custody Seal On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

#	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O DW; Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water)	LABORATORY USE ONLY
1	PNR-21	9/21/10	1620	GW	B10092352-019
2	PNR-15	9/22/10	11:30		-020
3	PNR-19		12:30		-021
4	PNR-20		1315		-022
5	PNR-7		1400		-023
6					
7					
8					
9					
10					

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
[illegible]	9-24-10	16:35			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: [illegible] Buehler	Date/Time: 9-24-10	Signature: 16:35

Sample Disposal: Return to Client: _____ Lab Disposal: _____

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ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: DOWL HKM	Project Name, PWS, Permit, Etc.: Biere Well Remediation	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address:	Contact Name: Phone/Fax:	Email:	Sampler: (Please Print) Charlie Peterson
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order: 78

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: _____
☐ Other: _____
☐ EDD/EDT (Electronic Data) Format: _____
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand
Cooler ID(s):
Receipt Temp 3 °C
On Ice: (Y) N
Custody Seal On Bottle Y (N)
On Cooler Y (N)
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	BTEX	Conductivity, Chlorides															LABORATORY USE ONLY
1	PNR-RW-10	9/21/10	1000	4W	X	X															810092352-024
2	PNR-RW-7A	9/22/10	1600	4W	X	X															-025
3	TB1 091010 TS SHP0251																				-026
4	TB2 091010 TS SHP0251																				-027
5	TB3 091010 TS SHP0251																				-028
6	TB4 091010 TS SHP0251																				-029
7	TB5 091010 TS SHP0251																				-030
8	TB6 091010 TS SHP0251																				-031
9	TB7 091010 TS SHP0251																				-032
10	TB8 091010 TS SHP0251																				-033

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
[signature]	9-24-10	16:35			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Kris Buehler	Date/Time: 9-24-10	Signature: 1635

Sample Disposal: Return to Client: _____ Lab Disposal: _____

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ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page _____ of _____

PLEASE PRINT (Provide as much information as possible.)

Company Name: DOWL HKM	Project Name, PWS, Permit, Etc. Biere Well	Sample Origin State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address:	Contact Name: Phone/Fax:	Email:	Sampler: (Please Print)
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: _____
☐ Other: _____
☐ EDD/EDT (Electronic Data) Format: _____
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by:
Cooler ID(s):
Receipt Temp _____ °C
On Ice: Y N
Custody Seal
On Bottle Y N
On Cooler Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX														
1	TB9 091010	TS	SHP0251															810092352-034
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____		Lab Disposal: _____	Received by Laboratory:	Date/Time:	Signature:

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