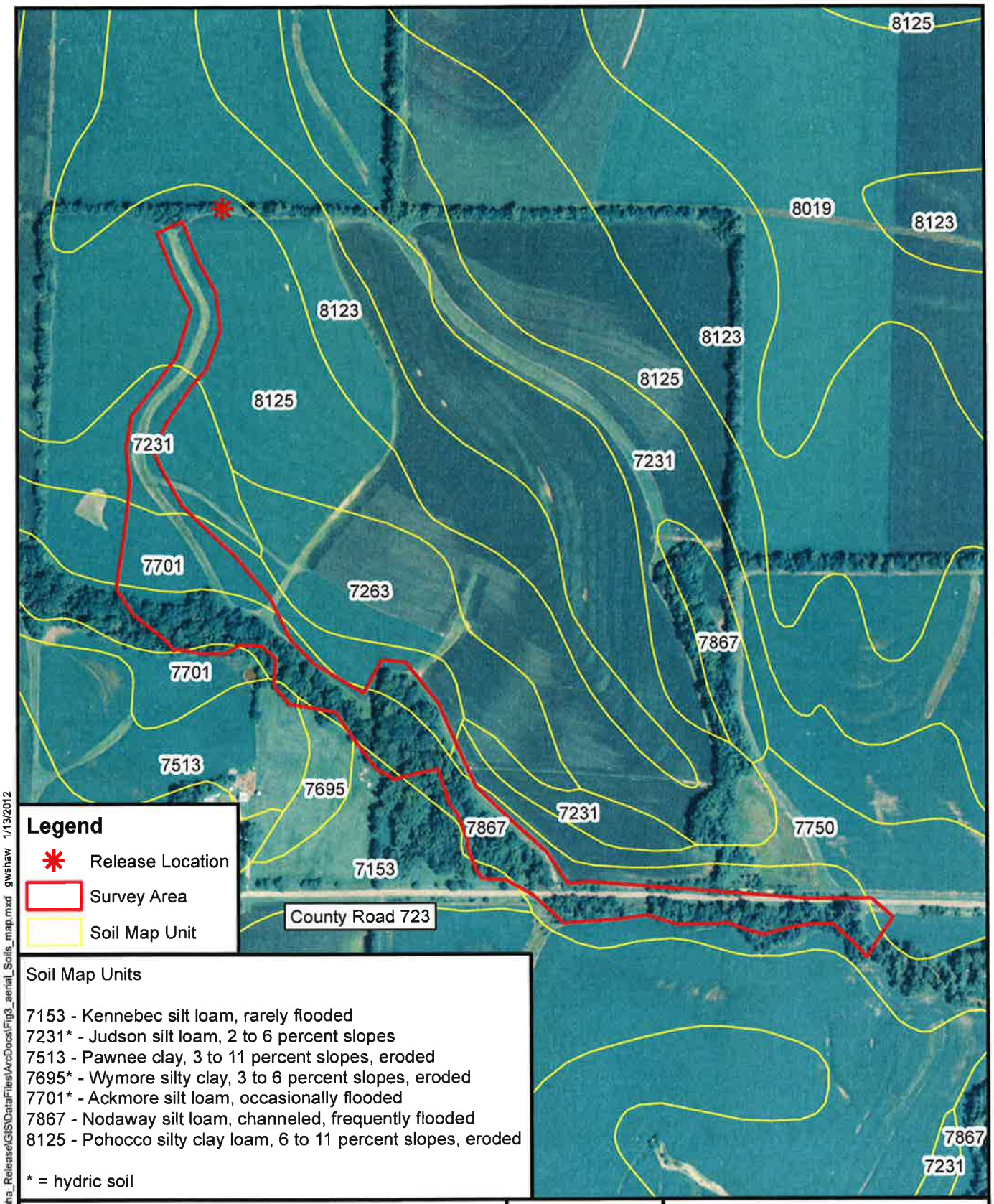
QUESTION #11

ATTACHMENT #8



Soil Map Units

7153 - Kennebec silt loam, rarely flooded
7231* - Judson silt loam, 2 to 6 percent slopes
7513 - Pawnee clay, 3 to 11 percent slopes, eroded
7695* - Wymore silty clay, 3 to 6 percent slopes, eroded
7701* - Ackmore silt loam, occasionally flooded
7867 - Nodaway silt loam, channeled, frequently flooded
8125 - Pohocco silty clay loam, 6 to 11 percent slopes, eroded

* = hydric soil

0 250 500 1,000
Feet

NORTH

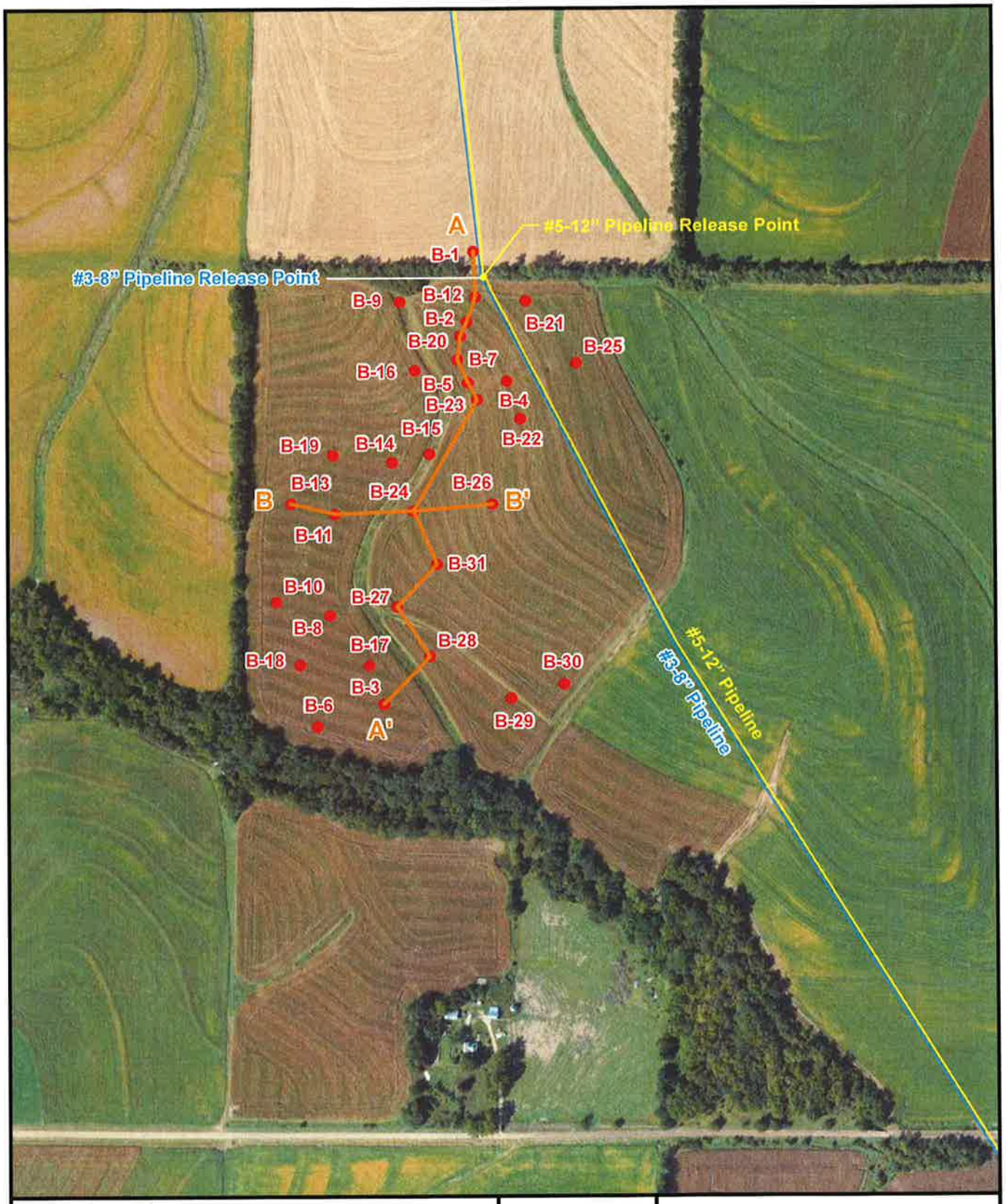
Source: USDA NAIP 2010 Aerial Photography; USDA SSURGO Soils

Burns & McDonnell SINCE 1898

Figure 1
Soil Survey and Aerial Photograph
Magellan Pipeline Diesel and Gasoline Release Project
Magellan Midstream Partners, LP
Nemaha County, Nebraska

Path: R:\Magellan\65398_Nemaha_Release\GIS\DataFiles\ArcDocs\Fig3_aerial_Soils_map.mxd gwshaw 1/13/2012

COPYRIGHT © 2012 BURNS & McDONNELL ENGINEERING COMPANY, INC.



Legend

● Direct-Push Boring Location

A —— A' Cross-Section Line

400 0 400

SCALE IN FEET

N

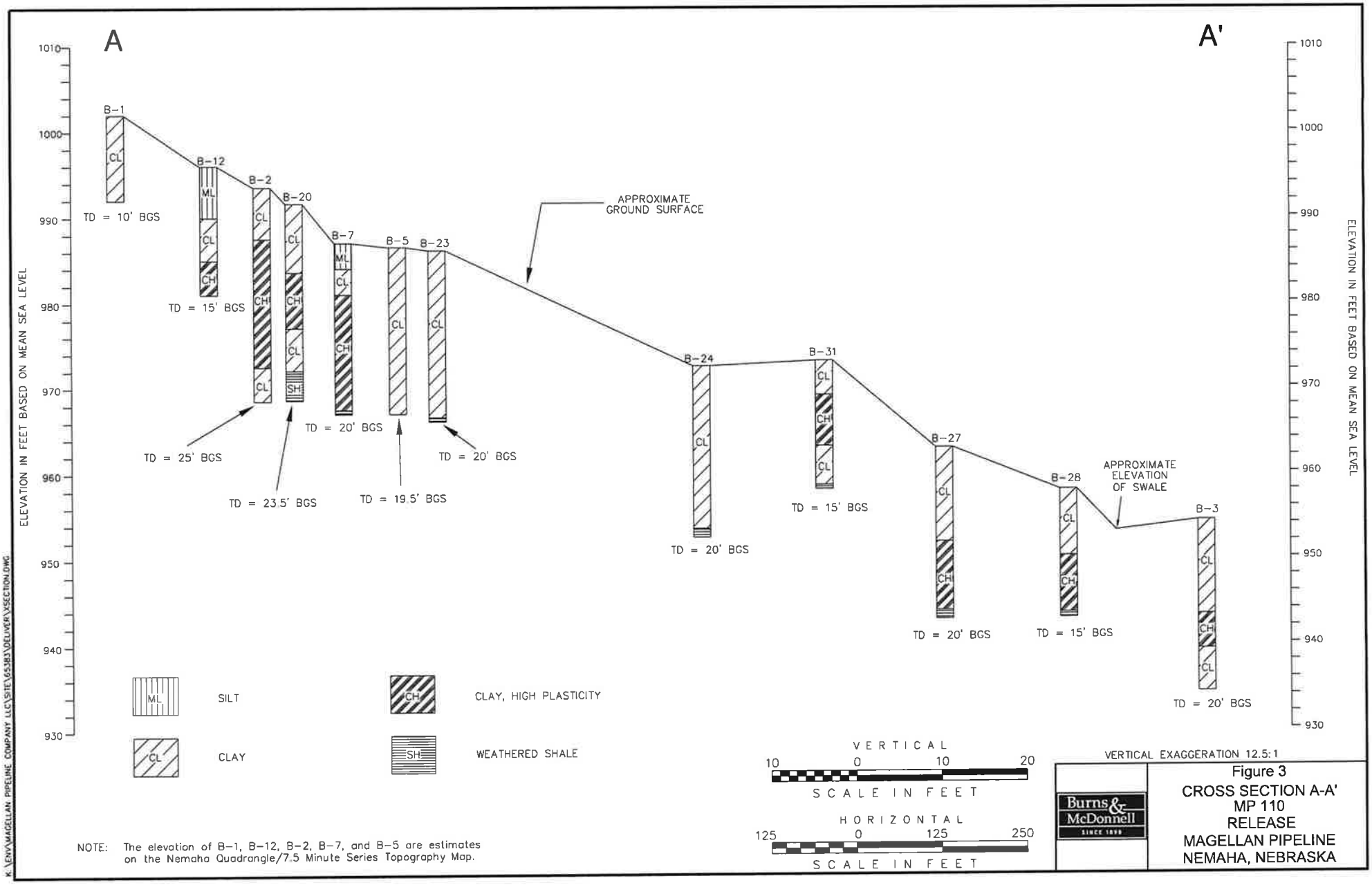
Burns & McDonnell SINCE 1898

Figure 2

DIRECT-PUSH BORING LOCATIONS

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig6_DP_Boring_MP110.mxd sos Mar 21, 2012



NOTE: The elevation of B-1, B-12, B-2, B-7, and B-5 are estimates on the Nemaha Quadrangle/7.5 Minute Series Topography Map.

Figure 3
CROSS SECTION A-A'
MP 110
RELEASE
MAGELLAN PIPELINE
NEMAHA, NEBRASKA

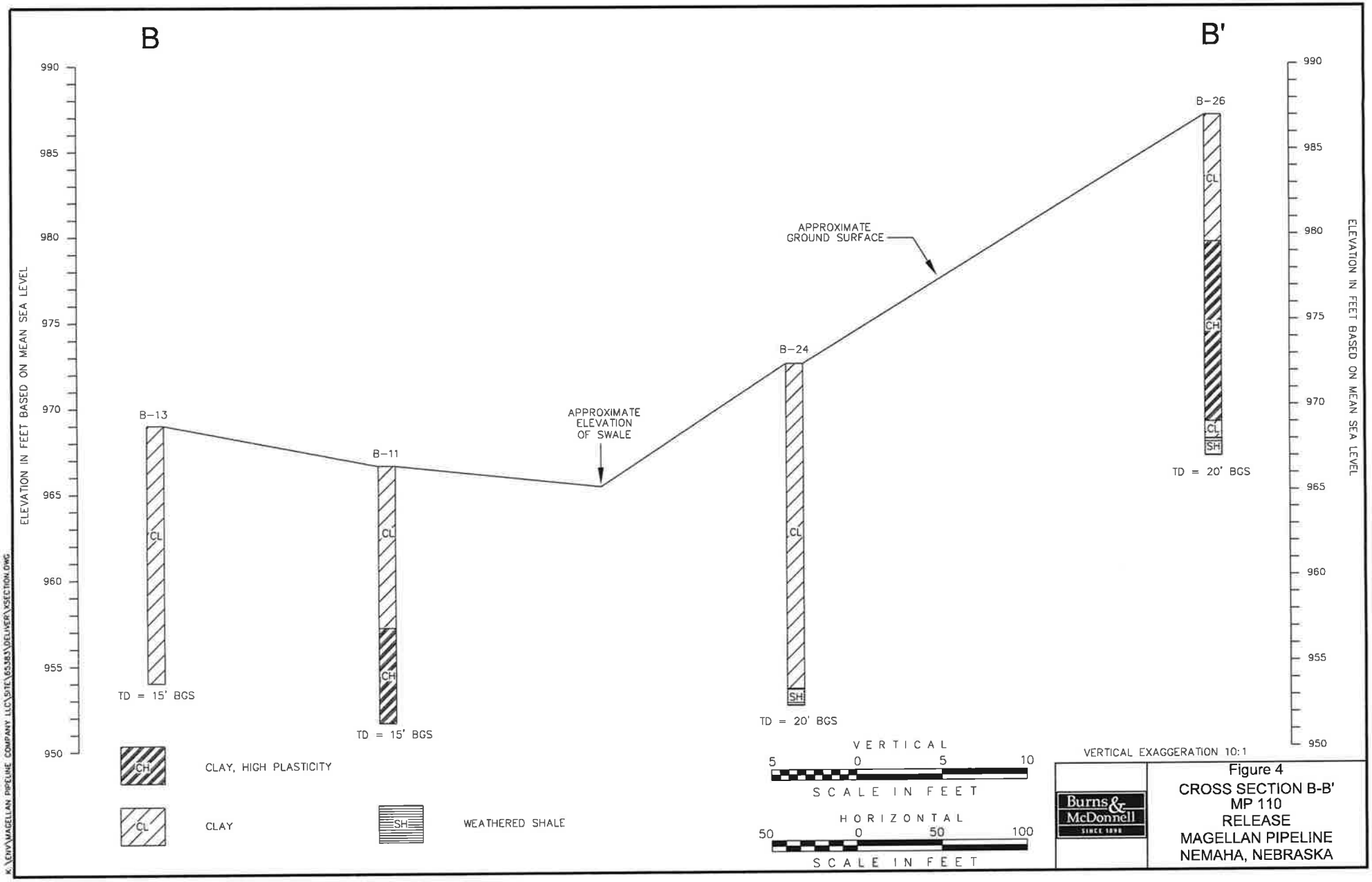
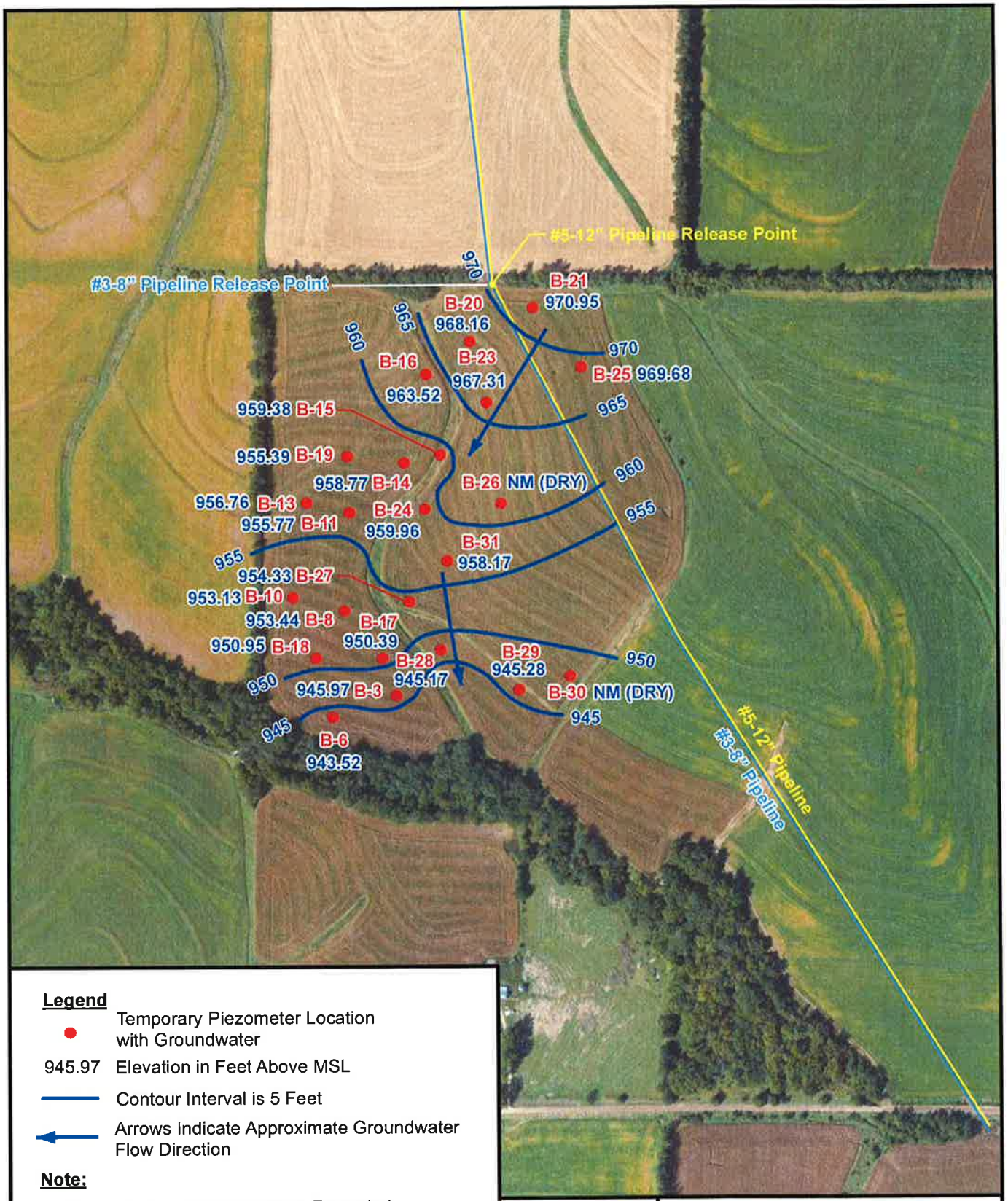


Figure 4
CROSS SECTION B-B'
MP 110
RELEASE
MAGELLAN PIPELINE
NEMAHA, NEBRASKA



Legend

- Temporary Piezometer Location with Groundwater
- 945.97 Elevation in Feet Above MSL
- Contour Interval is 5 Feet
- Arrows Indicate Approximate Groundwater Flow Direction

Note:

Groundwater Elevations were Recorded on January 31, 2012.

400 0 400

SCALE IN FEET

N

Burns & McDonnell

Figure 5

GROUNDWATER ELEVATION MAP

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig5_GW_Elevation_Map_MP110.mxd sos May 22, 2012

Table 1
Fluid Levels in Temporary Piezometers
Magellan MP 110 Release
Nemaha County, Nebraska

Piezometer	Date	Elv Top of Casing	Elv Ground	Depth to FPH (Ft.)	Assumed S.G. of FPH	Depth to Water (Ft.)	Elv of FPH (Ft.)	Measured FPH Thickness (Ft.)	Corrected FPH Thickness	Measured GW Elv. (Ft.)	Corrected GW Elv. (Ft.)
B-3	01/18/12	957.27	954.3	11.33	0.76	11.45	945.94	0.12	0.04	945.82	945.91
	01/24/12	957.27	954.3	11.29	0.76	11.42	945.98	0.13	0.04	945.85	945.95
	01/31/12	957.27	954.3	11.27	0.76	11.41	946.00	0.14	0.04	945.86	945.97
	02/16/12	957.27	954.3	10.87	0.76	10.99	946.40	0.12	0.04	946.28	946.37
B-6	01/18/12	958.25	955.4	--	0.76	14.74	--	--	--	943.51	943.51
	01/24/12	958.25	955.4	--	0.76	14.74	--	--	--	943.51	943.51
	01/31/12	958.25	955.4	--	0.76	14.73	--	--	--	943.52	943.52
	02/16/12	958.25	955.4	--	0.76	13.64	--	--	--	944.61	944.61
B-8	01/18/12	962.32	959.4	8.69	0.76	8.70	953.63	0.01	0.00	953.62	953.63
	01/24/12	962.32	959.4	8.78	0.76	8.79	953.54	0.01	0.00	953.53	953.54
	01/31/12	962.32	959.4	8.88	0.76	8.89	953.44	0.01	0.00	953.43	953.44
	02/16/12	962.32	959.4	--	0.76	8.03	--	--	--	954.29	954.29
B-10	01/18/12	962.27	959.6	--	0.76	9.03	--	--	--	953.24	953.24
	01/24/12	962.27	959.6	--	0.76	9.08	--	--	--	953.19	953.19
	01/31/12	962.27	959.6	--	0.76	9.14	--	--	--	953.13	953.13
	02/16/12	962.27	959.6	--	0.76	8.51	--	--	--	953.76	953.76
B-11	01/18/12	969.81	966.6	--	0.76	13.91	--	--	--	955.90	955.90
	01/24/12	969.81	966.6	--	0.76	13.97	--	--	--	955.84	955.84
	01/31/12	969.81	966.6	--	0.76	14.04	--	--	--	955.77	955.77
	02/16/12	969.81	966.6	--	0.76	13.36	--	--	--	956.45	956.45
B-13	01/18/12	971.87	969.00	--	0.76	14.99	--	--	--	956.88	956.88
	01/24/12	971.87	969.00	--	0.76	15.05	--	--	--	956.82	956.82
	01/31/12	971.87	969.00	--	0.76	15.11	--	--	--	956.76	956.76
	02/16/12	971.87	969.00	--	0.76	14.51	--	--	--	957.36	957.36
B-14	01/18/12	978.57	975.80	--	0.76	19.65	--	--	--	958.92	958.92
	01/24/12	978.57	975.80	--	0.76	19.77	--	--	--	958.80	958.80
	01/31/12	978.57	975.80	--	0.76	19.80	--	--	--	958.77	958.77
	02/16/12	978.57	975.80	--	0.76	18.52	--	--	--	960.05	960.05
B-15	01/18/12	978.21	974.90	--	0.76	--	--	--	--	--	--
	01/24/12	978.21	974.90	--	0.76	19.47	--	--	--	958.74	958.74
	01/31/12	978.21	974.90	--	0.76	18.83	--	--	--	959.38	959.38
	02/16/12	978.21	974.90	--	0.76	8.05	--	--	--	970.16	970.16
B-16	01/18/12	989.81	986.80	--	0.76	--	--	--	--	--	--
	01/24/12	989.81	986.80	--	0.76	--	--	--	--	--	--
	01/31/12	989.81	986.80	--	0.76	26.29	--	--	--	963.52	963.52
	02/16/12	989.81	986.80	--	0.76	25.95	--	--	--	963.86	963.86
B-17	01/18/12	960.35	957.00	--	0.76	9.94	--	--	--	950.41	950.41
	01/24/12	960.35	957.00	--	0.76	9.97	--	--	--	950.38	950.38
	01/31/12	960.35	957.00	--	0.76	9.96	--	--	--	950.39	950.39
	02/16/12	960.35	957.00	--	0.76	9.27	--	--	--	951.08	951.08
B-18	01/18/12	959.98	956.70	--	0.76	8.99	--	--	--	950.99	950.99
	01/24/12	959.98	956.70	--	0.76	9.02	--	--	--	950.96	950.96
	01/31/12	959.98	956.70	--	0.76	9.03	--	--	--	950.95	950.95
	02/16/12	959.98	956.70	--	0.76	8.80	--	--	--	951.18	951.18
B-19	01/18/12	976.80	974.20	--	0.76	--	--	--	--	--	--
	01/24/12	976.80	974.20	--	0.76	21.87	--	--	--	954.93	954.93
	01/31/12	976.80	974.20	--	0.76	21.41	--	--	--	955.39	955.39
	02/16/12	976.80	974.20	--	0.76	19.11	--	--	--	957.69	957.69
B-20	01/18/12	994.50	991.60	--	0.76	--	--	--	--	--	--
	01/24/12	994.50	991.60	--	0.76	--	--	--	--	--	--
	01/31/12	994.50	991.60	--	0.76	26.34	--	--	--	968.16	968.16
	02/16/12	994.50	991.60	--	0.76	26.11	--	--	--	968.39	968.39
B-21	01/18/12	1009.65	1006.30	--	0.76	38.53	--	--	--	971.12	971.12
	01/24/12	1009.65	1006.30	--	0.76	38.64	--	--	--	971.01	971.01
	01/31/12	1009.65	1006.30	--	0.76	38.70	--	--	--	970.95	970.95
	02/16/12	1009.65	1006.30	--	0.76	38.80	--	--	--	970.85	970.85
B-23	01/18/12	989.55	986.10	22.07	0.76	22.67	967.48	0.60	0.19	966.88	967.34
	01/24/12	989.55	986.10	22.08	0.76	22.73	967.47	0.65	0.21	966.82	967.31
	01/31/12	989.55	986.10	22.06	0.76	22.79	967.49	0.73	0.23	966.76	967.31
	02/16/12	989.55	986.10	--	0.76	21.83	--	--	--	967.72	967.72
B-24	01/18/12	975.20	972.50	--	0.76	17.69	--	--	--	957.51	957.51
	01/24/12	975.20	972.50	--	0.76	15.48	--	--	--	959.72	959.72
	01/31/12	975.20	972.50	--	0.76	15.24	--	--	--	959.96	959.96
	02/16/12	975.20	972.50	--	0.76	13.70	--	--	--	961.50	961.50

Table 1
Fluid Levels in Temporary Piezometers
Magellan MP 110 Release
Nemaha County, Nebraska

Piezometer	Date	Elv Top of Casing	Elv Ground	Depth to FPH (Ft.)	Assumed S.G of FPH	Depth to Water (Ft.)	Elv of FPH (Ft.)	Measured FPH Thickness (Ft.)	Corrected FPH Thickness	Measured GW Elv. (Ft.)	Corrected GW Elv. (Ft.)
B-25	01/18/12	1008.83	1005.60	--	0.76	39.02	--	--	--	969.81	969.81
	01/24/12	1008.83	1005.60	--	0.76	39.12	--	--	--	969.71	969.71
	01/31/12	1008.83	1005.60	--	0.76	39.15	--	--	--	969.68	969.68
	02/16/12	1008.83	1005.60	--	0.76	39.23	--	--	--	969.60	969.60
B-26	01/18/12	990.33	987.00	--	0.76	--	--	--	--	--	--
	01/24/12	990.33	987.00	--	0.76	--	--	--	--	--	--
	01/31/12	990.33	987.00	--	0.76	--	--	--	--	--	--
	02/16/12	990.33	987.00	--	0.76	--	--	--	--	--	--
B-27	01/18/12	965.36	962.90	--	0.76	10.96	--	--	--	954.40	954.40
	01/24/12	965.36	962.90	--	0.76	11.01	--	--	--	954.35	954.35
	01/31/12	965.36	962.90	--	0.76	11.03	--	--	--	954.33	954.33
	02/16/12	965.36	962.90	--	0.76	9.96	--	--	--	955.40	955.40
B-28	01/18/12	961.43	958.00	--	0.76	17.56	--	--	--	943.87	943.87
	01/24/12	961.43	958.00	--	0.76	16.05	--	--	--	945.38	945.38
	01/31/12	961.43	958.00	--	0.76	16.26	--	--	--	945.17	945.17
	02/16/12	961.43	958.00	--	0.76	12.29	--	--	--	949.14	949.14
B-29	01/18/12	962.47	959.00	--	0.76	17.84	--	--	--	944.63	944.63
	01/24/12	962.47	959.00	--	0.76	17.26	--	--	--	945.21	945.21
	01/31/12	962.47	959.00	--	0.76	17.19	--	--	--	945.28	945.28
	02/16/12	962.47	959.00	--	0.76	16.61	--	--	--	945.86	945.86
B-30	01/18/12	970.55	967.00	--	0.76	--	--	--	--	--	--
	01/24/12	970.55	967.00	--	0.76	--	--	--	--	--	--
	01/31/12	970.55	967.00	--	0.76	--	--	--	--	--	--
	02/16/12	970.55	967.00	--	0.76	--	--	--	--	--	--
B-31	01/18/12	976.62	973.10	--	0.76	--	--	--	--	--	--
	01/24/12	976.62	973.10	--	0.76	--	--	--	--	--	--
	01/31/12	976.62	973.10	--	0.76	18.45	--	--	--	958.17	958.17
	02/16/12	976.62	973.10	--	0.76	15.92	--	--	--	960.70	960.70

FPH – Free phase hydrocarbons
Ft = Feet

-- = FPH/groundwater not present