SUMMARY OF TCE WORK PLAN COMPLETED ACTIVITIES
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

TASK DESCRIPTION	SCHEDULE
Permits	
Submit permit application to Massachusetts Water Resources Authority (MWRA) to drive sheet pile and continue construction activities.	Completed October 2004
MWRA Approval	October 26, 2004
Site Preparation	
Bridge Enhancements for Sheet Pile Crane	Completed November 2004
Brush Clearing	
Sheet Pile Installation	Completed January 2005
Injection Well and Trench Installation	
Trenching Horizontal Wells (5 days)	Completed January 2005
Drilling Vertical Injection Wells (10 days)	
Monitoring Well Installation	Completed February 2005
Additional Injection Wells	
F-5, F-6, F-7	Completed August 2005
K-Series	Completed May 2007
Installation of Liquid Permanganate Delivery System	
Staging Area for Permanganate Storage	Completed May 2005
Delivery of Permanganate (70 drums total)	May 11, 2005 and June 10, 2005
Delivery of Permanganate (70 drums total)	October 7, 2005 and October 28, 2005
Delivery of Permanganate (21 drums total)	December 2, 2005
Delivery of Permanganate (4 drums total)	September 5, 2007
Delivery of Permanganate (8 drums total)	May 19, 2008
Delivery of Permanganate (5 drums total)	October 13, 2008
Delivery of Permanganate (4 drums total)	November 10, 2008
Delivery of Permanganate (4 drums total)	December 8, 2008
Delivery of Permanganate (4 drums total)	April 20, 2009
Delivery of Permanganate (4 drums total)	May 18, 2009
Delivery of Permanganate (4 drums total)	November 16, 2009
Delivery of Permanganate (3 drums total)	June 7, 2010
Delivery of Permanganate (3 drums total)	November 1, 2010
Total to Date = **204 drums**	

SEMS Doc ID 100018911

SUMMARY OF TCE WORK PLAN COMPLETED ACTIVITIES
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

TASK DESCRIPTION	SCHEDULE
Initial Injection Events - 2005	1st Injection: September 1, 2005 (Trenches) 2nd Injection: September 15, 2005(Trenches) 3rd Injection: September 29, 2005 (Wells) 4th Injection: October 13, 2005 (Trenches) 5th Injection: November 3, 2005 (Wells) 6th Injection: November 10, 2005 (Trenches) 7th Injection: November 22, 2005 (Wells) 8th Injection: December 16, 2005 (Wells/Trenches)
Focused Injection Events	9th Injection: September 6, 2007 (Wells) 10th Injection: May 20 to 22, 2008 (Direct-push/Wells/Trenches) 11th Injection: October 14 to 17, 2008 (East Side, Direct-push/Trenches) 12th Injection: November 10 to 14, 2008 (Direct-push/Trenches) 13th Injection: December 8 to 11, 2008 (Direct-push/Trenches) 14th Injection: April 20 to 23, 2009 (East Side, Direct-push/Trenches) 15th Injection: May 18 to 22, 2009 (Direct-push/Trenches/Wells) 16th Injection: November 17 to 20, 2009 (Direct-push/Trenches/Wells) 17th Injection: June 7 to 11, 2010 (Direct-push/Trenches/Wells) 18th Injection: November 1 to 10, 2010 (Direct-push/Trenches/Wells

SUMMARY OF TCE WORK PLAN COMPLETED ACTIVITIES
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

TASK DESCRIPTION	SCHEDULE
Ground Water Monitoring	
2005 Baseline Comprehensive Sampling Event	April 13 and 14, 2005
Focused Sampling Events	September 13, 2005 January 11, 2006 February 9, 2006 March 10, 2006
2006 Comprehensive Sampling Event	April 24, 25, and 26, 2006
Focused Sampling Events	July 19, 2006 August 31, 2006 September 28, 2006 October 30, 2006 December 14, 2006 March 28, 2007
2007 Comprehensive Sampling Event	April 24, 25, 26, 2007
Focused Sampling Event	November 5, 2007
2008 Comprehensive Sampling Event	April 22, 23, and 24, 2008
Focused Sampling Events	August 6, 2008 November 13, 2008 December 11, 2008 March 9, 2009
2009 Comprehensive Sampling Event	April 7 and 9, 2009
Focused Sampling Events	May 7, 2009 November 3, 2009
2010 Focused Sampling Event	February 15, 2010
2011 Focused Sampling Event	March 23, 2011

SUMMARY OF TCE WORK PLAN COMPLETED ACTIVITIES
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

TASK DESCRIPTION	SCHEDULE
Additional Assessment Activities included in November 28, 2006 Scope of Work	
Subsurface Investigation Activities (SB-300 series soil borings)	May 14 to 18, 2007
Focused Ground Water Sampling Event	June 18, 2007
Additional Assessment Activities included in March 14, 2008 Scope of Work	
Subsurface Investigation Activities (east side geoprobe borings)	June 9 to 11, 2008
Additional Assessment Activities	
Subsurface Investigation Activities (SB-400 series soil borings)	May 22, 2008
Subsurface Investigation Activities (SB-500 series soil borings)	November 14, 2008
Monitoring Point Installation Activities (MW-600 series wells – east side)	March 9 and May 5, 2009
Subsurface Investigation Activities (SB-700 series soil borings)	May 5, 2009
Subsurface Investigation Activities (SB-800 series soil borings)	June 11, 2010
Subsurface Investigation Activities (SB-900 series soil borings)	November 3, 5, and 10, 2010

TABLE 7
SUMMARY OF TCE CONCENTRATIONS - MW-200 SERIES PERFORMANCE MONITORING WELLS
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

SHALLOW PERFORMANCE MONITORING WELLS - INSIDE TREATMENT CELL

Well ID	Limited Screen Interval (feet BGS)	Max TCE Concentration (ug/l)	Most Recent TCE Concentration (ug/l)	Most Recent Sampling Date	% Reduction	Injection Status
MW-200S	6.5-9.5	14,000	<50	3/23/2011	100	Reduction achieved, monitor for performance goal
MW-201S	6.5-9.5	330	4	3/23/2011	99	Reduction achieved, monitor for performance goal
MW-202S	6.5-9.5	6,200	<25	4/22/2008	100	Reduction achieved, monitor for performance goal
MW-203S	3-6	500	3	3/23/2011	99	Reduction achieved, monitor for performance goal
MW-204S	7-10	2,400	<0.5	3/23/2011	100	Reduction achieved, monitor for performance goal
MW-205S	4-7	12	3	3/23/2011	75	Reduction achieved, monitor for performance goal
MW-206S	4-7	8,200	<0.5	3/23/2011	100	Reduction achieved, monitor for performance goal
MW-207S	6-9	3,700	930	3/23/2011	75	2011 focus area
MW-208S	4-7	1,100	<0.5	3/23/2011	100	Reduction achieved, monitor for performance goal
MW-209S	7-10	520	44	3/23/2011	92	Sustained decrease in TCE
MW-210S	7-10	2,400	18	3/23/2011	99	Sustained decrease in TCE
MW-211S	6.5-9.5	39	<0.5	3/23/2011	99	Reduction achieved, monitor for performance goal
					95	AVERAGE % REDUCTION

DEEP PERFORMANCE MONITORING WELLS - INSIDE TREATMENT CELL

Well ID	Limited Screen Interval (feet BGS)	Max TCE Concentration (ug/l)	Most Recent TCE Concentration (ug/l)	Most Recent Sampling Date	% Reduction	Injection Status
MW-200D	14-17	870,000	<500	3/23/2011	100	Reduction achieved, alternative focus area, historic presence of DNAPL
MW-201D	14-17	9,300	9,300	3/23/2011	na	Mobilization observed in most recent event, 2011 focus area
MW-202D	14-17	89,000	<250	3/23/2011	100	Reduction achieved, monitor for performance goal
MW-203D	14-17	47,000	12,000	3/23/2011	74	2011 focus area
MW-204D	14-17	460,000	6,900	3/23/2011	99	2011 focus area
MW-205D	14-17	120,000	<100	3/23/2011	100	Sustained decrease in TCE
MW-206D	14-17	100,000	17,000	3/23/2011	83	2011 focus area
MW-207D	14-17	8,100	<100	3/23/2011	99	Reduction achieved, monitor for performance goal
MW-208D	14-17	170,000	64,000	3/23/2011	62	2011 focus area
MW-209D	14-17	1,600	<10	3/23/2011	99	Reduction achieved, monitor for performance goal
MW-210D	14-17	650	<5	3/23/2011	99	Reduction achieved, monitor for performance goal
MW-211D	14-17	3,300	380	3/23/2011	88	Sustained decrease in TCE
MW-212S	10-13	2,300	1,600	3/23/2011	30	2011 focus area
					86	AVERAGE % REDUCTION

EAST SIDE PERFORMANCE MONITORING WELLS - OUTSIDE TREATMENT CELL

Well ID	Limited Screen Interval (feet BGS)	Max TCE Concentration (ug/l)	Most Recent TCE Concentration (ug/l)	Most Recent Sampling Date	% Reduction	Injection Status
MW-215S	10-13	6,200	<5	3/23/2011	100	Sustained decrease in TCE
MW-216S	10-13	120,000	94,000	3/23/2011	22	2011 focus area
MW-217S	10-13	840	31	3/23/2011	96	Continued monitoring
					73	AVERAGE % REDUCTION

SOUTHWEST CORNER PERFORMANCE MONITORING WELLS - OUTSIDE TREATMENT CELL

Well ID	Limited Screen Interval (feet BGS)	Max TCE Concentration (ug/l)	Most Recent TCE Concentration (ug/l)	Most Recent Sampling Date	% Reduction	Injection Status
MW-13	7-17	7,100	<0.5	3/23/2011	100	Sustained decrease in TCE
MW-213S	10-13	6,000	2,000	3/23/2011	67	2011 focus area
					83	AVERAGE % REDUCTION

NOTES:
1. Values in micrograms per liter (ug/l).
2. TCE = Trichloroethene.
3. ND = Not detected above laboratory practical quantitation limits.
4. <25 = not detected in sample at concentration above reporting limit.
5. BGS = Below ground surface.
6. DNAPL = dense non-aqueous phase liquid.
7. % Reduction calculated using the Max TCE Concentration and the Most Recent TCE Concentration.

TABLE 6
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOCs
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	PCE	TCE	cis-1,2-DCE	Vinyl Chloride
GROUND WATER STANDARDS			5	5	70	2
INSIDE TREATMENT CELL						
OL-002	12/15/87	4-9'	**41**	**3,100**	---	---
	12/15/87		**33**	**3,400**	---	---
	09/16/97		**8**	**3,700**	**3**	<1
	03/20/02		<120	**7,900**	<120	<120
OL-002 (Field Dup D02290)	03/20/02		<120	**8,000**	<120	<120
	04/22/03		**3**	**91**	**4**	<1
	06/02/03		<5	**330**	**17**	<5
	04/14/05		<50	**3,200**	**76**	<100
	04/22/08		<10	**79**	<10	<10
	04/07/09+		<3	**41**	<3	<3
OL-2M	07/09/02	21.5-31.5'	<0.100	**5**	<2	<0.100
	06/02/03		<0.5	<0.5	<0.5	<0.5
	04/14/05		<1	<1	<1	<2
	01/11/06		<25	**1,600**	<25	<25
	02/09/06		<250	**22,000**	<250	<250
	03/10/06		<25	**1,800**	<25	<25
	04/24/06		<5	**400**	<5	<5
OL-2M (DUP-3)	04/24/06		<5	**430**	<5	<5
	07/19/06		**1**	**80**	<0.5	<0.5
	08/31/06		<1	**34**	<1	<1
	09/28/06		**0.7**	**25**	<0.5	<0.5
	12/14/06		**0.8**	**37**	<0.5	<0.5
	03/28/07		**6**	**260**	<5	<5
	04/24/07		<10	**690**	<10	<10
	04/22/08		<0.5	**3**	<0.5	<0.5
	04/07/09+		**1**	**2**	<0.5	<0.5
GEO-4	06/24/03	6-16'	<5	**340**	<5	<5
	04/14/05		<50	**2,500**	<50	<100
	07/19/06		<0.5	<0.5	<0.5	<0.5
	04/07/09+		<25	<25	<25	<25
TEST-1	07/09/02	1.8-16.8'	**14**	**12,000**	**15**	**2**
TEST-1 (Field Dup D02947)	07/09/02		**15**	**12,000**	**15**	**2**
	06/02/03		**3**	**1,300**	**130**	**3**
	06/24/03		<5	**400**	**53**	<5
	04/14/05		<50	**3,500**	**390**	<100
TEST-1 (DUP-5)	04/14/05		<50	**3,600**	**400**	<100
	04/08/09+		<0.5	<0.5	<0.5	<0.5
OL-003	12/15/87	4-9'	**45**	**180**	**23**	ND
	09/16/97		**5**	**94**	**280**	**95**
	03/18/02		**0.508 (J)**	**13**	**57**	**16**
	06/02/03		**0.8**	**2**	**11**	**7**
	04/13/05		<25	**930**	**480**	**77**
	04/24/08		**13**	**370**	**450**	**82**
	04/07/09+		<25	<25	<25	<25
OL-3M	07/10/02	21.5-31.5'	<0.100	**0.191**	<2	<0.100
	06/02/03		<0.5	<0.5	<0.5	<0.5
	04/13/05		<1	<1	<1	<2
	04/07/09+		<3	<3	<3	<3
GEO-3	06/24/03	6-16'	<0.5	**4**	**49**	**35**
MW-200S	04/14/05	6.5-9.5'	<200	**14,000**	<200	<400
	04/07/09+		<25	<25	<25	<25
	03/23/11*		<50	<50	<50	<50
MW-200D	04/14/05	14-17'	<25,000	**870,000**	<25,000	<25,000
MW-200D (Dup)	04/14/05		<25,000	**770,000**	<25,000	<25,000
	04/07/09+		<50	<50	<50	<50
	02/15/10+		<250	<250	<250	<250
	03/23/11*		<500	<500	<500	<500
MW-201S	04/14/05	6.5-9.5'	<5	**330**	<5	<10
	11/05/07+		<2.5	**4**	<2.5	<2.5
	04/24/08		<10	<10	<10	<10
	03/23/11*		<0.5	**4**	<0.5	<0.5
MW-201D	04/14/05	14-17'	<1	**11**	<1	<2
	11/05/07+		<5	<5	<5	<5
	3/23/11*		<100	**9,300**	<100	<100
MW-202S	04/14/05	6.5-9.5'	<100	**6,200**	<100	<200
	4/22/08+		<25	<25	<25	<25
MW-202D	04/14/05	14-17'	<2,000	**89,000**	<2,000	<4,000
	04/07/09+		<100	<100	<100	<100
	11/03/09+		<100	<100	<100	<100
	03/23/11*		<250	<250	<250	<250
MW-203S	04/14/05	3-6'	<10	**500**	<10	<20
	04/25/07		<0.5	**3**	**0.7**	<0.5
	11/05/07+		<0.5	**1**	**0.7**	<0.5
	04/23/08		<0.5	**39**	<0.5	<0.5
	04/07/09		<0.5	**4**	**0.5**	<0.5
	03/23/11*		<0.5	**3**	**0.7**	<0.5
MW-203D	04/14/05	14-17'	<500	**42,000**	<500	<1,000
	8/31/06+		<250	**24,000**	<250	<250
	12/14/06+		**120**	<5	<5	<5
	11/05/07		<500	**33,000**	<500	<500
	04/24/08		<250	**26,000**	<250	<250
	08/06/08		<250	**37,000**	<250	<250
	11/13/08+		<250	**47,000**	<250	<250
	12/11/08+		<25	<25	<25	<25
	03/09/09+		**200**	**14,000**	<100	<100
	11/03/09		**350**	**45,000**	<250	<250
	02/15/10+		**30**	<25	<25	<25
	09/01/10+		<130	<25	<25	<25
	03/23/11*		**120**	**12,000**	<100	<100
MW-204S	04/14/05	7-10'	<50	**2,400**	**280**	<100
MW-204S (DUP-8)	04/14/05		<50	**2,200**	**250**	<100
	04/23/08+		<250	<250	<250	<250
	04/07/09+		<10	<10	<10	<10
	03/23/11*		<0.5	<0.5	<0.5	<0.5
MW-204D	04/14/05	14-17'	<1,000	**60,000**	<1,000	<2,000
	04/25/06		<2,500	**190,000**	<2,500	<2,500
	07/19/06		<2,500	**160,000**	<2,500	<2,500
	08/31/06		<2,500	**220,000**	<2,500	<2,500
	09/28/06		<2,500	**210,000**	<2,500	<2,500
	04/25/07		<5,000	**260,000**	<5,000	<5,000
	04/24/08+		<2,500	**460,000**	<2,500	<2,500
	8/6/2008+		<2,500	**190,000**	<2,500	<2,500
	11/13/08+		<500	**70,000**	<500	<500
	03/09/09+		<50	<50	<50	<50
	04/08/09+		<100	<100	<100	<100
	11/03/09+		<250	<250	<250	<250
	09/01/10+		<250	<50	<50	<50
	03/23/11*		**110**	**6,900**	<100	<100

TABLE 6
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOCs
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	PCE	TCE	cis-1,2-DCE	Vinyl Chloride
GROUND WATER STANDARDS			5	5	70	2
INSIDE TREATMENT CELL (continued)						
MW-205S	04/13/05	4-7'	<1	**12**	**4**	<2
	10/30/06+		<0.5	**2**	**8**	<0.5
	04/23/08		<0.5	**5**	**5**	**1**
MW-205S (DUP-3)	04/23/08		<0.5	**4**	**4**	**0.9**
	04/07/09+		<0.5	<0.5	<0.5	<0.5
	03/23/11*		<0.5	**3**	**5**	**1**
MS-205SX	03/23/11		<0.5	**3**	**5**	**1**
MW-205D	04/13/05	14-17'	<500	**16,000**	<500	<1,000
	04/26/06		<1,000	**61,000**	<1,000	<1,000
	07/19/06		<2,500	**98,000**	<2,500	<2,500
	08/31/06		<2,500	**110,000**	<2,500	<2,500
	09/28/06		<2,500	**120,000**	<2,500	<2,500
	10/30/06		<1,000	**120,000**	<1,000	<1,000
	04/25/07		<2,500	**120,000**	<2,500	<2,500
	04/23/08+		**340**	**25,000**	<250	<250
	08/06/08+		<25	<25	<25	<25
	11/13/08+		<50	<50	<50	<50
	03/09/09+		<100	<100	<100	<100
	11/03/09+		<100	<100	<100	<100
	09/01/10+		<250	<50	<50	<50
	03/23/11*		<100	<100	<100	<100
MW-205DX	03/23/11+		<100	<100	<100	<100
MW-206S	04/14/05	4-7'	<100	**8,200**	**130**	<200
	04/23/08+		<5	<5	<5	<5
	3/23/11*		<0.5	<0.5	<0.5	<0.5
MW-206D	04/14/05	14-17'	<25	<25	**70**	<50
	04/26/06		<1,000	**81,000**	<1,000	<1,000
	07/19/06		<1,000	**73,000**	<1,000	<1,000
	08/31/06		<1,000	**78,000**	<1,000	<1,000
	09/28/06		<1,000	**87,000**	<1,000	<1,000
	04/25/07		<1,000	**83,000**	<1,000	<1,000
	04/23/08		**500**	**100,000**	**400**	<50
MW-206D (DUP-2)	04/23/08		<1,000	**77,000**	<1,000	<1,000
	08/06/08+		**320**	**870**	<3	<3
	11/13/08		<500	**78,000**	**640**	<500
	12/11/08+		<25	<25	<25	<25
	03/09/09+		**200**	<50	<50	<50
	11/03/09+		**330**	**14,000**	**300**	<100
	02/15/10+		**260**	**9,200**	**280**	<50
	09/01/10+		<2,500	**34,000**	**2,900**	<500
	3/23/11*		**150**	**17,000**	**2,400**	<100
MW-207S	04/13/05	6-9'	**110**	**3,700**	**1,700**	**320**
	12/14/06+		<10	**550**	**150**	<10
	11/05/07		<25	**890**	**580**	**54**
	04/22/08		**83**	**1,700**	**51**	<10
	08/06/08+		**62**	**39**	<5	<5
	04/07/09+		<10	<10	<10	<10
	3/23/11*		**25**	**930**	**61**	<10
MW-207D	04/14/05	14-17'	<100	**7,900**	<100	<200
MW-207D (DUP-7)	04/14/05		<100	**8,100**	<100	<200
	04/07/09+		<50	<50	<50	<50
	3/23/11*		<100	<100	<100	<100
MW-208S	04/14/05	4-7'	<25	**1,100**	**1,300**	**95**
	04/22/08+		<25	<25	<25	<25
	04/07/09+		<10	<10	<10	<10
	3/23/11*		<0.5	<0.5	**1**	<0.5
MW-208D	04/14/05	14-17'	<500	**38,000**	<500	<500
	12/14/06+		<2,500	**170,000**	<2,500	<2,500
	12/11/08+		<25	<25	<25	<25
	03/09/09+		<100	<100	<100	<100
	11/03/09+		**40**	<25	<25	<25
	09/01/10+		**250**	**73**	<50	<50
MW-208DX	09/01/10*		<2,500	**91,000**	<500	<500
	03/23/11*		**500**	**64,000**	<500	<500
MW-209S	04/13/05	7-10'	<10	**520**	**1,200**	**270**
	04/22/08		<5	**22**	<5	<5
	04/07/09+		<5	<5	<5	<5
	03/23/11*		<10	**44**	<10	<10
MW-209D	04/13/05	14-17'	<25	**1,600**	<25	<50
	04/08/09+		<10	<10	<10	<10
	03/23/11*		<10	<10	<10	<10
MW-210S	04/13/05	7-10'	<50	**730**	**3,500**	**1,100**
	11/05/07		<25	**430**	**1,000**	**61**
	04/22/08		<25	**2,400**	**2,900**	**290**
	08/06/08+		<25	<25	<25	<25
	04/07/09		**3**	**30**	<0.5	<0.5
	09/01/10+		<25	<5	<5	<5
	3/23/11*		<3	**18**	**4**	<3
MW-210D	04/14/05	14-17'	<25	**650**	**1,900**	<50
	04/07/09+		<5	<5	<5	<5
	09/01/10		<130	<25	<25	<25
	3/23/11*		<5	<5	<5	<5
MW-211S	04/14/05	6.5-9.5'	<2	**39**	**140**	**27**
	12/14/06		<0.5	**1**	**2**	**0.6**
	04/25/07		<0.5	**1**	**0.7**	<0.5
	04/22/08		<0.5	**2**	**2**	**0.8**
	09/01/10		<3	**0.5**	<0.5	<0.5
	3/23/11*		<0.5	<0.5	**0.6**	<0.5
MW-211D	04/14/05	14-17'	<5	**83**	**150**	<10
	11/05/07		<50	**3,300**	**830**	<50
	4/22/08+		**8**	**69**	<1	<1
	04/08/09+		<0.5	<0.5	<0.5	<0.5
	3/23/11*		<25	**380**	**1,600**	<25
MW-212S	04/14/05	10-13'	**450**	**360**	**12**	<20
	04/26/06		**1,200**	**2,300**	<25	<25
	08/31/06		**1,300**	**2,200**	**39**	<25
	09/28/06		**240**	**1,000**	**310**	<25
	10/30/06		**1,300**	**1,900**	**42**	<25
	04/26/07		**1,200**	**1,800**	**68**	<25
	04/24/08		**1,100**	**2,100**	**200**	<25
	04/08/09+		<25	<25	<25	<25
	03/23/11*		**1,200**	**1,600**	**21**	<10
DEEP OVERBURDEN WELLS						
GEO-1	09/21/99	90-100'	<1.5	**2.5**	<1	<2
	03/18/02		**0.104**	**0.244**	<2	<0.100
	09/13/05		<0.5	<0.5	<0.5	<0.5
	01/11/06		<0.5	<0.5	<0.5	<0.5
	04/24/06		<0.5	<0.5	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5
GEO-2	09/21/99	95-105'	<1.5	**1.6**	<1	<2
	03/15/02		<0.100	**0.175**	<2	<0.100

TABLE 6
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOCs
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	PCE	TCE	cis-1,2-DCE	Vinyl Chloride
GROUND WATER STANDARDS			5	5	70	2
OUTSIDE TREATMENT CELL						
UPGRADIENT						
OL-005	12/15/87	3.5-8.5'	ND	ND	---	---
	03/19/02		<0.100	<0.100	<2	<0.100
	06/02/03		<0.5	<0.5	<0.5	<0.5
	04/14/05		<1	<1	<1	<2
	04/25/06		<0.5	<0.5	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5
MW-12	07/10/02	3.5-13.5'	<0.100	<0.100	<2	<0.100
	04/14/05		<1	<1	<1	<2
	04/25/06		<0.5	<0.5	<0.5	<0.5
	04/24/07		<0.5	**32**	**7**	<0.5
	04/24/08		<0.5	**13**	**0.5**	<0.5
	04/08/09		<0.5	**22**	**4**	<0.5
MW-214S	04/14/05	10-13'	<1	**3**	<1	<2
	04/25/06		<0.5	**1**	<0.5	<0.5
	04/25/07		<0.5	<0.5	<0.5	<0.5
	04/24/08		<0.5	<0.5	<0.5	<0.5
MW-214M	04/14/05	20-23'	<1	**3**	<1	<2
	04/25/06		<0.5	<0.5	<0.5	<0.5
	04/25/07		<0.5	<0.5	<0.5	<0.5
	04/24/08		<0.5	<0.5	<0.5	<0.5
MW-214D	04/14/05	30-33'	<1	<1	<1	<2
	04/25/06		<0.5	<0.5	<0.5	<0.5
	04/25/07		<0.5	**1**	<0.5	<0.5
	04/24/08		<0.5	<0.5	<0.5	<0.5
SIDE GRADIENT EAST (Vicinity of Aberjona River)						
MW-010S	04/22/02	4-14'	<0.100	<0.100	<2	<0.100
	04/14/05		<1	<1	<1	<2
	04/25/06		<0.5	<0.5	**1**	<0.5
	04/23/08		<0.5	<0.5	**0.7**	<0.5
MW-010M	04/25/02	40-50'	<0.100	**0.0779(J)**	<2	<0.100
	04/14/05		**2**	**1**	<1	<2
	04/25/06		<0.5	<0.5	<0.5	<0.5
	04/23/08		<0.5	<0.5	<0.5	<0.5
MW-010D	04/25/02	88.5-98.5'	**0.174**	**1.4**	<2	<0.100
	04/25/06		<0.5	<0.5	<0.5	<0.5
MW-215S	04/13/05	10-13'	**2,300**	**6,200**	**430**	<200
	04/24/06		**2,400**	**5,400**	**250**	<100
MW-215S (DUP-1)	04/24/06		**2,400**	**5,200**	**260**	<100
	09/28/06		**2,900**	**5,400**	**290**	<50
	04/25/07		**1,900**	**3,500**	<250	<250
	04/22/08		**1,400**	**1,900**	**120**	<10
	11/13/08+		<50	<50	<50	<50
	12/11/08+		**360**	<3	<3	<3
	03/09/09+		**310**	<50	<50	<50
	04/08/09+		**190**	<50	<50	<50
	11/03/09+		<50	<50	<50	<50
	02/15/10+		<50	<50	<50	<50
	03/23/11*		<5	<5	<5	<5
MW-215SX	03/23/11		<25	<25	<25	<25
MW-215M	04/13/05	20-23'	<1	<1	<1	<2
MW-215M (DUP-2)	04/13/05		<1	<1	<1	<2
	04/26/06		<0.5	<0.5	<0.5	<0.5
	10/30/06		<0.5	**2**	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5
	04/22/08		<0.5	<0.5	<0.5	<0.5
	03/23/11*		<1	**100**	<1	<1
MW-215D	04/13/05	30-33'	<1	<1	<1	<2
	09/13/05		<0.5	<0.5	<0.5	<0.5
	01/11/06		<0.5	**1**	<0.5	<0.5
	04/26/06		<0.5	<0.5	<0.5	<0.5
	07/19/06		<0.5	<0.5	<0.5	<0.5
	03/28/07		<0.5	<0.5	<0.5	<0.5
	04/22/08		<0.5	<0.5	<0.5	<0.5
MW-216S	04/13/05	10-13'	<500	**20,000**	<500	<1,000
	09/13/05		**740**	**32,000**	<500	<500
	04/26/06		<1,000	**35,000**	<1,000	<1,000
	09/28/06		<1,000	**48,000**	<1,000	<1,000
	04/24/07		<1,000	**48,000**	<1,000	<1,000
	04/22/08		<1,000	**95,000**	<1,000	<1,000
	12/11/08		<500	**98,000**	<500	<500
	03/09/09		<500	**40,000**	<500	<500
	05/07/09		<250	**26,000**	<250	<250
	11/03/09		<500	**120,000 D**	<500	<500
	02/15/10+		**180**	**32,000 D**	<100	<100
MW-216SX	02/15/10		<500	**78,000**	<500	<500
	09/01/10+		<130	<25	<25	<25
	09/01/10*		<1,300	**63,000**	<250	<250
	03/23/11*		<1,000	**94,000**	<1,000	<1,000
MW-216M	04/13/05	20-23'	<1	<1	<1	<2
	04/26/06		<0.5	**4**	<0.5	<0.5
	04/24/07		<0.5	**10**	<0.5	<0.5
	04/23/08		<0.5	<0.5	<0.5	<0.5
	03/23/11		<0.5	<0.5	<0.5	<0.5
MW-216D	04/13/05	30-33'	<1	<1	<1	<2
	09/13/05		<0.5	<0.5	<0.5	<0.5
	01/11/06		<0.5	<0.5	<0.5	<0.5
	04/26/06		<0.5	<0.5	<0.5	<0.5
	07/19/06		<0.5	**0.5**	<0.5	<0.5
	12/14/06		<0.5	**1**	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5
	04/22/08		<0.5	<0.5	<0.5	<0.5

TABLE 6
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOCs
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

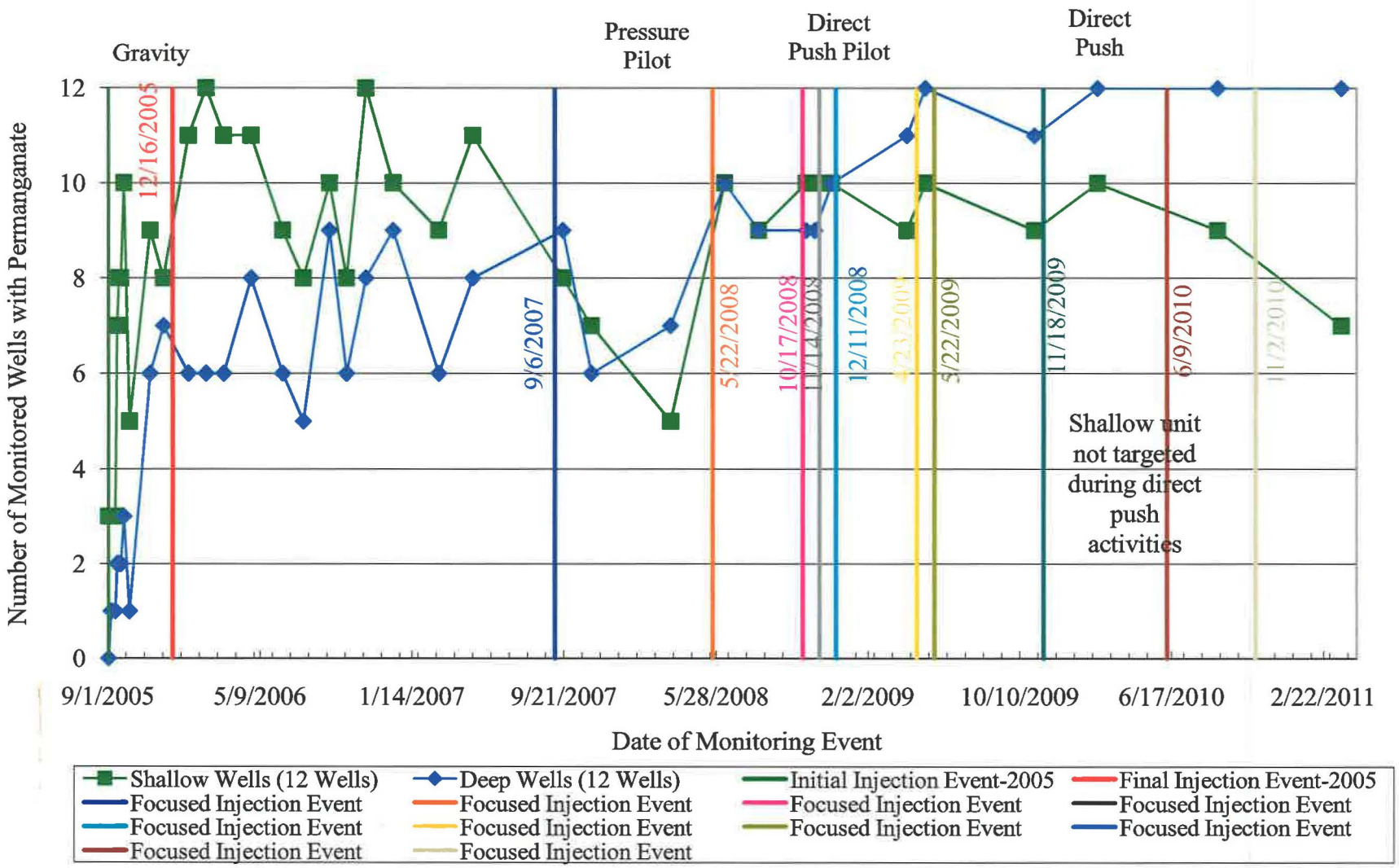
LOCATION ID	Sampling Date	Screen Interval	PCE	TCE	cis-1,2-DCE	Vinyl Chloride
GROUND WATER STANDARDS			5	5	70	2
OUTSIDE TREATMENT CELL (continued)						
SIDE GRADIENT WEST (Adjacent to Sewer Line Easement)						
GEO-5	06/24/03	2-12'	**280**	**3,300**	<50	<50
GEO-6	06/24/03	11-16'	<0.5	<0.5	<0.5	<0.5
	04/13/05		<1	<1	<1	<2
	04/24/06		<0.5	<0.5	<0.5	<0.5
	10/30/06		<0.5	**2**	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5
	06/18/07		<0.5	<0.5	<0.5	<0.5
GEO-7	06/24/03	6-16'	**2**	**8**	<0.5	<0.5
	04/13/05		<1	**4**	<1	<2
	04/24/06		<0.5	**1**	<0.5	<0.5
	09/28/06		<0.5	**2**	<0.5	<0.5
	04/26/07		<0.5	<0.5	<0.5	<0.5
	06/18/07		<0.5	<0.5	<0.5	<0.5
MW-13	07/09/02	7-17'	**410**	**780**	**1,500**	<2
	04/22/03		**650**	**280**	**780**	<10
	06/02/03		**430**	**250**	**1,300**	<25
	04/14/05		**470**	**160**	**340**	<20
	04/26/06		**1,500**	**1,400**	**350**	<50
	09/28/06		**1,100**	**2,200**	**480**	<25
	04/26/07		**1,400**	**4,100**	**380**	<50
	06/18/07		**1,100**	**7,100 D**	**710**	**34**
	11/05/07		**560**	**6,400**	**260**	<100
	04/22/08		**730**	**6,000**	**420**	<50
	04/07/09		**530**	**6,300**	**440**	<50
	02/15/10+		<10	<10	<10	<10
MW-13X	02/15/10		<3	<3	<3	<3
	03/23/11*		<0.5	<0.5	<0.5	<0.5
MW-13X	03/23/11+		<25	<25	<25	<25
MW-212M	04/14/05	20-23'	<1	<1	<1	<2
	04/26/06		<0.5	**3**	<0.5	<0.5
	04/25/07		<0.5	**7**	**2**	<0.5
MW-212D	04/14/05	30-33'	<1	<1	<1	<2
MW-212D (DUP-6)	04/14/05		<1	<1	<1	<2
	04/26/06		<0.5	<0.5	<0.5	<0.5
	04/26/07		<0.5	<0.5	<0.5	<0.5
	04/08/09		<0.5	<0.5	<0.5	<0.5
MW-213S	04/13/05	10-13'	**240**	**70**	**140**	<10
MW-213S (DUP-1)	04/13/05		**230**	**70**	**140**	<10
	04/24/06		**120**	**120**	**47**	<25
	03/28/07		**330**	**900**	**150**	<10
	06/18/07		**400**	**2,000 D**	**200**	<10
	04/22/08		**280**	**2,100**	**110**	<25
	04/08/09		**400**	**6,000**	**81**	<50
	09/01/10+		**210**	<25	<25	<25
	09/01/10*		**600**	**13,000**	**120**	<25
	03/23/11*		**140**	**2,000**	**51**	<25
MW-213S (DUP-1)	03/23/11*		**140**	**2,000 D**	**50**	<10
MW-213SX	03/23/11		**150**	**2,200**	**53**	<25
MW-213M	04/13/05	20-23'	<1	<1	<1	<2
	04/24/06		<0.5	<0.5	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5
	06/18/07		<0.5	<0.5	<0.5	<0.5
	03/23/11*		<0.5	**6**	**3**	<0.5
MW-213D	04/13/05	30-33'	<1	<1	<1	<2
	04/24/06		<0.5	<0.5	<0.5	<0.5
	03/28/07		<0.5	<0.5	<0.5	<0.5
MW-220M	04/14/05	20-23'	<1	<1	<1	<2
	04/26/06		<1	<1	<1	<1
	04/27/07		<0.5	<0.5	<0.5	<0.5
MW-220D	04/13/05	30-33'	<1	<1	<1	<2
	04/26/06		<0.5	<0.5	<0.5	<0.5
	09/28/06		<0.5	<0.5	<0.5	<0.5
	04/26/07		<0.5	<0.5	<0.5	<0.5
SIDE GRADIENT WEST (Adjacent to Sewer Line Easement)						
GEO-8 (MW-301)	06/18/07	15-20'	<0.5	<0.5	<0.5	<0.5
	04/23/08		<0.5	<0.5	<0.5	<0.5
GEO-9 (MW-302)	06/18/07	15-20'	<0.5	<0.5	<0.5	<0.5
	04/24/08		<0.5	<0.5	<0.5	<0.5
DOWNGRADIENT						
MW-011S	04/26/02	4-14'	<0.100	**0.13**	<2	**0.264**
	04/14/05		**2**	**5**	**13**	<2
	04/25/06		**3**	**8**	**26**	**2**
	04/23/08		**0.5**	**2**	**12**	**1**
MW-011M	04/26/02	40-50'	**7**	**120**	**17**	<2
	04/14/05		<1	**19**	**2**	<2
	04/25/06		<0.5	**4**	**0.8**	<0.5
	04/23/08		<0.5	**2**	**0.6**	<0.5
MW-011D	04/26/02	81-91'	<0.100	<0.100	<2	<0.100
	04/25/06		<0.5	<0.5	<0.5	<0.5
	04/23/08		<0.5	<0.5	<0.5	<0.5
MW-014S	07/10/02	5-15'	**25**	**180**	**670**	**190**
	04/22/03		**1**	**6**	**61**	**19**
	06/02/03		**2**	**15**	**62**	**16**
	04/13/05		**3**	**6**	**98**	**16**
	9/28/06+		**120**	**810**	**110**	<10
	04/24/07		**39**	**25**	**29**	**6**
	06/18/07		**51**	**29**	**33**	**7**
	04/23/08		**68**	**180**	**210**	**31**
	04/07/09		**11**	**27**	**280**	**30**
MW-014M	07/10/02	20-30'	<0.100	<0.100	<2	<0.100
	04/13/05		<1	<1	<1	<2
	04/24/06		<0.5	<0.5	<0.5	<0.5
	10/30/06		<0.5	<0.5	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5

TABLE 6
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOCs
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

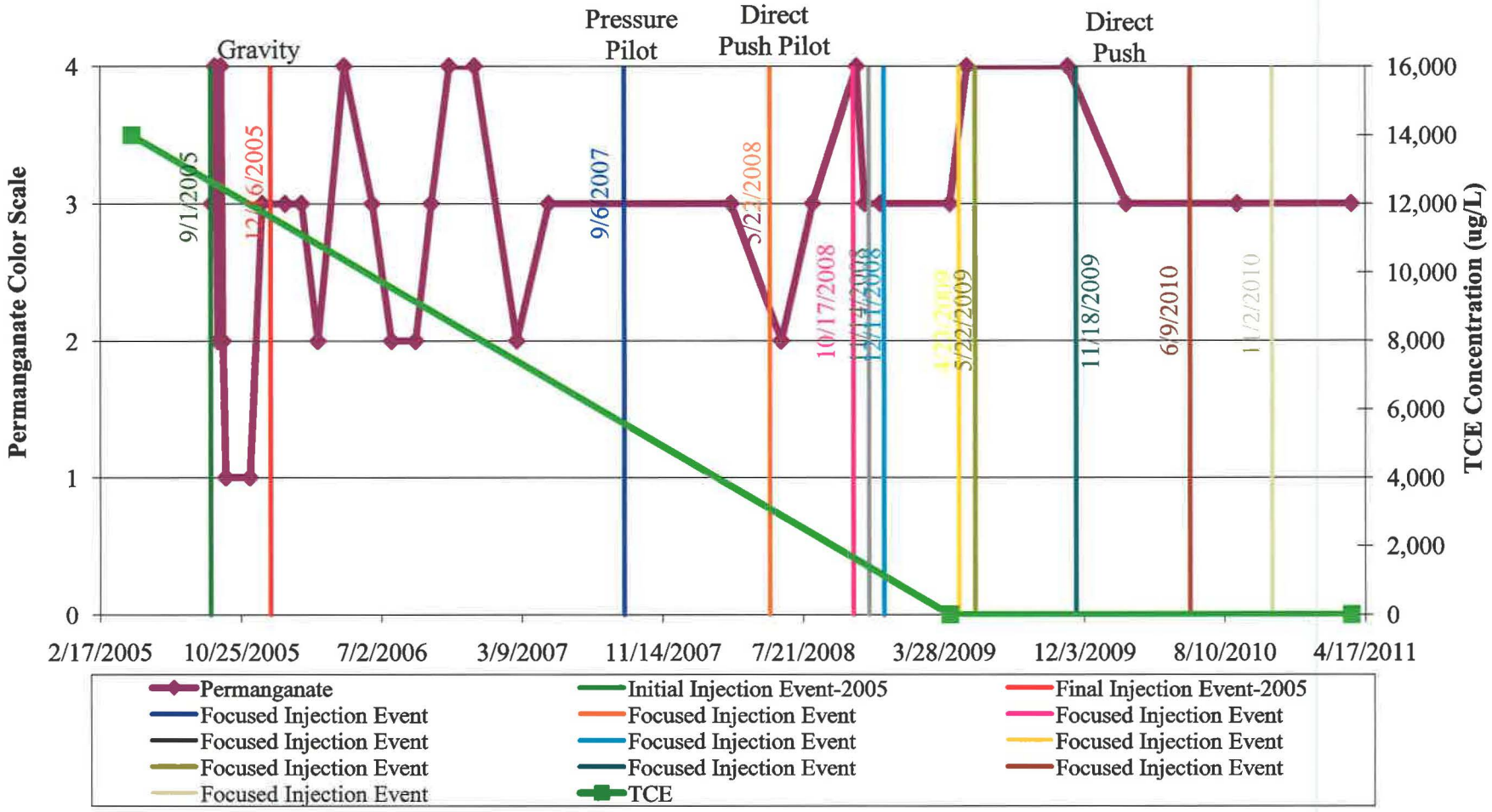
LOCATION ID	Sampling Date	Screen Interval	PCE	TCE	cis-1,2-DCE	Vinyl Chloride
GROUND WATER STANDARDS			5	5	70	2
OUTSIDE TREATMENT CELL (continued)						
DOWNGRADIENT (continued)						
MW-014D	04/13/05	37-40'	<1	<1	<1	<2
MW-014D (DUP4)	04/13/05		<1	<1	<1	<2
	04/25/06		<0.5	**0.6**	<0.5	<0.5
	12/14/06		<0.5	**0.5**	<0.5	<0.5
	04/24/07		<0.5	**2**	<0.5	<0.5
	04/24/08		<0.5	<0.5	<0.5	<0.5
	04/07/09		<0.5	<0.5	<0.5	<0.5
MW-217S	04/13/05	10-13'	<5	**190**	**400**	<10
	04/24/06		**7**	**69**	**80**	<5
	04/24/07		<0.5	**3**	**2**	<0.5
	04/22/08		**12**	**83**	**520**	<5
MW-217S (DUP-1)	04/22/08		**12**	**88**	**530**	<5
	04/08/09		**5**	**190**	**550**	<5
MW-217S (DUP-1)	04/08/09		<5	**170**	**510**	<5
	09/01/10		<130	**840**	**2,200**	<25
	03/23/11*		**0.8**	**31**	**25**	**2**
MW-217M	04/13/05	25-28'	<1	<1	<1	<2
	04/24/06		<0.5	<0.5	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5
	04/23/08+		<25	<25	<25	<25
	04/08/09+		<0.5	<0.5	<0.5	<0.5
	03/23/11*		<0.5	**25**	**19**	<0.5
MW-217MX	03/23/11		<0.5	**26**	**20**	<0.5
MW-217D	04/13/05	37-40'	<1	<1	<1	<2
	09/13/05		<0.5	<0.5	<0.5	<0.5
	01/11/06		<0.5	<0.5	<0.5	<0.5
	04/24/06		<0.5	<0.5	<0.5	<0.5
	07/19/06		<0.5	<0.5	<0.5	<0.5
	03/28/07		<0.5	<0.5	<0.5	<0.5
MW-218S	04/13/05	10-13'	<1	**27**	**93**	**5**
	04/25/06		<1	**1**	**44**	**6**
MW-218S (DUP-2)	04/25/06		<1	**1**	**45**	**6**
	04/25/07		<0.5	**3**	**10**	**3**
	04/23/08		<0.5	**4**	**9**	**3**
	04/08/09		<0.5	**0.5**	**1**	<0.5
MW-218M	04/13/05	25-28'	<1	<1	<1	<2
	04/26/06		<0.5	**4**	<0.5	<0.5
	04/25/07		<0.5	**1**	<0.5	<0.5
	04/23/08		<0.5	**0.8**	<0.5	<0.5
	04/08/09		<0.5	<0.5	<0.5	<0.5
MW-218D	04/13/05	37-40'	<1	<1	<1	<2
MW-218D (DUP-3)	04/13/05		<1	<1	<1	<2
	04/26/06		<0.5	**1**	<0.5	<0.5
	12/14/06		<0.5	<1	<0.5	<0.5
	4/26/07+		<0.5	<0.5	<0.5	<0.5
MW-219S	04/13/05	10-13'	<1	**2**	**33**	**5**
	04/25/06		<0.5	<0.5	<0.5	<0.5
	04/25/07		<0.5	<0.5	<0.5	<0.5
	04/23/08		<0.5	<0.5	<0.5	<0.5
	04/07/09		<0.5	<0.5	<0.5	<0.5
MW-219M	04/13/05	25-28'	<1	**6**	**63**	**12**
	04/25/06		<5	**11**	**210**	**12**
	04/24/07		<1	**6**	**56**	**6**
	04/23/08		**1**	**4**	**39**	**8**
	04/08/09		**0.7**	**2**	**16**	**3**
MW-219D	04/13/05	37-40'	<1	<1	<1	<2
	09/13/05		<0.5	<0.5	<0.5	<0.5
	01/11/06		<0.5	<0.5	<0.5	<0.5
	04/25/06		<0.5	<0.5	<0.5	<0.5
	07/19/06		<0.5	<0.5	<0.5	<0.5
	03/28/07		<0.5	<0.5	<0.5	<0.5
	04/24/07		<0.5	<0.5	<0.5	<0.5

NOTES:
1. Values in micrograms per liter (ug/l).
2. Bold exceeds laboratory detection limits.
3. Shaded concentrations exceed applicable Ground Water Standard.
4. Ground Water Standards are ROD ICLs or MCP Method 1/GW-1 Risk Standards.
5. (J) = estimated concentration.
6. (UJ) = estimated non-detect.
7. DCE = Dichloroethene
8. TCE = Trichloroethene
9. TCA = Trichloroethane
10. PCE = Tetrachloroethene
11. ND = Not Detected: detection limit unknown.
12. --- = Not analyzed
13. + = Sodium permanganate was present in monitoring well at time of sampling.
14. Sodium permanganate injected between September 1, 2005 and December 20, 2005.
15. D = listed value obtained from second (diluted) analytical run.
16. e = Concentration exceeded calibration range for the analyte.
17. On March 28, 2007 OL-2M was mislabeled as MW-OL-2M on the chain of custody submitted to the lab.
18. * = sample preserved with hydrochloric acid and neutralized using ascorbic acid (used to neutralize possibly present sodium permanganate).

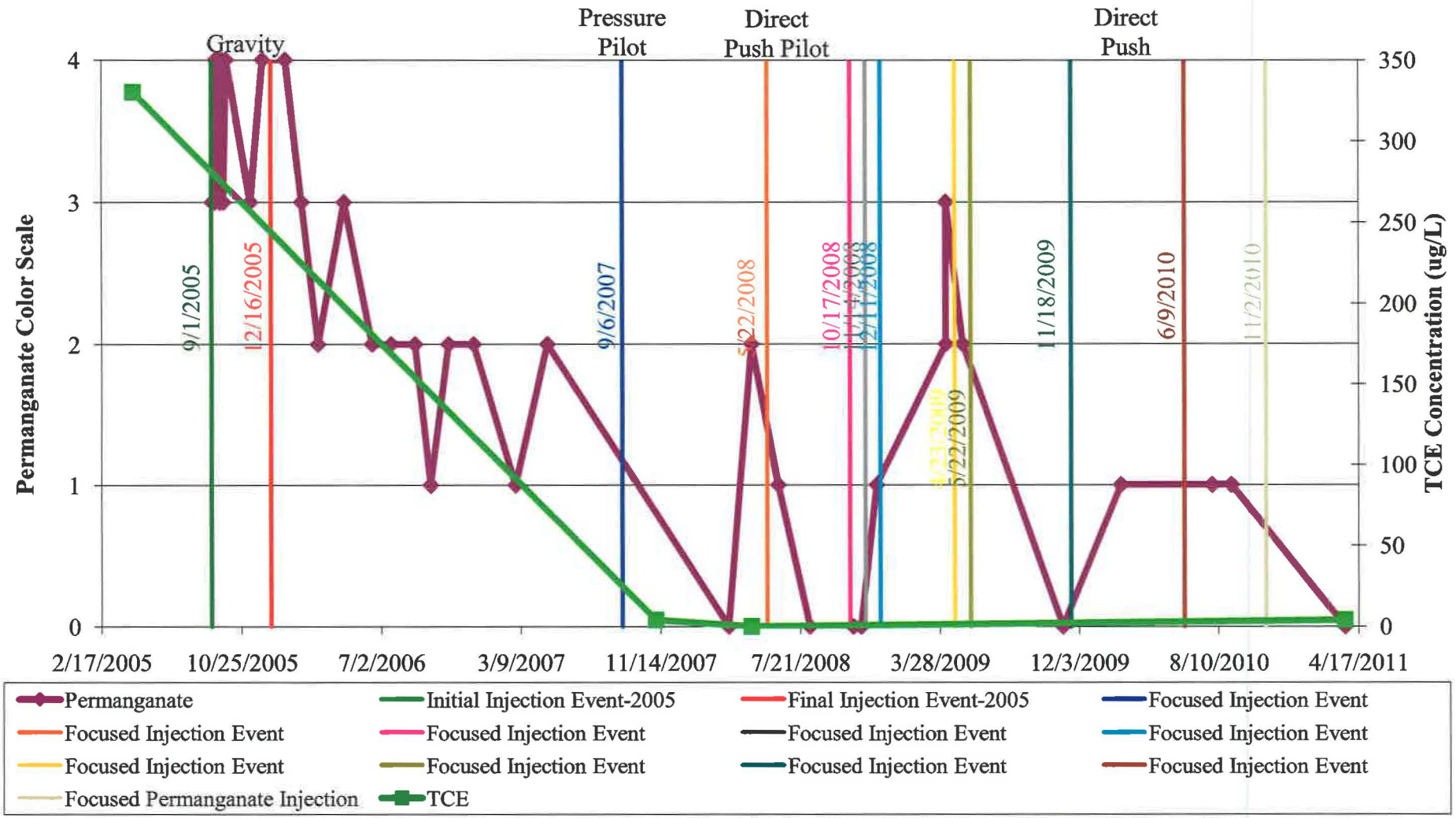
FIGURE 2: NUMBER OF PERFORMANCE MONITORING WELLS OBSERVED TO CONTAIN SODIUM PERMANGANATE (TOTAL 12 SHALLOW AND 12 DEEP WELLS INSIDE TREATMENT CELL)



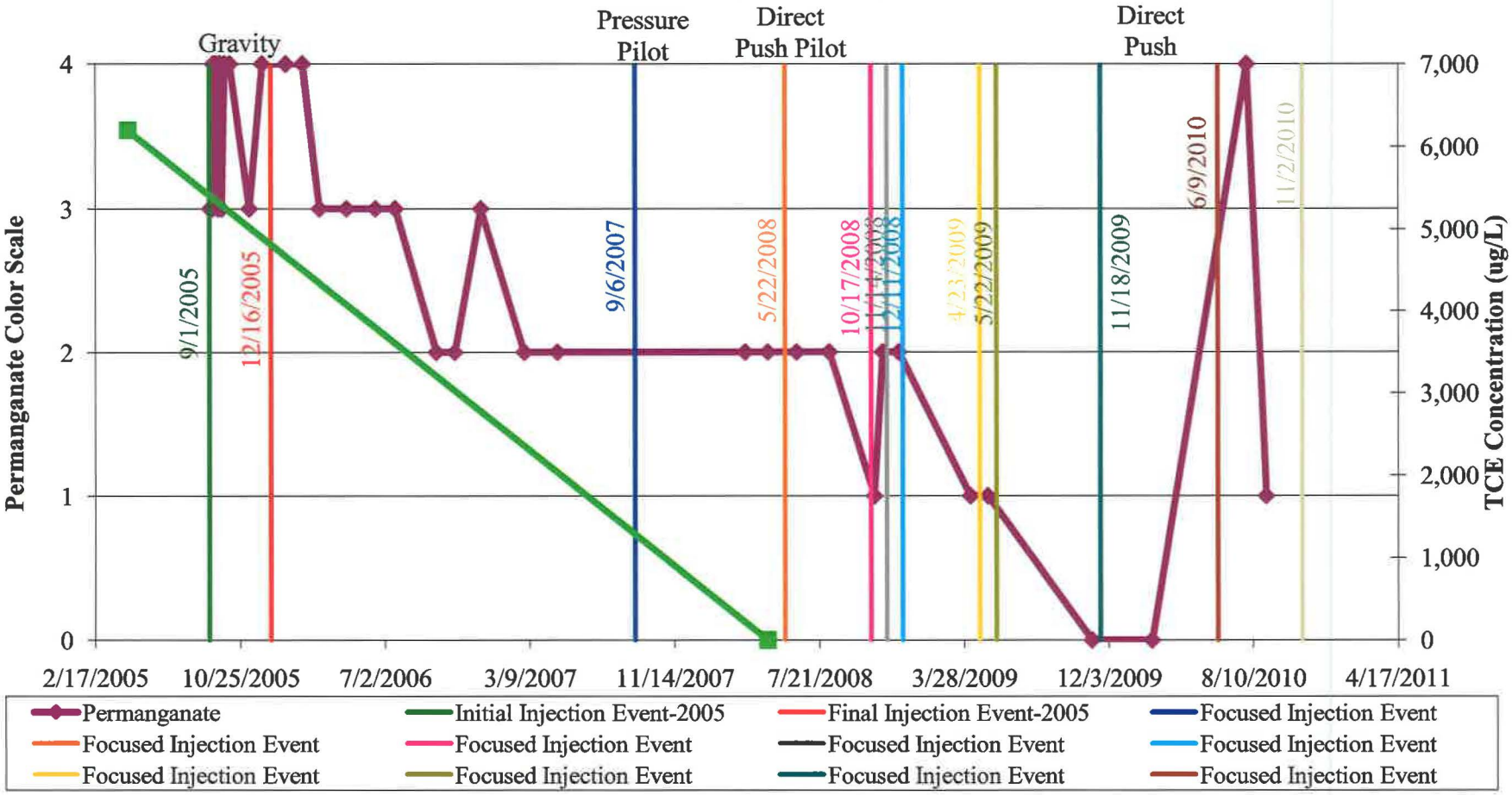
FIGURES 4A (MW-200S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



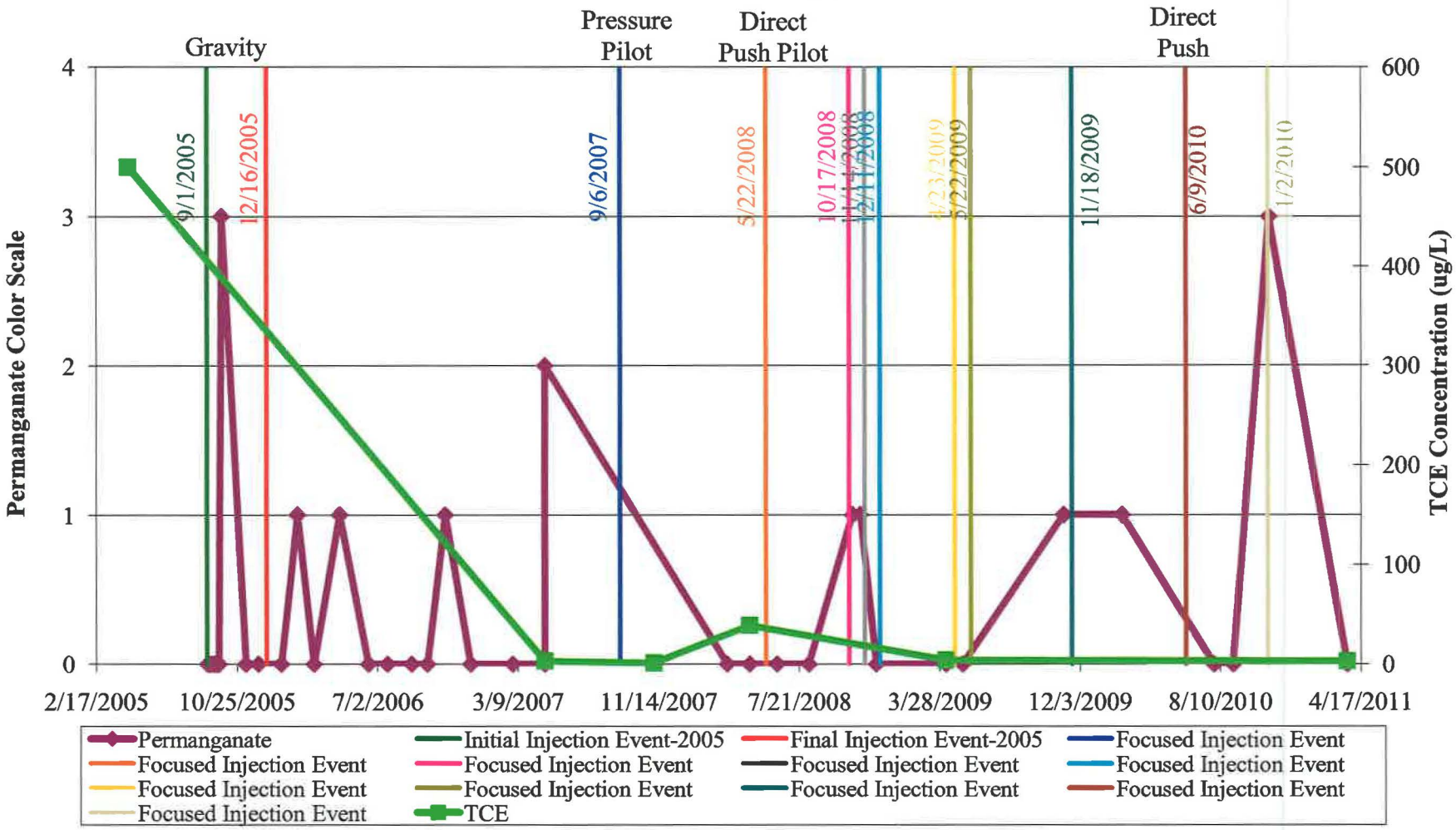
FIGURES 4A (MW-201S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



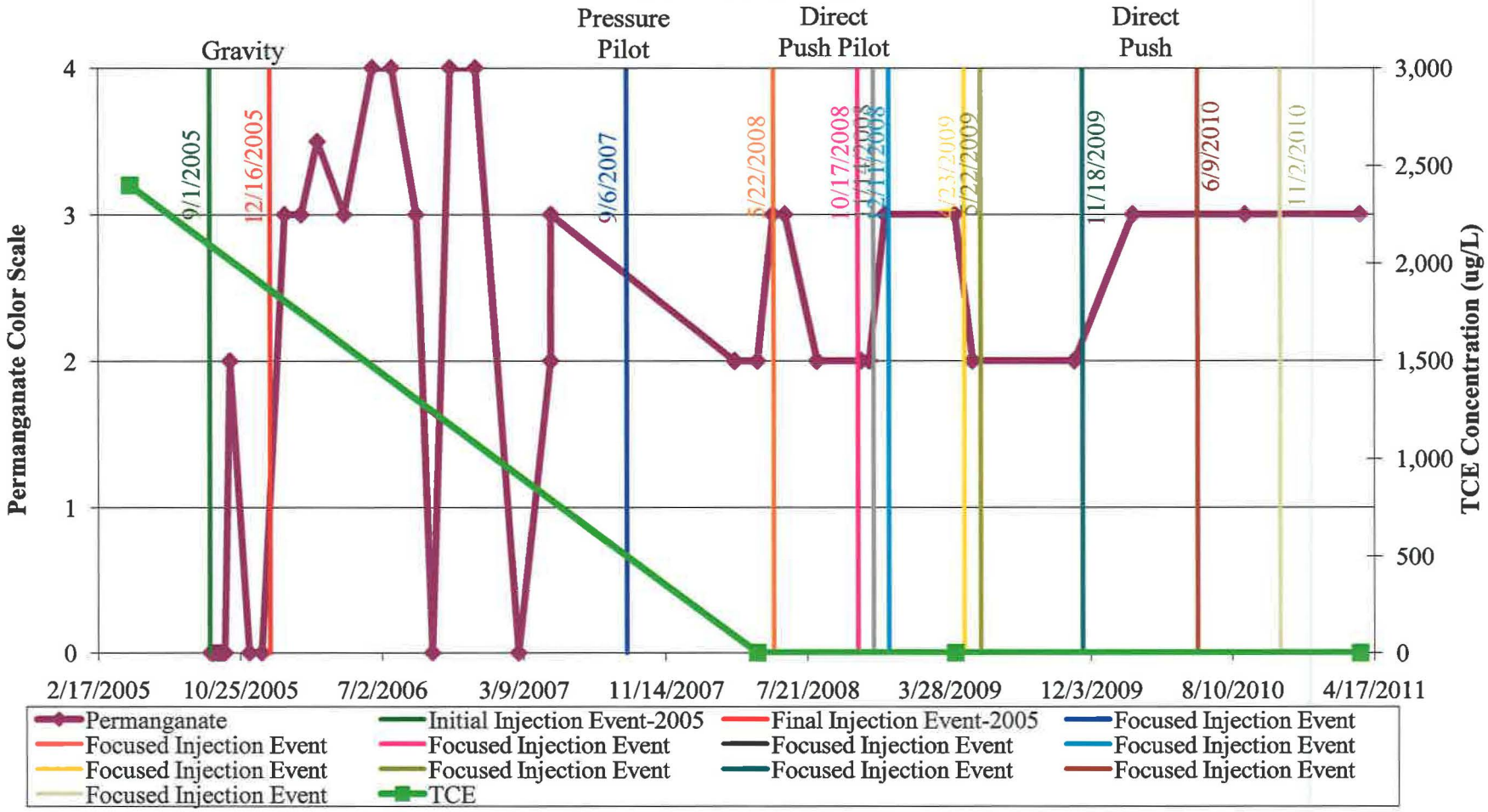
FIGURES 4A (MW-202S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



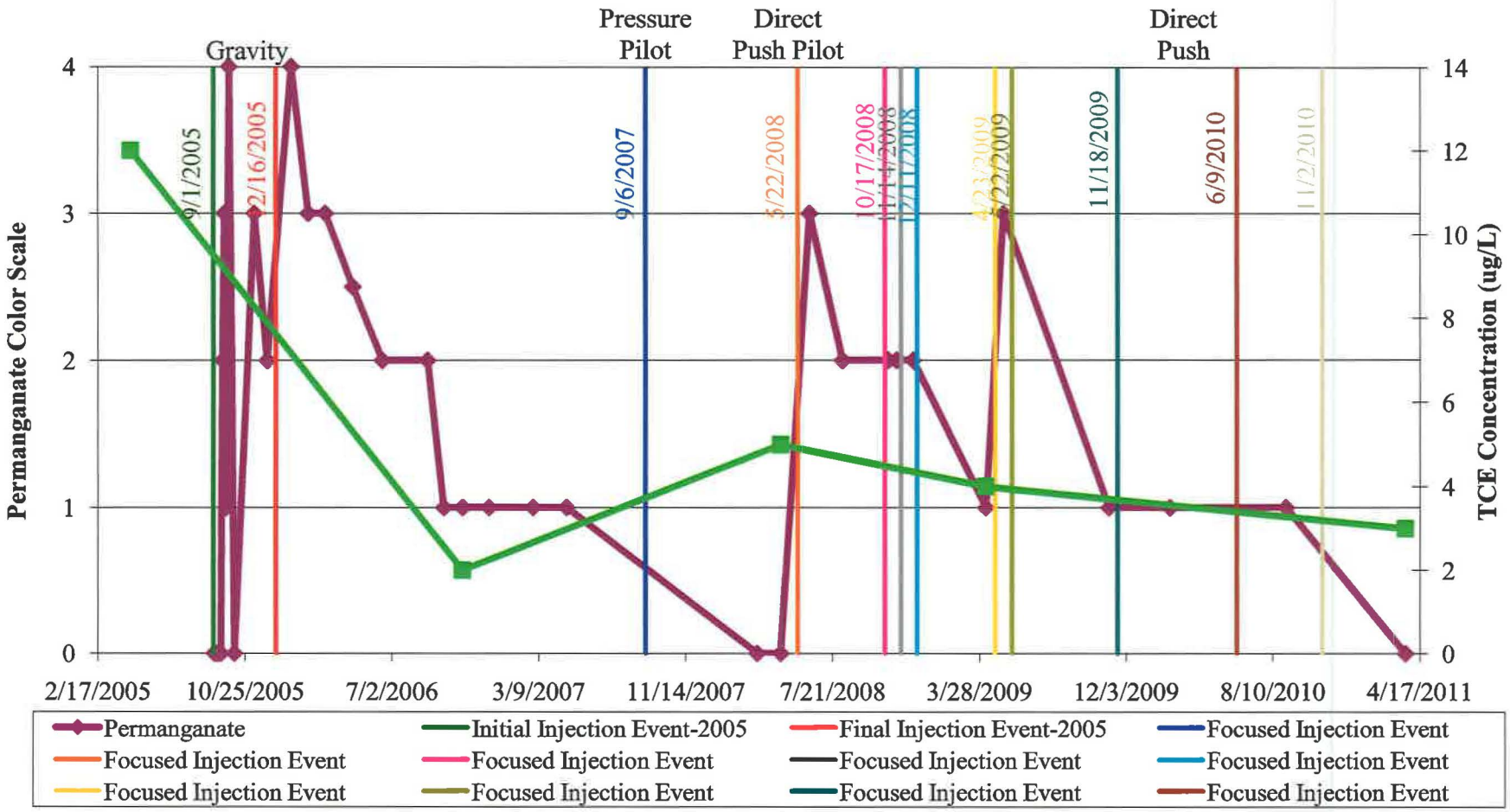
FIGURES 4A (MW-203S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



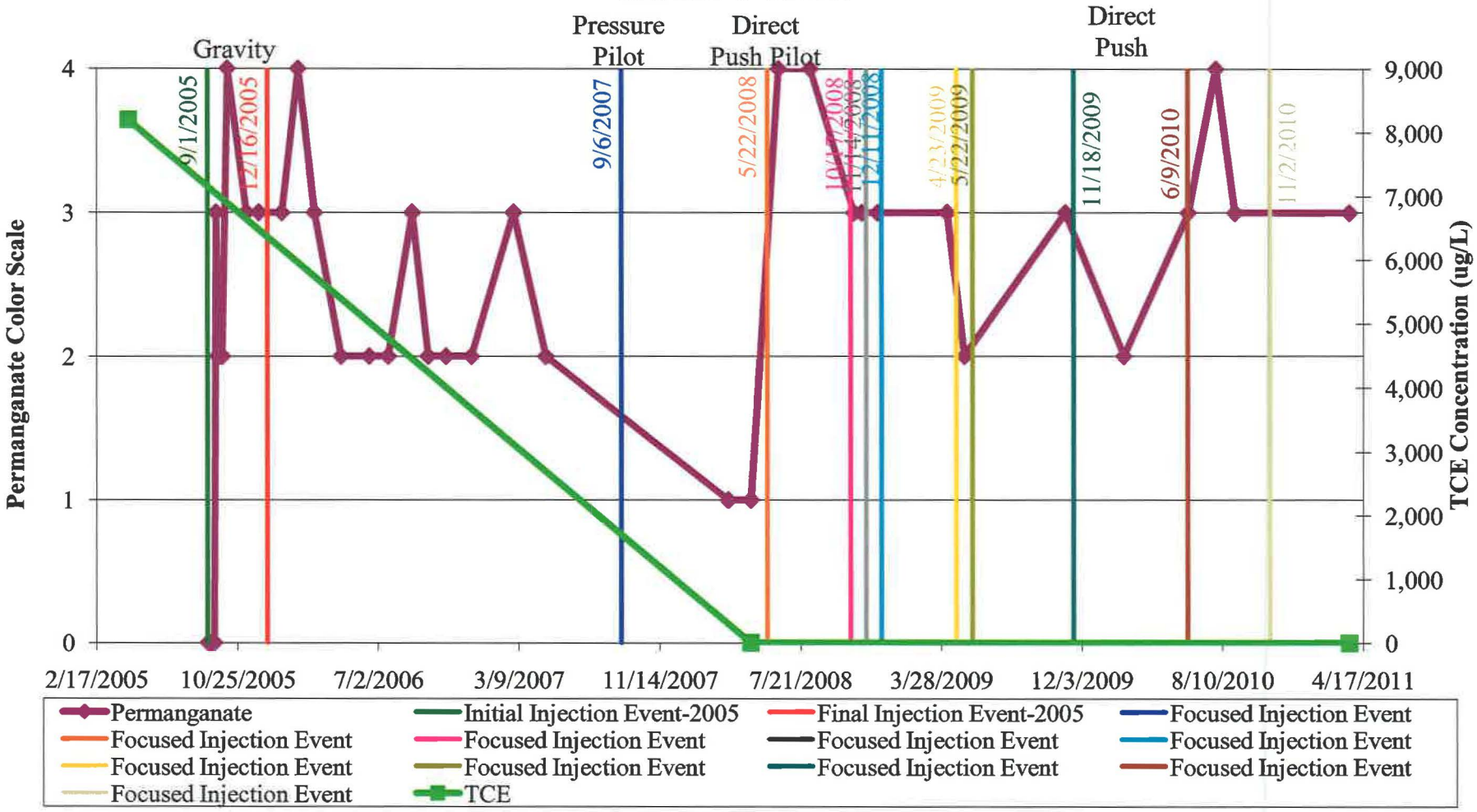
FIGURES 4A (MW-204S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



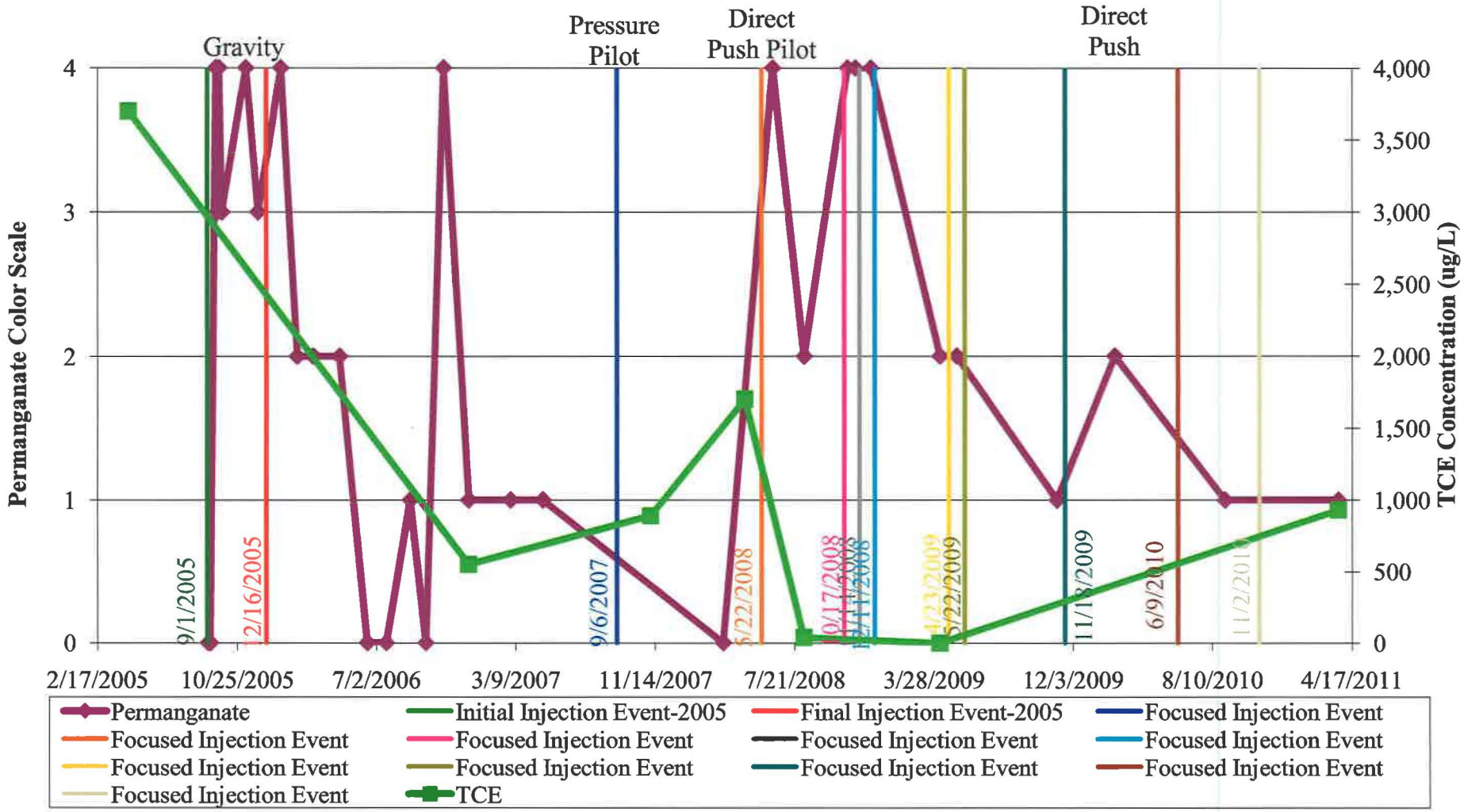
FIGURES 4A (MW-205S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



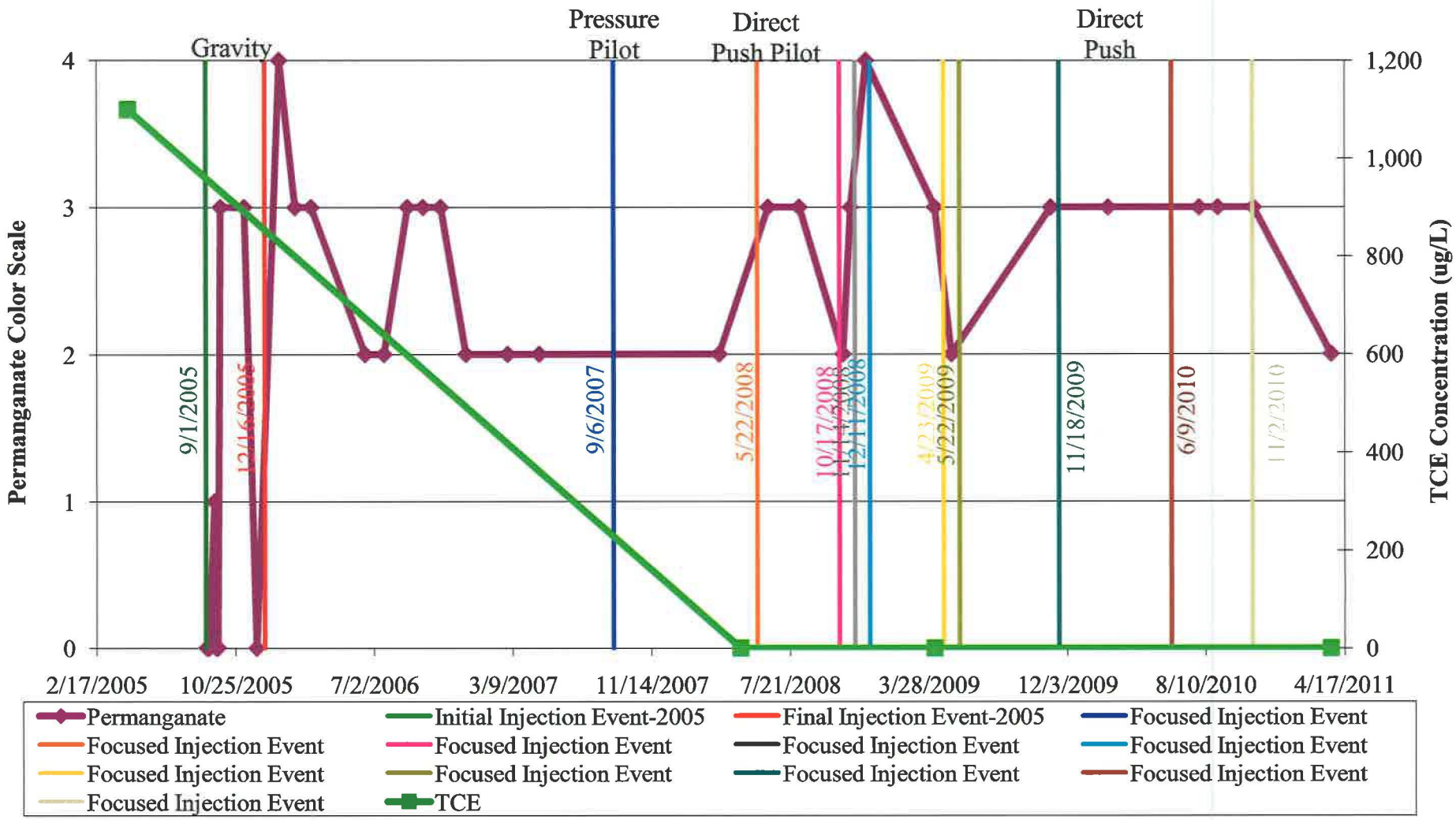
FIGURES 4A (MW-206S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



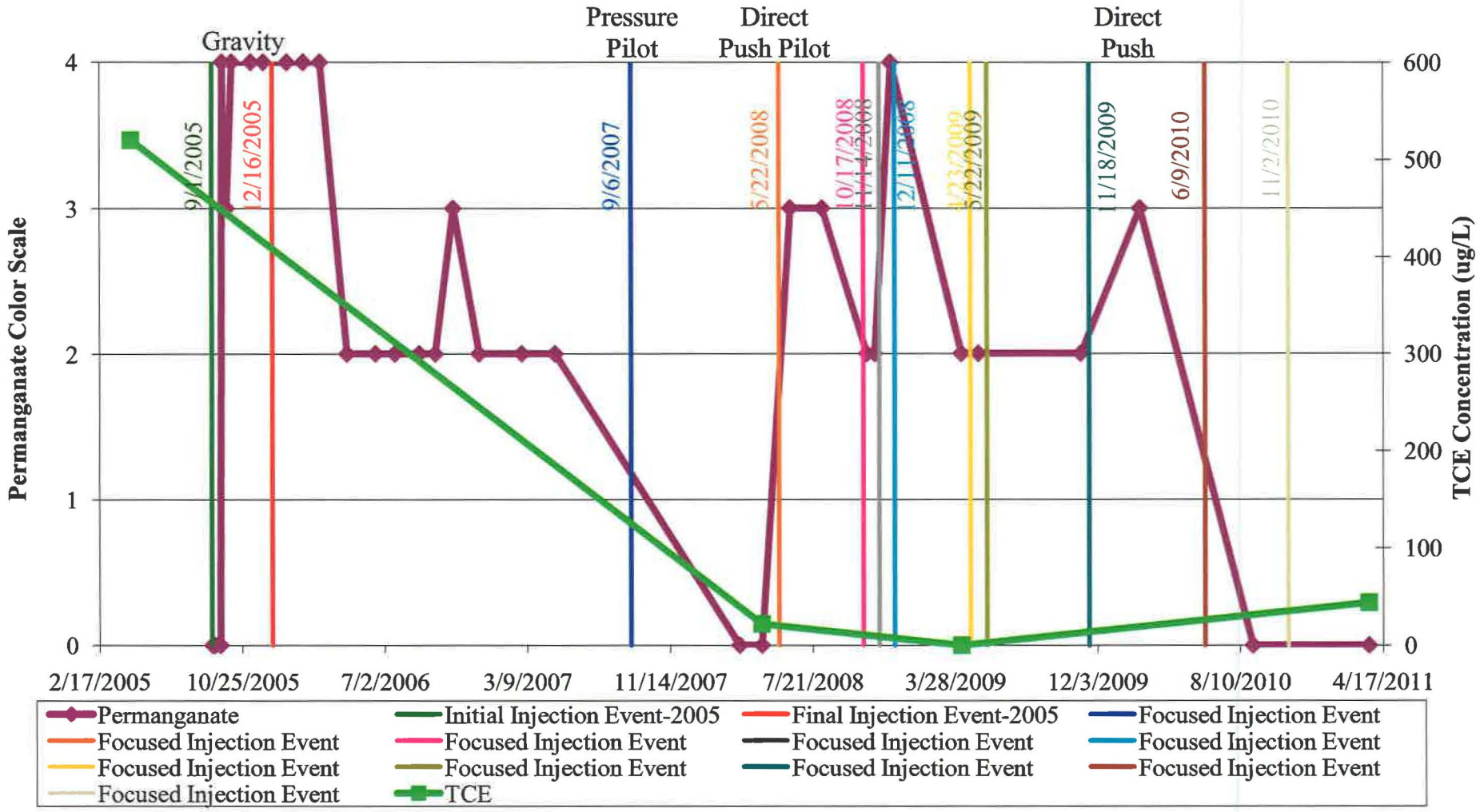
FIGURES 4A (MW-207S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



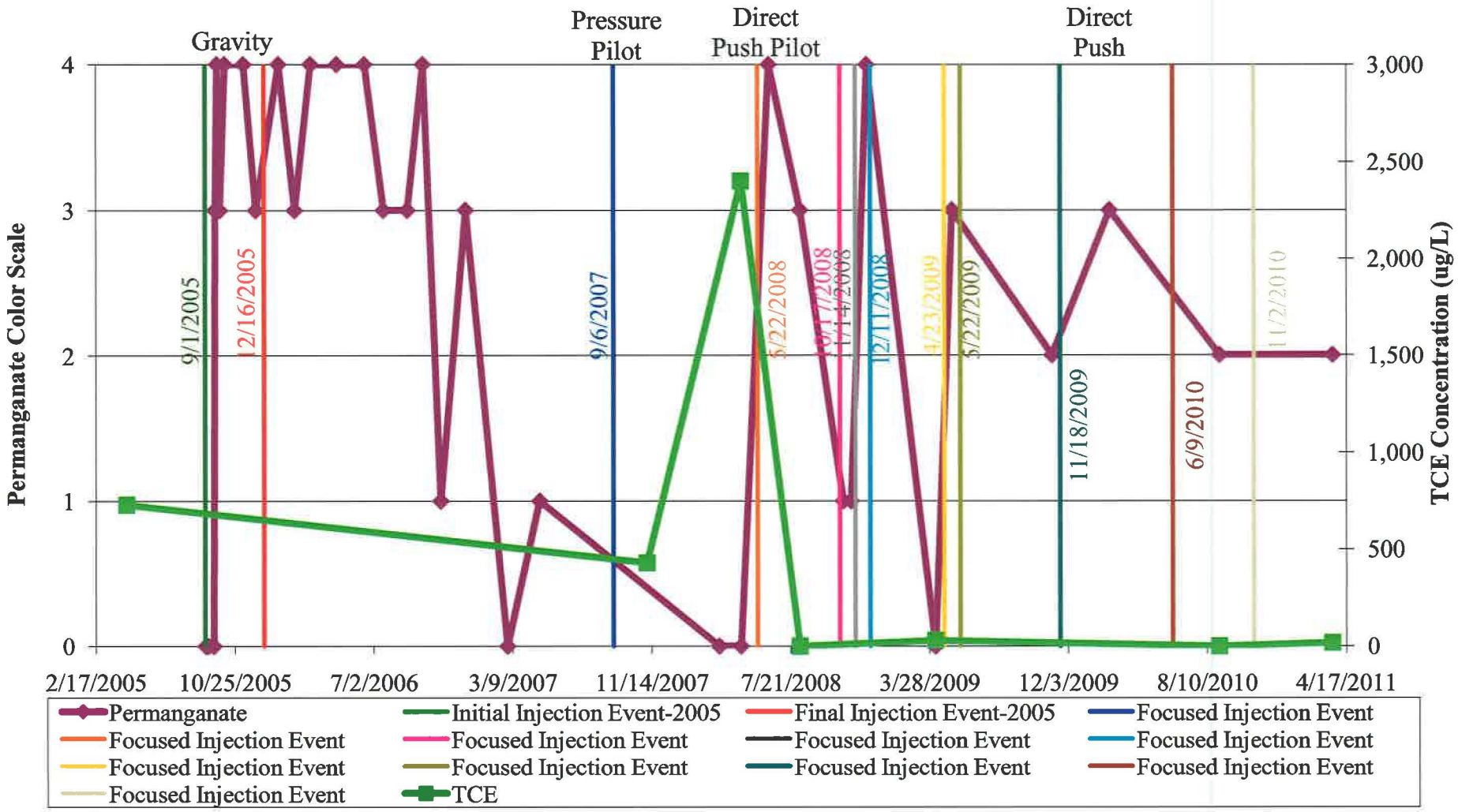
FIGURES 4A (MW-208S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



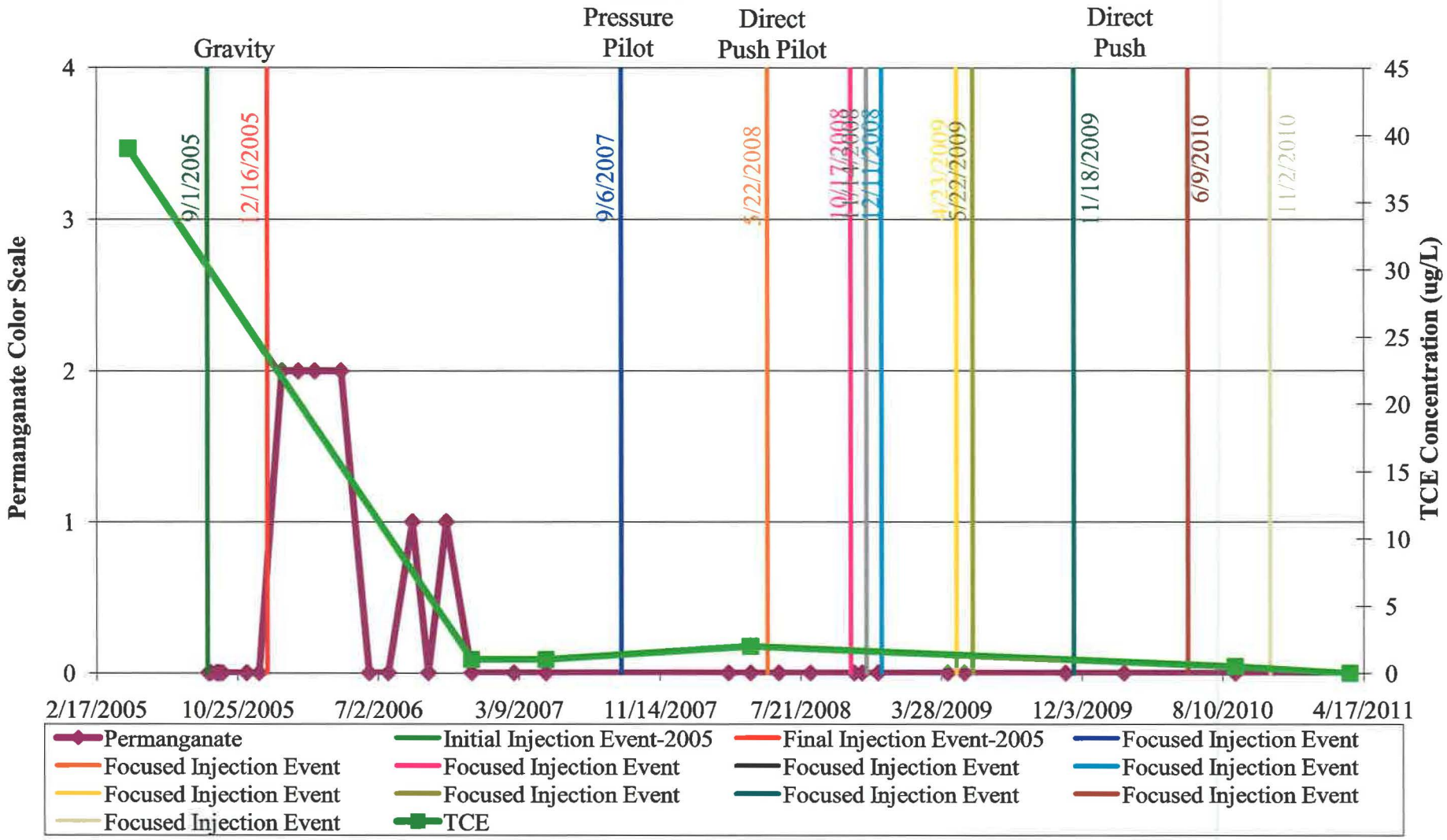
FIGURES 4A (MW-209S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



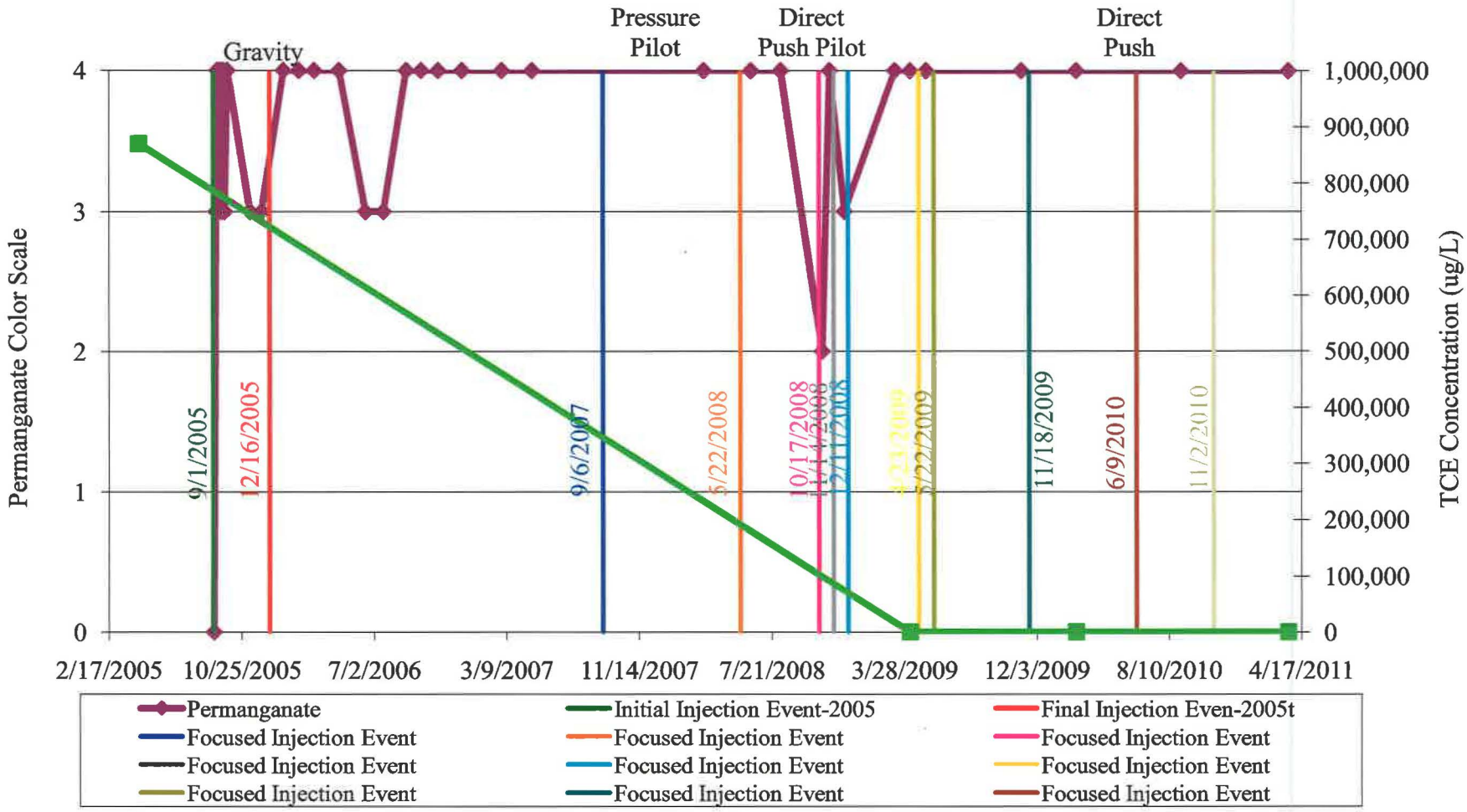
FIGURES 4A (MW-210S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



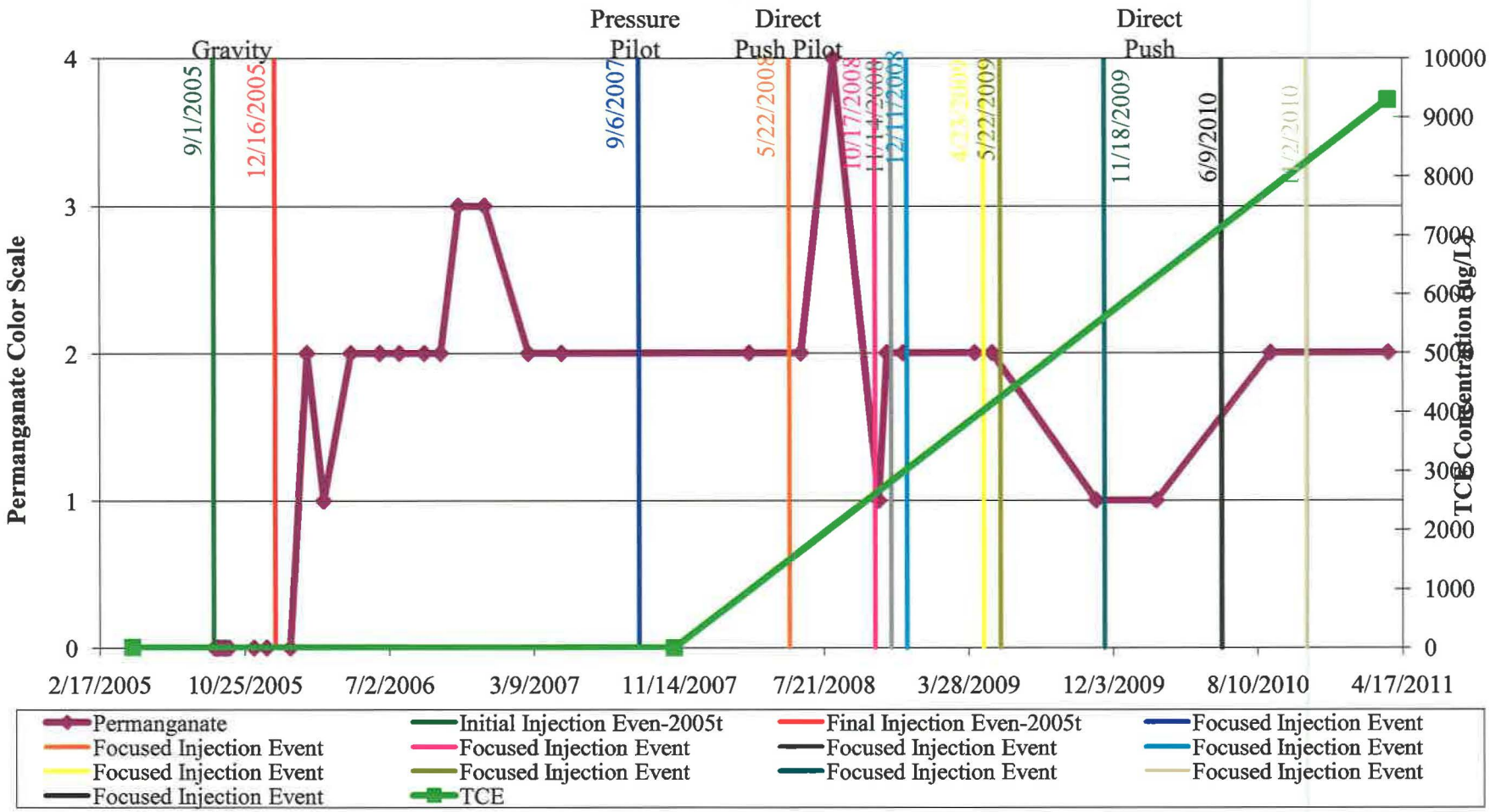
FIGURES 4A (MW-211S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN SHALLOW WELLS



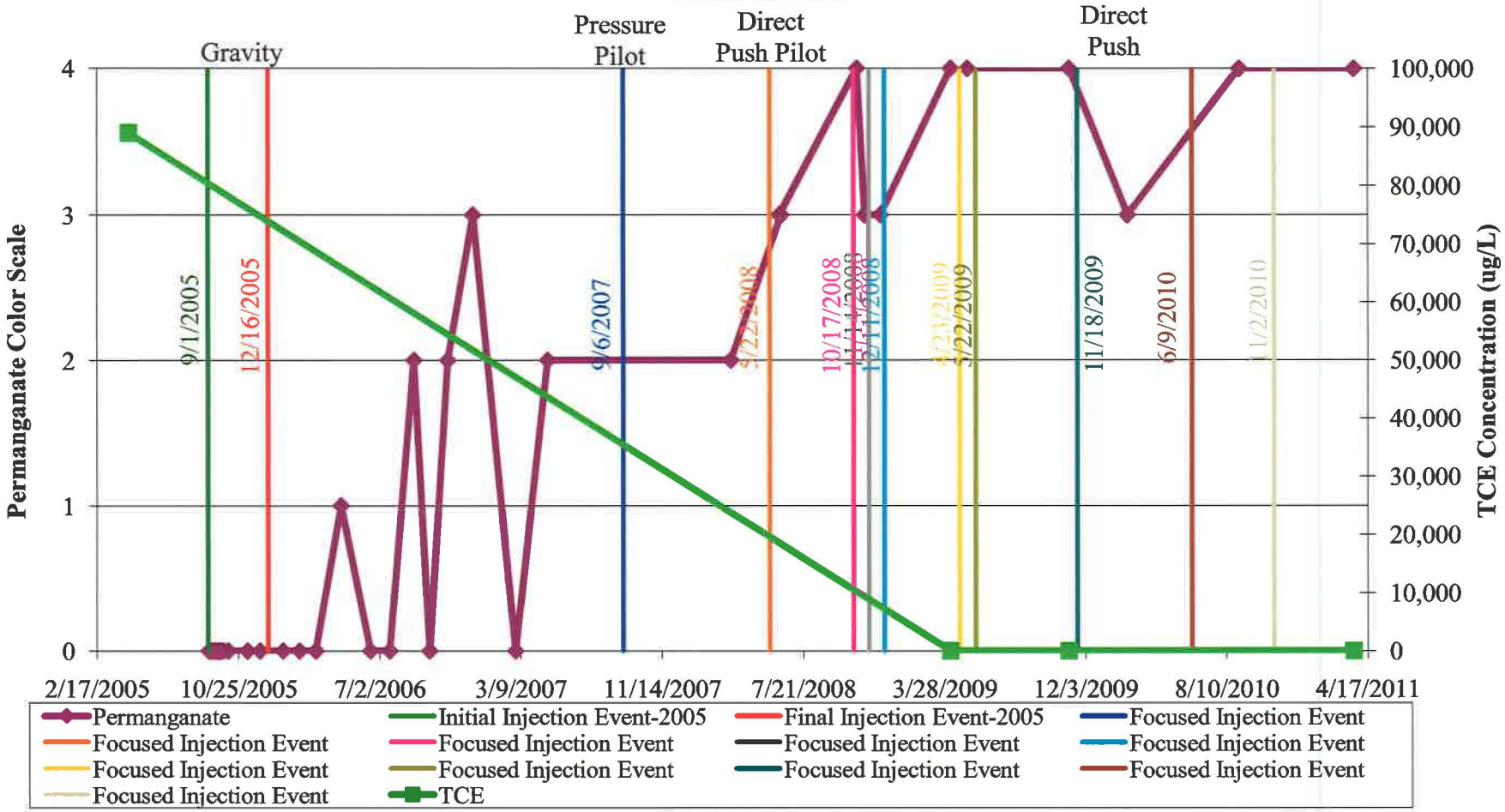
FIGURES 4B (MW-200D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



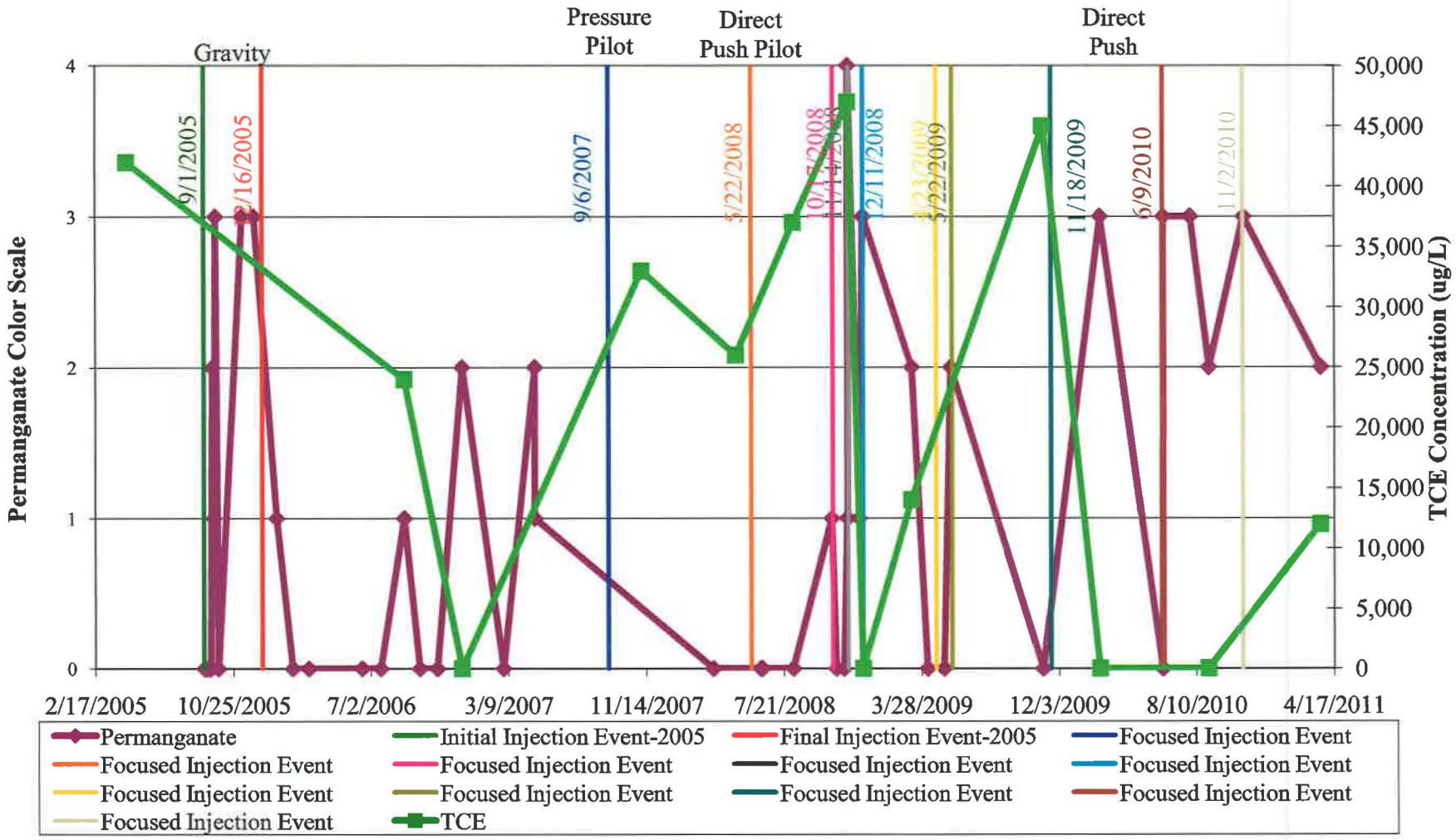
FIGURES 4B (MW-201D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



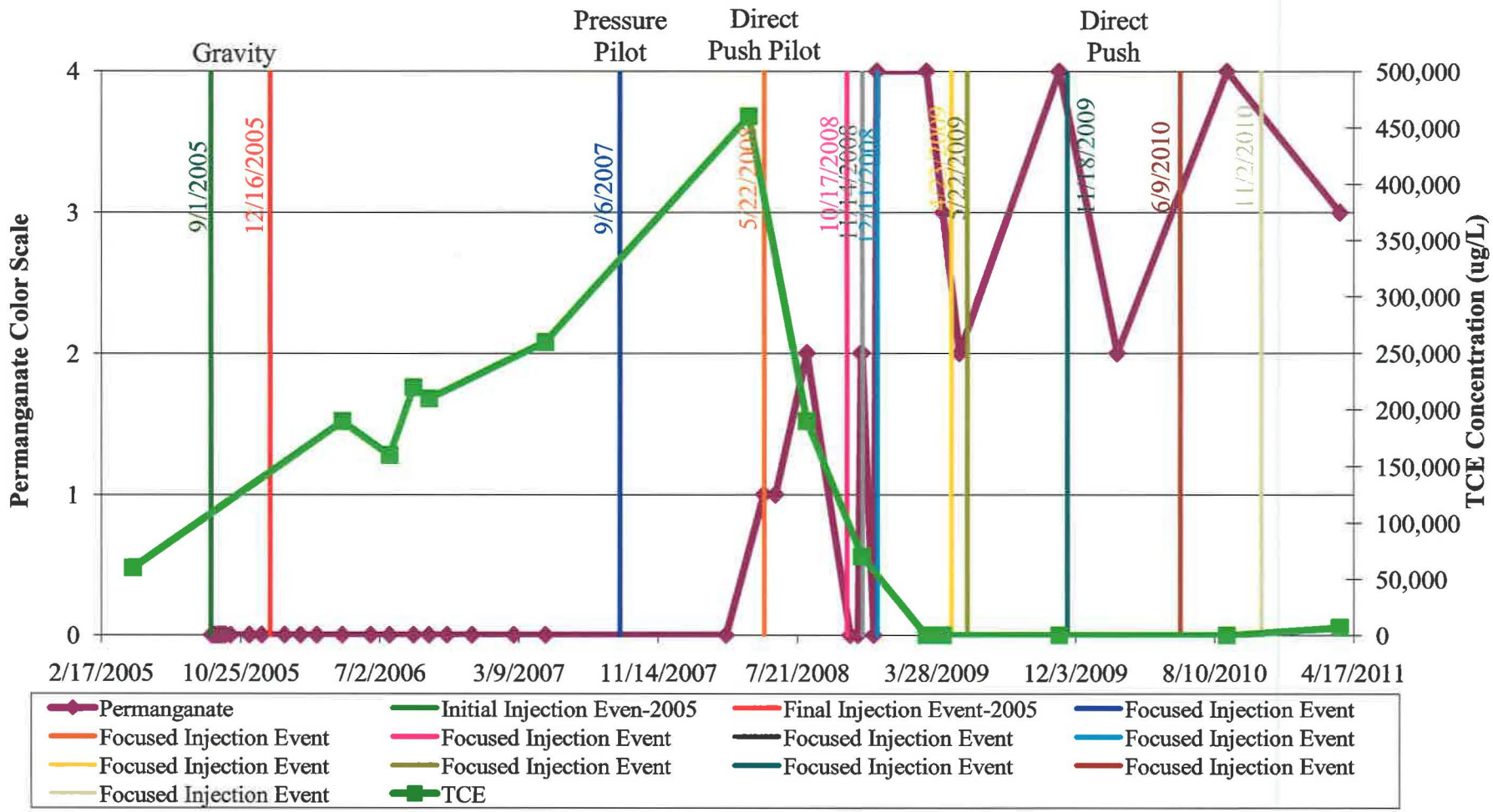
FIGURES 4B (MW-202D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



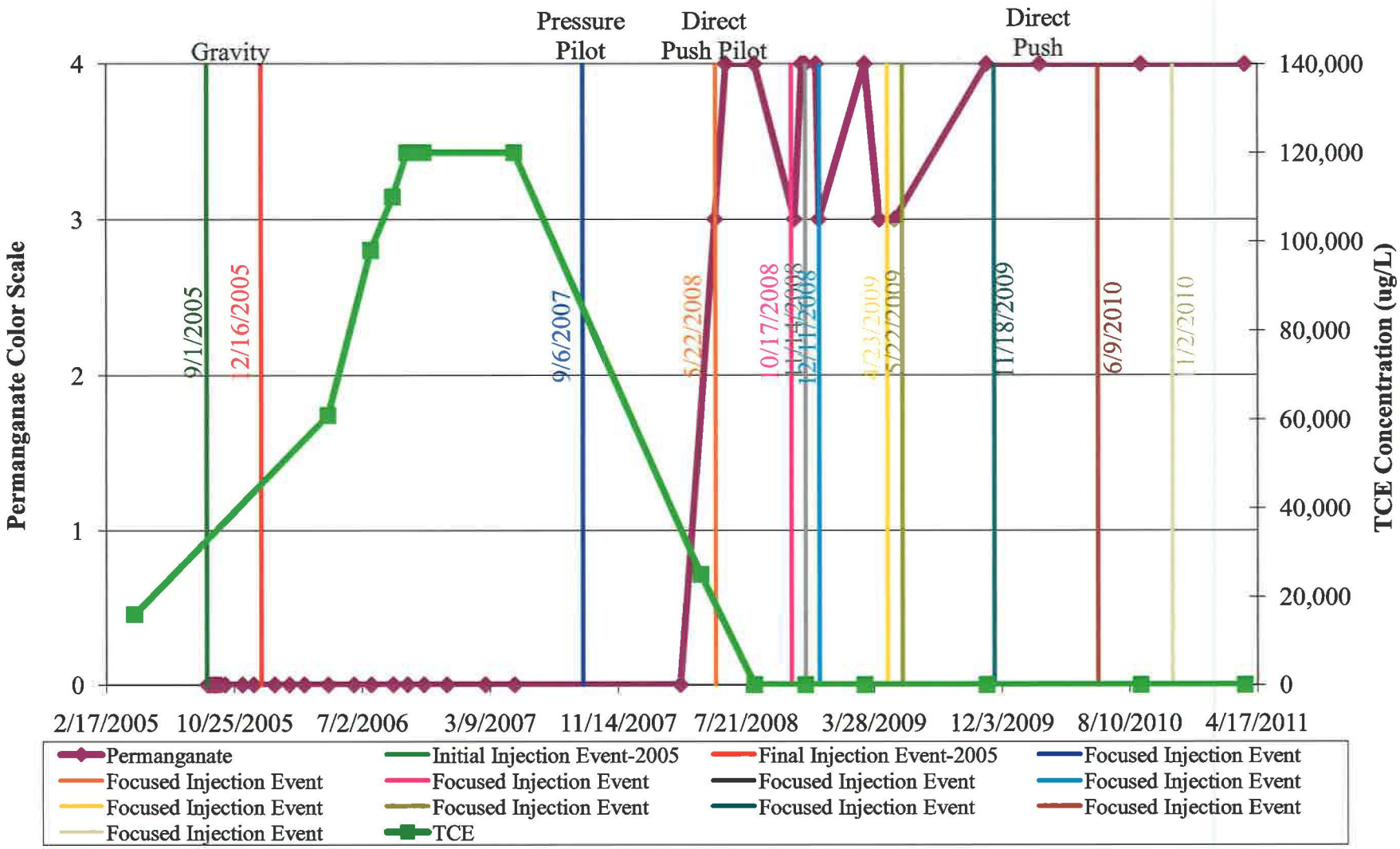
FIGURES 4B (MW-203D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



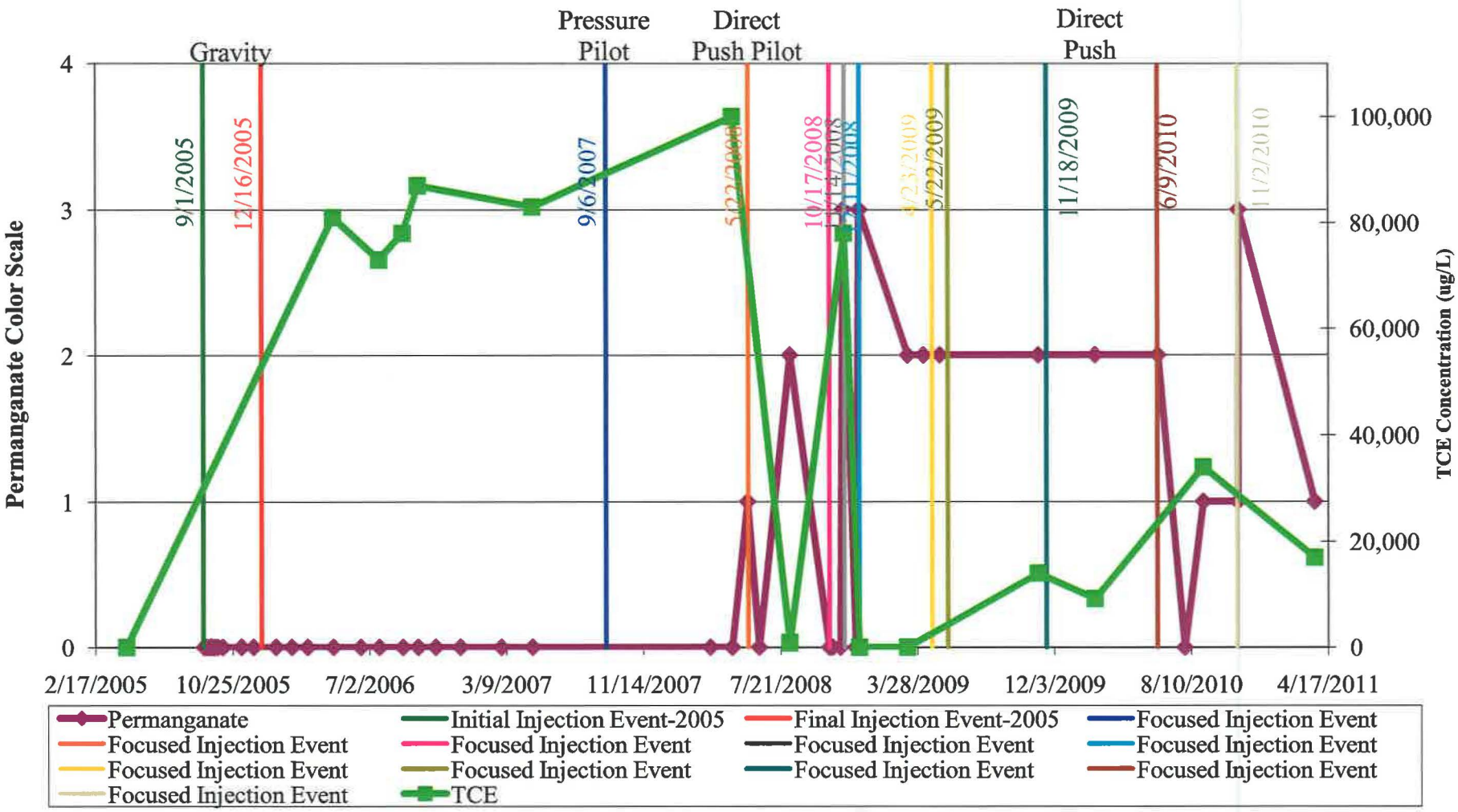
FIGURES 4B (MW-204D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



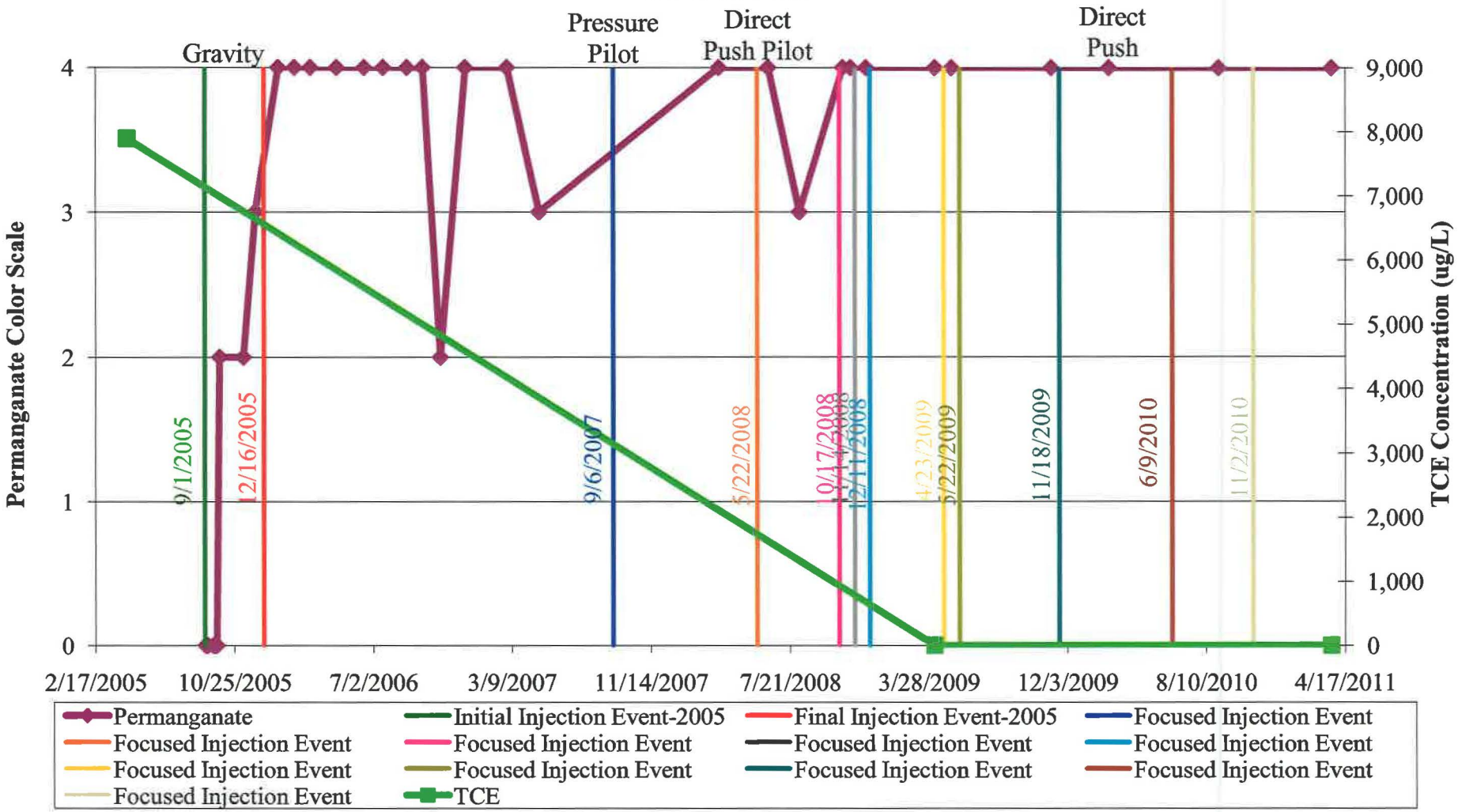
FIGURES 4B (MW-205D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



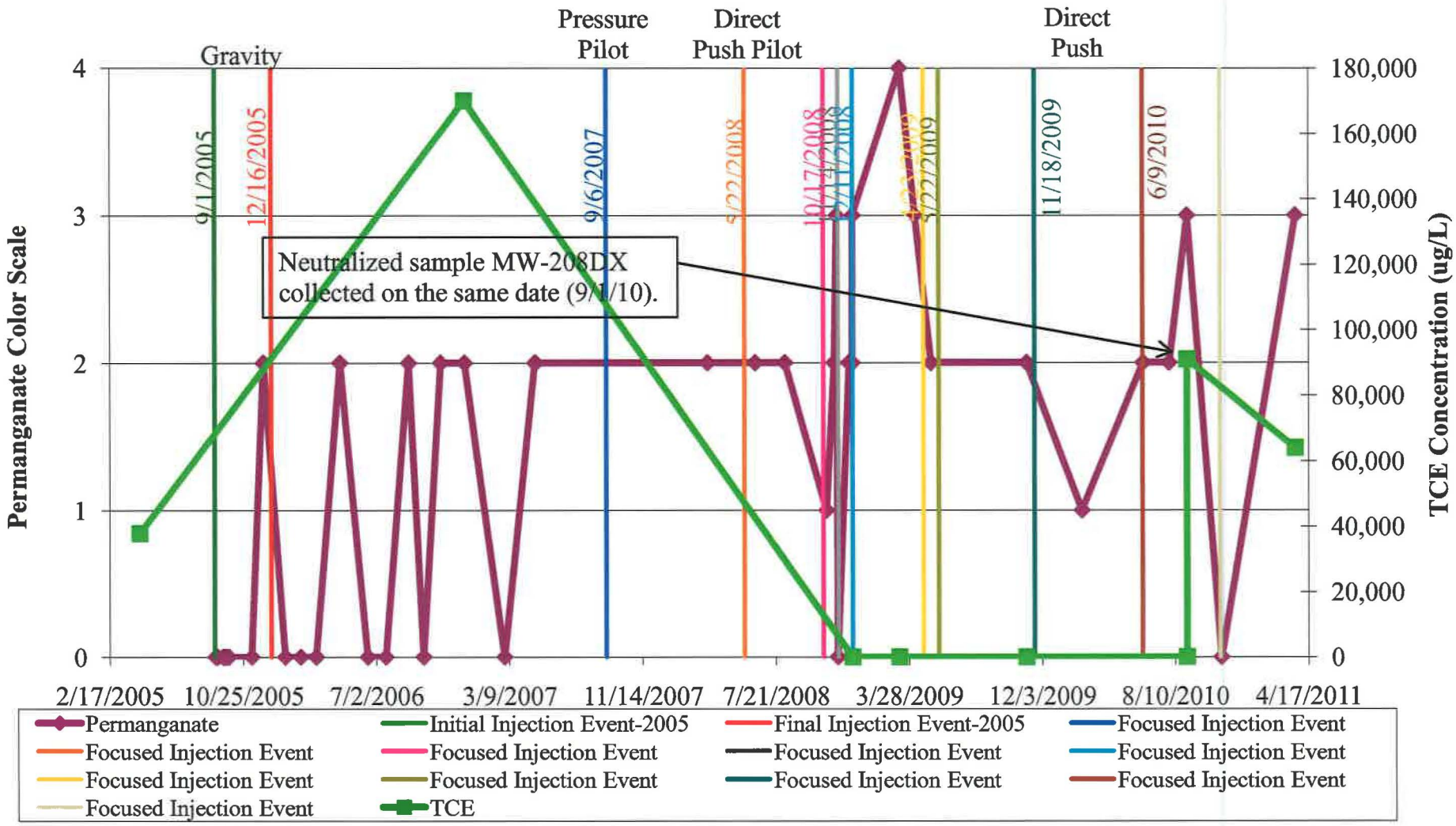
FIGURES 4B (MW-206D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



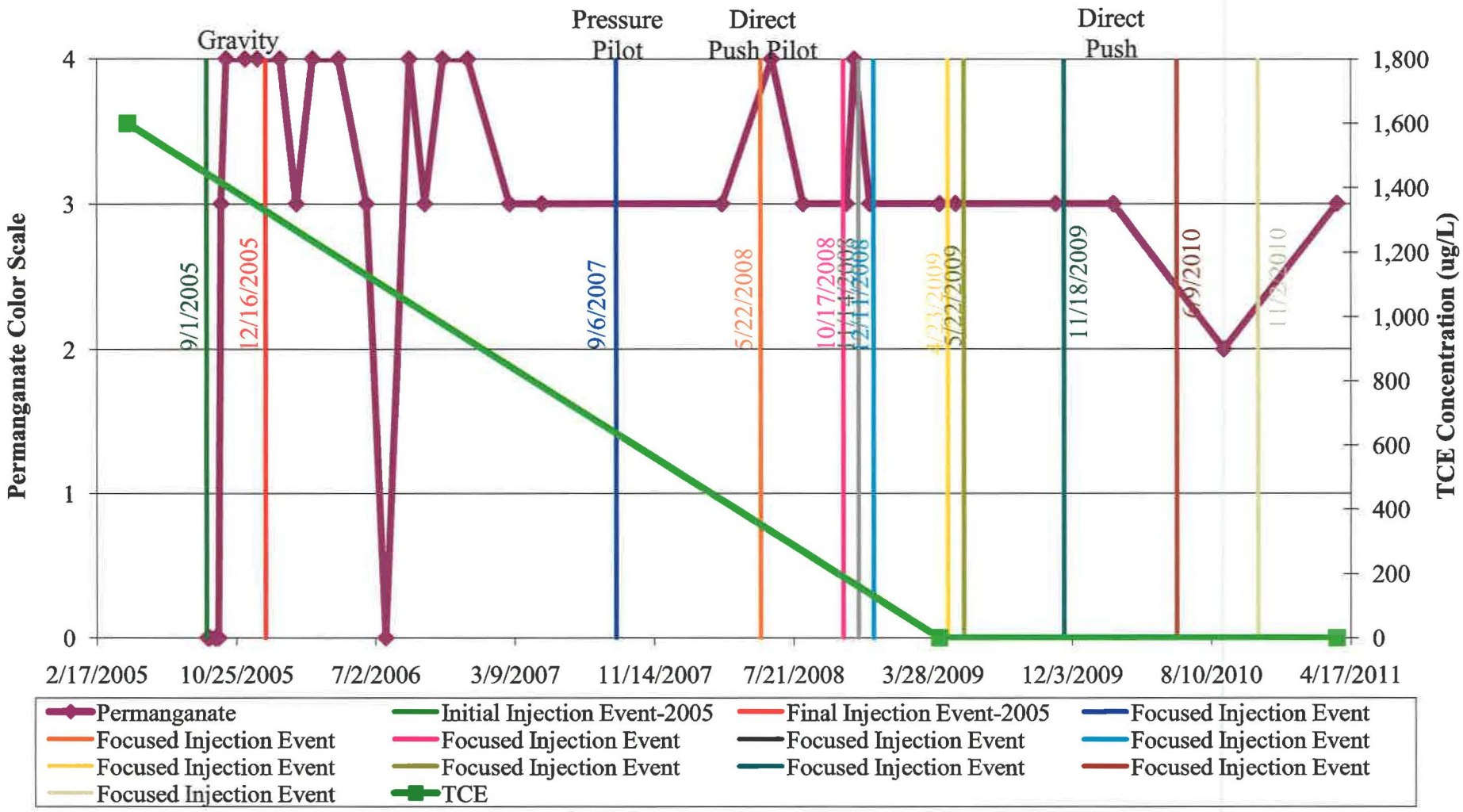
FIGURES 4B (MW-207D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



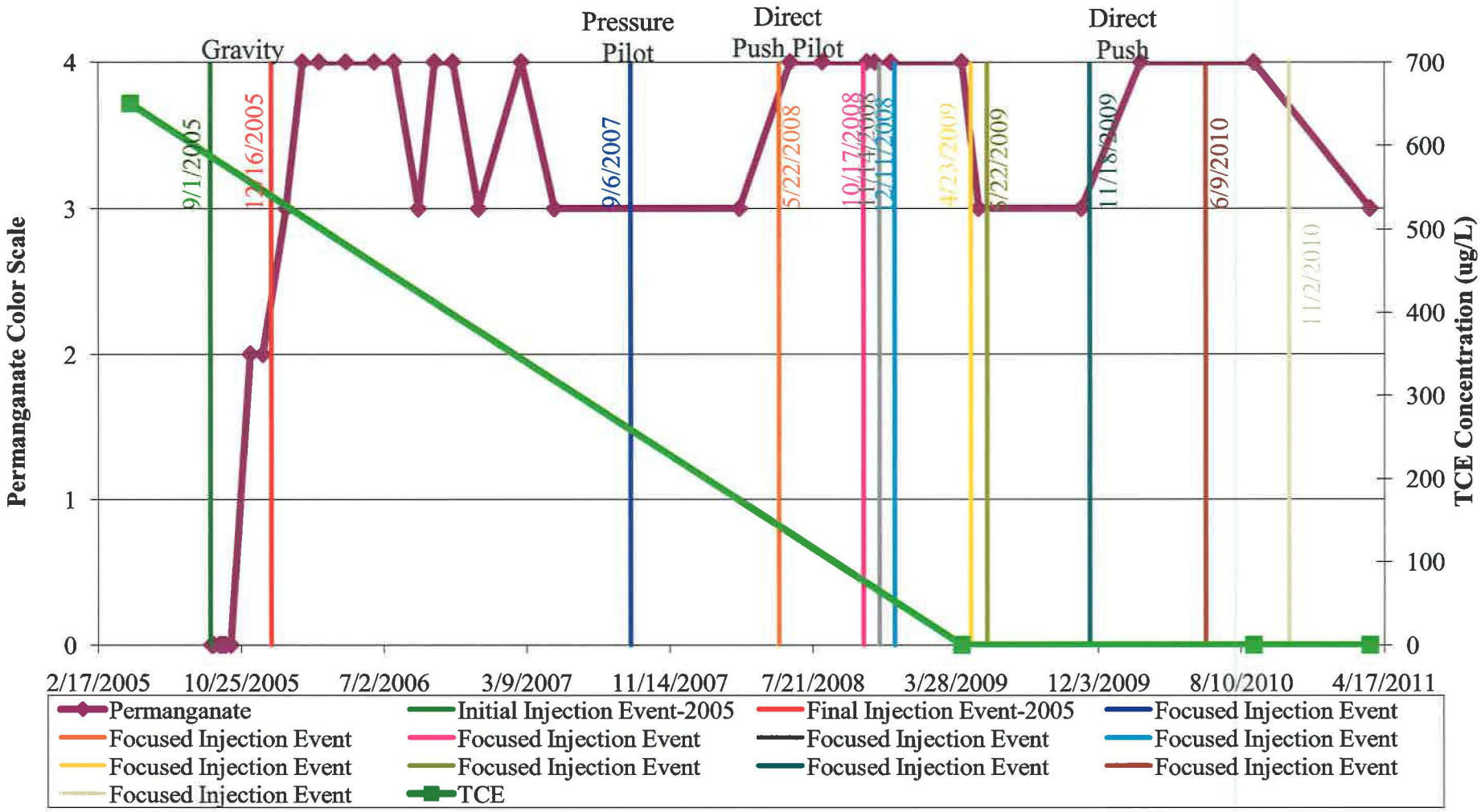
FIGURES 4B (MW-208D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



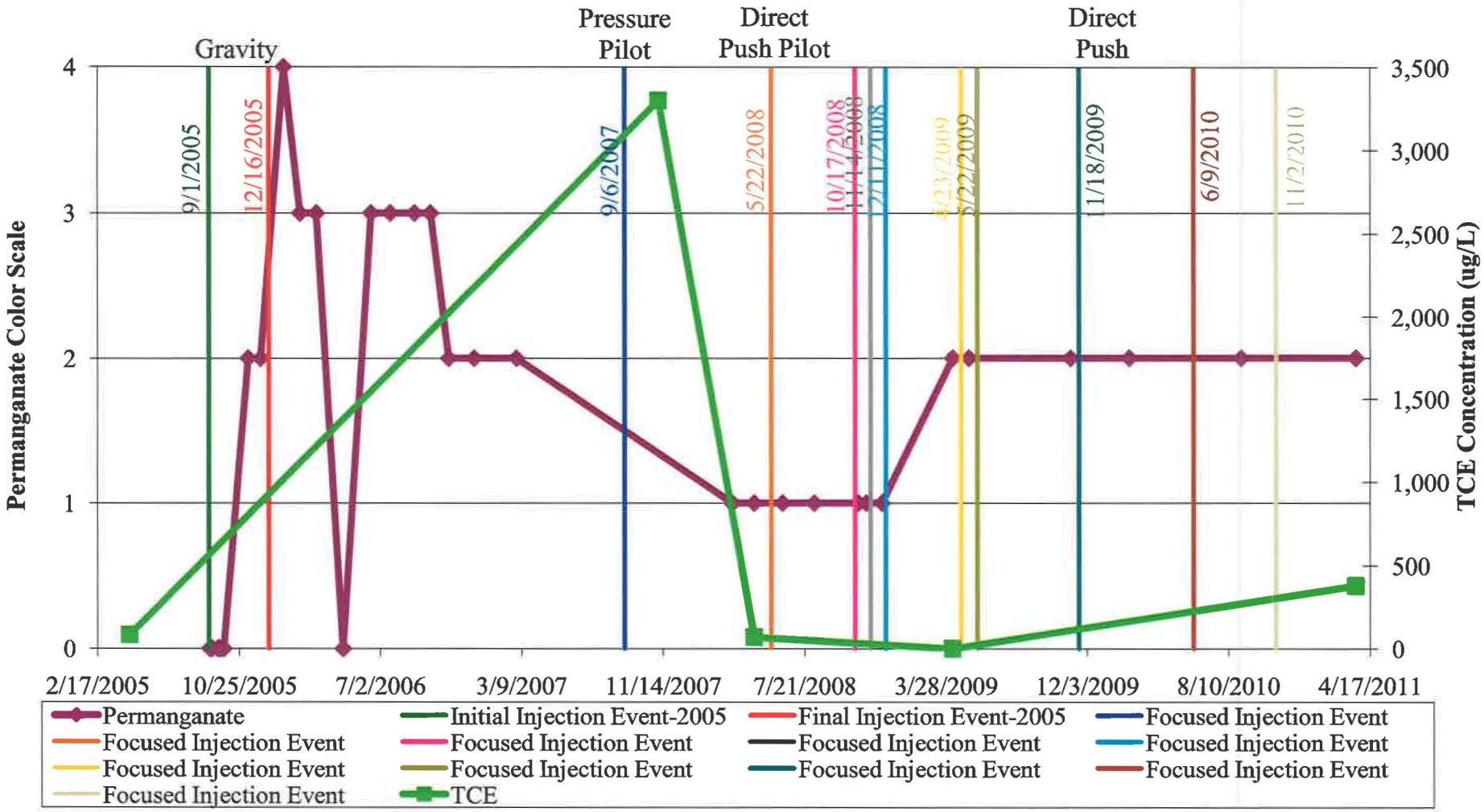
FIGURES 4B (MW-209D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



FIGURES 4B (MW-210D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



FIGURES 4B (MW-211D): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS



FIGURES 4B (MW-212S): SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME IN DEEP WELLS

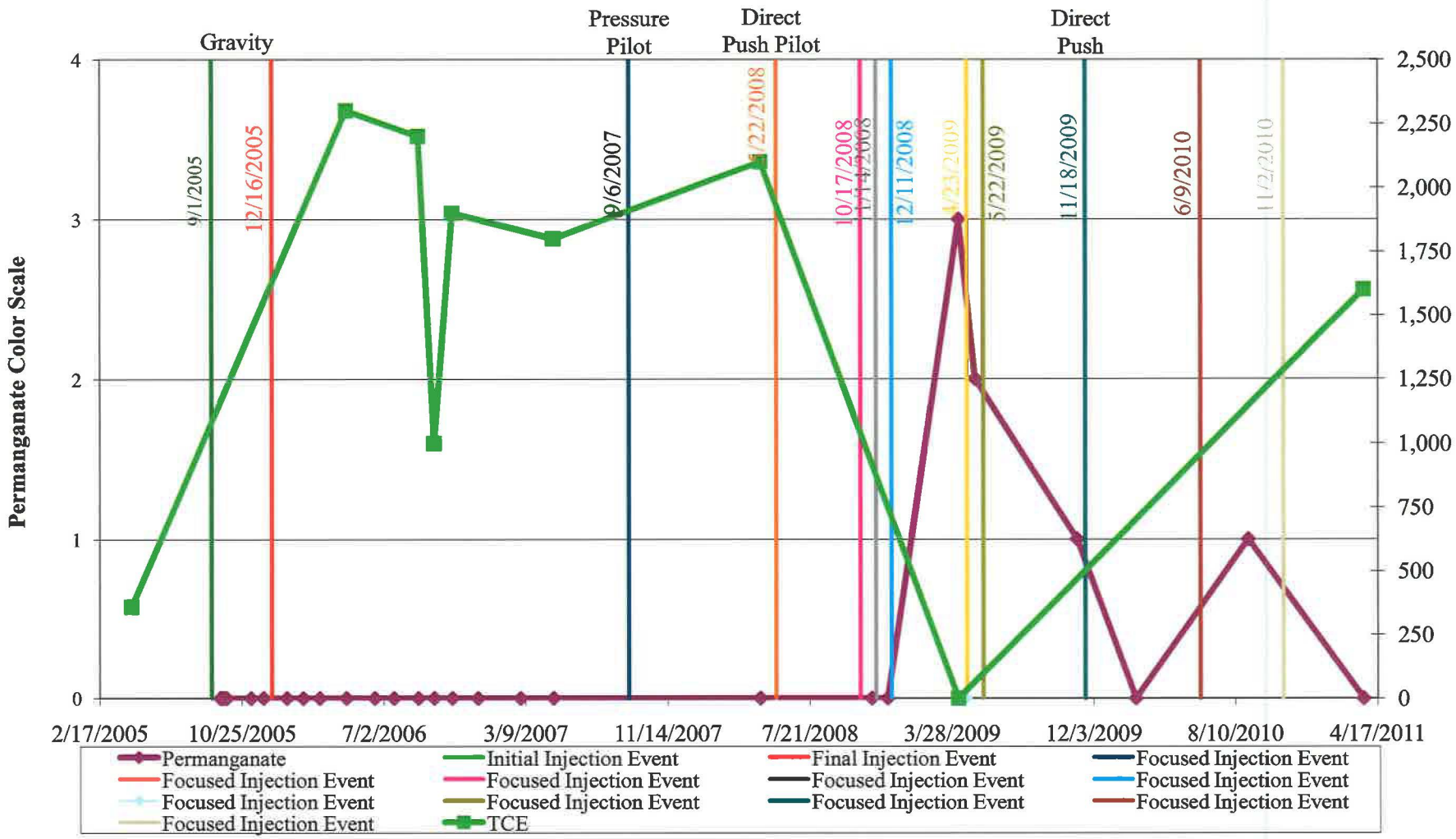


FIGURE 5A: EAST OF TREATMENT CELL - WELL MW-215S
SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME

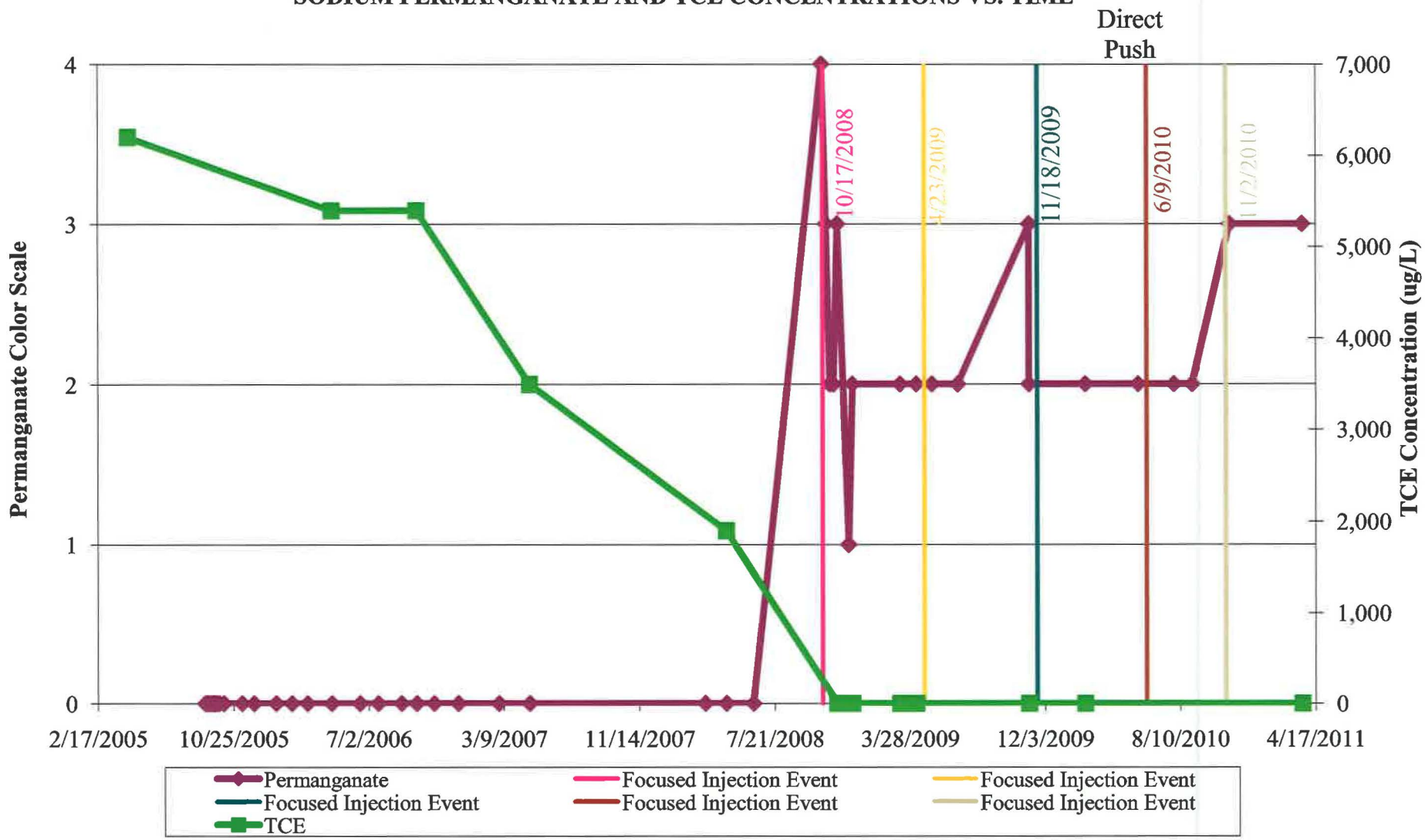


FIGURE 5B: EAST OF TREATMENT CELL - WELL MW-216S
SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME

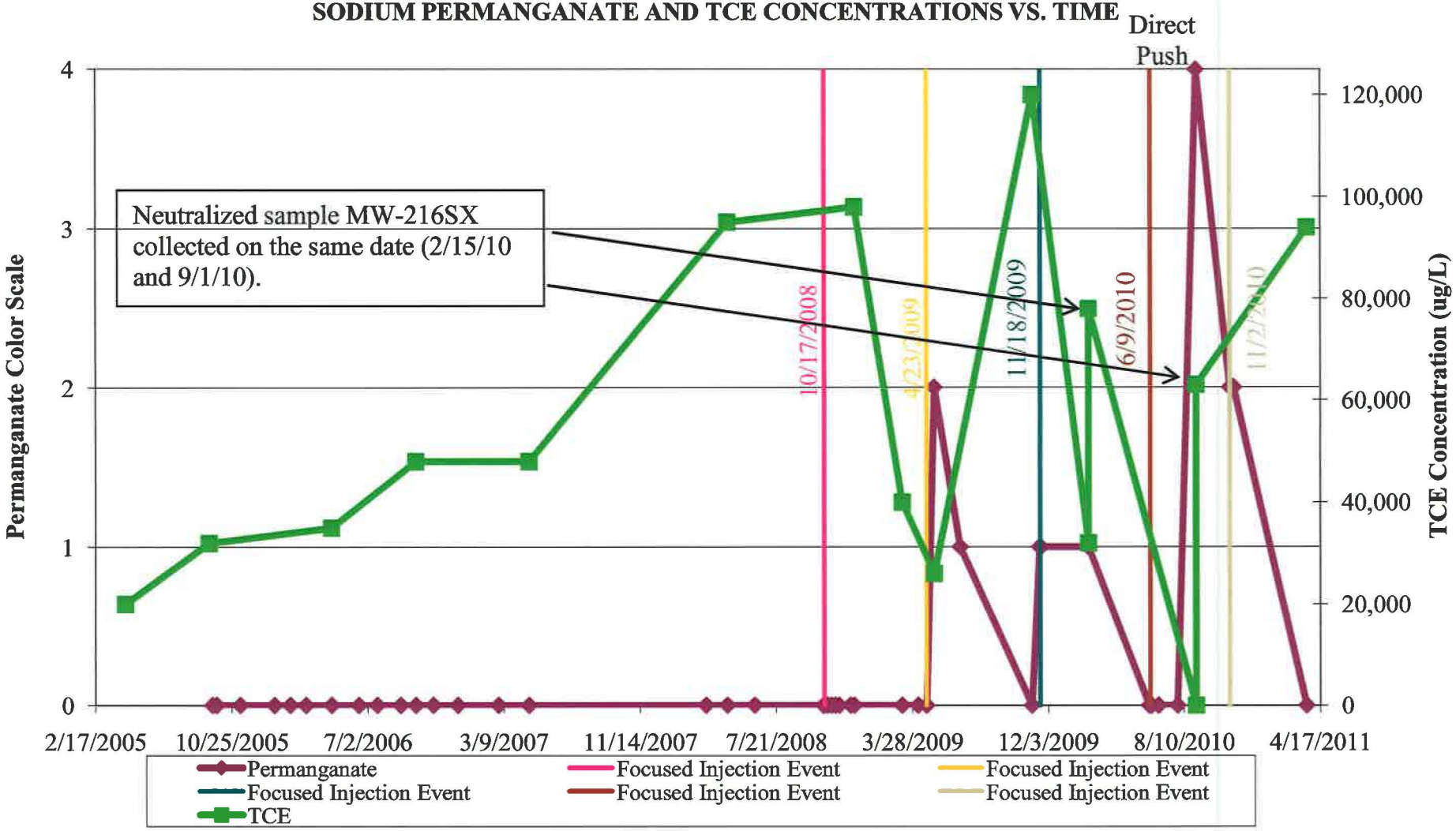


FIGURE 5C: EAST OF TREATMENT CELL - WELL MW-217S
SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME

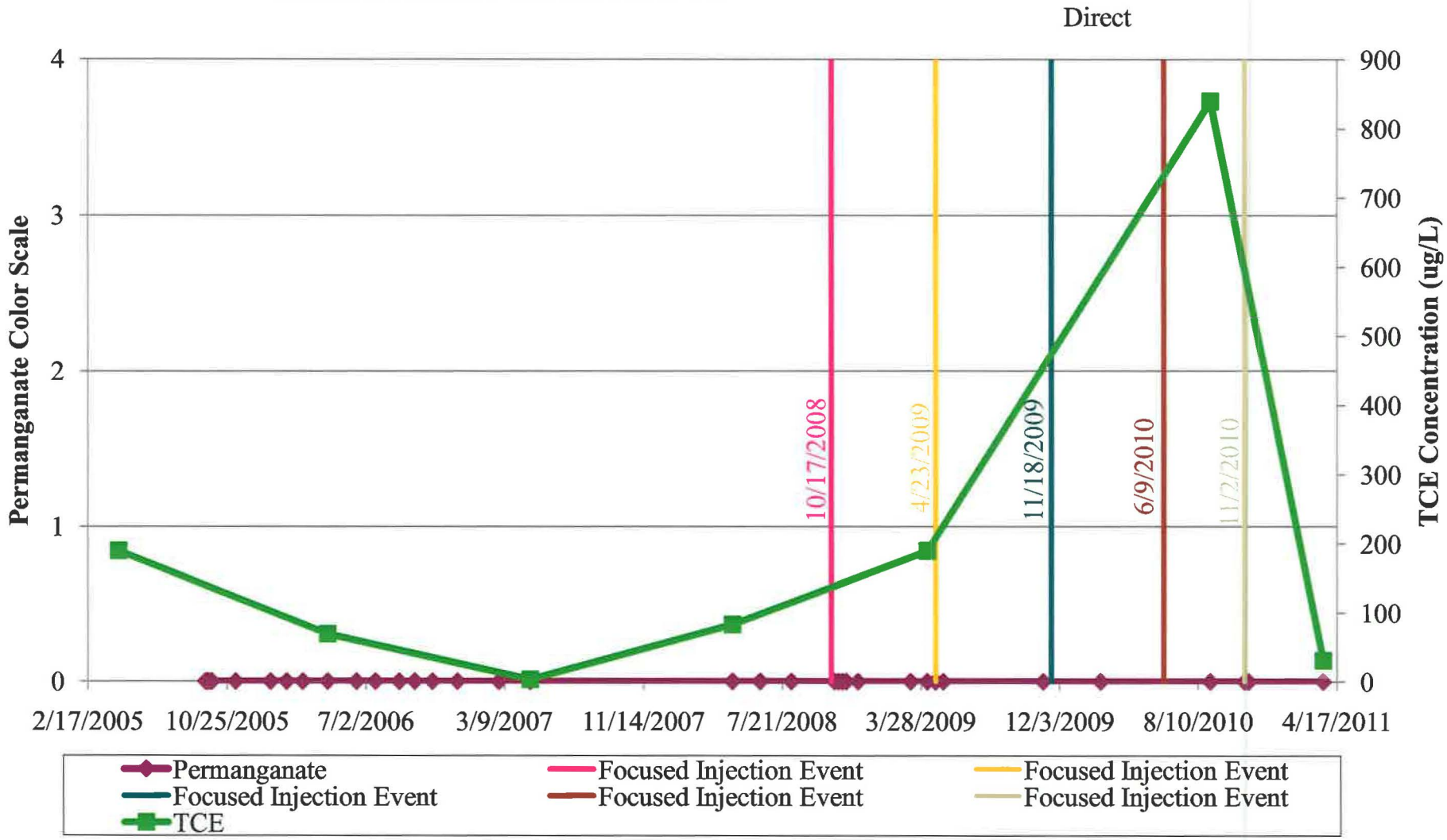


FIGURE 6: SOUTHWEST OF TREATMENT CELL - WELL MW-213S
SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME

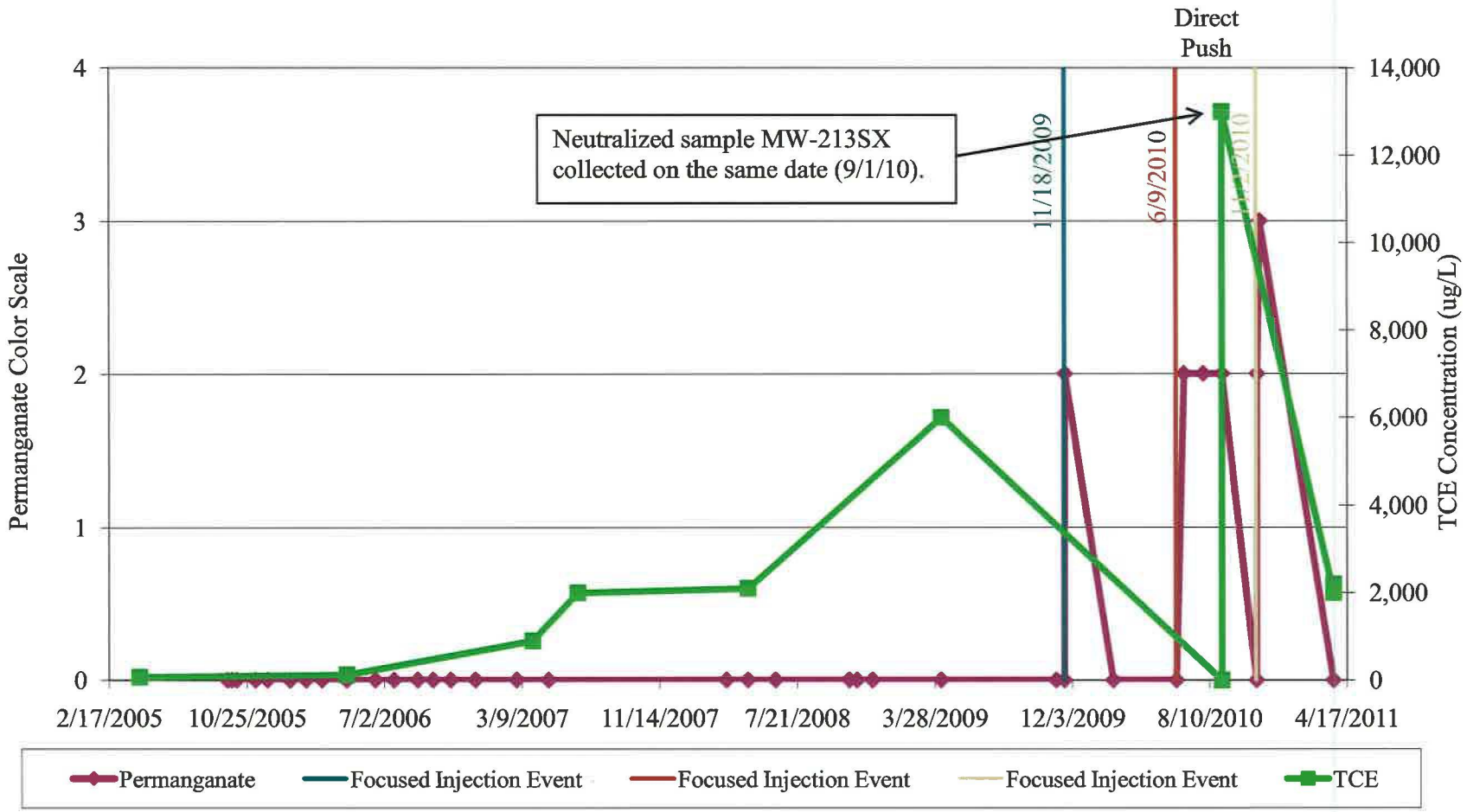
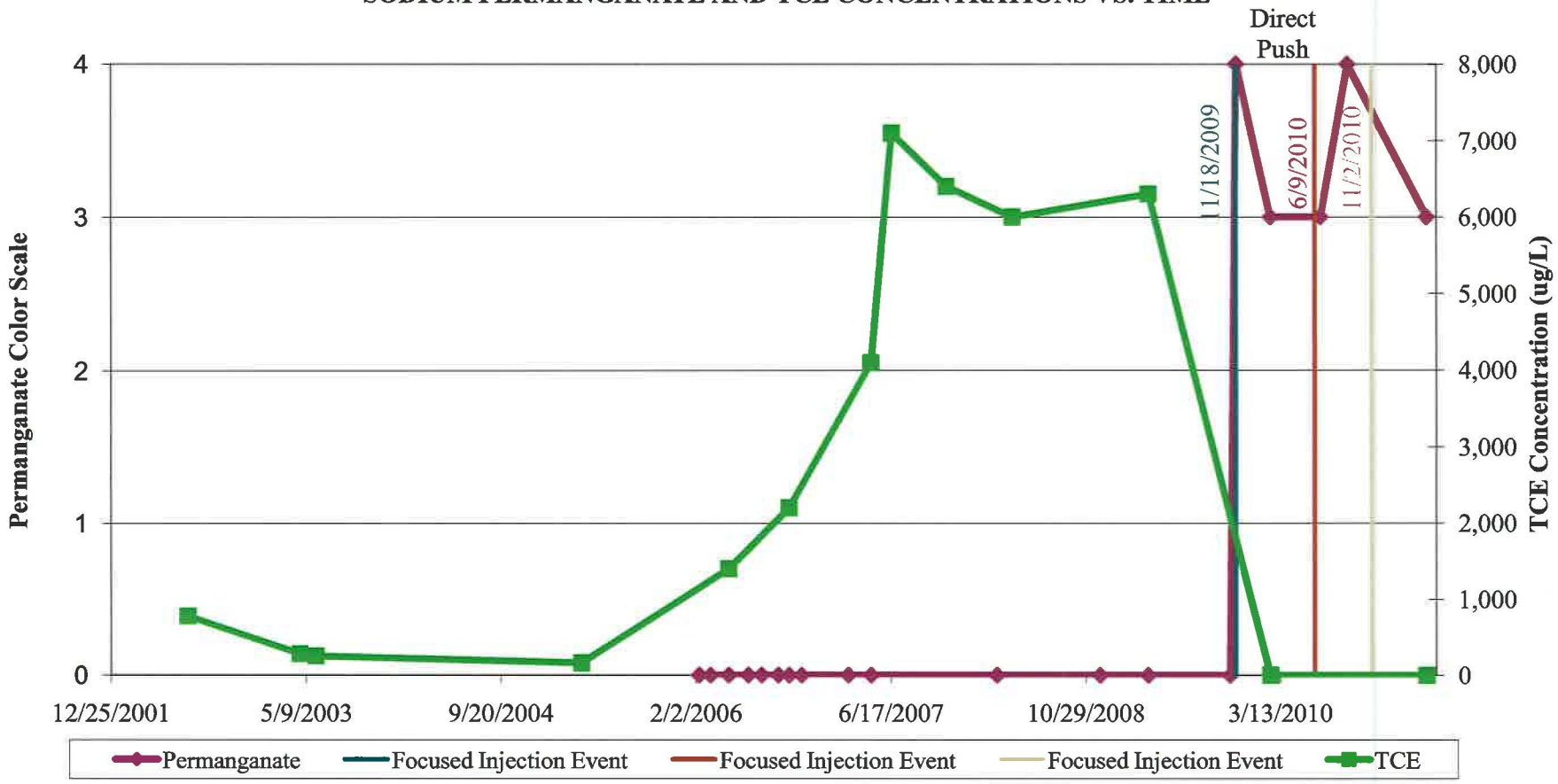
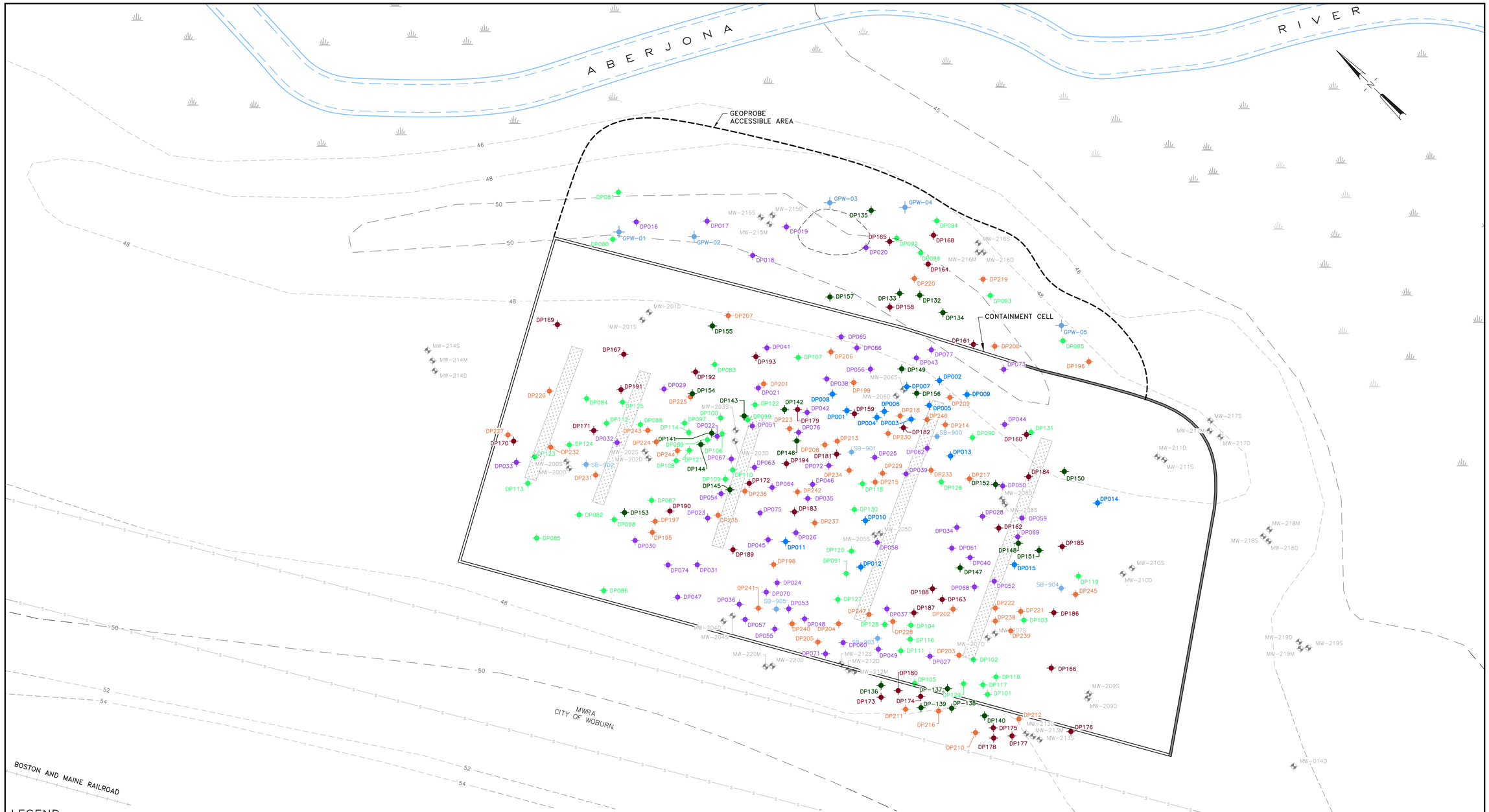


FIGURE 6: SOUTHWEST OF TREATMENT CELL - WELL MW-13
SODIUM PERMANGANATE AND TCE CONCENTRATIONS VS. TIME





LEGEND

MW-216S	REMEDIAL MONITORING WELL – GEOINSIGHT 2005
DP001	DIRECT PUSH INJECTION LOCATIONS SPRING 2008 (MAY 2008)
DP016	DIRECT PUSH INJECTION LOCATIONS FALL 2008 (OCT, NOV, AND DEC 2008) (DP016–DP077)
DP080	DIRECT PUSH INJECTION LOCATIONS SPRING 2009 (APRIL AND MAY 2009) (DP080–DP131)
DP132	DIRECT PUSH INJECTION LOCATIONS FALL 2009 (NOVEMBER, 2009) (DP132–DP157)
DP158	DIRECT PUSH INJECTION LOCATIONS SUMMER 2010 (JUNE, 2010) (DP158–DP194)
DP-230	DIRECT PUSH INJECTION LOCATIONS FALL 2010 (NOVEMBER, 2010) (DP-195 – DP-247)
SB-901	SOIL BORING LOCATION AND DESIGNATION FALL 2010
S S	SUBSURFACE SEWER LINES
	APPROXIMATE LOCATION OF WETLAND AREA
54	GROUND SURFACE ELEVATION CONTOUR IN FEET
	SHEETPILE WALL – 20 FEET DEEP
	SHEETPILE WALL – 25 FEET DEEP
	APPROXIMATE LOCATION OF DEPRESSION OUTSIDE THE FENCE EAST OF THE TREATMENT CELL

DRAFT

NOTES:

1. BEARINGS ARE REFERENCED TO THE MASSACHUSETTS MAINLAND COORDINATE SYSTEM (NAD 27) HOLDING COASTAL GEODETIC SURVEY (CGS) MONUMENTS 414 AND 11095. THE COORDINATES WERE DERIVED UTILIZING THE GLOBAL POSITIONING SYSTEM (GPS) FAST STATIC SURVEY METHODS.

2. ELEVATIONS ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988, HOLDING CGS MONUMENT U33.

3. BASE MAPPING IS COMPILED FORM CITY OF WOBURN TOPOGRAPHIC MAPPING. FIELD TOPOGRAPHY WAS PERFORMED ON APRIL 22, 2002.

4. REFERENCE IS MADE TO THE FOLLOWING MAPS:

A. "RIGHT-OF-WAY AND TRACK MAP, BOSTON AND LOWELL R.R. CORP., OPERATED BY THE BOSTON AND MAINE R.R., STATION 548+31 TO STATION 601+11," SCALE 1" = 100', DATED JUNE 30, 1914. VALUATION 13.1/9.

B. "PLAN OF LAND, WOBURN, MASS., BELONGING TO DANIEL J. QUINN," SCALE 1" = 40', DATED FEBRUARY 1946, PREPARED BY GEO. W. OLSON, MAP ON FILE IN THE MIDDLESEX REGISTRY OF DEEDS AS PLAN #297.

C. "PLAN OF LAND IN WOBURN, MASS.," SCALE 1" = 60', DATED JUNE 6, 1963, PREPARED BY SCHOFIELD BROTHERS.

D. "SUBDIVISION PLAN OF LAND IN WOBURN, H. KINGMAN ABBOTT, SURVEYOR," SEPTEMBER 20, 1958, LAND COURT DOCUMENT 3507C.

E. "SUBDIVISION PLAN OF LAND IN WOBURN," HAYES ENGINEERING, INC., SURVEYORS, DATED JANUARY 14, 1983, LAND COURT DOCUMENT 3507D.

F. "PLAN OF LAND IN WOBURN," H. KINGMAN ABBOTT, SURVEYOR, JANUARY 8, 1962, NOVEMBER 1966, LAND COURT DOCUMENT 32181A.

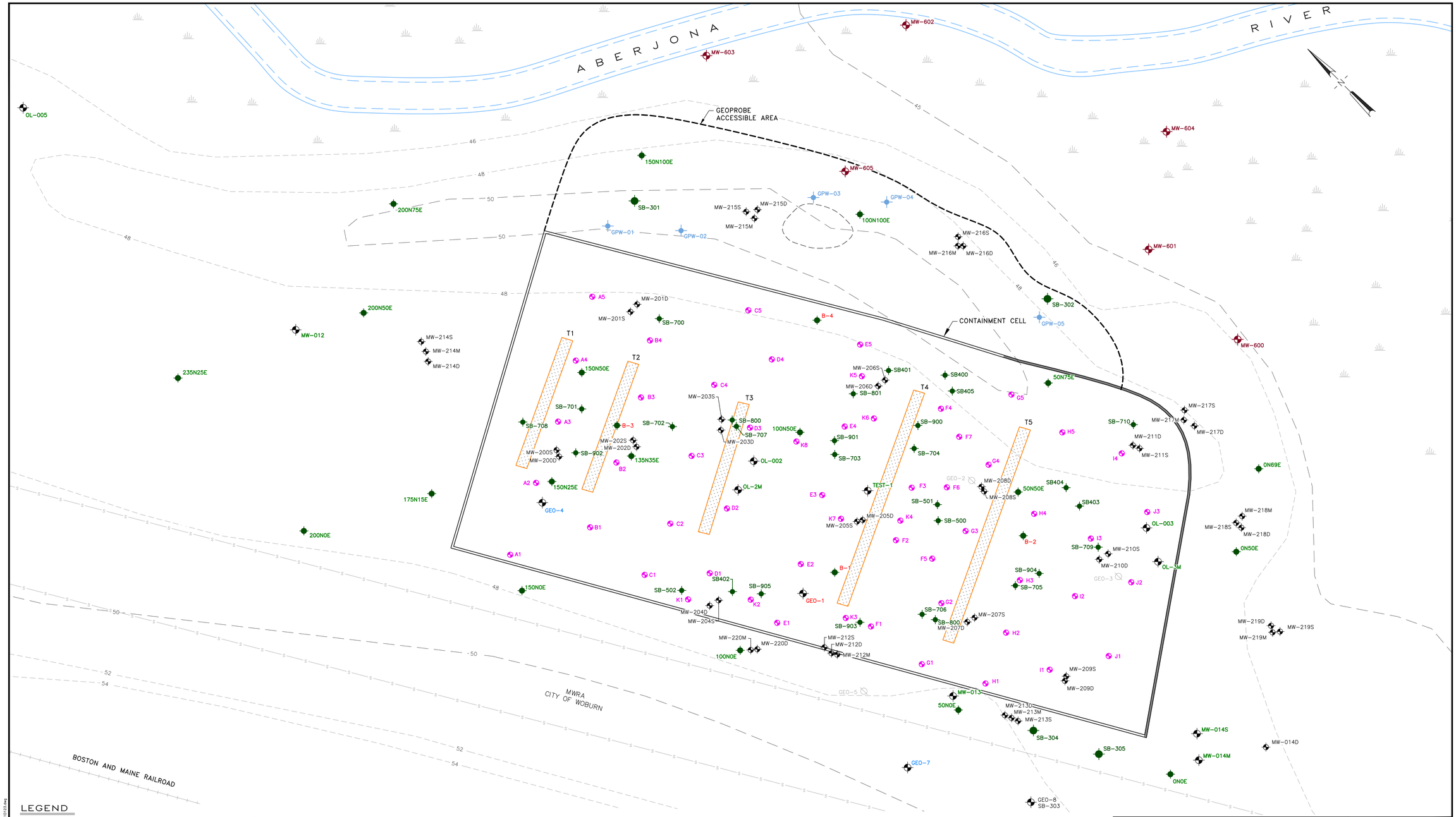
0 10 20
APPROX. SCALE IN FEET

CLIENT: OLYMPIA NOMINEE TRUST			
PROJECT: 60 OLYMPIA AVENUE			
TITLE: DIRECT PUSH INJECTION LOCATIONS			
DESIGNED: RSS	DRAWN: NMT	CHECKED: CAB	APPROVED: MJW
SCALE: 1" = 10'	DATE: 12/09/10	FILE NO.: 2491D122	PROJECT NO.: 2491

GeoInsight
Practical in Nature

FIGURE NO.: 1

PLOT DATE: Jun 23-11
FILE: M:\Projects\Active Projects\2491-Wells G&H\FIGURES\cover\2491D122.dwg



LEGEND

GEO-6	MONITORING WELL–GEOINSIGHT 2003 INVESTIGATION
GEO-1	DEEP OVERBURDEN WELL–GEOINSIGHT 1999 INVESTIGATION
MW-1	MONITORING WELL–PREVIOUS INVESTIGATIONS
GEO-3	MONITORING WELL – DESTROYED
MW-216S	REMEDIAL MONITORING WELL – GEOINSIGHT 2005
MW-600	MONITORING WELL LOCATION AND DESIGNATION
GEO-8/ SB-303	MONITORING WELL/SOIL BORING LOCATION AND DESIGNATION (2007)
C1	INJECTION WELL LOCATION AND DESIGNATION
SB-304	SOIL BORING LOCATION AND DESIGNATION
GPSB-12	SOIL BORING LOCATION (JUNE 2008)
GPW-05	DISCRETE GROUND WATER SAMPLING POINTS
S S	SUBSURFACE SEWER LINES
	APPROXIMATE LOCATION OF WETLAND AREA
54	GROUND SURFACE ELEVATION CONTOUR IN FEET
	SHEETPILE WALL – 20 FEET DEEP
	SHEETPILE WALL – 25 FEET DEEP
	APPROXIMATE LOCATION OF DEPRESSION OUTSIDE THE FENCE EAST OF THE TREATMENT CELL

NOTES:

1. BEARINGS ARE REFERENCED TO THE MASSACHUSETTS MAINLAND COORDINATE SYSTEM (NAD 27) HOLDING COASTAL GEODETIC SURVEY (CGS) MONUMENTS 414 AND 11095. THE COORDINATES WERE DERIVED UTILIZING THE GLOBAL POSITIONING SYSTEM (GPS) FAST STATIC SURVEY METHODS.

2. ELEVATIONS ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988, HOLDING CGS MONUMENT U33.

3. BASE MAPPING IS COMPILED FORM CITY OF WOBURN TOPOGRAPHIC MAPPING. FIELD TOPOGRAPHY WAS PERFORMED ON APRIL 22, 2002.

4. REFERENCE IS MADE TO THE FOLLOWING MAPS:

A. "RIGHT-OF-WAY AND TRACK MAP, BOSTON AND LOWELL R.R. CORP., OPERATED BY THE BOSTON AND MAINE R.R., STATION 548+31 TO STATION 601+11," SCALE 1" = 100', DATED JUNE 30, 1914. VALUATION 13.1/9.

B. "PLAN OF LAND, WOBURN, MASS., BELONGING TO DANIEL J. QUINN," SCALE 1" = 40', DATED FEBRUARY 1946, PREPARED BY GEO. W. OLSON, MAP ON FILE IN THE MIDDLESEX REGISTRY OF DEEDS AS PLAN #297.

C. "PLAN OF LAND IN WOBURN, MASS.," SCALE 1" = 60', DATED JUNE 6, 1963, PREPARED BY SCHOFIELD BROTHERS.

D. "SUBDIVISION PLAN OF LAND IN WOBURN, H. KINGMAN ABBOTT, SURVEYOR," SEPTEMBER 20, 1958, LAND COURT DOCUMENT 3507C.

E. "SUBDIVISION PLAN OF LAND IN WOBURN," HAYES ENGINEERING, INC., SURVEYORS, DATED JANUARY 14, 1983, LAND COURT DOCUMENT 3507D.

F. "PLAN OF LAND IN WOBURN," H. KINGMAN ABBOTT, SURVEYOR, JANUARY 8, 1962, NOVEMBER 1966, LAND COURT DOCUMENT 32181A.

DRAFT

0 10 20
APPROX. SCALE IN FEET

CLIENT: OLYMPIA NOMINEE TRUST			
PROJECT: 60 OLYMPIA AVENUE			
TITLE: SITE PLAN			
DESIGNED: RSE	DRAWN: NMT	CHECKED: CAB	APPROVED: MJW
SCALE: 1" = 10'	DATE: 12/29/10	FILE NO.: 2491D123	PROJECT NO.: 2491
FIGURE NO.: 1A			

GeoInsight
Practical in Nature

PLOT DATE: 12-29-10
FILE: M:\Projects\Active Projects\2491-Wells G&H\FIGURES\cad\2491D123.dwg