

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-01A	alluvium	06/19/2007 12:29	16.26	2474.35
SHMW-01A	alluvium	07/26/2007 07:00	16.53	2474.08
SHMW-01A	alluvium	08/20/2007 17:24	16.59	2474.02
SHMW-01A	alluvium	09/11/2007 08:16	16.64	2473.97
SHMW-01A	alluvium	10/26/2007 14:16	16.67	2473.94
SHMW-01A	alluvium	11/05/2007 11:55	16.53	2474.08
SHMW-01A	alluvium	02/12/2008 13:59	16.41	2474.20
SHMW-01A	alluvium	05/12/2008 09:40	16.50	2474.11
SHMW-01A	alluvium	07/14/2008 12:54	16.88	2473.73
SHMW-01A	alluvium	08/21/2008 09:18	16.96	2473.65
SHMW-01A	alluvium	11/28/2008 09:05	16.69	2473.92
SHMW-01A	alluvium	02/27/2009 16:10	16.68	2473.93
SHMW-01A	alluvium	04/30/2009 10:10	15.10	2475.51
SHMW-01A	alluvium	05/29/2009 08:31	15.29	2475.32
SHMW-01A	alluvium	08/04/2009 08:37	15.18	2475.43
SHMW-01A	alluvium	11/11/2009 11:27	15.50	2475.11
SHMW-01S	D Coal	06/19/2007 12:31	15.12	2475.69
SHMW-01S	D Coal	07/26/2007 06:58	15.45	2475.36
SHMW-01S	D Coal	08/20/2007 17:26	15.54	2475.27
SHMW-01S	D Coal	09/11/2007 08:15	15.65	2475.16
SHMW-01S	D Coal	10/26/2007 14:18	15.63	2475.18
SHMW-01S	D Coal	11/05/2007 11:57	15.62	2475.19
SHMW-01S	D Coal	02/12/2008 14:00	15.53	2475.28
SHMW-01S	D Coal	05/12/2008 09:43	15.51	2475.30
SHMW-01S	D Coal	08/21/2008 09:20	15.96	2474.85
SHMW-01S	D Coal	11/28/2008 09:10	15.85	2474.96
SHMW-01S	D Coal	02/27/2009 16:13	15.94	2474.87
SHMW-01S	D Coal	04/30/2009 10:00	13.73	2477.08
SHMW-01S	D Coal	05/29/2009 08:33	14.12	2476.69
SHMW-01S	D Coal	08/04/2009 08:35	14.07	2476.74
SHMW-01S	D Coal	11/11/2009 11:29	14.63	2476.18
SHMW-02C	D Coal	11/02/2006 10:55	56.43	2505.69
SHMW-02C	D Coal	12/05/2006 16:34	57.80	2504.32
SHMW-02C	D Coal	01/17/2007 14:02	57.26	2504.86
SHMW-02C	D Coal	02/19/2007 12:40	57.21	2504.91
SHMW-02C	D Coal	03/19/2007 11:42	57.36	2504.76
SHMW-02C	D Coal	04/23/2007 15:30	57.31	2504.81
SHMW-02C	D Coal	05/15/2007 16:43	57.31	2504.81
SHMW-02C	D Coal	06/19/2007 09:42	57.42	2504.70
SHMW-02C	D Coal	07/26/2007 08:01	57.31	2504.81

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-02C	D Coal	08/20/2007 17:53	57.31	2504.81
SHMW-02C	D Coal	09/11/2007 08:49	57.61	2504.51
SHMW-02C	D Coal	10/26/2007 13:16	57.38	2504.74
SHMW-02C	D Coal	11/05/2007 12:36	57.38	2504.74
SHMW-02C	D Coal	02/12/2008 14:20	57.36	2504.76
SHMW-02C	D Coal	05/12/2008 10:27	57.34	2504.78
SHMW-02C	D Coal	08/21/2008 09:48	57.28	2504.84
SHMW-02C	D Coal	11/28/2008 09:46	57.43	2504.69
SHMW-02C	D Coal	02/27/2009 13:20	57.45	2504.67
SHMW-02C	D Coal	05/29/2009 09:00	57.34	2504.78
SHMW-02C	D Coal	08/04/2009 09:09	57.25	2504.87
SHMW-02C	D Coal	11/11/2009 11:55	57.34	2504.78
SHMW-03C	D Coal	11/16/2006 14:14	30.24	2473.10
SHMW-03C	D Coal	12/05/2006 17:00	31.12	2472.22
SHMW-03C	D Coal	01/17/2007 10:15	31.19	2472.15
SHMW-03C	D Coal	02/19/2007 08:28	31.11	2472.23
SHMW-03C	D Coal	03/19/2007 10:46	31.25	2472.09
SHMW-03C	D Coal	04/23/2007 13:40	31.24	2472.10
SHMW-03C	D Coal	05/15/2007 12:15	31.14	2472.20
SHMW-03C	D Coal	06/19/2007 07:14	31.25	2472.09
SHMW-03C	D Coal	07/26/2007 06:18	31.43	2471.91
SHMW-03C	D Coal	08/20/2007 16:51	31.42	2471.92
SHMW-03C	D Coal	09/11/2007 07:42	31.56	2471.78
SHMW-03C	D Coal	10/26/2007 14:30	31.65	2471.69
SHMW-03C	D Coal	11/05/2007 11:41	31.61	2471.73
SHMW-03C	D Coal	02/12/2008 13:52	31.60	2471.74
SHMW-03C	D Coal	05/12/2008 09:25	31.63	2471.71
SHMW-03C	D Coal	07/14/2008 12:05	31.80	2471.54
SHMW-03C	D Coal	08/21/2008 09:04	31.81	2471.53
SHMW-03C	D Coal	11/28/2008 08:48	31.89	2471.45
SHMW-03C	D Coal	02/27/2009 09:34	32.10	2471.24
SHMW-03C	D Coal	05/29/2009 08:25	30.86	2472.48
SHMW-03C	D Coal	08/04/2009 08:17	30.67	2472.67
SHMW-03C	D Coal	11/04/2009 14:12	30.75	2472.59
SHMW-03C	D Coal	11/11/2009 10:45	30.73	2472.61
SHMW-03D	underburden	11/19/2006 09:36	90.36	2413.40
SHMW-03D	underburden	12/05/2006 17:02	85.13	2418.63
SHMW-03D	underburden	01/17/2007 10:20	59.25	2444.51
SHMW-03D	underburden	02/19/2007 08:38	39.84	2463.92
SHMW-03D	underburden	03/19/2007 10:42	83.87	2419.89

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**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-03D	underburden	04/23/2007 13:49	45.85	2457.91
SHMW-03D	underburden	05/15/2007 12:20	37.83	2465.93
SHMW-03D	underburden	06/19/2007 07:10	83.58	2420.18
SHMW-03D	underburden	07/26/2007 06:15	45.47	2458.29
SHMW-03D	underburden	08/20/2007 16:54	37.37	2466.39
SHMW-03D	underburden	09/11/2007 07:39	97.97	2405.79
SHMW-03D	underburden	10/26/2007 14:31	45.60	2458.16
SHMW-03D	underburden	11/05/2007 11:44	41.69	2462.07
SHMW-03D	underburden	02/12/2008 13:50	36.75	2467.01
SHMW-03D	underburden	05/12/2008 09:28	38.79	2464.97
SHMW-03D	underburden	07/14/2008 12:07	45.48	2458.28
SHMW-03D	underburden	08/21/2008 09:05	36.51	2467.25
SHMW-03D	underburden	11/28/2008 08:52	37.06	2466.70
SHMW-03D	underburden	02/27/2009 09:36	37.03	2466.73
SHMW-03D	underburden	05/29/2009 08:21	31.04	2472.72
SHMW-03D	underburden	08/04/2009 08:19	30.77	2472.99
SHMW-03D	underburden	11/04/2009 14:15	36.98	2466.78
SHMW-03D	underburden	11/11/2009 10:47	35.95	2467.81
SHMW-03HTB	HT Butte	11/11/2009 10:43	41.28	2465.75
SHMW-03S	overburden	11/07/2006 11:56	29.88	2473.64
SHMW-03S	overburden	12/05/2006 17:04	30.12	2473.40
SHMW-03S	overburden	01/17/2007 10:27	30.16	2473.36
SHMW-03S	overburden	02/19/2007 08:45	30.22	2473.30
SHMW-03S	overburden	03/19/2007 10:39	30.42	2473.10
SHMW-03S	overburden	04/23/2007 13:52	29.46	2474.06
SHMW-03S	overburden	05/15/2007 12:24	30.51	2473.01
SHMW-03S	overburden	06/19/2007 06:57	30.52	2473.00
SHMW-03S	overburden	07/26/2007 06:13	30.61	2472.91
SHMW-03S	overburden	08/20/2007 16:57	30.59	2472.93
SHMW-03S	overburden	09/11/2007 07:36	30.69	2472.83
SHMW-03S	overburden	10/26/2007 14:33	30.82	2472.70
SHMW-03S	overburden	11/05/2007 11:47	30.80	2472.72
SHMW-03S	overburden	02/12/2008 13:46	30.81	2472.71
SHMW-03S	overburden	05/12/2008 09:30	30.96	2472.56
SHMW-03S	overburden	07/14/2008 12:09	31.09	2472.43
SHMW-03S	overburden	08/21/2008 09:07	31.11	2472.41
SHMW-03S	overburden	11/28/2008 08:50	31.26	2472.26
SHMW-03S	overburden	02/27/2009 09:38	31.56	2471.96
SHMW-03S	overburden	05/29/2009 08:23	30.24	2473.28
SHMW-03S	overburden	08/04/2009 08:20	30.04	2473.48

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**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-03S	overburden	11/04/2009 14:18	30.16	2473.36
SHMW-03S	overburden	11/11/2009 10:49	30.15	2473.37
SHMW-04C	D Coal	11/02/2006 10:48	71.67	2473.85
SHMW-04C	D Coal	12/05/2006 16:54	71.58	2473.94
SHMW-04C	D Coal	01/17/2007 11:11	71.45	2474.07
SHMW-04C	D Coal	02/19/2007 09:30	71.55	2473.97
SHMW-04C	D Coal	03/19/2007 11:06	71.81	2473.71
SHMW-04C	D Coal	04/23/2007 14:12	71.73	2473.79
SHMW-04C	D Coal	05/15/2007 17:41	71.75	2473.77
SHMW-04C	D Coal	06/19/2007 13:01	71.80	2473.72
SHMW-04C	D Coal	07/26/2007 07:45	71.91	2473.61
SHMW-04C	D Coal	08/20/2007 16:36	71.90	2473.62
SHMW-04C	D Coal	09/11/2007 08:34	72.08	2473.44
SHMW-04C	D Coal	10/26/2007 14:08	72.24	2473.28
SHMW-04C	D Coal	11/05/2007 12:13	72.33	2473.19
SHMW-04C	D Coal	02/12/2008 14:07	72.19	2473.33
SHMW-04C	D Coal	05/12/2008 09:54	72.24	2473.28
SHMW-04C	D Coal	08/21/2008 09:31	72.53	2472.99
SHMW-04C	D Coal	11/28/2008 09:32	72.64	2472.88
SHMW-04C	D Coal	02/27/2009 14:35	73.05	2472.47
SHMW-04C	D Coal	05/29/2009 08:42	72.11	2473.41
SHMW-04C	D Coal	08/04/2009 08:49	71.85	2473.67
SHMW-04C	D Coal	11/11/2009 11:41	71.60	2473.92
SHMW-04D	underburden	11/01/2006 15:30	57.52	2489.01
SHMW-04D	underburden	12/05/2006 16:51	57.55	2488.98
SHMW-04D	underburden	01/17/2007 11:09	57.56	2488.97
SHMW-04D	underburden	02/19/2007 09:33	57.51	2489.02
SHMW-04D	underburden	03/19/2007 11:04	57.63	2488.90
SHMW-04D	underburden	04/23/2007 14:10	57.53	2489.00
SHMW-04D	underburden	05/15/2007 17:37	57.46	2489.07
SHMW-04D	underburden	06/19/2007 13:08	58.55	2487.98
SHMW-04D	underburden	07/26/2007 07:44	58.02	2488.51
SHMW-04D	underburden	08/20/2007 16:38	57.97	2488.56
SHMW-04D	underburden	09/11/2007 08:31	57.98	2488.55
SHMW-04D	underburden	10/26/2007 14:11	58.03	2488.50
SHMW-04D	underburden	11/05/2007 12:04	58.02	2488.51
SHMW-04D	underburden	02/12/2008 14:06	58.01	2488.52
SHMW-04D	underburden	05/12/2008 09:57	58.01	2488.52
SHMW-04D	underburden	08/21/2008 09:30	58.12	2488.41
SHMW-04D	underburden	11/28/2008 09:34	58.04	2488.49

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**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-04D	underburden	02/27/2009 14:37	57.96	2488.57
SHMW-04D	underburden	05/29/2009 08:44	57.85	2488.68
SHMW-04D	underburden	08/04/2009 08:51	58.05	2488.48
SHMW-04D	underburden	11/11/2009 11:39	57.96	2488.57
SHMW-05C	D Coal	11/05/2006 16:06	132.49	2509.19
SHMW-05C	D Coal	12/05/2006 16:06	132.53	2509.15
SHMW-05C	D Coal	01/17/2007 13:36	132.49	2509.19
SHMW-05C	D Coal	02/19/2007 12:04	132.28	2509.40
SHMW-05C	D Coal	03/19/2007 12:03	132.93	2508.75
SHMW-05C	D Coal	04/23/2007 15:52	132.87	2508.81
SHMW-05C	D Coal	05/15/2007 16:43	132.94	2508.74
SHMW-05C	D Coal	06/19/2007 08:44	132.91	2508.77
SHMW-05C	D Coal	07/26/2007 08:28	132.87	2508.81
SHMW-05C	D Coal	08/20/2007 18:23	132.64	2509.04
SHMW-05C	D Coal	09/11/2007 09:08	133.02	2508.66
SHMW-05C	D Coal	10/26/2007 13:09	133.28	2508.40
SHMW-05C	D Coal	11/05/2007 12:18	133.25	2508.43
SHMW-05C	D Coal	02/12/2008 14:45	133.00	2508.68
SHMW-05C	D Coal	05/12/2008 10:11	132.76	2508.92
SHMW-05C	D Coal	08/21/2008 10:12	132.84	2508.84
SHMW-05C	D Coal	11/28/2008 10:02	133.20	2508.48
SHMW-05C	D Coal	02/27/2009 09:09	133.78	2507.90
SHMW-05C	D Coal	05/29/2009 09:14	133.68	2508.00
SHMW-05C	D Coal	08/04/2009 09:32	133.65	2508.03
SHMW-05C	D Coal	11/11/2009 12:18	133.49	2508.19
SHMW-05D	underburden	11/08/2006 08:21	131.94	2509.01
SHMW-05D	underburden	12/05/2006 16:08	132.20	2508.75
SHMW-05D	underburden	01/17/2007 13:37	132.29	2508.66
SHMW-05D	underburden	02/19/2007 12:13	132.17	2508.78
SHMW-05D	underburden	03/19/2007 12:05	132.32	2508.63
SHMW-05D	underburden	04/23/2007 15:58	132.26	2508.69
SHMW-05D	underburden	05/15/2007 16:43	132.23	2508.72
SHMW-05D	underburden	06/19/2007 08:51	132.27	2508.68
SHMW-05D	underburden	07/26/2007 08:26	132.44	2508.51
SHMW-05D	underburden	08/20/2007 18:21	132.38	2508.57
SHMW-05D	underburden	09/11/2007 09:10	132.51	2508.44
SHMW-05D	underburden	10/26/2007 13:04	132.54	2508.41
SHMW-05D	underburden	11/05/2007 12:26	132.55	2508.40
SHMW-05D	underburden	02/12/2008 14:39	132.58	2508.37
SHMW-05D	underburden	05/12/2008 10:16	132.56	2508.39

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-05D	underburden	08/21/2008 10:08	132.68	2508.27
SHMW-05D	underburden	11/28/2008 10:06	131.81	2509.14
SHMW-05D	underburden	02/27/2009 09:11	132.89	2508.06
SHMW-05D	underburden	05/29/2009 09:16	132.79	2508.16
SHMW-05D	underburden	08/04/2009 09:30	132.77	2508.18
SHMW-05D	underburden	11/11/2009 12:14	132.63	2508.32
SHMW-05S	overburden	11/12/2006 07:35	123.33	2518.40
SHMW-05S	overburden	12/05/2006 16:03	123.36	2518.37
SHMW-05S	overburden	01/17/2007 13:38	122.92	2518.81
SHMW-05S	overburden	02/19/2007 12:09	122.98	2518.75
SHMW-05S	overburden	03/19/2007 12:07	122.96	2518.77
SHMW-05S	overburden	04/23/2007 15:55	123.00	2518.73
SHMW-05S	overburden	05/15/2007 16:43	122.94	2518.79
SHMW-05S	overburden	06/19/2007 08:37	123.02	2518.71
SHMW-05S	overburden	07/26/2007 08:25	122.99	2518.74
SHMW-05S	overburden	08/20/2007 18:18	122.99	2518.74
SHMW-05S	overburden	09/11/2007 09:06	122.98	2518.75
SHMW-05S	overburden	10/26/2007 13:07	123.00	2518.73
SHMW-05S	overburden	11/05/2007 12:20	123.02	2518.71
SHMW-05S	overburden	02/12/2008 14:42	123.11	2518.62
SHMW-05S	overburden	05/12/2008 10:13	123.16	2518.57
SHMW-05S	overburden	08/21/2008 10:10	123.15	2518.58
SHMW-05S	overburden	11/28/2008 10:04	123.20	2518.53
SHMW-05S	overburden	02/27/2009 09:13	123.25	2518.48
SHMW-05S	overburden	05/29/2009 09:19	123.29	2518.44
SHMW-05S	overburden	08/04/2009 09:33	123.30	2518.43
SHMW-05S	overburden	11/11/2009 12:15	123.30	2518.43
SHMW-06C	D Coal	11/02/2006 09:20	64.42	2487.84
SHMW-06C	D Coal	12/05/2006 15:35	64.85	2487.41
SHMW-06C	D Coal	01/17/2007 12:16	64.77	2487.49
SHMW-06C	D Coal	02/19/2007 10:12	64.83	2487.43
SHMW-06C	D Coal	03/19/2007 11:12	65.11	2487.15
SHMW-06C	D Coal	04/23/2007 16:50	65.11	2487.15
SHMW-06C	D Coal	05/15/2007 13:12	65.16	2487.10
SHMW-06C	D Coal	06/19/2007 10:10	65.16	2487.10
SHMW-06C	D Coal	07/26/2007 09:24	65.17	2487.09
SHMW-06C	D Coal	08/20/2007 18:51	65.07	2487.19
SHMW-06C	D Coal	09/11/2007 09:35	65.31	2486.95
SHMW-06C	D Coal	10/26/2007 12:45	65.38	2486.88
SHMW-06C	D Coal	11/05/2007 12:42	65.41	2486.85



**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-06C	D Coal	02/12/2008 15:09	65.28	2486.98
SHMW-06C	D Coal	05/12/2008 11:09	65.24	2487.02
SHMW-06C	D Coal	07/14/2008 16:40	65.35	2486.91
SHMW-06C	D Coal	08/21/2008 10:40	65.34	2486.92
SHMW-06C	D Coal	11/28/2008 10:48	65.98	2486.28
SHMW-06C	D Coal	02/27/2009 14:51	65.75	2486.51
SHMW-06C	D Coal	05/29/2009 09:37	64.72	2487.54
SHMW-06C	D Coal	08/04/2009 09:58	64.38	2487.88
SHMW-06C	D Coal	11/11/2009 15:20	64.25	2488.01
SHMW-06D	underburden	11/03/2006 08:47	53.76	2498.47
SHMW-06D	underburden	12/05/2006 15:39	53.78	2498.45
SHMW-06D	underburden	01/17/2007 12:12	53.81	2498.42
SHMW-06D	underburden	02/19/2007 10:16	53.84	2498.39
SHMW-06D	underburden	03/19/2007 11:16	54.10	2498.13
SHMW-06D	underburden	04/23/2007 16:53	53.98	2498.25
SHMW-06D	underburden	05/15/2007 13:16	53.91	2498.32
SHMW-06D	underburden	06/19/2007 10:12	54.06	2498.17
SHMW-06D	underburden	07/26/2007 09:05	54.37	2497.86
SHMW-06D	underburden	08/20/2007 18:47	54.39	2497.84
SHMW-06D	underburden	09/11/2007 09:37	54.57	2497.66
SHMW-06D	underburden	10/26/2007 12:47	54.53	2497.70
SHMW-06D	underburden	11/05/2007 12:39	54.56	2497.67
SHMW-06D	underburden	02/12/2008 15:07	54.64	2497.59
SHMW-06D	underburden	05/12/2008 11:07	54.70	2497.53
SHMW-06D	underburden	08/21/2008 10:42	54.88	2497.35
SHMW-06D	underburden	11/28/2008 10:46	54.96	2497.27
SHMW-06D	underburden	02/27/2009 14:54	54.92	2497.31
SHMW-06D	underburden	05/29/2009 09:39	54.39	2497.84
SHMW-06D	underburden	08/04/2009 10:01	54.09	2498.14
SHMW-06D	underburden	11/11/2009 15:25	53.79	2498.44
SHMW-07C	D Coal	11/14/2006 09:20	28.17	2481.82
SHMW-07C	D Coal	12/05/2006 17:23	28.55	2481.44
SHMW-07C	D Coal	01/17/2007 16:24	28.60	2481.39
SHMW-07C	D Coal	02/19/2007 16:04	28.39	2481.60
SHMW-07C	D Coal	03/19/2007 14:41	28.67	2481.32
SHMW-07C	D Coal	04/23/2007 17:47	28.62	2481.37
SHMW-07C	D Coal	05/15/2007 15:19	28.71	2481.28
SHMW-07C	D Coal	06/19/2007 14:00	28.64	2481.35
SHMW-07C	D Coal	07/26/2007 11:40	28.74	2481.25
SHMW-07C	D Coal	08/20/2007 20:16	28.79	2481.20

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-07C	D Coal	09/11/2007 11:32	29.04	2480.95
SHMW-07C	D Coal	10/26/2007 11:13	29.11	2480.88
SHMW-07C	D Coal	11/05/2007 14:59	29.10	2480.89
SHMW-07C	D Coal	02/12/2008 14:25	29.25	2480.74
SHMW-07C	D Coal	05/12/2008 08:35	29.19	2480.80
SHMW-07C	D Coal	08/21/2008 12:01	29.47	2480.52
SHMW-07C	D Coal	11/28/2008 12:34	29.74	2480.25
SHMW-07C	D Coal	02/27/2009 15:42	29.94	2480.05
SHMW-07C	D Coal	05/29/2009 10:57	28.76	2481.23
SHMW-07C	D Coal	08/04/2009 11:47	28.45	2481.54
SHMW-07C	D Coal	11/11/2009 16:55	28.48	2481.51
SHMW-07D	underburden	11/15/2006 15:01	65.04	2445.09
SHMW-07D	underburden	12/05/2006 17:22	55.22	2454.91
SHMW-07D	underburden	01/17/2007 16:26	38.79	2471.34
SHMW-07D	underburden	02/19/2007 16:08	32.11	2478.02
SHMW-07D	underburden	03/19/2007 14:43	47.84	2462.29
SHMW-07D	underburden	04/23/2007 17:49	33.64	2476.49
SHMW-07D	underburden	05/15/2007 15:24	31.83	2478.30
SHMW-07D	underburden	06/19/2007 13:45	49.52	2460.61
SHMW-07D	underburden	07/26/2007 11:39	34.04	2476.09
SHMW-07D	underburden	08/20/2007 20:14	32.27	2477.86
SHMW-07D	underburden	09/11/2007 11:31	62.90	2447.23
SHMW-07D	underburden	10/26/2007 11:16	34.47	2475.66
SHMW-07D	underburden	11/05/2007 15:02	33.48	2476.65
SHMW-07D	underburden	02/12/2008 14:24	32.60	2477.53
SHMW-07D	underburden	05/12/2008 08:39	32.78	2477.35
SHMW-07D	underburden	08/21/2008 11:59	32.26	2477.87
SHMW-07D	underburden	11/28/2008 12:32	32.38	2477.75
SHMW-07D	underburden	02/27/2009 15:44	32.87	2477.26
SHMW-07D	underburden	05/29/2009 10:53	32.44	2477.69
SHMW-07D	underburden	08/04/2009 11:48	29.38	2480.75
SHMW-07D	underburden	11/11/2009 16:53	31.74	2478.39
SHMW-08C	D Coal	11/16/2006 17:02	117.99	2494.19
SHMW-08C	D Coal	12/05/2006 15:50	118.05	2494.13
SHMW-08C	D Coal	01/17/2007 13:04	118.01	2494.17
SHMW-08C	D Coal	02/19/2007 11:15	117.97	2494.21
SHMW-08C	D Coal	03/19/2007 12:24	118.29	2493.89
SHMW-08C	D Coal	04/23/2007 16:23	118.25	2493.93
SHMW-08C	D Coal	05/15/2007 16:37	118.34	2493.84
SHMW-08C	D Coal	06/19/2007 11:28	118.38	2493.80



**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-08C	D Coal	07/26/2007 08:46	118.35	2493.83
SHMW-08C	D Coal	08/20/2007 18:32	118.23	2493.95
SHMW-08C	D Coal	09/11/2007 09:25	118.41	2493.77
SHMW-08C	D Coal	10/26/2007 13:57	118.57	2493.61
SHMW-08C	D Coal	11/05/2007 12:54	118.58	2493.60
SHMW-08C	D Coal	02/12/2008 14:48	118.44	2493.74
SHMW-08C	D Coal	05/12/2008 10:56	118.31	2493.87
SHMW-08C	D Coal	08/21/2008 10:27	118.32	2493.86
SHMW-08C	D Coal	11/28/2008 10:13	118.46	2493.72
SHMW-08C	D Coal	02/27/2009 14:09	118.79	2493.39
SHMW-08C	D Coal	05/01/2009 09:26	118.47	2493.71
SHMW-08C	D Coal	05/29/2009 09:26	118.47	2493.71
SHMW-08C	D Coal	08/04/2009 09:43	118.40	2493.78
SHMW-08C	D Coal	11/04/2009 13:53	118.36	2493.82
SHMW-08C	D Coal	11/11/2009 12:27	118.22	2493.96
SHMW-08D	underburden	11/03/2006 08:55	107.05	2504.17
SHMW-08D	underburden	12/05/2006 15:53	106.99	2504.23
SHMW-08D	underburden	01/17/2007 13:06	107.33	2503.89
SHMW-08D	underburden	02/19/2007 11:20	106.96	2504.26
SHMW-08D	underburden	03/19/2007 12:26	107.75	2503.47
SHMW-08D	underburden	04/23/2007 16:21	107.15	2504.07
SHMW-08D	underburden	05/15/2007 16:40	107.19	2504.03
SHMW-08D	underburden	06/19/2007 11:40	107.13	2504.09
SHMW-08D	underburden	07/26/2007 08:43	107.27	2503.95
SHMW-08D	underburden	08/20/2007 18:35	107.28	2503.94
SHMW-08D	underburden	09/11/2007 09:22	107.44	2503.78
SHMW-08D	underburden	10/26/2007 14:02	107.52	2503.70
SHMW-08D	underburden	11/05/2007 12:57	107.52	2503.70
SHMW-08D	underburden	02/12/2008 14:56	107.63	2503.59
SHMW-08D	underburden	05/12/2008 10:54	107.66	2503.56
SHMW-08D	underburden	08/21/2008 10:28	107.77	2503.45
SHMW-08D	underburden	11/28/2008 10:15	107.97	2503.25
SHMW-08D	underburden	02/27/2009 14:07	108.11	2503.11
SHMW-08D	underburden	05/29/2009 09:27	107.24	2503.98
SHMW-08D	underburden	08/04/2009 09:45	107.01	2504.21
SHMW-08D	underburden	11/04/2009 13:55	107.09	2504.13
SHMW-08D	underburden	11/11/2009 12:30	107.06	2504.16
SHMW-08HTB	HT Butte	11/11/2009 12:35	141.84	2468.30
SHMW-08S	overburden	11/04/2006 14:20	101.51	2509.59
SHMW-08S	overburden	12/05/2006 15:55	101.56	2509.54

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-08S	overburden	01/17/2007 13:08	101.51	2509.59
SHMW-08S	overburden	02/19/2007 11:24	101.58	2509.52
SHMW-08S	overburden	03/19/2007 12:28	101.75	2509.35
SHMW-08S	overburden	04/23/2007 16:26	101.70	2509.40
SHMW-08S	overburden	05/15/2007 16:44	101.72	2509.38
SHMW-08S	overburden	06/19/2007 11:53	101.86	2509.24
SHMW-08S	overburden	07/26/2007 08:45	101.78	2509.32
SHMW-08S	overburden	08/20/2007 18:38	101.72	2509.38
SHMW-08S	overburden	09/11/2007 09:20	101.77	2509.33
SHMW-08S	overburden	10/26/2007 13:59	101.88	2509.22
SHMW-08S	overburden	11/05/2007 13:02	101.91	2509.19
SHMW-08S	overburden	02/12/2008 14:53	101.78	2509.32
SHMW-08S	overburden	05/12/2008 10:52	101.75	2509.35
SHMW-08S	overburden	08/21/2008 10:30	101.76	2509.34
SHMW-08S	overburden	11/28/2008 10:17	101.76	2509.34
SHMW-08S	overburden	02/27/2009 14:05	102.02	2509.08
SHMW-08S	overburden	05/29/2009 09:30	101.95	2509.15
SHMW-08S	overburden	08/04/2009 09:46	102.05	2509.05
SHMW-08S	overburden	11/04/2009 13:58	102.00	2509.10
SHMW-08S	overburden	11/11/2009 12:32	101.91	2509.19
SHMW-09A1	alluvium	06/19/2007 14:57	20.13	2484.21
SHMW-09A1	alluvium	07/26/2007 11:10	19.67	2484.67
SHMW-09A1	alluvium	08/20/2007 19:53	19.62	2484.72
SHMW-09A1	alluvium	09/11/2007 11:09	19.77	2484.57
SHMW-09A1	alluvium	10/26/2007 11:43	19.91	2484.43
SHMW-09A1	alluvium	11/05/2007 14:51	19.94	2484.40
SHMW-09A1	alluvium	02/12/2008 14:14	20.28	2484.06
SHMW-09A1	alluvium	05/12/2008 12:09	20.43	2483.91
SHMW-09A1	alluvium	07/14/2008 16:56	20.35	2483.99
SHMW-09A1	alluvium	08/21/2008 14:05	20.43	2483.91
SHMW-09A1	alluvium	11/28/2008 12:14	20.43	2483.91
SHMW-09A1	alluvium	02/27/2009 15:49	20.43	2483.91
SHMW-09A1	alluvium	04/30/2009 11:05	14.47	2489.87
SHMW-09A1	alluvium	05/29/2009 10:41	15.69	2488.65
SHMW-09A1	alluvium	08/04/2009 12:08	16.02	2488.32
SHMW-09A1	alluvium	11/11/2009 16:40	17.25	2487.09
SHMW-09A2	alluvium	06/19/2007 15:00	18.40	2485.79
SHMW-09A2	alluvium	07/26/2007 11:12	18.74	2485.45
SHMW-09A2	alluvium	08/20/2007 19:56	19.40	2484.79
SHMW-09A2	alluvium	09/11/2007 11:11	19.70	2484.49

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-09A2	alluvium	10/26/2007 11:41	19.91	2484.28
SHMW-09A2	alluvium	11/05/2007 14:49	19.69	2484.50
SHMW-09A2	alluvium	02/12/2008 14:13	20.43	2483.76
SHMW-09A2	alluvium	05/12/2008 12:10	20.31	2483.88
SHMW-09A2	alluvium	07/14/2008 17:01	20.36	2483.83
SHMW-09A2	alluvium	08/21/2008 14:07	20.75	2483.44
SHMW-09A2	alluvium	11/28/2008 12:16	21.40	2482.79
SHMW-09A2	alluvium	02/27/2009 15:51	21.38	2482.81
SHMW-09A2	alluvium	04/30/2009 11:07	14.84	2489.35
SHMW-09A2	alluvium	05/29/2009 10:42	15.59	2488.60
SHMW-09A2	alluvium	08/04/2009 12:10	15.90	2488.29
SHMW-09A2	alluvium	11/11/2009 16:38	16.95	2487.24
SHMW-09S	overburden	06/19/2007 15:09	19.80	2484.76
SHMW-09S	overburden	07/26/2007 11:14	19.00	2485.56
SHMW-09S	overburden	08/20/2007 19:58	19.28	2485.28
SHMW-09S	overburden	09/11/2007 11:13	19.69	2484.87
SHMW-09S	overburden	10/26/2007 11:39	20.67	2483.89
SHMW-09S	overburden	11/05/2007 14:48	20.43	2484.13
SHMW-09S	overburden	02/12/2008 14:11	20.44	2484.12
SHMW-09S	overburden	05/12/2008 12:12	20.62	2483.94
SHMW-09S	overburden	08/21/2008 14:09	20.74	2483.82
SHMW-09S	overburden	11/28/2008 12:19	21.09	2483.47
SHMW-09S	overburden	02/27/2009 15:54	21.43	2483.13
SHMW-09S	overburden	04/30/2009 11:15	15.57	2488.99
SHMW-09S	overburden	05/29/2009 10:44	15.94	2488.62
SHMW-09S	overburden	08/04/2009 12:13	15.88	2488.68
SHMW-09S	overburden	11/11/2009 16:36	17.18	2487.38
SHMW-10C	D Coal	11/13/2006 14:06	16.56	2487.84
SHMW-10C	D Coal	12/05/2006 15:20	16.59	2487.81
SHMW-10C	D Coal	01/17/2007 14:30	16.65	2487.75
SHMW-10C	D Coal	02/19/2007 13:34	16.45	2487.95
SHMW-10C	D Coal	03/19/2007 13:27	16.91	2487.49
SHMW-10C	D Coal	04/23/2007 17:09	16.89	2487.51
SHMW-10C	D Coal	05/15/2007 15:03	16.99	2487.41
SHMW-10C	D Coal	06/19/2007 07:30	16.81	2487.59
SHMW-10C	D Coal	07/26/2007 11:04	17.01	2487.39
SHMW-10C	D Coal	08/20/2007 20:07	16.97	2487.43
SHMW-10C	D Coal	09/11/2007 11:03	17.33	2487.07
SHMW-10C	D Coal	10/26/2007 11:37	17.52	2486.88
SHMW-10C	D Coal	11/05/2007 14:46	17.48	2486.92
SHMW-10C	D Coal	02/12/2008 16:03	17.47	2486.93
SHMW-10C	D Coal	05/12/2008 12:22	17.41	2486.99
SHMW-10C	D Coal	08/21/2008 13:41	17.71	2486.69
SHMW-10C	D Coal	11/28/2008 12:01	18.03	2486.37

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-10C	D Coal	02/27/2009 16:03	18.41	2485.99
SHMW-10C	D Coal	05/29/2009 10:35	16.45	2487.95
SHMW-10C	D Coal	08/04/2009 11:57	16.24	2488.16
SHMW-10C	D Coal	11/11/2009 16:47	16.37	2488.03
SHMW-10D1	HT Butte	11/07/2006 08:18	32.34	2472.51
SHMW-10D1	HT Butte	12/05/2006 15:25	32.28	2472.57
SHMW-10D1	HT Butte	01/17/2007 14:34	32.29	2472.56
SHMW-10D1	HT Butte	02/19/2007 13:42	32.26	2472.59
SHMW-10D1	HT Butte	03/19/2007 13:29	32.32	2472.53
SHMW-10D1	HT Butte	04/23/2007 17:14	32.22	2472.63
SHMW-10D1	HT Butte	05/15/2007 14:55	31.26	2473.59
SHMW-10D1	HT Butte	06/19/2007 07:41	32.26	2472.59
SHMW-10D1	HT Butte	07/26/2007 11:07	32.55	2472.30
SHMW-10D1	HT Butte	08/20/2007 20:03	32.56	2472.29
SHMW-10D1	HT Butte	09/11/2007 11:06	32.06	2472.79
SHMW-10D1	HT Butte	10/26/2007 11:32	32.72	2472.13
SHMW-10D1	HT Butte	11/05/2007 14:40	31.76	2473.09
SHMW-10D1	HT Butte	02/12/2008 16:06	32.78	2472.07
SHMW-10D1	HT Butte	05/12/2008 12:20	32.77	2472.08
SHMW-10D1	HT Butte	08/21/2008 13:45	32.83	2472.02
SHMW-10D1	HT Butte	11/28/2008 12:04	32.98	2471.87
SHMW-10D1	HT Butte	02/27/2009 15:59	32.80	2472.05
SHMW-10D1	HT Butte	05/29/2009 10:39	32.51	2472.34
SHMW-10D1	HT Butte	08/04/2009 12:00	32.62	2472.23
SHMW-10D1	HT Butte	11/11/2009 16:45	32.56	2472.29
SHMW-10D2	underburden	11/13/2006 12:13	122.56	2382.15
SHMW-10D2	underburden	12/05/2006 15:23	138.64	2366.07
SHMW-10D2	underburden	01/17/2007 14:32	138.47	2366.24
SHMW-10D2	underburden	02/19/2007 13:38	138.32	2366.39
SHMW-10D2	underburden	03/19/2007 13:31	138.56	2366.15
SHMW-10D2	underburden	04/23/2007 17:11	138.37	2366.34
SHMW-10D2	underburden	05/15/2007 14:57	138.34	2366.37
SHMW-10D2	underburden	06/19/2007 07:35	138.40	2366.31
SHMW-10D2	underburden	07/26/2007 11:06	138.63	2366.08
SHMW-10D2	underburden	08/20/2007 20:05	138.58	2366.13
SHMW-10D2	underburden	09/11/2007 11:04	138.83	2365.88
SHMW-10D2	underburden	10/26/2007 11:36	138.79	2365.92
SHMW-10D2	underburden	11/05/2007 14:44	138.77	2365.94
SHMW-10D2	underburden	02/12/2008 16:05	138.65	2366.06
SHMW-10D2	underburden	05/12/2008 12:18	138.58	2366.13
SHMW-10D2	underburden	08/21/2008 13:43	138.68	2366.03
SHMW-10D2	underburden	11/28/2008 12:02	138.74	2365.97
SHMW-10D2	underburden	02/27/2009 16:01	138.44	2366.27
SHMW-10D2	underburden	05/29/2009 10:37	138.45	2366.26
SHMW-10D2	underburden	08/04/2009 11:58	138.69	2366.02
SHMW-10D2	underburden	11/11/2009 16:43	138.78	2365.93
SHMW-11A1	alluvium	06/19/2007 14:23	13.42	2507.19
SHMW-11A1	alluvium	07/26/2007 09:18	14.09	2506.52

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-11A1	alluvium	08/20/2007 18:58	14.46	2506.15
SHMW-11A1	alluvium	09/11/2007 09:54	14.62	2505.99
SHMW-11A1	alluvium	10/26/2007 12:21	14.73	2505.88
SHMW-11A1	alluvium	11/05/2007 13:51	14.74	2505.87
SHMW-11A1	alluvium	02/12/2008 15:15	15.02	2505.59
SHMW-11A1	alluvium	05/12/2008 11:19	15.04	2505.57
SHMW-11A1	alluvium	07/14/2008 15:30	15.32	2505.29
SHMW-11A1	alluvium	08/21/2008 10:58	15.64	2504.97
SHMW-11A1	alluvium	11/28/2008 11:00	15.85	2504.76
SHMW-11A1	alluvium	02/27/2009 15:03	16.00	2504.61
SHMW-11A1	alluvium	04/30/2009 11:47	10.89	2509.72
SHMW-11A1	alluvium	05/29/2009 09:52	10.85	2509.76
SHMW-11A1	alluvium	08/04/2009 10:15	10.80	2509.81
SHMW-11A1	alluvium	11/11/2009 15:37	12.04	2508.57
SHMW-11A2	alluvium	06/19/2007 14:28	13.19	2507.14
SHMW-11A2	alluvium	07/26/2007 09:19	13.83	2506.50
SHMW-11A2	alluvium	08/20/2007 18:57	14.16	2506.17
SHMW-11A2	alluvium	09/11/2007 09:53	14.37	2505.96
SHMW-11A2	alluvium	10/26/2007 12:20	14.48	2505.85
SHMW-11A2	alluvium	11/05/2007 13:48	14.49	2505.84
SHMW-11A2	alluvium	02/12/2008 15:17	14.78	2505.55
SHMW-11A2	alluvium	05/12/2008 11:17	14.78	2505.55
SHMW-11A2	alluvium	07/14/2008 15:25	15.08	2505.25
SHMW-11A2	alluvium	08/21/2008 10:57	15.41	2504.92
SHMW-11A2	alluvium	11/28/2008 11:03	15.62	2504.71
SHMW-11A2	alluvium	02/27/2009 15:05	15.78	2504.55
SHMW-11A2	alluvium	04/30/2009 11:53	10.70	2509.63
SHMW-11A2	alluvium	05/29/2009 09:54	10.61	2509.72
SHMW-11A2	alluvium	08/04/2009 10:14	10.57	2509.76
SHMW-11A2	alluvium	11/11/2009 15:39	11.79	2508.54
SHMW-11S	D Coal	06/19/2007 14:36	13.32	2507.13
SHMW-11S	D Coal	07/26/2007 09:22	13.94	2506.51
SHMW-11S	D Coal	08/20/2007 18:55	14.29	2506.16
SHMW-11S	D Coal	09/11/2007 09:52	14.48	2505.97
SHMW-11S	D Coal	10/26/2007 12:19	14.60	2505.85
SHMW-11S	D Coal	11/05/2007 13:44	14.62	2505.83
SHMW-11S	D Coal	02/12/2008 15:19	14.89	2505.56
SHMW-11S	D Coal	05/12/2008 11:16	14.89	2505.56
SHMW-11S	D Coal	08/21/2008 10:55	15.50	2504.95
SHMW-11S	D Coal	11/28/2008 11:06	15.75	2504.70
SHMW-11S	D Coal	02/27/2009 15:07	15.93	2504.52
SHMW-11S	D Coal	04/30/2009 11:56	10.83	2509.62
SHMW-11S	D Coal	05/29/2009 09:56	10.76	2509.69
SHMW-11S	D Coal	08/04/2009 10:15	10.71	2509.74
SHMW-11S	D Coal	11/11/2009 15:41	11.95	2508.50
SHMW-12C	D Coal	11/09/2006 10:23	58.87	2503.21
SHMW-12C	D Coal	12/05/2006 14:25	58.88	2503.20
SHMW-12C	D Coal	01/17/2007 15:10	58.99	2503.09



**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-12C	D Coal	02/19/2007 14:43	58.89	2503.19
SHMW-12C	D Coal	03/19/2007 13:57	59.25	2502.83
SHMW-12C	D Coal	04/23/2007 17:21	59.27	2502.81
SHMW-12C	D Coal	05/15/2007 15:38	59.40	2502.68
SHMW-12C	D Coal	06/19/2007 07:58	59.30	2502.78
SHMW-12C	D Coal	07/26/2007 09:32	59.42	2502.66
SHMW-12C	D Coal	08/20/2007 19:43	59.38	2502.70
SHMW-12C	D Coal	09/11/2007 10:34	59.62	2502.46
SHMW-12C	D Coal	10/26/2007 11:01	59.76	2502.32
SHMW-12C	D Coal	11/05/2007 14:13	59.77	2502.31
SHMW-12C	D Coal	02/12/2008 15:37	59.81	2502.27
SHMW-12C	D Coal	05/12/2008 11:40	59.82	2502.26
SHMW-12C	D Coal	08/21/2008 11:28	60.11	2501.97
SHMW-12C	D Coal	11/28/2008 11:39	60.40	2501.68
SHMW-12C	D Coal	02/27/2009 10:19	60.69	2501.39
SHMW-12C	D Coal	05/29/2009 10:11	59.91	2502.17
SHMW-12C	D Coal	08/04/2009 10:40	59.50	2502.58
SHMW-12C	D Coal	11/11/2009 16:14	59.26	2502.82
SHMW-12D	underburden	11/03/2006 15:10	66.10	2495.30
SHMW-12D	underburden	12/05/2006 14:26	68.62	2492.78
SHMW-12D	underburden	01/17/2007 15:12	68.15	2493.25
SHMW-12D	underburden	02/19/2007 14:47	67.95	2493.45
SHMW-12D	underburden	03/19/2007 13:59	68.17	2493.23
SHMW-12D	underburden	04/23/2007 17:19	67.86	2493.54
SHMW-12D	underburden	05/15/2007 15:41	67.81	2493.59
SHMW-12D	underburden	06/19/2007 08:03	68.13	2493.27
SHMW-12D	underburden	07/26/2007 10:35	68.17	2493.23
SHMW-12D	underburden	08/20/2007 19:46	68.14	2493.26
SHMW-12D	underburden	09/11/2007 10:36	68.53	2492.87
SHMW-12D	underburden	10/26/2007 11:04	68.22	2493.18
SHMW-12D	underburden	11/05/2007 14:10	68.22	2493.18
SHMW-12D	underburden	02/12/2008 15:40	68.22	2493.18
SHMW-12D	underburden	05/12/2008 11:42	68.17	2493.23
SHMW-12D	underburden	08/21/2008 11:30	68.15	2493.25
SHMW-12D	underburden	11/28/2008 11:40	68.05	2493.35
SHMW-12D	underburden	02/27/2009 10:17	67.83	2493.57
SHMW-12D	underburden	05/29/2009 10:13	67.82	2493.58
SHMW-12D	underburden	08/04/2009 10:41	68.01	2493.39
SHMW-12D	underburden	11/11/2009 16:12	68.05	2493.35
SHMW-13C	D Coal	11/19/2006 13:19	120.00	2450.09
SHMW-13C	D Coal	12/05/2006 14:50	115.83	2454.26
SHMW-13C	D Coal	01/17/2007 15:24	93.39	2476.70
SHMW-13C	D Coal	02/19/2007 15:35	73.77	2496.32
SHMW-13C	D Coal	03/19/2007 14:10	109.98	2460.11
SHMW-13C	D Coal	04/23/2007 17:32	80.51	2489.58
SHMW-13C	D Coal	05/15/2007 15:56	71.39	2498.70
SHMW-13C	D Coal	06/19/2007 15:42	111.92	2458.17
SHMW-13C	D Coal	07/26/2007 10:54	81.14	2488.95



**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-13C	D Coal	08/20/2007 19:33	70.89	2499.20
SHMW-13C	D Coal	09/11/2007 10:49	124.01	2446.08
SHMW-13C	D Coal	10/26/2007 08:52	81.93	2488.16
SHMW-13C	D Coal	11/05/2007 14:28	76.92	2493.17
SHMW-13C	D Coal	02/12/2008 15:51	69.23	2500.86
SHMW-13C	D Coal	05/12/2008 11:57	73.35	2496.74
SHMW-13C	D Coal	08/21/2008 11:42	69.66	2500.43
SHMW-13C	D Coal	11/28/2008 11:49	69.88	2500.21
SHMW-13C	D Coal	02/27/2009 15:19	61.13	2508.96
SHMW-13C	D Coal	05/29/2009 10:21	60.02	2510.07
SHMW-13C	D Coal	08/04/2009 10:56	59.59	2510.50
SHMW-13C	D Coal	11/11/2009 16:26	70.18	2499.91
SHMW-13S	overburden	11/13/2006 08:28	40.80	2529.95
SHMW-13S	overburden	12/05/2006 14:48	40.62	2530.13
SHMW-13S	overburden	01/17/2007 15:22	40.68	2530.07
SHMW-13S	overburden	02/19/2007 15:39	40.59	2530.16
SHMW-13S	overburden	03/19/2007 14:14	40.60	2530.15
SHMW-13S	overburden	04/23/2007 17:34	40.53	2530.22
SHMW-13S	overburden	05/15/2007 15:59	41.51	2529.24
SHMW-13S	overburden	06/19/2007 15:48	40.65	2530.10
SHMW-13S	overburden	07/26/2007 10:52	40.85	2529.90
SHMW-13S	overburden	08/20/2007 19:30	40.81	2529.94
SHMW-13S	overburden	09/11/2007 10:48	40.18	2530.57
SHMW-13S	overburden	10/26/2007 08:55	40.90	2529.85
SHMW-13S	overburden	11/05/2007 14:25	40.89	2529.86
SHMW-13S	overburden	02/12/2008 15:48	40.86	2529.89
SHMW-13S	overburden	05/12/2008 11:55	40.84	2529.91
SHMW-13S	overburden	08/21/2008 11:44	40.94	2529.81
SHMW-13S	overburden	11/28/2008 11:50	40.91	2529.84
SHMW-13S	overburden	02/27/2009 15:16	40.87	2529.88
SHMW-13S	overburden	05/29/2009 10:23	40.88	2529.87
SHMW-13S	overburden	08/04/2009 10:57	41.05	2529.70
SHMW-13S	overburden	11/11/2009 16:24	41.07	2529.68
SHMW-14A1	alluvium	06/19/2007 10:48	9.35	2507.42
SHMW-14A1	alluvium	07/26/2007 09:46	10.09	2506.68
SHMW-14A1	alluvium	08/20/2007 19:13	10.49	2506.28
SHMW-14A1	alluvium	09/11/2007 10:17	10.80	2505.97
SHMW-14A1	alluvium	10/26/2007 11:59	10.99	2505.78
SHMW-14A1	alluvium	11/05/2007 14:03	11.01	2505.76
SHMW-14A1	alluvium	02/12/2008 15:25	11.12	2505.65
SHMW-14A1	alluvium	05/12/2008 11:31	11.19	2505.58
SHMW-14A1	alluvium	07/14/2008 15:47	11.47	2505.30
SHMW-14A1	alluvium	08/21/2008 11:14	11.81	2504.96
SHMW-14A1	alluvium	11/28/2008 11:22	12.04	2504.73
SHMW-14A1	alluvium	02/27/2009 10:32	12.17	2504.60
SHMW-14A1	alluvium	04/30/2009 13:22	9.49	2507.28
SHMW-14A1	alluvium	05/29/2009 10:01	9.10	2507.67
SHMW-14A1	alluvium	08/04/2009 10:27	8.87	2507.90

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-14A1	alluvium	11/11/2009 14:00	9.78	2506.99
SHMW-14A2	alluvium	06/19/2007 10:56	9.56	2507.34
SHMW-14A2	alluvium	07/26/2007 09:47	10.23	2506.67
SHMW-14A2	alluvium	08/20/2007 19:14	10.65	2506.25
SHMW-14A2	alluvium	09/11/2007 10:19	10.94	2505.96
SHMW-14A2	alluvium	10/26/2007 12:01	11.15	2505.75
SHMW-14A2	alluvium	11/05/2007 14:01	11.15	2505.75
SHMW-14A2	alluvium	02/12/2008 15:26	11.28	2505.62
SHMW-14A2	alluvium	05/12/2008 11:29	11.29	2505.61
SHMW-14A2	alluvium	07/14/2008 15:49	11.66	2505.24
SHMW-14A2	alluvium	08/21/2008 11:16	11.93	2504.97
SHMW-14A2	alluvium	11/28/2008 11:25	12.16	2504.74
SHMW-14A2	alluvium	02/27/2009 10:39	12.29	2504.61
SHMW-14A2	alluvium	04/30/2009 13:26	9.66	2507.24
SHMW-14A2	alluvium	05/29/2009 10:03	9.25	2507.65
SHMW-14A2	alluvium	08/04/2009 10:27	8.95	2507.95
SHMW-14A2	alluvium	11/11/2009 14:02	9.87	2507.03
SHMW-14S	overburden	06/19/2007 11:00	9.83	2507.30
SHMW-14S	overburden	07/26/2007 09:48	10.49	2506.64
SHMW-14S	overburden	08/20/2007 19:15	10.90	2506.23
SHMW-14S	overburden	09/11/2007 10:16	11.20	2505.93
SHMW-14S	overburden	10/26/2007 12:04	11.39	2505.74
SHMW-14S	overburden	11/05/2007 13:59	10.40	2506.73
SHMW-14S	overburden	02/12/2008 15:28	11.54	2505.59
SHMW-14S	overburden	05/12/2008 11:28	11.61	2505.52
SHMW-14S	overburden	08/21/2008 11:17	12.20	2504.93
SHMW-14S	overburden	11/28/2008 11:27	12.42	2504.71
SHMW-14S	overburden	02/27/2009 10:44	12.54	2504.59
SHMW-14S	overburden	04/30/2009 13:29	9.94	2507.19
SHMW-14S	overburden	05/29/2009 10:05	9.52	2507.61
SHMW-14S	overburden	08/04/2009 10:28	9.26	2507.87
SHMW-14S	overburden	11/11/2009 14:03	10.12	2507.01
SHMW-15A1	alluvium	06/19/2007 16:16	10.05	2454.29
SHMW-15A1	alluvium	07/26/2007 11:50	10.84	2453.50
SHMW-15A1	alluvium	08/20/2007 20:32	11.26	2453.08
SHMW-15A1	alluvium	09/11/2007 11:46	11.14	2453.20
SHMW-15A1	alluvium	10/26/2007 07:44	10.98	2453.36
SHMW-15A1	alluvium	11/05/2007 15:12	10.91	2453.43
SHMW-15A1	alluvium	02/12/2008 16:41	10.45	2453.89
SHMW-15A1	alluvium	05/12/2008 13:37	10.53	2453.81
SHMW-15A1	alluvium	07/14/2008 17:40	11.39	2452.95
SHMW-15A1	alluvium	08/21/2008 08:46	11.45	2452.89
SHMW-15A1	alluvium	11/28/2008 08:24	9.68	2454.66
SHMW-15A1	alluvium	02/27/2009 11:13	9.91	2454.43
SHMW-15A1	alluvium	04/30/2009 14:50	7.70	2456.64
SHMW-15A1	alluvium	05/29/2009 11:04	8.99	2455.35
SHMW-15A1	alluvium	08/04/2009 11:22	9.94	2454.40
SHMW-15A1	alluvium	11/11/2009 11:07	9.90	2454.44

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHMW-15A2	overburden	06/19/2007 16:21	10.21	2454.07
SHMW-15A2	overburden	07/26/2007 11:51	9.59	2454.69
SHMW-15A2	overburden	08/20/2007 20:35	9.61	2454.67
SHMW-15A2	overburden	09/11/2007 11:47	9.54	2454.74
SHMW-15A2	overburden	10/26/2007 07:42	9.34	2454.94
SHMW-15A2	overburden	11/05/2007 15:14	9.30	2454.98
SHMW-15A2	overburden	02/12/2008 16:42	9.65	2454.63
SHMW-15A2	overburden	05/12/2008 13:36	10.12	2454.16
SHMW-15A2	overburden	07/14/2008 17:41	10.14	2454.14
SHMW-15A2	overburden	08/21/2008 08:48	10.04	2454.24
SHMW-15A2	overburden	11/28/2008 08:28	8.60	2455.68
SHMW-15A2	overburden	02/27/2009 11:18	9.08	2455.20
SHMW-15A2	overburden	04/30/2009 14:52	6.43	2457.85
SHMW-15A2	overburden	05/29/2009 11:06	7.85	2456.43
SHMW-15A2	overburden	08/04/2009 11:23	8.29	2455.99
SHMW-15A2	overburden	11/11/2009 11:09	8.30	2455.98
SHMW-15S	overburden	06/19/2007 16:26	1.70	2462.69
SHMW-15S	overburden	07/26/2007 11:53	2.18	2462.21
SHMW-15S	overburden	08/20/2007 20:37	2.07	2462.32
SHMW-15S	overburden	09/11/2007 11:48	2.05	2462.34
SHMW-15S	overburden	10/26/2007 07:41	2.03	2462.36
SHMW-15S	overburden	11/05/2007 15:16	2.14	2462.25
SHMW-15S	overburden	05/12/2008 13:33	1.94	2462.45
SHMW-15S	overburden	08/21/2008 08:53	2.65	2461.74
SHMW-15S	overburden	11/28/2008 08:32	2.28	2462.11
SHMW-15S	overburden	02/27/2009 11:54	2.24	2462.15
SHMW-15S	overburden	04/30/2009 14:54	1.29	2463.10
SHMW-15S	overburden	05/29/2009 11:08	1.47	2462.92
SHMW-15S	overburden	08/04/2009 11:23	1.75	2462.64
SHMW-15S	overburden	11/11/2009 11:12	1.63	2462.76
SHO-01	underburden	11/18/2006 11:13	140.84	2505.16
SHO-01	underburden	12/05/2006 16:17	140.74	2505.26
SHO-01	underburden	01/17/2007 13:48	140.84	2505.16
SHO-01	underburden	02/19/2007 12:21	140.88	2505.12
SHO-01	underburden	03/19/2007 11:48	141.00	2505.00
SHO-01	underburden	04/23/2007 15:42	140.48	2505.52
SHO-01	underburden	05/15/2007 17:00	140.82	2505.18
SHO-01	underburden	06/19/2007 09:04	140.97	2505.03
SHO-01	underburden	07/26/2007 08:11	141.22	2504.78
SHO-01	underburden	08/20/2007 18:01	141.15	2504.85
SHO-01	underburden	09/11/2007 08:57	141.16	2504.84
SHO-01	underburden	10/26/2007 13:21	141.21	2504.79
SHO-01	underburden	11/05/2007 12:43	141.23	2504.77
SHO-01	underburden	02/12/2008 14:32	141.24	2504.76
SHO-01	underburden	05/12/2008 10:36	141.31	2504.69
SHO-01	underburden	08/21/2008 09:57	141.42	2504.58
SHO-01	underburden	11/28/2008 09:50	141.45	2504.55
SHO-01	underburden	02/27/2009 13:47	141.19	2504.81

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHO-01	underburden	05/29/2009 09:05	141.40	2504.60
SHO-01	underburden	08/04/2009 09:19	141.41	2504.59
SHO-01	underburden	11/11/2009 12:02	141.13	2504.87
SHO-02	D Coal	11/18/2006 10:30	141.11	2504.82
SHO-02	D Coal	12/05/2006 16:19	140.81	2505.12
SHO-02	D Coal	01/17/2007 13:50	140.82	2505.11
SHO-02	D Coal	02/19/2007 12:24	140.83	2505.10
SHO-02	D Coal	03/19/2007 11:50	141.19	2504.74
SHO-02	D Coal	04/23/2007 15:45	141.09	2504.84
SHO-02	D Coal	05/15/2007 17:00	141.09	2504.84
SHO-02	D Coal	06/19/2007 09:11	141.14	2504.79
SHO-02	D Coal	07/26/2007 08:13	141.14	2504.79
SHO-02	D Coal	08/20/2007 18:04	140.99	2504.94
SHO-02	D Coal	09/11/2007 08:58	141.17	2504.76
SHO-02	D Coal	10/26/2007 13:24	141.35	2504.58
SHO-02	D Coal	11/05/2007 12:46	141.35	2504.58
SHO-02	D Coal	02/12/2008 14:34	141.14	2504.79
SHO-02	D Coal	05/12/2008 10:38	141.03	2504.90
SHO-02	D Coal	08/21/2008 09:59	140.11	2505.82
SHO-02	D Coal	11/28/2008 09:52	141.22	2504.71
SHO-02	D Coal	02/27/2009 13:49	141.58	2504.35
SHO-02	D Coal	05/29/2009 09:07	140.44	2505.49
SHO-02	D Coal	08/04/2009 09:21	141.49	2504.44
SHO-02	D Coal	11/11/2009 12:04	141.29	2504.64
SHO-03	overburden	11/18/2006 09:42	68.24	2577.86
SHO-03	overburden	12/05/2006 16:21	68.18	2577.92
SHO-03	overburden	01/17/2007 13:52	68.16	2577.94
SHO-03	overburden	02/19/2007 12:27	68.24	2577.86
SHO-03	overburden	03/19/2007 11:52	68.36	2577.74
SHO-03	overburden	04/23/2007 15:49	68.28	2577.82
SHO-03	overburden	05/15/2007 17:00	nm <sup>1</sup>	nm <sup>1</sup>
SHO-03	overburden	06/19/2007 09:17	68.34	2577.76
SHO-03	overburden	07/26/2007 08:14	68.40	2577.70
SHO-03	overburden	08/20/2007 18:07	68.42	2577.68
SHO-03	overburden	09/11/2007 09:00	68.49	2577.61
SHO-03	overburden	10/26/2007 13:27	68.55	2577.55
SHO-03	overburden	11/05/2007 12:49	68.57	2577.53
SHO-03	overburden	02/12/2008 14:36	68.56	2577.54
SHO-03	overburden	05/12/2008 10:40	68.62	2577.48
SHO-03	overburden	08/21/2008 10:02	68.75	2577.35
SHO-03	overburden	11/28/2008 09:54	68.78	2577.32
SHO-03	overburden	02/27/2009 13:51	68.88	2577.22
SHO-03	overburden	05/29/2009 09:09	67.87	2578.23
SHO-03	overburden	08/04/2009 09:22	67.82	2578.28
SHO-03	overburden	11/11/2009 12:07	68.15	2577.95
SHO-04	HT Butte	11/20/2006 09:55	16.13	2472.41
SHO-04	HT Butte	12/05/2006 17:18	16.11	2472.43
SHO-04	HT Butte	01/17/2007 16:31	16.27	2472.27

**APPENDIX 2.5-4**

**MEASURED GROUND WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Well</b>	<b>Screened Unit</b>	<b>Date/Time</b>	<b>Depth to Water (ft bmp)</b>	<b>Water Level Elevation (ft amsl)</b>
SHO-04	HT Butte	02/19/2007 16:13	16.19	2472.35
SHO-04	HT Butte	03/19/2007 14:52	16.20	2472.34
SHO-04	HT Butte	04/23/2007 17:54	16.12	2472.42
SHO-04	HT Butte	05/15/2007 15:20	15.88	2472.66
SHO-04	HT Butte	06/19/2007 16:59	16.09	2472.45
SHO-04	HT Butte	07/26/2007 11:45	16.38	2472.16
SHO-04	HT Butte	08/20/2007 20:23	16.41	2472.13
SHO-04	HT Butte	09/11/2007 11:36	16.44	2472.10
SHO-04	HT Butte	10/26/2007 11:21	16.51	2472.03
SHO-04	HT Butte	11/05/2007 15:06	16.51	2472.03
SHO-04	HT Butte	02/12/2008 15:32	16.55	2471.99
SHO-04	HT Butte	05/12/2008 12:30	16.53	2472.01
SHO-04	HT Butte	08/21/2008 12:09	16.70	2471.84
SHO-04	HT Butte	11/28/2008 12:38	16.65	2471.89
SHO-04	HT Butte	02/27/2009 09:58	16.53	2472.01
SHO-04	HT Butte	05/29/2009 10:58	16.27	2472.27
SHO-04	HT Butte	08/04/2009 11:38	16.49	2472.05
SHO-04	HT Butte	11/11/2009 17:00	16.51	2472.03
SHO-05	D Coal	11/20/2006 09:40	15.28	2473.93
SHO-05	D Coal	12/05/2006 17:15	15.31	2473.90
SHO-05	D Coal	01/17/2007 16:32	15.33	2473.88
SHO-05	D Coal	02/19/2007 16:17	15.26	2473.95
SHO-05	D Coal	03/19/2007 14:54	15.34	2473.87
SHO-05	D Coal	04/23/2007 17:57	15.31	2473.90
SHO-05	D Coal	05/15/2007 15:20	15.28	2473.93
SHO-05	D Coal	06/19/2007 16:56	15.20	2474.01
SHO-05	D Coal	07/26/2007 11:43	15.52	2473.69
SHO-05	D Coal	08/20/2007 20:21	15.58	2473.63
SHO-05	D Coal	09/11/2007 11:38	15.70	2473.51
SHO-05	D Coal	10/26/2007 11:23	15.79	2473.42
SHO-05	D Coal	11/05/2007 15:09	15.76	2473.45
SHO-05	D Coal	02/12/2008 15:30	15.85	2473.36
SHO-05	D Coal	05/12/2008 12:32	15.87	2473.34
SHO-05	D Coal	08/21/2008 12:07	16.28	2472.93
SHO-05	D Coal	11/28/2008 12:40	16.31	2472.90
SHO-05	D Coal	02/27/2009 09:54	16.44	2472.77
SHO-05	D Coal	05/29/2009 11:00	15.03	2474.18
SHO-05	D Coal	08/04/2009 11:39	14.95	2474.26
SHO-05	D Coal	11/11/2009 17:02	15.03	2474.18

Notes:

1 - Water level indicator may have been malfunctioning; no water level recorded



**APPENDIX 2.5-4**

**MEASURED SURFACE WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Staff Gage</b>	<b>Stream</b>	<b>Date/Time</b>	<b>Stage (ft)</b>	<b>Water Level Elevation (ft amsl)</b>
SHSG-01	Heart River	07/26/2007 07:09	1.64	2471.62
SHSG-01	Heart River	08/20/2007 17:20	1.77	2471.75
SHSG-01	Heart River	09/11/2007 08:21	1.80	2471.78
SHSG-01	Heart River	10/26/2007 14:17	2.07	2472.05
SHSG-01	Heart River	11/05/2007 11:54	2.07	2472.05
SHSG-01	Heart River	05/12/2008 09:40	1.66	2471.64
SHSG-01	Heart River	07/14/2008 12:54	0.54	2470.52
SHSG-01	Heart River	08/21/2008 09:21	0.66	2470.64
SHSG-01	Heart River	08/04/2009 08:38	2.27	2472.06
SHSG-01	Heart River	11/11/2009 11:32	2.38	2472.17
SHSG-09	South Branch Heart River	07/26/2007 11:10	1.85	2497.54
SHSG-09	South Branch Heart River	08/20/2007 19:52	0.71	2496.40
SHSG-09	South Branch Heart River	09/11/2007 11:17	1.92	2497.61
SHSG-09	South Branch Heart River	10/26/2007 11:44	1.00	2496.69
SHSG-09	South Branch Heart River	11/05/2007 14:50	0.95	2496.64
SHSG-09	South Branch Heart River	05/12/2008 12:13	0.00	2495.69
SHSG-09	South Branch Heart River	07/14/2008 17:00	0.00	2495.69
SHSG-09	South Branch Heart River	08/21/2008 14:08	1.45	2497.14
SHSG-09	South Branch Heart River	05/29/2009 10:44	1.94	2497.63
SHSG-09	South Branch Heart River	08/04/2009 12:59	1.57	2497.26
SHSG-09	South Branch Heart River	11/11/2009 16:41	1.61	2497.30
SHSG-11	South Branch Heart River	07/26/2007 09:22	1.34	2510.44
SHSG-11	South Branch Heart River	08/20/2007 18:59	0.80	2509.90
SHSG-11	South Branch Heart River	09/11/2007 10:07	1.38	2510.48
SHSG-11	South Branch Heart River	10/26/2007 12:18	0.57	2509.67
SHSG-11	South Branch Heart River	11/05/2007 13:56	0.48	2509.58
SHSG-11	South Branch Heart River	02/12/2008 15:20	0.00	2509.10
SHSG-11	South Branch Heart River	05/12/2008 11:17	0.94	2510.04
SHSG-11	South Branch Heart River	07/14/2008 15:32	0.30	2509.40
SHSG-11	South Branch Heart River	08/21/2008 10:59	0.77	2509.87
SHSG-11	South Branch Heart River	08/04/2009 10:13	3.18	2511.22
SHSG-11	South Branch Heart River	11/11/2009 15:43	2.48	2510.52
SHSG-14	South Tributary	07/26/2007 10:42	0.73	2512.41
SHSG-14	South Tributary	08/20/2007 19:18	0.32	2512.00
SHSG-14	South Tributary	09/11/2007 10:21	0.99	2512.67
SHSG-14	South Tributary	10/26/2007 12:04	0.00	2511.68
SHSG-14	South Tributary	11/05/2007 14:01	0.00	2511.68
SHSG-14	South Tributary	02/12/2008 15:30	0.00	2511.68
SHSG-14	South Tributary	05/12/2008 11:32	0.00	2511.68



**APPENDIX 2.5-4**

**MEASURED SURFACE WATER LEVELS  
SOUTH HEART LIGNITE MINE**

<b>Staff Gage</b>	<b>Stream</b>	<b>Date/Time</b>	<b>Stage (ft)</b>	<b>Water Level Elevation (ft amsl)</b>
SHSG-14	South Tributary	07/14/2008 16:00	0.00	2511.68
SHSG-14	South Tributary	08/21/2008 11:18	0.00	2511.68
SHSG-14	South Tributary	05/29/2009 10:02	1.22	2512.90
SHSG-14	South Tributary	08/04/2009 10:29	0.00	2511.68
SHSG-14	South Tributary	11/11/2009 16:05	0.00	2511.68
SHSG-15	Heart River	07/26/2007 11:54	1.03	2453.51
SHSG-15	Heart River	08/20/2007 20:31	0.87	2453.35
SHSG-15	Heart River	09/11/2007 11:46	1.07	2453.55
SHSG-15	Heart River	10/26/2007 07:45	0.84	2453.32
SHSG-15	Heart River	11/05/2007 15:19	0.82	2453.30
SHSG-15	Heart River	05/12/2008 13:31	0.98	2453.46
SHSG-15	Heart River	07/14/2008 17:38	0.36	2452.84
SHSG-15	Heart River	08/21/2008 08:47	0.95	2453.43
SHSG-15	Heart River	04/30/2009 18:00	2.29	2454.77
SHSG-15	Heart River	05/29/2009 11:10	1.64	2454.12
SHSG-15	Heart River	08/04/2009 11:25	2.17	2454.65
SHSG-15	Heart River	11/11/2009 11:14	1.80	2454.28

**APPENDIX 2.5-4**

**MEASURED AND OBSERVED FLOWS  
FROM SEEPS AND SPRINGS  
SOUTH HEART LIGNITE MINE**

<b>Location ID</b>	<b>Date/Time</b>	<b>Flow Rate (gpm)</b>
SHSS-16 <sup>a</sup>	4/26/2007 9:25 AM	0.18
SHSS-16 <sup>a</sup>	5/17/2007 7:20 AM	0.26
SHSS-16 <sup>a</sup>	6/19/2007 7:55 AM	0.16
SHSS-16 <sup>a</sup>	7/25/2007 10:52 AM	0.11
SHSS-16 <sup>a</sup>	8/21/2007 8:53 AM	0.09
SHSS-16	9/13/2007 10:00 AM	<0.1
SHSS-16	2/26/2008 3:55 PM	No flow
SHSS-16 <sup>a</sup>	5/22/2008 9:04 AM	0.15
SHSS-16 <sup>a</sup>	8/28/2008 1:52 PM	0.07
SHSS-16	2/27/2009 2:41 PM	Dry
SHSS-16 <sup>a</sup>	5/28/2009 11:45 AM	0.34
SHSS-16 <sup>a</sup>	8/14/2009 12:20 PM	0.17
SHSS-16 <sup>a</sup>	11/5/2009 12:45 PM	0.18
SHSS-17	8/21/2007 12:30 PM	Dry
SHSS-17	9/13/2007 7:30 AM	Dry
SHSS-17	2/27/2008 9:45 AM	Dry
SHSS-17	5/22/2008 12:00 AM	Dry
SHSS-17	2/27/2009 1:40 PM	Dry
SHSS-17	5/28/2009 12:50 PM	Dry
SHSS-17	8/14/2009 10:06 AM	Dry
SHSS-17	11/5/2009 1:23 PM	Dry
SHSS-17A	5/17/2007 9:10 AM	<1
SHSS-17A	6/19/2007 12:57 PM	<1
SHSS-17A	7/24/2007 11:20 AM	No flow
SHSS-17A	8/21/2007 12:23 PM	Dry
SHSS-17A	9/13/2007 7:34 AM	No flow
SHSS-17A	2/27/2008 9:55 AM	No flow
SHSS-17A	5/22/2008 10:55 AM	Dry
SHSS-17A	8/28/2008 3:21 PM	Dry
SHSS-17A	2/27/2009 1:25 PM	No flow
SHSS-17A <sup>a</sup>	5/28/2009 1:00 PM	0.003
SHSS-17A <sup>a</sup>	8/14/2009 11:15 AM	0.07
SHSS-17A <sup>a</sup>	11/5/2009 1:25 PM	0.07
SHSS-17C	6/19/2007 12:10 PM	Dry
SHSS-17C	7/24/2007 12:51 PM	Dry
SHSS-17C	8/21/2007 11:34 AM	Dry
SHSS-17C	9/13/2007 8:35 AM	Dry
SHSS-17C	2/26/2008 4:25 PM	Dry
SHSS-17C	5/22/2008 10:10 AM	Dry
SHSS-17C	8/28/2008 2:34 PM	Dry
SHSS-17C	2/27/2009 1:10 PM	Dry
SHSS-17C	5/28/2009 12:28 PM	Dry
SHSS-17C	8/14/2009 9:20 AM	Dry
SHSS-17C	11/5/2009 1:03 PM	Dry
SHSS-17E	6/19/2007 1:50 PM	Dry
SHSS-17E	7/24/2007 12:08 PM	Dry
SHSS-17E	8/21/2007 1:08 PM	Dry

**APPENDIX 2.5-4**

**MEASURED AND OBSERVED FLOWS  
FROM SEEPS AND SPRINGS  
SOUTH HEART LIGNITE MINE**

<b>Location ID</b>	<b>Date/Time</b>	<b>Flow Rate (gpm)</b>
SHSS-17E	9/13/2007 7:54 AM	Dry
SHSS-17E	2/27/2008 10:00 AM	Dry
SHSS-17E	5/22/2008 11:15 AM	Dry
SHSS-17E	8/28/2008 3:29 PM	Dry
SHSS-17E	2/27/2009 1:33 PM	No flow
SHSS-17E	5/28/2009 1:05 PM	No flow
SHSS-17E	8/14/2009 9:44 AM	Dry
SHSS-17E	11/5/2009 1:42 PM	No flow
SHSS-17ST <sup>a</sup>	5/17/2007 11:20 AM	0.26
SHSS-17ST <sup>a</sup>	6/19/2007 12:33 PM	0.24
SHSS-17ST <sup>a</sup>	7/24/2007 11:12 AM	0.18
SHSS-17ST <sup>a</sup>	8/21/2007 12:03 PM	0.13
SHSS-17ST	9/13/2007 7:25 AM	No flow
SHSS-17ST	2/27/2008 9:38 AM	No flow
SHSS-17ST <sup>a</sup>	5/22/2008 10:35 AM	0.08
SHSS-17ST <sup>a</sup>	8/28/2008 3:03 PM	0.08
SHSS-17ST	2/27/2009 1:37 PM	No flow
SHSS-17ST <sup>a</sup>	5/28/2009 12:40 PM	0.44
SHSS-17ST <sup>a</sup>	8/14/2009 10:25 AM	0.48
SHSS-17ST <sup>a</sup>	11/5/2009 1:16 PM	0.33
SHSS-20	4/26/2007 2:05 PM	Dry
SHSS-20	5/17/2007 9:50 AM	<1
SHSS-20	6/20/2007 10:05 AM	<5
SHSS-20	7/24/2007 12:17 PM	No flow
SHSS-20	8/21/2007 1:30 PM	Dry
SHSS-20	9/13/2007 8:15 AM	No flow
SHSS-20	2/26/2008 5:00 PM	Dry
SHSS-20	5/22/2008 11:38 AM	Dry
SHSS-20	8/28/2008 3:47 PM	Dry
SHSS-20	2/27/2009 2:00 PM	Dry
SHSS-20	5/28/2009 1:35 PM	No flow
SHSS-20	8/14/2009 9:32 AM	No flow
SHSS-20	11/5/2009 1:58 PM	No flow
SHSS-20A	6/20/2007 9:40 AM	Dry
SHSS-20A	7/24/2007 12:40 PM	Dry
SHSS-20A	8/21/2007 1:42 PM	Dry
SHSS-20A	9/13/2007 8:23 AM	Dry
SHSS-20A	2/26/2008 4:50 PM	Dry
SHSS-20A	5/22/2008 11:30 AM	Dry
SHSS-20A	8/28/2008 3:43 PM	Dry
SHSS-20A	2/27/2009 1:56 PM	Dry
SHSS-20A	5/28/2009 1:25 PM	Dry
SHSS-20A	8/14/2009 9:27 AM	Dry
SHSS-20A	11/5/2009 1:51 PM	Dry
SHSS-27	6/20/2007 12:45 PM	Dry
SHSS-27	7/25/2007 9:30 AM	Dry
SHSS-27	8/22/2007 9:05 AM	Dry
SHSS-27	9/12/2007 5:26 PM	Dry
SHSS-27	2/27/2008 9:00 AM	Dry
SHSS-27	5/22/2008 12:39 PM	Dry
SHSS-27	8/28/2008 4:00 PM	Dry

APPENDIX 2.5-4

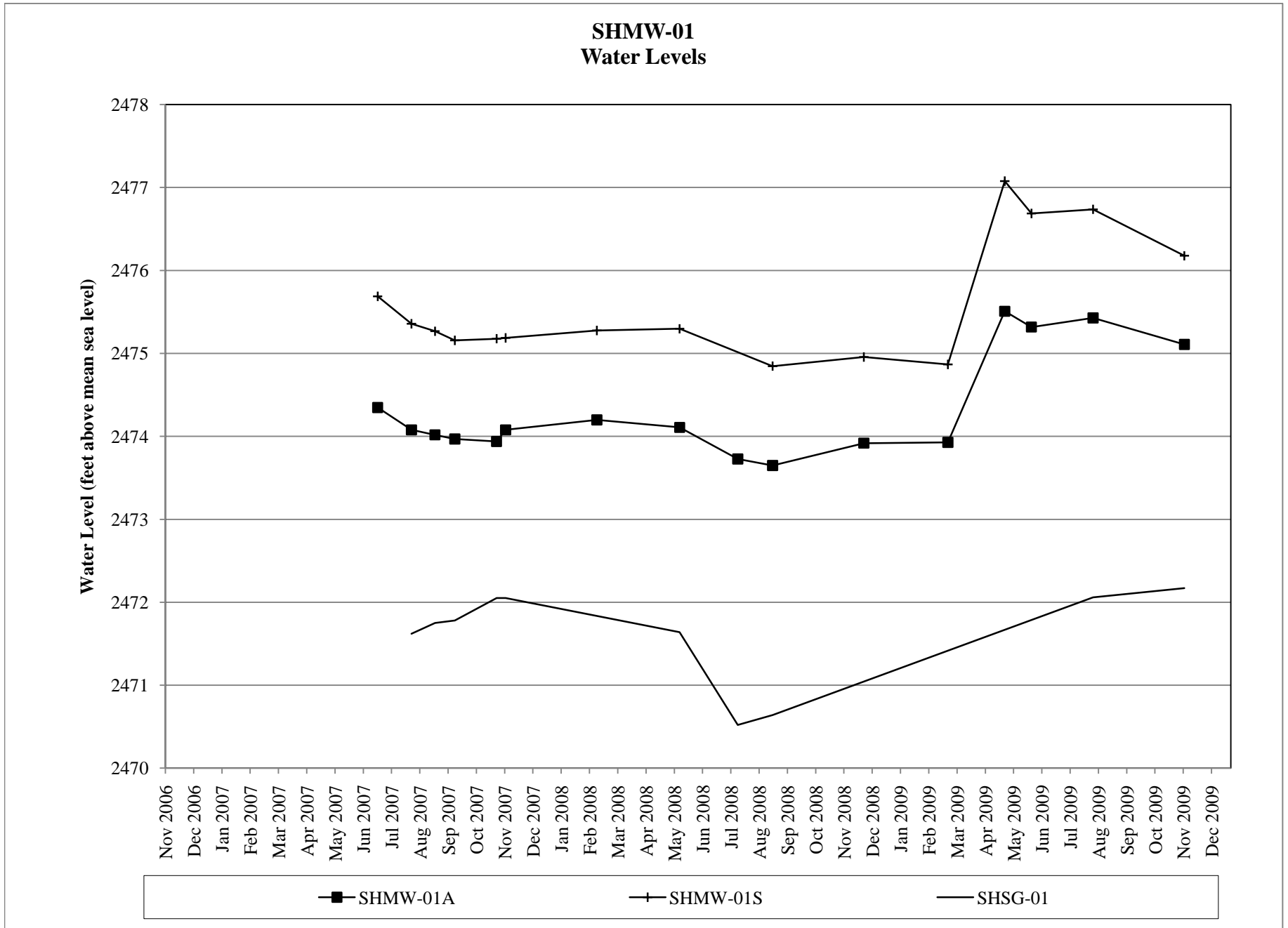
MEASURED AND OBSERVED FLOWS  
FROM SEEPS AND SPRINGS  
SOUTH HEART LIGNITE MINE

Location ID	Date/Time	Flow Rate (gpm)
SHSS-27	2/27/2009 3:27 PM	No flow
SHSS-27	5/28/2009 1:47 PM	Dry
SHSS-27	8/14/2009 9:00 AM	Dry
SHSS-27	11/5/2009 11:10 AM	Dry

Notes:

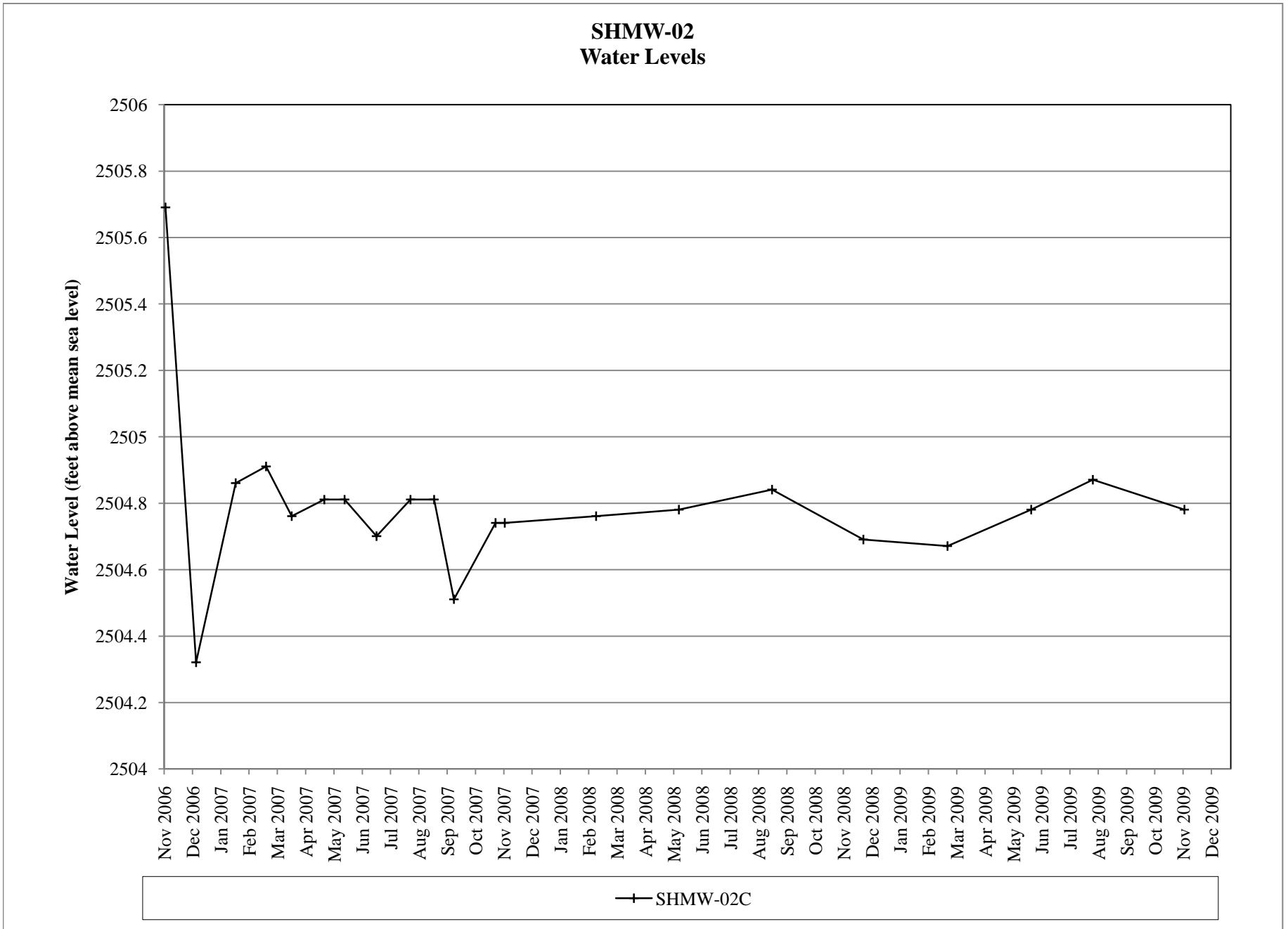
- "gpm" = gallons per minute
- <sup>a</sup> Flow measured quantitatively from pipe discharge. All other values are visual estimates.
- "No flow" means snow, ice, or moist conditions were present but no flow was observed.

Appendix 2.5-4



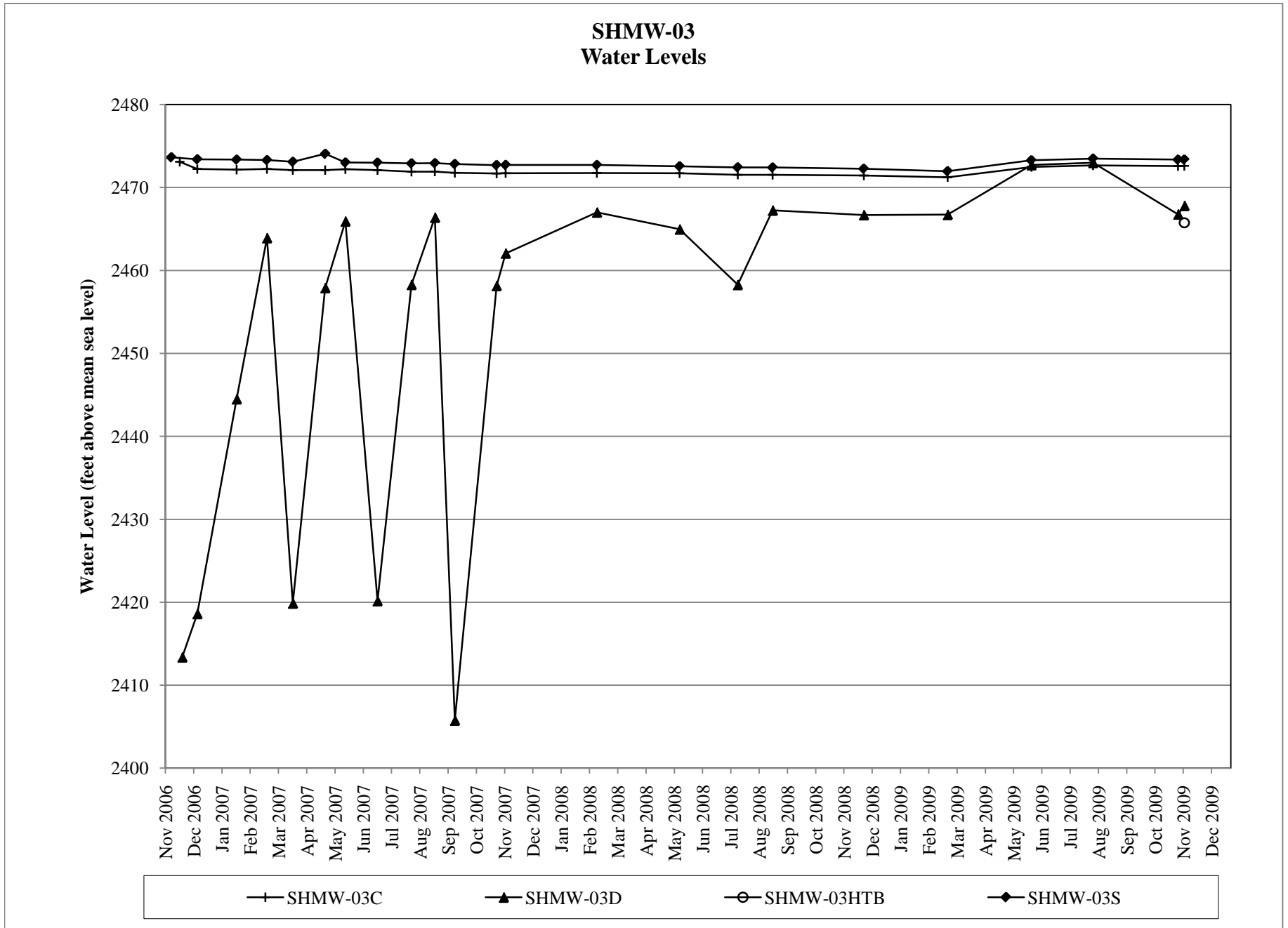
Appendix 2.5-4

SHMW-02  
Water Levels

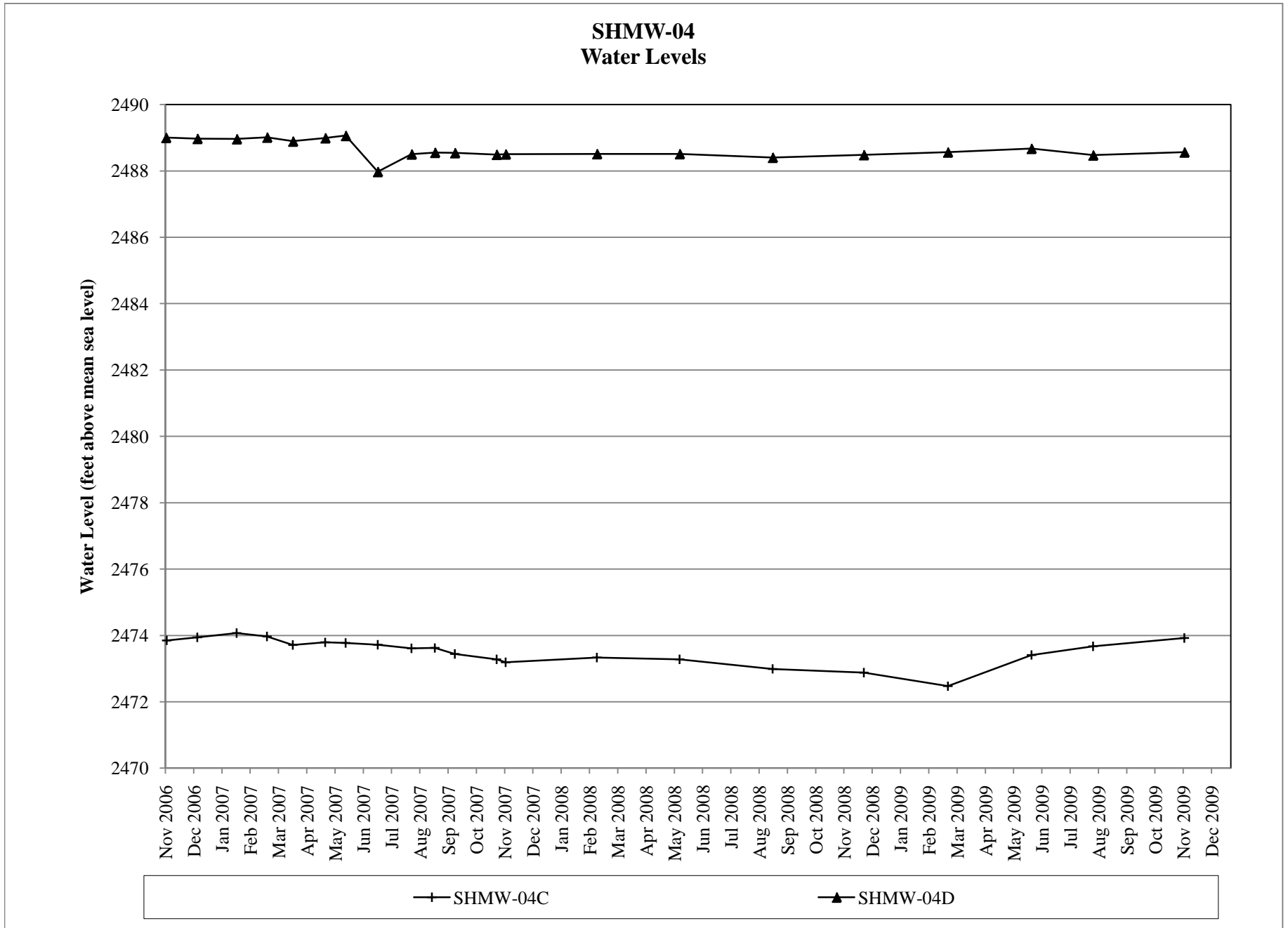




Appendix 2.5-4

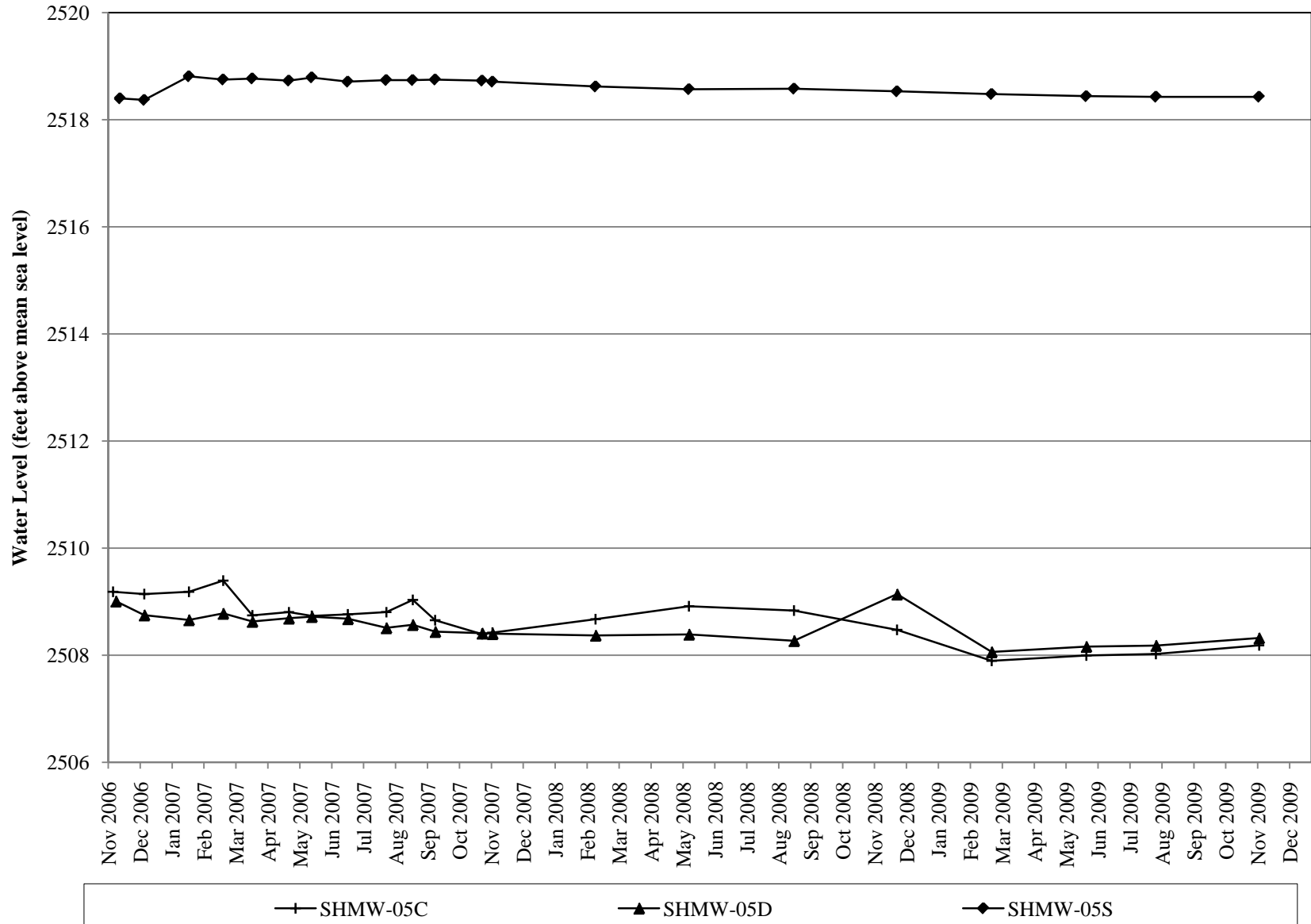


Appendix 2.5-4

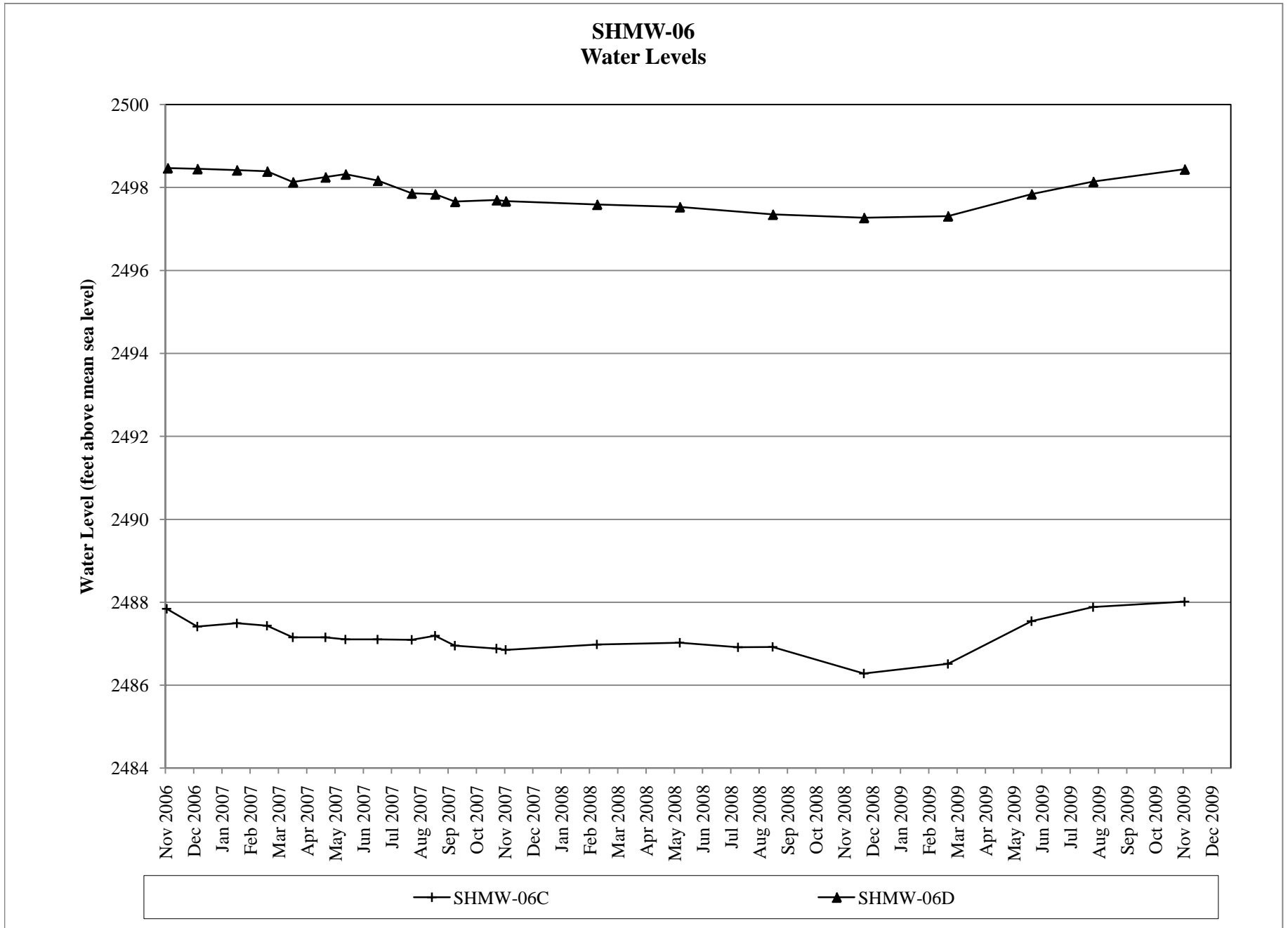


Appendix 2.5-4

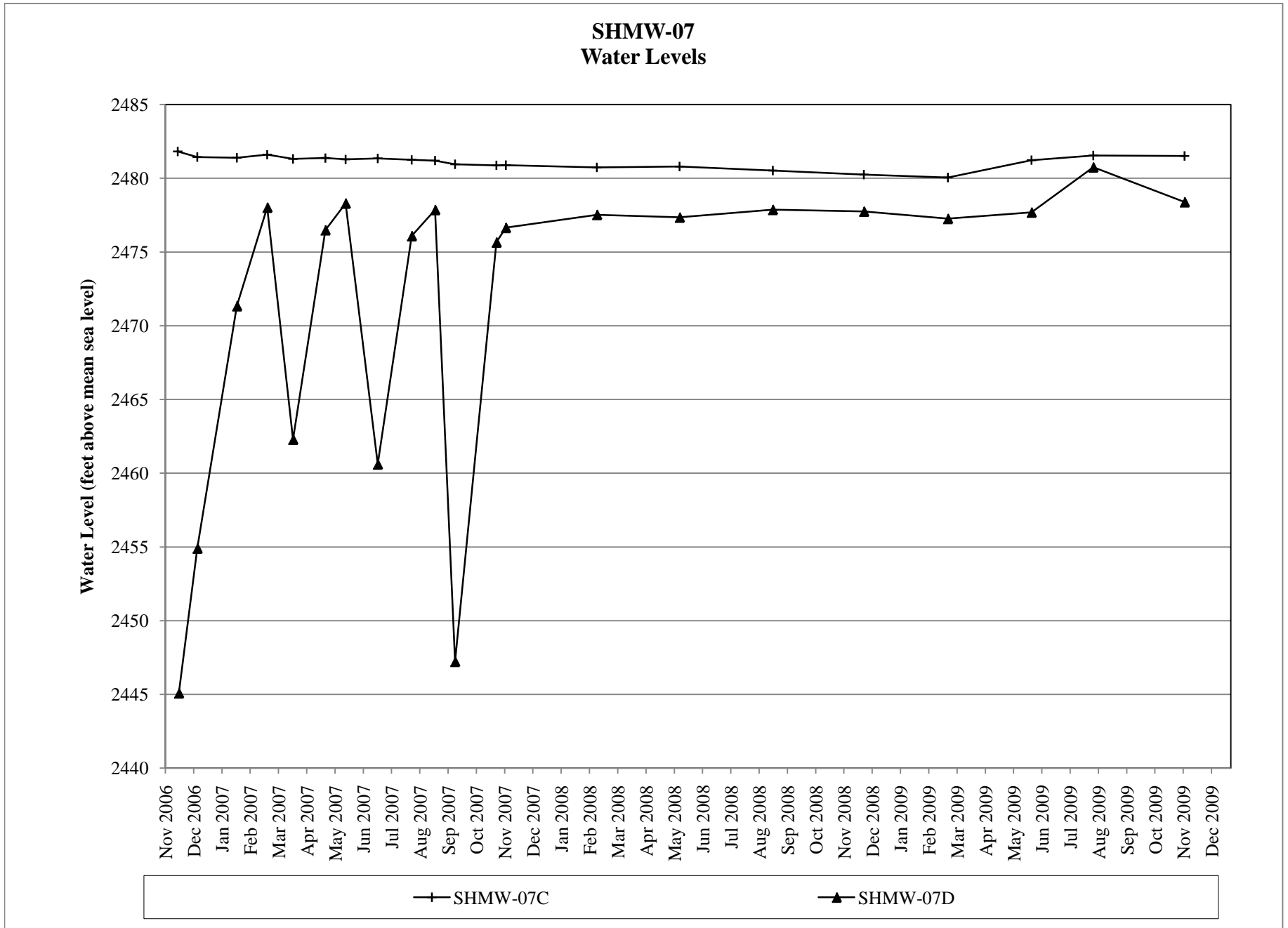
SHMW-05  
Water Levels



Appendix 2.5-4

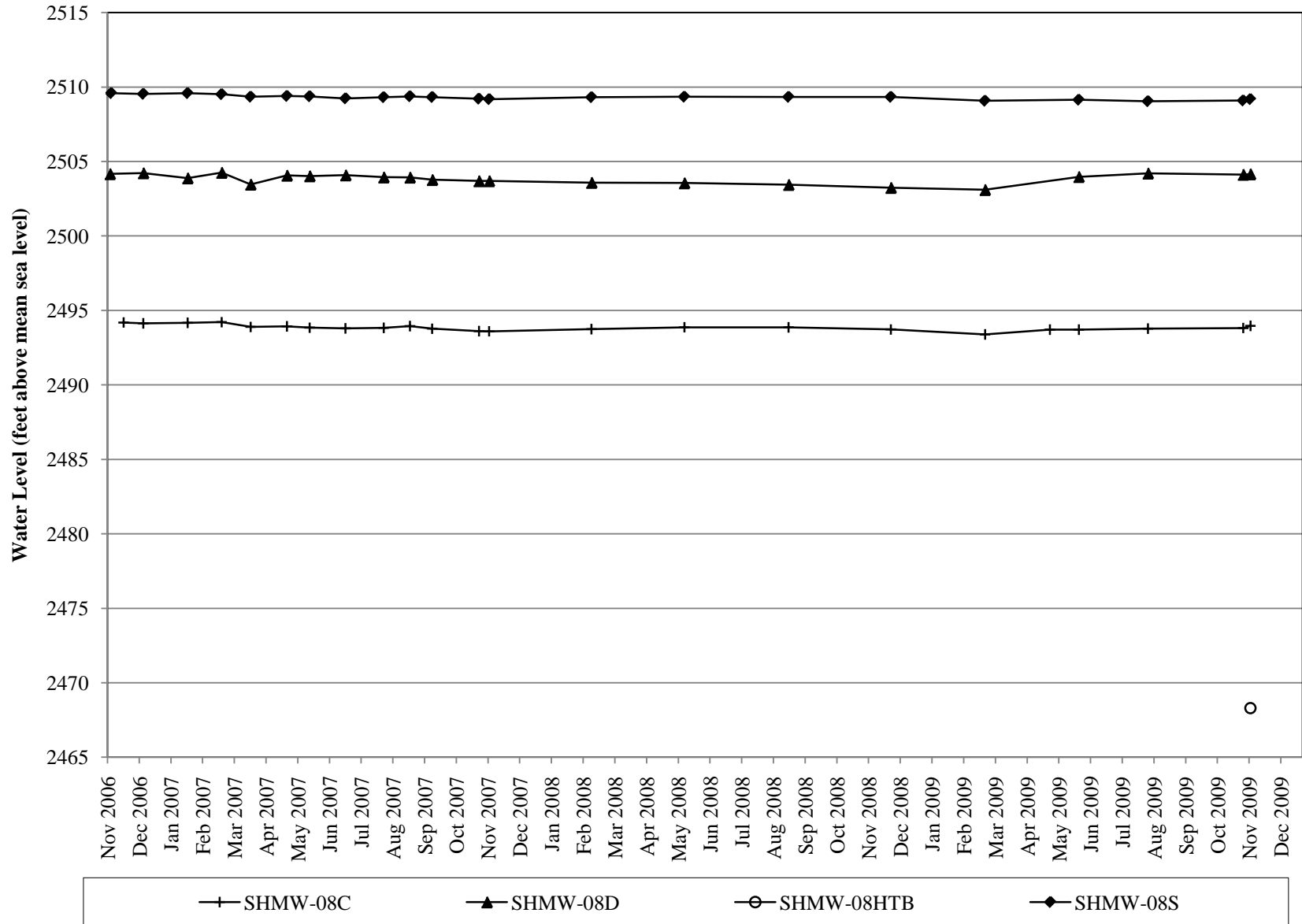


Appendix 2.5-4



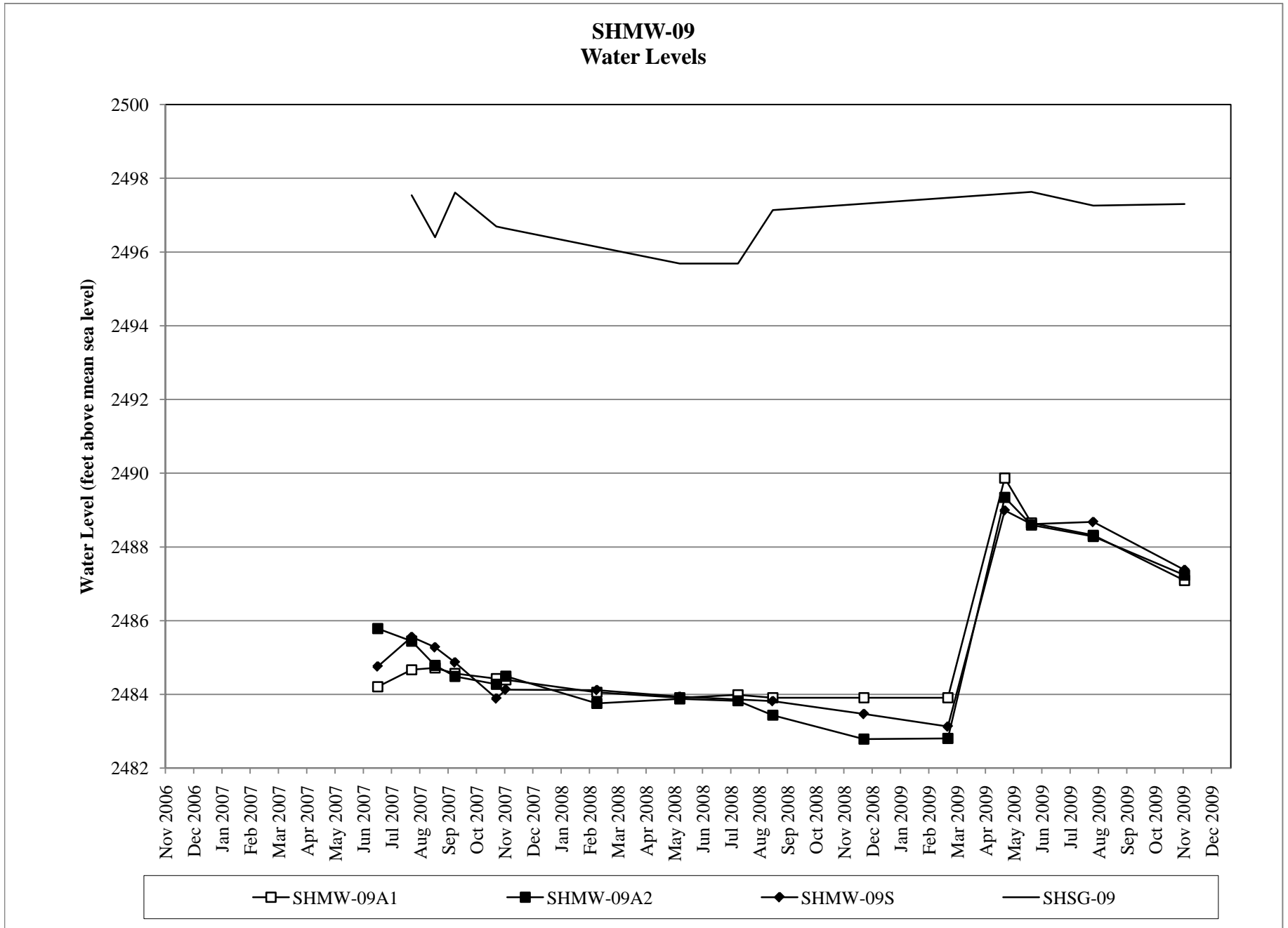
Appendix 2.5-4

SHMW-08  
Water Levels

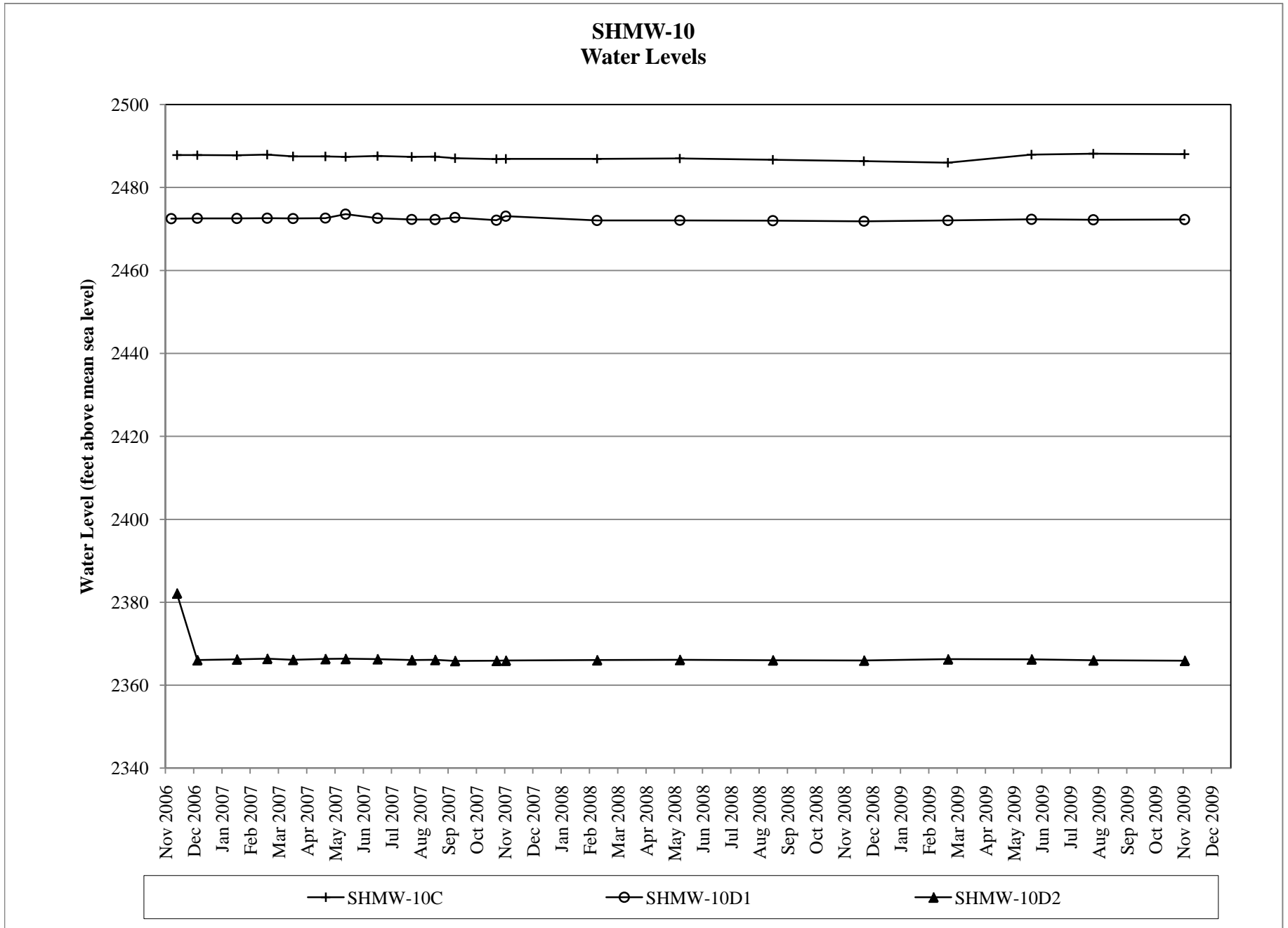




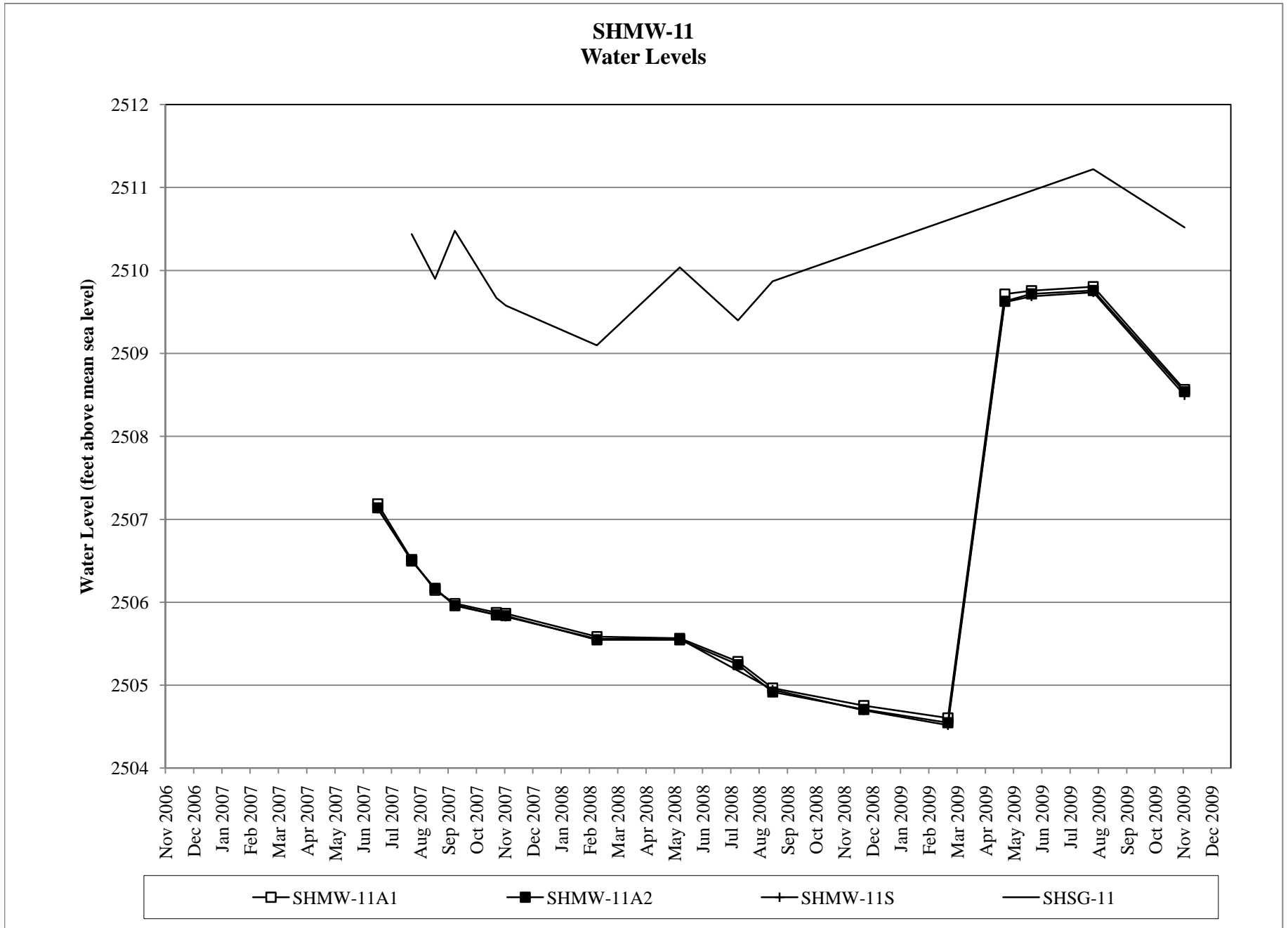
Appendix 2.5-4



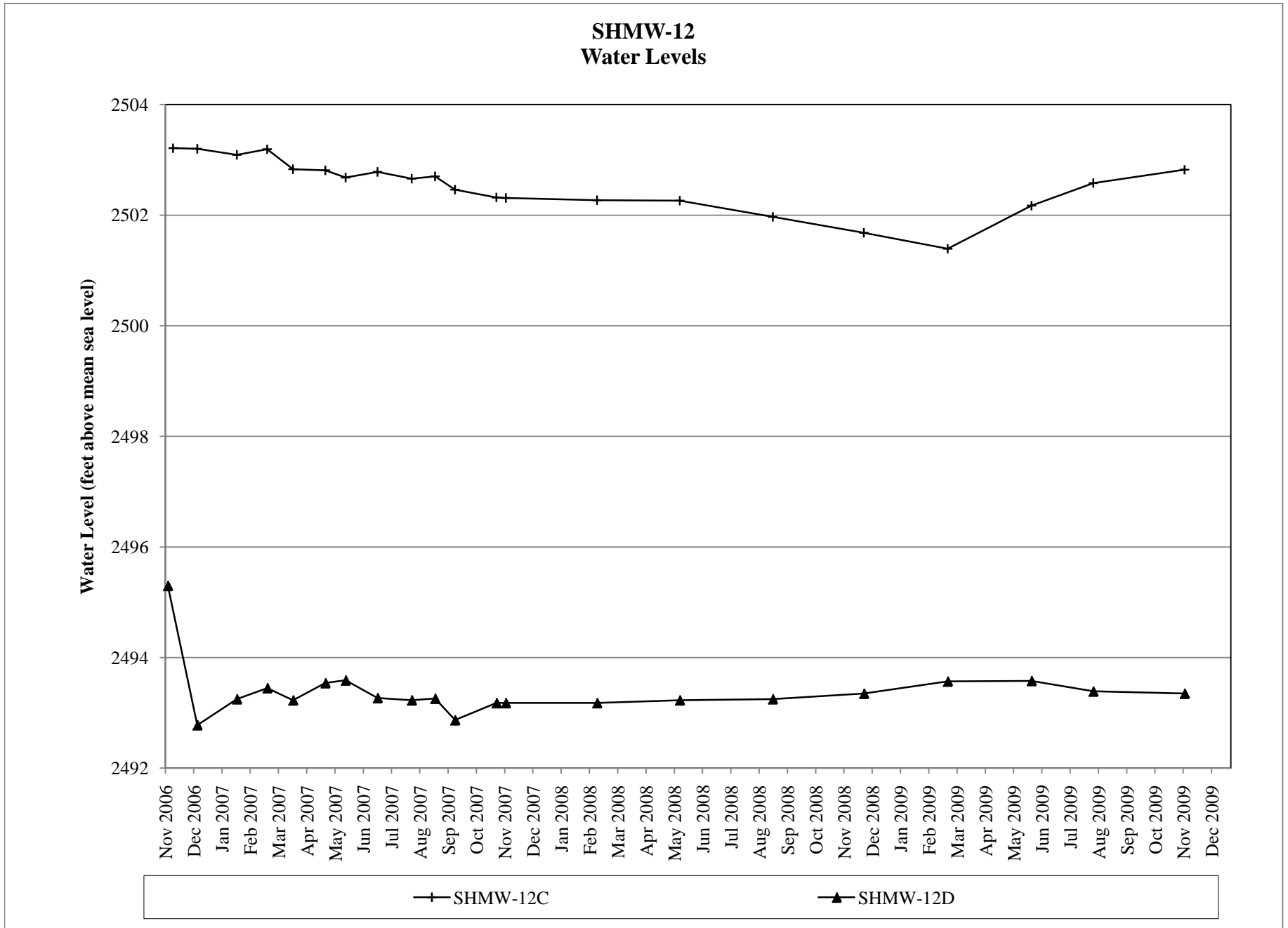
Appendix 2.5-4



Appendix 2.5-4

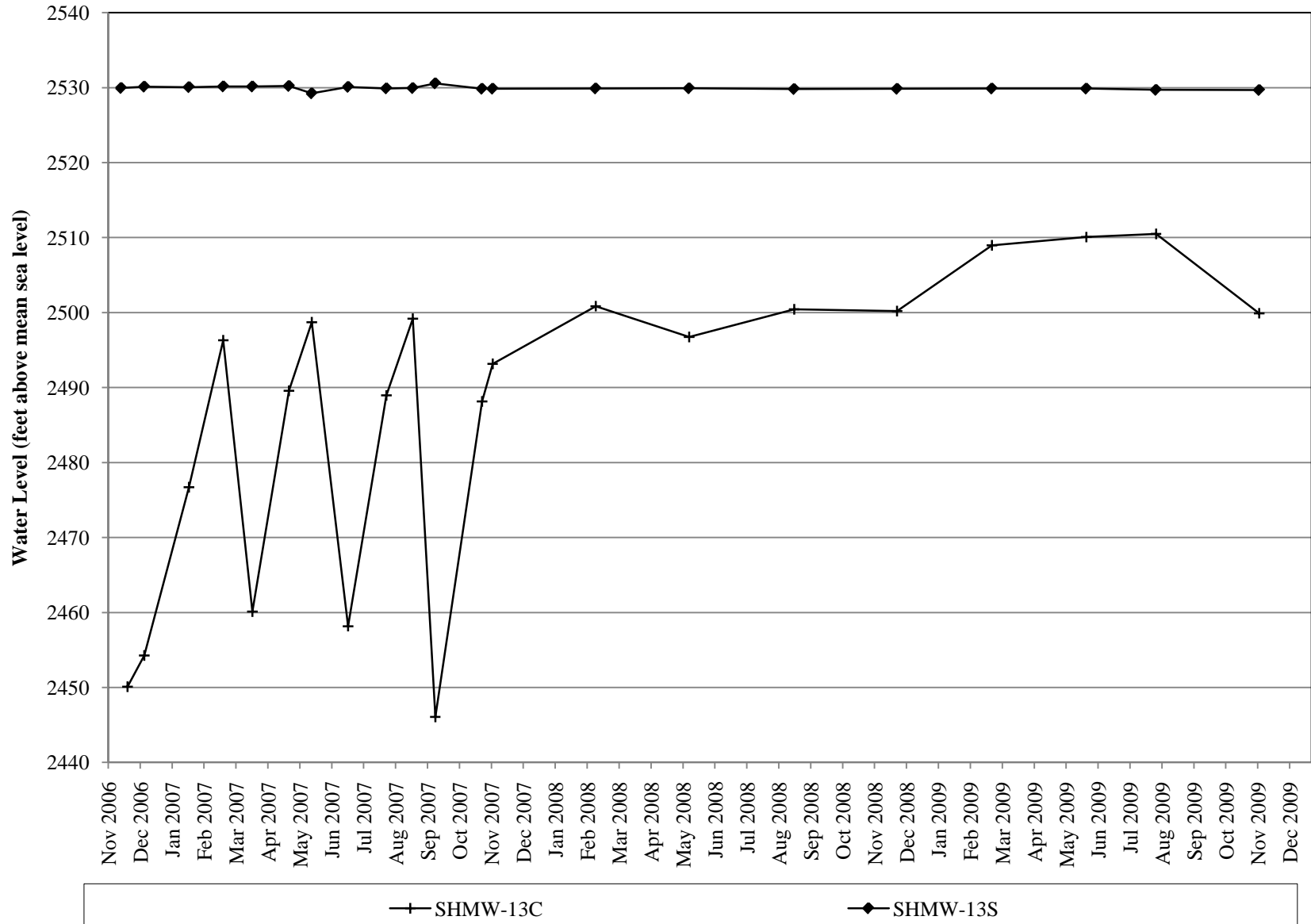


Appendix 2.5-4



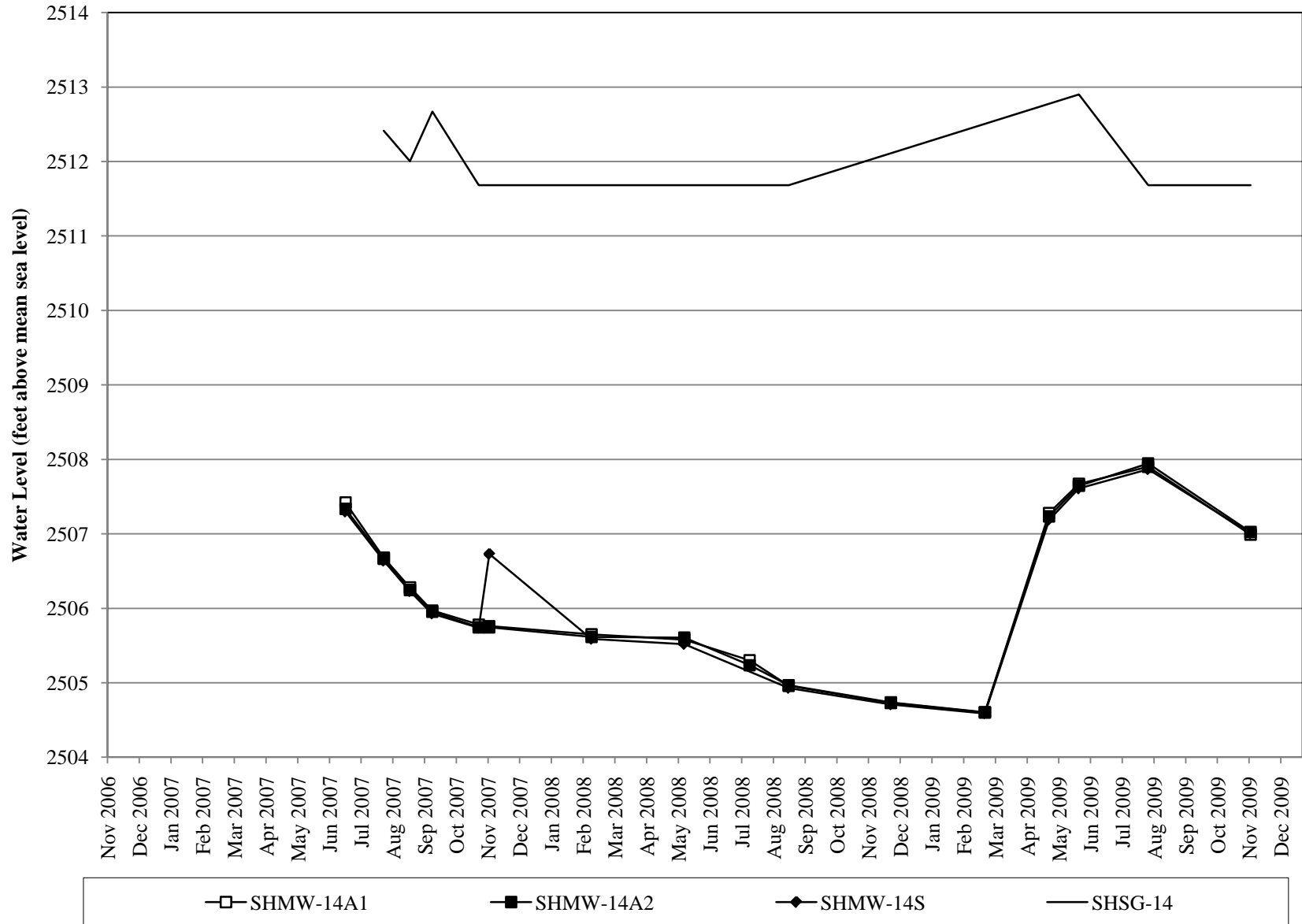
Appendix 2.5-4

SHMW-13  
Water Levels

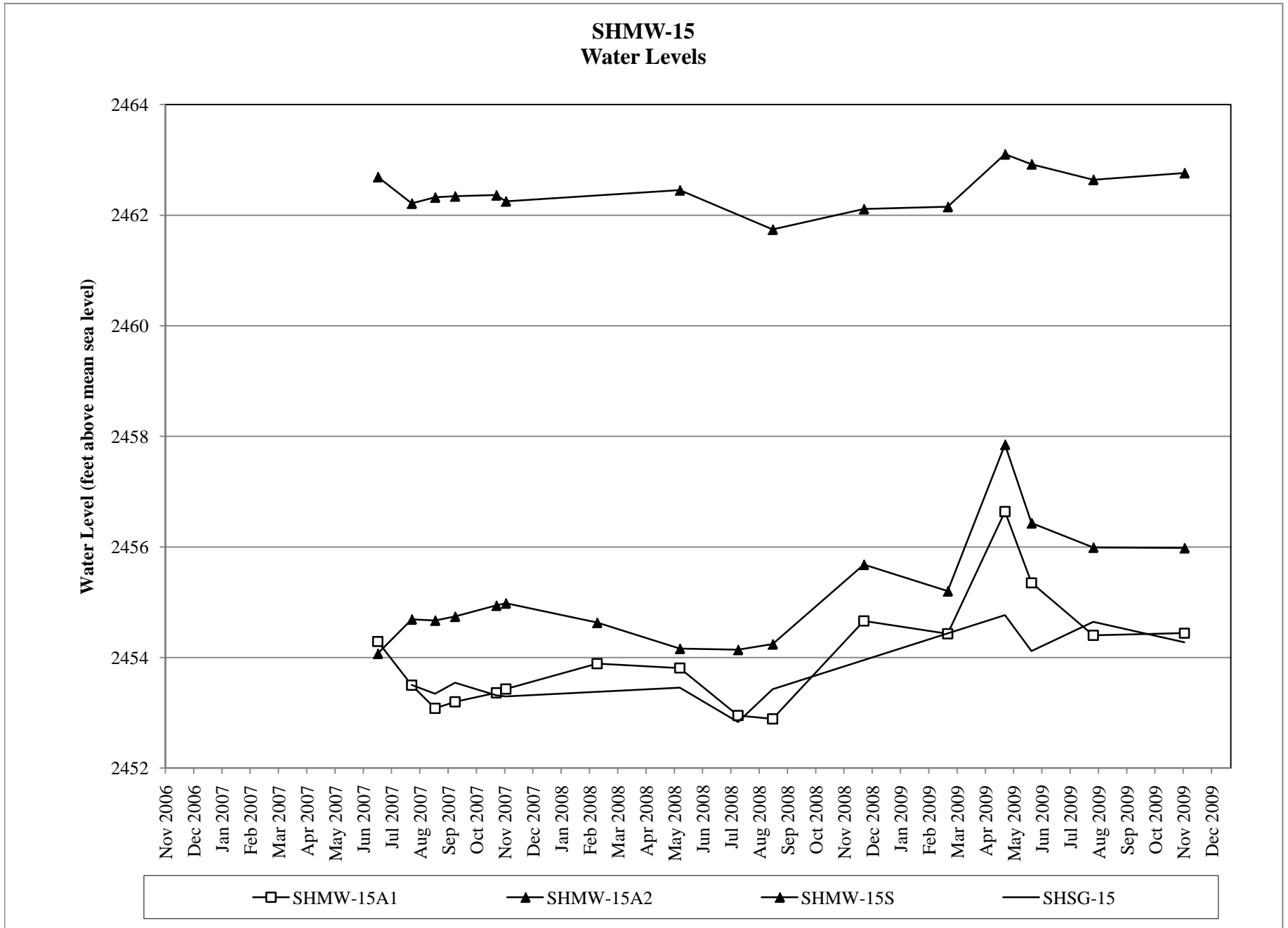


Appendix 2.5-4

SHMW-14  
Water Levels

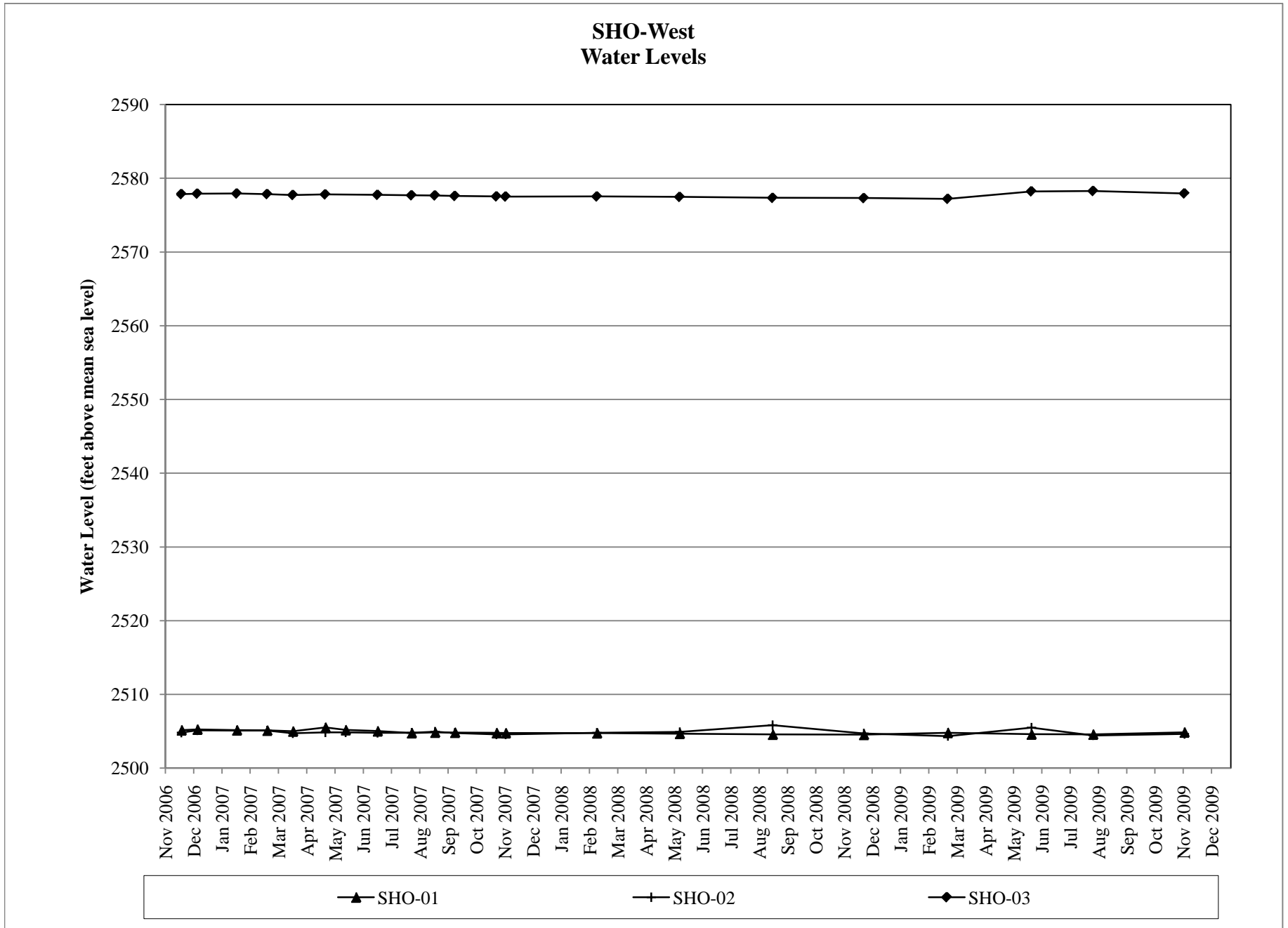


Appendix 2.5-4





Appendix 2.5-4



Appendix 2.5-4

