



**S.S. PAPADOPULOS & ASSOCIATES, INC.**  
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

July 22, 2015

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Ground Water Quality Bureau  
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5500 San Antonio, NE  
Albuquerque, NM 87109

**Subject: Sparton Technology Inc. Former Coors Road Plant  
Groundwater Monitoring Program Plan  
Semi-Annual Progress Report - First and Second Quarter 2015**

Gentlemen:

On behalf of Sparton Technology, Inc., S.S. Papadopulos & Associates, Inc. is pleased to submit the subject report that presents water-level and water-quality data collected from monitoring wells during the First and Second Quarter of 2015.

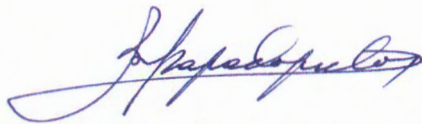
We certify under penalty of law that this document and all attachments were prepared under our direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon our inquiry of either the person or persons who manage the system and/or the person or persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We further certify, to the best of our knowledge and belief, that this document is consistent with the applicable requirements of the Consent Decree entered among the New Mexico Environment Department, the U.S. Environmental Protection Agency, Sparton Technology, Inc., and others in connection with Civil Action No. CIV 97 0206 LH/JHG, United States District Court for the District of New Mexico. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

U. S. Environmental Protection Agency  
New Mexico Environmental Department  
July 22, 2015  
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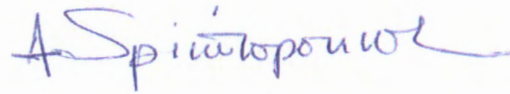
If you have any questions concerning the report, please contact us.

Sincerely,

S.S. PAPANOPULOS & ASSOCIATES, INC.



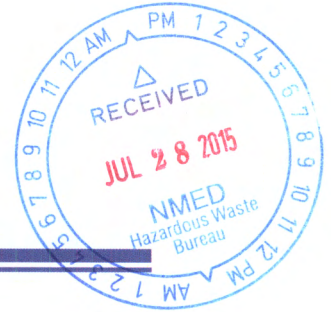
Stavros S. Papadopoulos, PhD, PE, NAE  
Founder & Senior Principal



Alex Spiliotopoulos, PhD  
Senior Hydrogeologist

cc: Secretary, Sparton Technology, Inc., c/o Mr. Ernesto Martinez  
Mr. Ernesto Martinez, EHS Corporate Manager  
of Sparton Corporation  
Mr. Charles Coffman, Sparton Corporation  
Mr. James B. Harris, Thompson & Knight LLP  
Mr. Tony Hurst, Hurst Engineering Services (2 copies)  
Mr. Charles M. Easterling, OCCAM|EC

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**Sparton Technology Inc.  
Former Coors Road Plant  
Groundwater Monitoring  
Program Plan**

**Semi-Annual Progress Report  
First and Second Quarter 2015**

*Prepared for:*

**Sparton Technology, Inc.  
Schaumburg, Illinois**

*Prepared by:*



**S.S. PAPANOPULOS & ASSOCIATES, INC.  
Environmental & Water-Resource Consultants**

**July 22, 2015**

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**SPARTON TECHNOLOGY, INC. FORMER COORS ROAD PLANT  
GROUNDWATER MONITORING PROGRAM PLAN  
SEMI-ANNUAL PROGRESS REPORT  
FIRST AND SECOND QUARTERS, 2015**

## **Introduction**

This Semi-Annual Progress Report presents the data collected during the Third and Fourth Quarter groundwater monitoring events conducted in 2015 under the Groundwater Monitoring Program Plan, hereafter "Monitoring Plan" (Attachment A to the Consent Decree entered on March 3, 2000<sup>1</sup>) and under the requirements of the State of New Mexico Groundwater Discharge Permit DP-1184<sup>2</sup>, hereafter "Discharge Permit." The First Quarter 2015 monitoring event was conducted from February 3, 2015 through February 16, 2015. The Second Quarter 2015 monitoring event was conducted from May 4, 2015 through May 13, 2015.

## **Water-Level Monitoring Activities**

Water levels during the First and Second Quarter of 2015 were measured in all existing wells listed in Table 3-1 of the Monitoring Plan, or their replacements or deepened versions, in well MW-79 which was installed in 2006 and well MW-80 which was installed in 2010, and in the infiltration gallery and infiltration pond monitoring wells. The First Quarter water-level measurement round was conducted between February 3 and 6, 2015, and the Second Quarter round between May 4-6, 2015. Measured depths to water and calculated water-level elevations for these two water-level measurement rounds are presented on Table 1 and 2. As shown on these tables, the measured water level is questionable in wells MW-07 and MW-09 because it is below or very near the reported bottom of the screen for those wells.

## **Water-Quality Monitoring Activities**

The First Quarter sampling event occurred between February 6 and 16, 2015 and the Second Quarter sampling event occurred between May 7 and June 2, 2015. During the First Quarter, existing wells designated in Table 3-1 of the Monitoring Plan as requiring quarterly sampling, or their replacements or deepened versions, well MW-80, and the infiltration gallery and infiltration pond monitoring wells were sampled. During the Second Quarter, all existing monitoring wells listed in Table 3-1 of the Monitoring Plan as requiring quarterly or semi-annual

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<sup>1</sup> Consent Decree. 2000. City of Albuquerque and the Board of County Commissioners of the County of Bernalillo v. Sparton Technology, Inc. U.S. District Court for the District of New Mexico. CIV 97 0206. March 3.

<sup>2</sup> Discharge Permit DP-1184 issued by the New Mexico Environment Department Ground Water Quality Bureau on June 26, 1998, modified on May 26, 2000, and renewed on December 29, 2006 and again on October 18, 2012.

sampling and which had sufficient water for sampling, or their replacements or deepened versions, MW-79 and MW-80, and the infiltration gallery and infiltration pond monitoring wells were sampled. During both quarters seven additional monitoring wells (MW-14R, MW-19, MW-30, MW-31, MW-41, MW-72, and MW-73) were sampled for chromium analyses only to provide data for the assessment of chromium conditions in the on-site area and its vicinity.

Samples were analyzed for volatile organic compounds (EPA Method 8260B) and total chromium (EPA Method 200.7). As required by the Discharge Permit, samples from the infiltration gallery and infiltration pond monitoring wells were also analyzed for iron and manganese. The analytical results from these two sampling events are summarized on Tables 3 and 4. As stated above, during both quarters samples were also obtained from seven monitoring wells for chromium analyses; the results from these samples are included on Tables 3 and 4. In addition, pond monitoring well MW-17, which was put on a monthly sampling schedule for chromium after the occurrence of chromium exceedances during 2013, was sampled monthly for chromium January through June 2015. During the February and March monthly sampling of the well, samples were collected before purging the well, after purging and the day after purging; during the May sampling, samples were collected after purging, and during the next three days without further purging. The results from these monthly samplings of MW-17 are also included on Table 5. Historical data from all monitoring wells, including the results from the First and Second Quarter 2015, and the monthly chromium sampling of MW-17, are presented in Appendix A.

**TABLE 1**  
**SPARTON TECHNOLOGY, INC.**  
**GROUNDWATER MONITORING PROGRAM WATER-LEVEL ELEVATIONS**  
**FIRST QUARTER 2015 MONITORING, February 3 - 6, 2015**

Well ID	MPE	DTW	WLE
CW-1	5168.02	251.11	4916.91
CW-2	5045.68	88.83	4956.85
MW-07	5043.48	68.77	4974.71
MW-09	5042.46	72.15	4970.31
MW-12	5042.41	73.28	4969.13
MW-14R	5040.92	74.00	4966.92
MW-16	5047.50	65.94	4981.56
MW-17	5046.40	61.63	4984.77
MW-18	5043.38	75.10	4968.28
MW-19	5043.30	75.24	4968.06
MW-20	5043.20	75.70	4967.50
MW-21	5045.78	63.59	4982.19
MW-22	5044.73	67.73	4977.00
MW-23	5045.74	72.30	4973.44
MW-24	5048.70	67.09	4981.61
MW-25	5046.17	64.43	4981.74
MW-26	5045.37	74.81	4970.56
MW-27	5046.04	69.47	4976.57
MW-29	5041.88	71.51	4970.37
MW-30	5042.12	73.59	4968.53
MW-31	5041.38	74.31	4967.07
MW-32	5045.29	78.59	4966.70
MW-34	5034.33	63.85	4970.48
MW-37R	5093.15	129.92	4963.23
MW-38	5041.70	71.44	4970.26
MW-39	5042.30	73.39	4968.91
MW-40	5041.44	74.32	4967.12
MW-41	5044.56	77.61	4966.95
MW-42	5057.33	90.10	4967.23
MW-43	5057.74	90.76	4966.98
MW-44	5058.63	92.91	4965.72
MW-45	5089.50	125.74	4963.76
MW-46	5118.86	156.23	4962.63
MW-47R	5115.17	153.45	4961.72

Well ID	MPE	DTW	WLE
MW-49	5041.44	74.25	4967.19
MW-51	5060.34	78.96	4981.38
MW-52R	5156.37	200.38	4955.99
MW-53D	5148.62	190.66	4957.96
MW-54	5097.69	135.65	4962.04
MW-55	5143.45	184.12	4959.33
MW-56	5141.15	180.86	4960.59
MW-57D	5103.62	141.91	4961.71
MW-59	5060.65	94.32	4966.33
MW-60	5134.40	173.69	4960.71
MW-62	5073.69	110.96	4962.73
MW-63	5063.10	83.88	4979.22
MW-64	5097.84	135.87	4961.97
MW-65	5156.45	200.88	4955.57
MW-66	5103.19	142.88	4960.31
MW-67	5142.21	187.28	4954.93
MW-68	5168.54	211.99	4956.55
MW-69	5167.79	211.26	4956.53
MW-70	5046.74	80.42	4966.32
MW-71R	5134.12	179.05	4955.07
MW-72	5056.25	89.11	4967.14
MW-73	5051.08	84.78	4966.30
MW-74	5094.80	134.40	4960.40
MW-75	5113.74	147.28	4966.46
MW-76	5108.32	140.89	4967.43
MW-77	5045.64	69.44	4976.20
MW-78	5052.91	80.30	4972.61
MW-79	5168.50	215.27	4953.23
MW-80	5203.31	248.77	4954.54
OB-1	5169.10	216.51	4952.59
OB-2	5165.22	211.37	4953.85
PZ-1	5147.36	194.32	4953.04
PZG-1	5090.90	23.00	5067.90

MPE Measuring point elevation, feet MSL  
WLE Water-level elevation, feet MSL

DTW Depth to water, feet

Measured water-level is below or very near the bottom of the screen

**TABLE 2**  
**SPARTON TECHNOLOGY, INC.**  
**GROUNDWATER MONITORING PROGRAM WATER-LEVEL ELEVATIONS**  
**SECOND QUARTER 2015 MONITORING, May 4 - 6, 2015**

Well ID	MPE	DTW	WLE
CW-1	5168.02	251.00	4917.02
CW-2	5045.68	88.88	4956.80
MW-07	5043.48	68.44	4975.04
MW-09	5042.46	71.86	4970.60
MW-12	5042.41	72.98	4969.43
MW-14R	5040.92	73.95	4966.97
MW-16	5047.50	65.16	4982.34
MW-17	5046.40	60.72	4985.68
MW-18	5043.38	74.00	4969.38
MW-19	5043.30	75.22	4968.08
MW-20	5043.20	75.48	4967.72
MW-21	5045.78	63.31	4982.47
MW-22	5044.73	67.08	4977.65
MW-23	5045.74	72.00	4973.74
MW-24	5048.70	66.58	4982.12
MW-25	5046.17	63.96	4982.21
MW-26	5045.37	74.68	4970.69
MW-27	5046.04	69.08	4976.96
MW-29	5041.88	71.28	4970.60
MW-30	5042.12	73.38	4968.74
MW-31	5041.38	74.28	4967.10
MW-32	5045.29	78.37	4966.92
MW-34	5034.33	64.32	4970.01
MW-37R	5093.15	130.63	4962.52
MW-38	5041.70	71.14	4970.56
MW-39	5042.30	73.21	4969.09
MW-40	5041.44	74.06	4967.38
MW-41	5044.56	77.58	4966.98
MW-42	5057.33	89.91	4967.42
MW-43	5057.74	90.56	4967.18
MW-44	5058.63	93.62	4965.01
MW-45	5089.50	126.83	4962.67
MW-46	5118.86	157.32	4961.54
MW-47R	5115.17	153.24	4961.93

Well ID	MPE	DTW	WLE
MW-49	5041.44	74.05	4967.39
MW-51	5060.34	79.05	4981.29
MW-52R	5156.37	200.35	4956.02
MW-53D	5148.62	190.20	4958.42
MW-54	5097.69	135.41	4962.28
MW-55	5143.45	183.88	4959.57
MW-56	5141.45	180.41	4961.04
MW-57D	5103.62	143.01	4960.61
MW-59	5060.65	94.30	4966.35
MW-60	5134.40	173.44	4960.96
MW-62	5073.69	110.55	4963.14
MW-63	5063.10	93.82	4969.28
MW-64	5097.84	135.70	4962.14
MW-65	5156.45	200.55	4955.90
MW-66	5103.19	144.33	4958.86
MW-67	5142.21	188.18	4954.03
MW-68	5168.54	211.29	4957.25
MW-69	5167.79	211.19	4956.60
MW-70	5046.74	80.32	4966.42
MW-71R	5134.12	180.11	4954.01
MW-72	5056.25	88.74	4967.51
MW-73	5051.08	84.74	4966.34
MW-74	5094.80	134.44	4960.36
MW-75	5113.74	147.20	4966.54
MW-76	5108.32	140.31	4968.01
MW-77	5045.64	69.24	4976.40
MW-78	5052.91	79.88	4973.03
MW-79	5168.50	217.41	4951.09
MW-80	5203.31	248.88	4954.43
OB-1	5169.10	216.30	4952.80
OB-2	5165.22	211.00	4954.22
PZ-1	5147.36	194.10	4953.26
PZG-1	5090.90	23.06	5067.84

MPE Measuring point elevation, feet MSL  
WLE Water-level elevation, feet MSL

DTW Depth to water, feet

Measured water-level is below or very near the bottom of the screen

**TABLE 3  
SPARTON TECHNOLOGY, INC.  
GROUNDWATER MONITORING PROGRAM ANALYTICAL RESULTS  
FIRST QUARTER 2015 MONITORING, February 5 - March 12, 2015**

Well ID	Flow Zone	Sample Date	TCE µg/L	1,1-DCE µg/L	1,1,1-TCA µg/L	Chromium		Additional Compounds <sup>a</sup>
						Total µg/L	Dissolved µg/L	
MW-14R	UFZ/ULFZ	02/12/2015	<1	<1	<1	280	NA	Bromodichloromethane: 6.2; Chloroform: 5.6
MW-14R	UFZ/ULFZ	03/06/2015	NA	NA	NA	280	270	
MW-17	UFZ	02/16/2015	<1	<1	<1	67	40	
MW-17	UFZ	03/12/2015	NA	NA	NA	62	39	
MW-19	ULFZ	02/13/2015	60	2.3	<1	<6	NA	
MW-19	ULFZ	03/06/2015	NA	NA	NA	<6	<6	
MW-30	ULFZ	02/12/2015	<1	<1	<1	50	NA	Bromodichloromethane: 6.2 Chloroform: 5.8 Dibromochloromethane: 2.2
MW-30	ULFZ	03/06/2015	NA	NA	NA	49	46	
MW-31	ULFZ	02/12/2015	<1	<1	<1	280	NA	Bromodichloromethane: 6.4 Chloroform: 6.1 Dibromochloromethane: 3.7
MW-31	ULFZ	03/06/2015	NA	NA	NA	250	250	
MW-41	ULFZ	02/13/2015	4	<1	<1	50	NA	
MW-41	ULFZ	03/06/2015	NA	NA	NA	49	45	
MW-52R	UFZ/ULFZ	02/06/2015	16	40	1.5	<6	NA	
MW-52R	UFZ/ULFZ	02/11/2015	15	34	1.5	<6	NA	
MW-57D	UFZ	02/09/2015	<1	<1	<1	<6	NA	
MW-57D	UFZ	02/11/2015	<1	<1	<1	<6	<6	
MW-62	UFZ	02/06/2015	2.5	4.5	<1	57	<6	Chloroform: 1.1
MW-65	LLFZ	02/06/2015	<1	1.9	<1	<6	NA	
MW-66	LLFZ	02/09/2015	<1	<1	<1	<6	NA	
MW-66-DUP	LLFZ	02/09/2015	<1	<1	<1	<6	NA	
MW-68	UFZ	02/05/2015	<1	<1	<1	<6	NA	
MW-69	LLFZ	02/05/2015	<1	<1	<1	<6	NA	
MW-71R	DFZ	02/09/2015	57	2.4	<1	<6	NA	
MW-71R	DFZ	02/12/2015	NA	NA	NA	NA	<6	



**TABLE 3**  
**SPARTON TECHNOLOGY, INC.**  
**GROUNDWATER MONITORING PROGRAM ANALYTICAL RESULTS**  
**FIRST QUARTER 2015 MONITORING, February 5 - March 12, 2015**

Well ID	Flow Zone	Sample Date	TCE µg/L	1,1-DCE µg/L	1,1,1- TCA µg/L	Chromium		Additional Compounds <sup>a</sup>
						Total µg/L	Dissolved µg/L	
MW-72	ULFZ	02/11/2015	1400	220	2	160	NA	1,1-DCA: 1.3 1,1,2-TCA: 2 Benzene: 2.5 Chlorobenzene: 1.1 Chloroform: 6.8 PCE: 14
MW-72	ULFZ	03/06/2015	NA	NA	NA	160	150	
MW-73	ULFZ	02/11/2015	12	<1	<1	370	360	Bromodichloromethane: 3 Chloroform: 2.8 Dibromochloromethane: 2.7
MW-73	ULFZ	03/06/2015	NA	NA	NA	350	330	
MW-74	UFZ/ULFZ	02/11/2015	<1	<1	<1	7.4	NA	Fe(Total): <20; Mn(Total): <2
MW-75	UFZ/ULFZ	02/13/2015	<1	<1	<1	6.8	NA	Fe(Total): <20; Mn(Total): <2
MW-76	UFZ/ULFZ	02/11/2015	<1	<1	<1	6.8	NA	Fe(Total): <20; Mn(Total): <2
MW-77	UFZ/ULFZ	02/10/2015	1.2	<1	<1	9.6	8.7	Fe(Total): <20; Mn(Total): 1700
MW-78	UFZ/ULFZ	02/10/2015	<1	<1	<1	39	40	Fe(Total): 60; Mn(Total): 13
MW-78-DUP	UFZ/ULFZ	02/10/2015	<1	<1	<1	39	40	Fe(Total): 68; Mn(Total): 15
MW-80	ULFZ/LLFZ	02/10/2015	<1	<1	<1	7.5	NA	

Concentration exceeds the more stringent of the MCL for drinking water or maximum allowable concentration in groundwater set by the NMWQCC (5 µg/L for TCE and DCE, 60 µg/L for TCA and 50 µg/L for Total Chromium)

NA. Not Analyzed

NS Not sampled due to insufficient water

a VOCs and Metals are reported in µg/L

**TABLE 4**  
**SPARTON TECHNOLOGY, INC.**  
**GROUNDWATER MONITORING PROGRAM ANALYTICAL RESULTS**  
**SECOND QUARTER 2015 MONITORING, May 6 - June 2, 2015**

Well ID	Flow Zone	Sample Date	TCE µg/L	1,1-DCE µg/L	1,1,1- TCA µg/L	Chromium		Additional Compounds <sup>a</sup>
						Total µg/L	Dissolved µg/L	
MW-78	UFZ/ULFZ	05/07/2015	<1	<1	<1	36	36	Fe(Dis): <20; Fe(Total): 650; Mn(Dis): <2; Mn(Total): 51
MW-78-DUP	UFZ/ULFZ	05/07/2015	<1	<1	<1	36	38	Fe(Dis): <20; Fe(Total): 330; Mn(Dis): <2; Mn(Total): 36
MW-79	DFZ	05/12/2015	<1	<1	<1	<6	NA	
MW-80	ULFZ/LLFZ	05/13/2015	<1	<1	<1	9.4	NA	

Concentration exceeds the more stringent of the MCL for drinking water or maximum allowable concentration in groundwater set by the NMWQCC (5 µg/L for TCE and DCE, 60 µg/L for TCA and 50 µg/L for Total Chromium)

NA Not Analyzed

NS Not sampled due to insufficient water

a VOCs and Metals are reported in µg/L

**TABLE 5  
SPARTON TECHNOLOGY, INC.  
CHROMIUM RESULTS FROM MONTHLY SAMPLING EVENTS  
OF POND MONITORING WELL MW-17**

Well ID	Sample Date	Sampling Time	Total Cr μg/L	Dissolved Cr μg/L
MW-17	01/06/2015	Post-Purging	55	36
MW-17	02/16/2015	Pre-Purging	38	45
MW-17	02/16/2015	Post-Purging	67	40
MW-17	02/17/2015	Day After	50	39
MW-17	03/12/2015	Pre-Purging	47	41
MW-17	03/12/2015	Post-Purging	62	39
MW-17	03/13/2015	Day After	46	38
MW-17	04/07/2015	Post-Purging	52	39
MW-17	05/11/2015	Post-Purging	43	36
MW-17	05/12/2015	Day After	36	33
MW-17	05/13/2015	2nd Day After	36	36
MW-17	05/14/2015	3rd Day After	33	36
MW-17	06/02/2015	Post-Purging	43	36

Concentration exceeds the more stringent of the MCL for drinking water or maximum allowable concentration in groundwater set by the NMWQCC (50 μg/L for Total Chromium)