

Nathan Putnam New York State Department of Environmental Conservation Division of Environmental Remediation 625 Broadway Albany, New York 12233-7015

Subject:

October 2009 through June 2010 System Status Report Soil Vapor Recovery System United Stellar Industries Property 131 Sunnyside Boulevard Site, Plainview, New York



ARCADIS of New York, Inc. Two Huntington Quadrangle Suite 1S10 Melville New York 11747 Tel 631.249.7600 Fax 631.249.7610 www.arcadis-us.com

Date: September 2, 2010

Dear Mr. Putnam:

ARCADIS of New York, Inc. (ARCADIS) has prepared this system status report for the Vapor Recovery System (VRS), on behalf of 131 Sunnyside, LLC (Sunnyside) and the Estate of Gertrude Discount (Discount), at the United Stellar Industries Property located at 131 Sunnyside Blvd. in Plainview, New York. A letter report, summarizing the results of the VRS pilot test was submitted to the New York State Department of Environmental Conservation (NYSDEC) by ARCADIS on May 11, 2005. The VRS was restarted and is being operated in accordance with the VRS pilot test extension letter originally submitted to the NYSDEC on September 7, 2005, with NYSDEC comments, dated October 11, 2005, then revised and submitted by ARCADIS on November 18, 2005, with NYSDEC comments, dated February 2, 2006 and ARCADIS responses, dated May 15, 2006.

On September 22, 2009, the NYSDEC accepted the system modifications proposed in the August 20, 2009 submittal, "Air Emission Regulatory Review and Current Status, Related Calculations, and Proposed Modifications to Current System Configuration and Monitoring Procedures" (Regulatory Review). As recommended in the Regulatory Review, the vapor phase granular activated carbon (VPGAC) was taken off-line on December 3, 2009. No complications were encountered during the system modification. The following report provides documentation of all monitoring activities completed during the period beginning on October 1, 2009 and ending on June 30, 2010. During this reporting period (October 1, 2009 to June 30, 2010) the system was operated and the following three performance monitoring events were performed: December 30, 2009, March 25, 2010, and June 16, 2010. Operational and volatile organic compound (VOC) data collected during the monitoring events Doug Smolensky

Contact:

(631) 391-5290

Email: doug.smolensky@arcadisus.com

Our ref: NY001422.0004.00002

are summarized in Tables 1, 2, and 3. A brief analysis of performance monitoring data is provided below.

#### Vapor Recovery System Operation

The VRS consists of three vacuum extraction locations (SVE-1, SVE-2 and SVE-3), six induced vacuum/vapor monitoring points (MP-1 through MP-6), a 5-horsepower regenerative blower, and a moisture separator. The two 400 pound VPGACs were removed from system operation on December 3, 2009. Control valves, monitoring gauges, and sample ports were installed as necessary to adjust system operation and provide a means for collecting the data provided within this report. All vapor samples were submitted to Air Toxics Laboratory in Folsom, CA for laboratory analysis via Method TO-14 (Direct Inject).

#### Results

Operational measurements including applied vacuum levels at each extraction point, extraction air flow rates, and photo-ionization detector (PID) readings are summarized in Table 1. In summary, the VRS is operating as designed. Key observations are as follows:

- Air flow rates at the vacuum extraction points measured during the October 2009 to June 2010 operational period ranged from approximately 30.0 to 90.7 cubic feet per minute (cfm).
- VRS wellhead vacuum measurements during the October 2009 to June 2010 operational period ranged from -36.0 inches water column (i.w.c.) to -42.0 i.w.c.
- PID measurements during the October 2009 to June 2010 operational period were 0.0 parts per million (ppm).
- Induced vacuum levels measured at the monitoring point locations (MP-1 through MP-6) are summarized below:
  - Negative vacuum levels were measured in monitoring points MP-1, MP-2, and MP-6 during the October 2009 to June 2010 operational period.

- Negative vacuum levels were measured in monitoring points MP-3 and MP-4 during the March 25, 2010 and June 16, 2010 monitoring events. There was no induced vacuum measured at monitoring points MP-3 and MP-4 during the December 30, 2009 monitoring event.
- Negative vacuum levels were measured in monitoring point MP-5 during the December 30, 2009 and March 25, 2010 monitoring events. There was no induced vacuum measured at monitoring point MP-5 during the June 16, 2010 monitoring event.

However, the changes in induced vacuum measured at monitoring points MP-3, MP-4 and MP-5 may be due to seasonal variations and as have been observed in the past.

Vapor sample analytical results are summarized in Tables 2 and 3. In all extraction points, VOC concentrations were less than levels observed during the last monitoring event of the pilot test (June 1, 2005). A summary of VOC analytical results is as follows:

- TCE was the only VOC detected at extraction point SVE-1 during the October 2009 to June 2010 reporting period, at concentrations ranging from not detected to 83.0 ug/m<sup>3</sup>. TCE and total volatile organic compounds (TVOC) concentrations decreased significantly from the previous sampling rounds conducted during the March 2008 to September 2009 operational period for all sampling events completed during the October 2009 to June 2010 operational period. TCE and TVOC concentrations are well below the June 2006 levels for all sampling events completed during the October 2009 to June 2010 operating period.
- TCE was the only VOC detected at extraction point SVE-2 during the October 2009 to June 2010 reporting period, at concentrations ranging from 160 ug/m<sup>3</sup> to 200 ug/m<sup>3</sup>. TCE and TVOC concentrations decreased significantly from the previous sampling rounds conducted during the March 2008 to September 2009 operational period for all sampling events completed during the October 2009 to June 2010 operational period. TCE and TVOC concentrations are well below the June 2006 levels for all sampling events completed during the October 2009 to June 2010 operating period.
- The only VOC detected at extraction point SVE-3 during the October 2009 to June 2010 operational period was cis-1,2-dichlorothene (cis-1,2 DCE), at

Nathan Putnam September 2, 2010

concentrations ranging from not detected to 27 ug/m<sup>3</sup>. TVOC and cis-1,2-DCE concentrations decreased significantly from the previous sampling rounds conducted during the March 2008 to September 2009 operational period for all sampling events completed during the October 2009 to June 2010 operational period. TVOC and cis-1,2 DCE concentrations are well below the June 2006 levels for all sampling events completed during the October 2009 to June 2010 operating period.

 In addition to the field and laboratory analytical results provided herein, ARCADIS calculated and is providing air modeling results for the three monitoring events completed during the current reporting period. Air modeling calculations were performed using both the influent and effluent concentrations, and the NYSDEC DAR-1 Annual Guidance Concentration (AGC) model. Modeling results are provided in Tables A1 through A3. As shown on the Tables A1 through A3, modeling results indicate that both the influent (i.e., untreated) and effluent (i.e., treated) vapor stream have been below NYSDEC AGCs during the last three monitoring events.

#### Conclusions

ARCADIS has drawn the following conclusions based on the results provided herein:

- The VRS operated as intended (i.e., a negative vacuum was maintained and contaminant mass was removed).
- TCE, cis-1,2 DCE and TVOC concentrations have decreased significantly (from the March, 2008 to September, 2009 levels) in each of the three VRS extraction points.
- The highest VOC concentrations were observed in SVE-2 with lower concentrations present at SVE-1 and SVE-3; and,
- NYSDEC DAR-1 AGC emissions calculations indicate that the effluent vapor stream has been below the NYSDEC AGC limits for the last three monitoring events. Additional NYSDEC DAR-1 AGC emissions calculations indicate that the influent vapor stream has also been below NYSDEC AGC limits for the last three monitoring events.

Nathan Putnam September 2, 2010

Based on the conclusions above, ARCADIS recommends continued operation of the VRS. Please call if you have questions or require additional information.

Sincerely,

ARCADIS of New York, Inc.

Douglas A. Smolensky Douglas A. Smolensky Associate Vice President Christina Berardi Mohy Christina Berardi Tuohy, P.E.

Christina Berardi Tuohy, P.E. New York Professional Engineer License Number NY-078743-1

Copies: Fred Werfel Jean McCreary File

G:\APROJECT\Spiegel\Sunnyside\Vapor Recovery System\System Status Reports\October 2009 to June 2010\October 2009 Through June 2010 Report docx

09/6/07 <sup>(9)</sup>

09/6/07 <sup>(9)</sup>

09/28/07

-29.0

-34.0

-34.0

5,230

---

5,213

	SVE - 1 Extraction Well Parameters				SVE - 2 Extraction Well Parameters				SVE - 3 Extraction Well Parameters			
Date	WellheadAirAir FlowPID MeasuredVacuumVelocityRate (1)Concentration(in.W.C.)(fpm)(cfm)(ppmv)				Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)
06/8/06 (2)	0.0							₩- M.				
	-40.0			0.0	-39.0			0.0	-41.0			0.0
	-40.0			0.0	-39.0			0.0	-42.0			0.0
(3)	-40.0	3,600	82.4	0.0	-39.0	2,600	59.5	0.0	-42.0	3,400	77.9	0.0
06/09/06	-56.0				-56.0				0.0 (4)			
06/12/06	-56.0				-56.0				0.0 (4)			
06/16/06	-39.0	4,400	100.8	0.0	-38.0	3,800	87.0	0.0	40.0 (7)	3,200	73.3	0.0
06/30/06	-38.0	4,650	106.5	0.0	-38.0	4,520	103.5	0.0	-40.0	4,800	109.9	0.0
07/14/06	-42.0	2,517	57.6	0.0	-42.5	2,730	62.5	0.0	-51.0	1,882	43.1	0.0
07/28/06	-36.0	2,637	60.4	0.0	-35.8	1,950	44.7	0.0	-37.9	2,678	61.3	0.0
08/11/06	-36.0			0.0	-37.0			0.0	-37.0			0.0
08/25/06	-34.5	4,441	101.7	10.00	-34.0	3,081	70.5		-36.1	3,521	80.6	
09/08/06	-34.0	3,756	86.0	0.0	-34.0	3,467	79.4	0.0	-36.0	4,232	96.9	0.0
10/05/06	-34.0	2,788	63.8	0.0	-34.0	1,729	39.6	0.0	~36.0	2,950	67.5	0.0
11/03/06	-35.0	3,500	80.1	0.0	-34.0	3,500	80.1	0.0	-36.0	3,500	80.1	0.0
12/05/06	-36.0	3,297	75.5	0.0	-35.0	2,240	51.3	0.0	-37.0	2,840	65.0	0.0
04/26/07	-37.0	3,240	74.2		-39.0	2,908	66.6		-37.0	2,552	58.4	
05/29/07	-36.0	3,800	87.0	0.0	-38.0	4,122	94.4	0.0	-36.0	3,937	90.1	0.0
06/27/07	-34.5	4,575	104.8	0.0	-36.0	4,635	106.1	0.0	-36.0	4,680	107.2	0.0
07/26/07	-32.0	4,561	104.4	0.0	-33.5	4,638	106.2	0.0	-31.5	4,702	107.7	0.0

-28.0

-33.5

-33.0

118.7

---

115.2

5,183

---

5,030

0.0

---

0.0

Table 1. System Operational Data, Vapor Recovery System, United Stellar Industries, Plainview, New York.

G:\APROJECT\Spiegel\Sunnyside\Vapor Recovery System\System Status Reports\October 2009 to June 2010\Table 1 Spiegel SVE Data\_061610.xlsx - Table 1.

0.0

--

0.0

-29.5

-38.0

-36.0

5,187

--

5,244

118.8

---

120.1

0.0

----

0.0

119.8

---

119.4

Table 1. System Operational Data, Vapor Recovery System, United Stellar Industries, Plainview, New York.

SVE - 1 Extraction Well Parameters					SVE - 2 Extraction Well Parameters				SVE - 3 Extraction Well Parameters			
Date	Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)
10/25/07	-34.0	3,401	77.9	0.0	-36.5	3,343	76.5	0.0	-34.5	3,414	78.2	0.0
12/13/07 (10)	-38.0	3,170	72.6		-39.0	2,591	59.3		-37.0	2,690	61.6	
12/27/07	-39.0	3,456	79.1	2.0	-41.0	3,022	69.2	2.0	-38.0	3,063	70.1	0.0
02/5/08 (12)	-41.0	3,120	71.4	1.1	-42.0	2,747	62.9	1.5	-40.0	2,842	65.1	0.0
02/26/08 (13)	-37.0	3,120	71.4	0.0	-38.0	2,747	62.9	0.0	-37.0	2,842	65.1	0.0
04/3/08 (14)	-38.0	2,331	53.4	0.6	-39.0	2,408	55.1	0.3	-37.0	2,494	57.1	0.1
04/30/08	-37.0	3,266	74.8	0.0	-39.0	2,850	65.3	0.0	-36.5	1,545	35.4	0.0
05/27/08	-37.0	3,230	74.0	0.0	-38.0	1,752	40.1	0.0	-36.0	2,985	68.4	0.0
06/26/08	-34.0	3,082	70.6	0.0	-35.5	2,020	46.3	0.2	-33.0	2,780	63.7	0.0
07/23/09	-33.5	4,273	97.8	0.0	-34.7	2,534	58.0	0.0	-33.2	3,269	74.9	0.0
08/28/08	-34.3	3,518	80.6	0.0	-36.0	2,156	49.4	0.0	-34.0	2,959	67.8	0.0
09/30/08	-34.0	3,597	82.4	0.0	-36.0	1,899	43.5	0.0	-34.0	2,811	64.4	0.0
10/30/08 <sup>(15)</sup>	-35.0	370	8.5	0.0	-36.0	460	10.5	0.0	-34.0	600	13.7	0.0
11/25/08 <sup>(16)</sup>	-38.0	2,727	62.4	0.0	-39.0	1,450	33.2	0.0	-38.0	2,395	54.8	0.0
12/31/08 <sup>(17)</sup>												
01/14/09	-39.5	2,707	62.0	0.0	-40.5	961	22.0	0.0	-38.5	2,154	49.3	0.0
02/25/09	-37.0	2,721	62.3	0.0	-39.0	1,112	25.5	0.0	-37.0	2,453	56.2	0.0
03/31/09	-38.0	2,961	67.8	0.0	-39.5	1,322	30.3	0.3	-38.0	2,682	61.4	0.0
05/12/09 (18)	-36.5	3,833	87.8	0.0	-38.0	1,522	34.9	0.0	-36.0	2,862	65.5	0.0
05/28/09	-34.5	3,084	70.6	0.6	-36.0	1,476	33.8	1.1 - 1.7	-34.0	2,946	67.5	0.0 - 0.1
06/30/09	-33.0	3,196	73.2	0.1	-35.0	2,139	49.0	0.3 - 0.4	-33.0	2,859	65.5	0.1
08/03/09 (19)	-32.5	3,662	83.9	0.0	-35.5	2,228	51.0	0.0	-33.0	3,324	76.1	0.0
08/31/09	-34.0	3,674	84.1	0.0	-36.0	2,308	52.8	0.0	-33.5	3,392	77.7	0.0

G:\APROJECT\Spiegel\Sunnyside\Vapor Recovery System\System Status Reports\October 2009 to June 2010\Table 1 Spiegel SVE Data\_061610.xisx - Table 1.

Page 3 of 10

	SVE - 1 Extraction Well Parameters				SVE - 2 Extraction Well Parameters				SVE - 3 Extraction Well Parameters			
Date	Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Wellhead Vacuum (in.W.C.)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)
09/30/09	-33.5	3,503	80.2	0.0	-35.8	2,063	47.2	0.0	-33.9	3,144	72.0	0.0
12/30/09 (20)	-39.0	2,867	65.6	0.0	-42.0	1,311	30.0	0.0	-40.0	2,730	62.5	0.0
03/25/10	-39.5	3,302	75.6	0.0	-40.0	1,826	41.8	0.0	-40.0	2,498	57.2	0.0
06/16/10	-36.0	3,961	90.7	0.0	-38.0	2,484	56.9	0.0	-36.0	3,271	74.9	0.0

Table 1. System Operational Data, Vapor Recovery System, United Stellar Industries, Plainview, New York.

Table 1.	System	Operational Da	a, Va	por Recover	y System	, United Stellar	Industries,	Plainview,	New	York

Blower Parameters				GAC	eters		Discharge Parameters					
Date	Influent Vacuum (in.W.C.)	Effluent Pressure (in.W.C.)	Influent Pressure (in.W.C.)	Influent Temperature (Degrees F)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Discharge Pressure (in.W.C.)	Discharge Temperature (Degrees F)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)
06/8/06 (2)												
	-52.0	5.0	2.0				14.0					0.0
	-51.0	6.0	2.0	**			10.5			~~		
(3)	-51.0	6.0	2.0				4.4		**	3,000	268.2	
06/09/06	-64.0	4.0	1.0	115.0 <sup>(5)</sup>					100.0 (5)	0		
06/12/06	-65.0	4.0	1.0		50 40		**					
06/16/06	-50.0	4.0	(6)						120.0	3,800	339.8	0.0
06/30/06	-50.0	8.0	(6)					0.0	100.0	4,250	380.0	0.0
07/14/06	-51.0	8.0	7.0				0.0	0.0	108.8	1,883	168.4	0.0
07/28/06	-49.8	8.5	7.0	115.0 <sup>(5)</sup>			0.0	0.0	107.0 <sup>(5)</sup>	1,530	136.8	0.0
08/11/06	-49.0	9.0		-								
08/25/06	-48.5	9.0	7.5					0.0	98.6	5,204	465.3	
09/08/06	-48.0	9.5						0.0	107.7	3,130	279.9	0.0
10/05/06	-48.0	10.0		120.0	3,040	271.8	0.0	0.0	97.8	2,150	192.2	0.0
11/03/06	-50.0	10.0	8.0				0.0	0.0	82.0	2,950	263.8	0.0
12/05/06	-50.0	10.0	8.0	100.5	5,530	494.5	0.0	0.0	76.2	3,290	294.2	0.0
04/26/07	-49.5	6.0	8.0	106.0	3,565	318.8		0.0	85.1	1,721	153.9	
05/29/07	-51.0	5.0	8.5	121.0			0.0	0.0	105.4	3,237	289.4	0.0
06/27/07	-49.0	5.0	8.0	129.2	5,627	503.1	0.0	0.0	113.5	2,770	247.7	0.0
07/26/07	-53.0	4.0	7.5					0.0	111.0	2,577	230.4	0.0
09/6/07 <sup>(9)</sup>	-60.0	1.5	3.0					0.0	103.1	4,095	366.2	0.0
09/6/07 <sup>(9)</sup>	-48.5	2.0	4.0					0.0				
09/28/07	-48.5	2.0	4.0				0.0	0.0	105.8	5,184	463.5	0.0

Table 1. System Operational Data, Vapor Recovery System, United Stellar Industries, Plainview, New York.

	Blower P	arameters		GAC	500 Parame	eters		Discharge Parameters					
Date	Influent Vacuum (in.W.C.)	Effluent Pressure (in.W.C.)	Influent Pressure (in.W.C.)	Influent Temperature (Degrees F)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Discharge Pressure (in.W.C.)	Discharge Temperature (Degrees F)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	
10/25/07	-50.0	2.0	4.0				0.0	0.0	92.8	2,321	207.5	0.0	
12/13/07 (10)	-52.0	0.5 (11)	8.5				~	0.0	75.3	2,023	180.9		
12/27/07	-53.0	0.0	8.0				0.0	0.0	83.3	2,077	185.7	0.0	
02/5/08 (12)	-54.0	0.0	8.0				0.6	0.0	82.5	1,955	174.8	0.0	
02/26/08 (13)	-49.5	0.0	8.2				0.0	0.0	86.3	1,955	174.8	0.0	
04/3/08 (14)	-51.0	0.0	8.5				0.0	0.0	88.7	2,031	181.6	0.0	
04/30/08	-50.0	0.0	8.5				0.0	0.0	98.4	2,492	222.8	0.0	
05/27/08	-50.0	0.0	8.5				0.0	0.0	99.5	2,261	202.2	0.0	
06/26/08	-48.0	0.0	8.5				0.0	0.0	104.7	2,404	215.0	0.0	
07/23/09	-49.5	0.0	8.2				0.0	0.0	107.6	2,343	209.5	0.0	
08/28/08	-49.0	0.0	8.0				0.1	0.0	107.9	2,163	193.4	0.0	
09/30/08	-49.0	0.0	9.2				0.0	0.0	106.5	2,237	200.0	0.0	
10/30/08 (15)	-50.0	0.0	9.0				0.0	0.0	88.8	229	20.5	0.0	
11/25/08 <sup>(16)</sup>	-50.0	0.0	4.1				0.0	0.0					
12/31/08 <sup>(17)</sup>													
01/14/09	-53.5	0.0	9.0				0.0	0.0	88.1	2,061	184.3	0.0	
02/25/09	-52.0	0.0	9.5				0.0	0.0	91.5	2,221	198.6	0.0	
03/31/09	-52.5	0.0	9.0				0.0	0.0	92.4	2,180	194.9	0.0	
05/12/09 (18)	-51.5	0.0	9.0				0.0	0.0	96.9	2,316	207.1	0.0	
05/28/09	-50.0	0.0	9.0				1.0	0.0	97.1	2,195	196.3	0.1 - 0.6	
06/30/09	-48.8	0.0	9.0				0.0 - 0.2	0.0	109.0	2,238	200.1	0.0 - 0.1	
08/03/09 (19)	-49.0	0.0	9.0				0.0	0.0	118.0	2,660	237.8	0.0	
08/31/09	-50.0	0.0	9.0				0.0	0.0	113.5	2,611	233.5	0.0	

G:\APROJECT\Spiegel\Sunnyside\Vapor Recovery System\System Status Reports\October 2009 to June 2010\Table 1 Spiegel SVE Data\_061610.xisx - Table 1.

Table 1. Sy	ystem Operational i	Data, Vapor Recovery	System, United	Stellar Industries,	Plainview, New York.
-------------	---------------------	----------------------	----------------	---------------------	----------------------

	Blower Parameters			GAC 500 Parameters					Discharge Parameters				
Date	Influent Vacuum (in.W.C.)	Effluent Pressure (in.W.C.)	Influent Pressure (in.W.C.)	Influent Temperature (Degrees F)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	Discharge Pressure (in.W.C.)	Discharge Temperature (Degrees F)	Air Velocity (fpm)	Air Flow Rate <sup>(1)</sup> (cfm)	PID Measured Concentration (ppmv)	
09/30/09	-50.0	0.0	9.5				0.0	0.0	99.8	2,400	214.6	0.0	
12/30/09 (20)	-55.0	0.0	NA	NA	NA	NA	NA	0.0	93.0	2,473	221.1	0.0	
03/25/10	-56.0	2.0 (21)	NA	NA	NA	NA	NA	0.0	101.8	2,945	263.3	0.0	
06/16/10	-53.0	0.0	NA	NA	NA	NA	NA	0.0	109.2	2,932	262.2	0.0	

	Induced Vacuum Measurements											
	MP-1	MP-2	MP-3	MP-4	MP-5	MP-6						
Date	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)						
06/8/06 <sup>(2)</sup>	0.00	0.00	0.00	0.00	0.00	0.00						
	-0.14	-0.11	-0.08	-0.16	-0.09	-0.13						
	-0.11	-0.09	-0.07	-0.16	-0.07	-0.11						
(3)	-0.13	-0.09	-0.07	-0.16	-0.07	-0.11						
06/09/06	-0.14	-0.12	-0.08	0.00	-0.01	-0.13						
06/12/06												
06/16/06	-0.09	-0.09	-0.08	-0.17	-0.05	-0.10						
06/30/06												
07/14/06	-0.10	-0.10	-0.15	-0.18	-0.08	-0.12						
07/28/06	-0.07	-0.10	-0.09	-0.16	-0.07	-0.01						
08/11/06	-0.05	-0.05	-0.04	-0.08	-0.04	-0.08						
08/25/06	-0.03	-0.04	-0.03	-0.07	-0.03	0.00						
09/08/06	-0.04	-0.04	-0.04	-0.08	-0.05	-0.07						
10/05/06	-0.05	-0.04	-0.04	-0.04 (8)	-0.05	-0.05 <sup>(8)</sup>						
11/03/06	-0.04	-0.05	-0.04	-0.09	-0.04	0.00						
12/05/06	-0.03	-0.04	-0.06	-0.03	-0.01	0.00						
04/26/07	-0.06	-0.14	-0.04	-0.02	-0.15	-0.10						
05/29/07	-0.02	-0.08	-0.01	0.00	-0.09	-0.05						
06/27/07	-0.02	-0.04	-0.01	0.00	-0.09	-0.07						
07/26/07	-0.02	-0.06	0.00	0.00	-0.09	-0.05						
09/6/07 <sup>(9)</sup>	-0.02	-0.05	-0.01	-0.01	-0.07	-0.04						
09/6/07 <sup>(9)</sup>	-0.06	-0.15	-0.06	-0.01	-0.14	-0.10						
09/28/07	-0.04	-0.13	0.00	0.00	-0.13	-0.10						

G:\APROJECT\Spiege\\Sunnyside\Vapor Recovery System\System Status Reports\October 2009 to June 2010\Table 1 Spiegel SVE Data\_061610.xlsx - Table 1.

Table 1. System Operational Data, Vapor Recovery System, United Stellar Industries, Plainview, New York.

	Induced Vacuum Measurements MP-1 MP-2 MP-3 MP-4 MP-5 MP-6												
	MP-1	MP-2	MP-3	MP-4	MP-5	MP-6							
Date	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)							
10/25/07	-0.05	-0.15	-0.07	0.00	-0.15	-0.13							
12/13/07 (10)	-0.06	-0.12	0.00	0.00	-0.10	-0.09							
12/27/07	-0.07	-0.15	0.00	0.00	-0.09	-0.07							
02/5/08 (12)	-0.09	-0.16	0.00	0.00	-0.09	-0.08							
02/26/08 (13)	-0.08	-0.12	0.00	-0.03	-0.09	-0.08							
04/3/08 (14)	-0.04	-0.06	0.00	0.00	-0.07	-0.05							
04/30/08	-0.03	-0.07	0.00	0.00	~0.05	-0.04							
05/27/08	-0.07	-0.12	0.00	-0.01	-0.10	-0.13							
06/26/08	-0.03	-0.08	0.00	-0.01	-0.03	-0.07							
07/23/09	-0.03	-0.09	-0.12	-0.04	-0.04	-0.05							
08/28/08	-0.05	-0.13	-0.01	-0.01	-0.07	-0.01							
09/30/08	-0.05	-0.13	0.00	-0.11	-0.07	-0.07							
10/30/08 <sup>(15)</sup>	-0.10	-0.18	-0.08	-0.12	-0.23	-0.12							
11/25/08 <sup>(16)</sup>													
12/31/08 (17)													
01/14/09	-0.01	-0.02	0.01	0.00	-0.02	-0.02							
02/25/09	-0.01	-0.03	0.00	0.00	-0.04	-0.02							
03/31/09	-0.01	-0.04	0.00	0.00	-0.02	-0.03							
05/12/09 (18)													
05/28/09	-0.03	-0.07	-0.01	0.01	-0.04	-0.06							
06/30/09	-0.13	-0.21	0.00	-0.01	-0.12	-0.14							
08/03/09 (19)	-0.03	-0.07	0.00	0.00	-0.04	-0.05							
08/31/09	-0.04	-0.09	0.01	0.00	-0.02	-0.02							

G:\APROJECT\Spiegel\Sunnyside\Vapor Recovery System\System Status Reports\October 2009 to June 2010\Table 1 Spiegel SVE Data\_061610.xlsx - Table 1.

Table 1. System Operational Data, Vapor Recovery System, United Stellar Industries, Plainview, New York.

	Induced Vacuum Measurements											
	MP-1	MP-2	MP-3	MP-4	MP-5	MP-6						
Date	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)	(in.W.C.)						
09/30/09	-0.06	-0.11	-0.01	-0.02	-0.09	-0.08						
12/30/09 (20)	-0.02	-0.04	0.01	0.00	-0.03	-0.04						
03/25/10	-0.04	-0.05	-0.03	-0.01	-0.06	-0.07						
06/16/10	-0.03	-0.05	-0.01	-0.01	0.00	-0.04						

Table 1. System Operational Data, Vapor Recovery System, United Stellar Industries, Plainview, New York.

#### Notes:

- 1. Air flow rate calculated by multiplying the measured air velocity in feet per minute by the cross sectional area of the pipe.
- 2. The Soil Vapor Extraction System baseline reading was taken at 1:45 PM on June 8, 2006.
- 3. The system was started at 2:30 PM on June 8, 2006. The first reading was taken at 15 minutes after start-up.
- 4. SVE-3 was valved off on June 9, 2006 after a leak was discovered in well head.
- 5. Temperature taken using a handheld infra red thermometer.
- 6. GAC 500 was temporarily removed until a replacement vessel arrived.
- 7. The leak at the SVE-3 well was sealed and the well was brought on line on June 16, 2006.
- 8. Readings taken at the wellhead.
- 9. Following the September 6, 2007 monthly compliance sampling event, the system was shut down and the air filter on the influent blower line was replaced. System parameters were recorded prior to and after the filter replacement.
- 10. Samples collected during the November 13, 2007 monthly monitoring event arrived at the laboratory flat. November 2007 monthly compliance sampling was re-conducted on December 13, 2007.
- 11. Gauge stopped working during the November 2007 sampling event.
- 12. Samples collected on January 31, 2008 were delivered to the laboratory outside of the recommended holding time. January 2008 monthly compliance sampling was re-conducted on February 5, 2008.
- 13. Air flow rates were not recorded during the February 26, 2008 monthly compliance sampling event due to lack of a working anemometer. Air flow readings shown were recorded on February 5, 2008.
- 14. Sample SVE-2 collected on March 26, 2008 arrived at the laboratory flat. March 2008 monthly compliance sampling was re-conducted on April 3, 2008.
- 15. Air flow readings recorded during the October 2008 sampling event were recorded using a faulty anemometer. These readings were not accounted for in associated calculations.
- 16. Effluent air flow readings and induced vacuum readings were not recorded during the November 2008 operational period due to faulty equipment.
- 17. Parameters readings were not collected during the December 2008 operational period as a result of the system being intermittently offline due to water accumulation in the system knock-out tank.
- 18. The April 2009 monthly compliance sampling event was completed on May 12, 2009.
- 19. The July 2009 monthly compliance sampling event was completed on August 3, 2009.
- 20. Based on September 22, 2009 New York State Department of Environmental Protection (NYSDEC) approval, the compliance monitoring frequency was decreased from monthly to quarterly, beginning with the fourth quarter of 2009 (October 1 through December 31, 2009). Additionally, vapor phase granular activated carbon air treatment was removed from system operation on December 3, 2009.
- 21. Pressure gauge replaced during the March 25, 2010 monitoring event.
- in. W.C. Inches of water column
- fpm Feet per minute
- cfm Cubic feet per minute
- ppmv Parts per million by volume
- Degree F Degrees Fahrenheit
- -- Not measured
- NA Not applicable

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-1 <sup>(3)</sup> 6/16/2006	SVE-1 6/30/2006	SVE-1 7/14/2006	SVE-1 7/28/2006	SVE-1 8/11/2006	SVE-1 8/25/2006	SVE-1 9/8/2006	SVE-1 10/5/2006	SVE-1 11/3/2006	SVE-1 12/5/2006	SVE-1 4/26/2007
Freon 12		ND J	ND	ND	ND	29	ND	ND	25	29	28	ND
Freon 113		280 J	410	61	70	100	44	52	67	51	45	ND
Chloroform		51 J	160	ND	ND	33	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		150 J	1,100	220	210	340	87	98	110	76	53	27
Trichloroethene		5,200 J	5,900	840	1,400	3,200	980	1,700	3,000	2,300	1,400	650
Tetrachloroethene		210 J	220	ND	46	140	ND	60	130	110	ND	ND
cis-1,2-Dichloroethene		140 J	160	42	80	180	71	90	130	110	97	42
1,1-Dichloroethane		ND J	ND	ND	20	32	ND	ND	ND	ND	ND	ND
Toluene		32 J	ND	ND	ND	ND	24	ND	ND	ND	ND	ND
2-Propanol		200 J	130	ND	ND	14	ND	100	45	16	12	ND
Methylene Chloride		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND -	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		6,263	8,080	1,163	1,826	4,068	1,206	2,100	3,507	2,692	1,635	719

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-1 5/29/2007	SVE-1 6/27/2007	SVE-1 7/26/2007	SVE-1 <sup>(4)</sup> 9/6/2007	SVE-1 9/28/2007	SVE-1 10/25/2007	SVE-1 <sup>(5)</sup> 12/13/2007	SVE-1 12/27/2007	SVE-1 <sup>(6)</sup> 2/5/2008	SVE-1 2/26/2008	SVE-1 <sup>(7)</sup> 4/3/2008
Freon 12		ND	ND	ND	ND	ND	ND	33	53	33	28	ND
Freon 113		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		34	34	48	28	ND	ND	42	59	45	29	ND
Trichloroethene		1,300	1,300	1,700	900	1,300	1,200	1,200	2,500	2,000	1,400	700
Tetrachloroethene		38	51	68	ND	ND	ND	36	100	75	59	ND
cis-1,2-Dichloroethene		71	70	86	52	51	59	76	120	110	84	45
1,1-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		ND	ND	ND	30	ND	ND	30	71	ND	40	230
2-Propanol		ND	36	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND	ND	ND	34	ND	ND	17
Carbon Disulfide		ND	ND	ND	28	ND	ND	ND	ND	ND	ND	ND
Hexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	64
2-Butanone		ND	ND	ND	ND	ND	ND	ND	30	ND	ND	22
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		1,443	1,491	1,902	1,038	1,351	1,259	1,417	2,967	2,263	1,640	1,225

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-1 4/30/2008	SVE-1 5/27/2008	SVE-1 6/26/2008	SVE-1 7/23/2008	SVE-1 8/28/2008	SVE-1 9/30/2008	SVE-1 10/30/2008	SVE-1 <sup>(8)</sup> 11/25/2008	SVE-1 <sup>(9)</sup> 12/31/2008	SVE-1 1/14/2009	SVE-1 2/25/2009
Freon 12		35	43	40	36	58	40	28			ND	ND
Freon 113		ND			ND	ND						
Chloroform		ND			ND	ND						
1,1,1-Trichloroethane		36	42	29	33	44	28	ND			ND	ND
Trichloroethene		2,000	2,600	2,200	1,900	2,500	1,600	840			880	500
Tetrachloroethene		66	100	98	91	120	72	ND			36	ND
cis-1,2-Dichloroethene		120	140	110	100	140	87	56			48	31
1,1-Dichloroethane		ND			ND	ND						
Toluene		ND	ND	ND	ND	ND	ND	58			ND	ND
2-Propanol		ND	-		ND	ND						
Methylene Chloride		ND			ND	ND						
Carbon Disulfide		ND	16	ND	19	ND	ND	ND			ND	ND
Hexane		ND			ND	ND						
2-Butanone		ND	ND	ND	ND	ND	ND	16			ND	ND
Ethanol		ND			ND	ND						
Acetone		ND			ND	ND						
Benzene		ND			ND	ND						
1,2-Dichloropropane		ND			ND	ND						
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	63			ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	94			ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	32			ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	140			ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	78			ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	79			ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	57			ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	94			ND	ND
Heptane		ND			ND	ND						
Cyclohexane		ND			ND	ND						
Total VOCs <sup>(2)</sup>		2,257	2,941	2,477	2,179	2,862	1,827	1,635			964	531

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-1 3/31/2009	SVE-1 <sup>(10)</sup> 5/12/2009	SVE-1 5/28/2009	SVE-1 6/30/2009	SVE-1 <sup>(11)</sup> 8/3/2009	SVE-1 8/31/2009	SVE-1 <sup>(12)</sup> 9/30/2009	SVE-1 12/30/2009	SVE-1 3/25/2010	SVE-1 6/16/2010
Freon 12		ND	ND	29	36	ND	ND	ND	ND	ND	ND
Freon 113		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		740	720	1,500	1,100	310	150	130	83	81	ND
Tetrachloroethene		38	ND	70	36	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene		44	46	92	70	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		ND	ND	ND	68	ND	ND	ND	ND	ND	ND
2-Propanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	23	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	23	30	ND	ND	ND	ND	ND
Hexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	42	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	180	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	69	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	74	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	26	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	74	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs (2)		822	766	1,714	1,798	340	150	130	83	81	ND

Table 2. Summary of Extraction Well Vapor Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York.<sup>(1)</sup>

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-2 <sup>(3)</sup> 6/16/2006	SVE-2 6/30/2006	SVE-2 7/14/2006	SVE-2 7/28/2006	SVE-2 8/11/2006	SVE-2 8/25/2006	SVE-2 9/8/2006	SVE-2 10/5/2006	SVE-2 11/3/2006	SVE-2 12/5/2006	SVE-2 4/26/2007
Freon 12		ND J	ND	ND	ND	ND	170	280	ND	ND	ND	ND
Freon 113		580 J	580	190	180	310	ND	ND	250	240	210	110
Chloroform		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		64 J	52	ND	ND	46	ND	39	35	36	ND	ND
Trichloroethene		12,000 J	16,000	3,300	3,200	8,100	3,400	6,700	5,500	4,200	2,300	1,400
Tetrachloroethene		180 J	190	46	39	140	45	120	130	130	53	ND
cis-1,2-Dichloroethene		320 J	290	88	84	160	82	140	100	89	65	38
1,1-Dichloroethane		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		30 J	ND	ND	ND	ND	ND	ND	ND	ND	21	ND
2-Propanol		150 J	130	ND	ND	27	12	120	41	16	13	ND
Methylene Chloride		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		13,324 J	17,242	3,624	3,503	8,783	3,709	7,399	6,056	4,711	2,662	1,548

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-2 5/29/2007	SVE-2 6/27/2007	SVE-2 7/26/2007	SVE-2 <sup>(4)</sup> 9/6/2007	SVE-2 9/28/2007	SVE-2 10/25/2007	SVE-2 <sup>(5)</sup> 12/13/2007	SVE-2 12/27/2007	SVE-2 <sup>(6)</sup> 2/5/2008	SVE-2 2/26/2008	SVE-2 <sup>(7)</sup> 4/3/2008
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		190	ND	210	170	ND	ND	76	92	94	97	ND
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		29	ND	40	29	ND	ND	ND	29	ND	ND	ND
Trichloroethene		4,300	240	3,700	2,600	3,400	2,100	1,600	3,400	2,100	2,000	780
Tetrachloroethene		110	ND	130	58	ND	ND	73	210	120	110	ND
cis-1,2-Dichloroethene		300	ND	84	63	ND	ND	39	54	43	38	ND
1,1-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		ND	95	ND	ND	ND	ND	ND	ND	24	ND	210
2-Propanol		ND	170	ND	ND	ND	ND	ND	ND	ND	ND	51
Methylene Chloride		ND	50	ND	ND	ND	ND	ND	ND	ND	ND	18
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	82
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	59
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs (2)		4,929	555	4,164	2,920	3,400	2,100	1,788	3,785	2,381	2,245	1,302

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-2 4/30/2008	SVE-2 5/27/2008	SVE-2 6/26/2008	SVE-2 7/23/2008	SVE-2 8/28/2008	SVE-2 9/30/2008	SVE-2 10/30/2008	SVE-2 11/25/2008	SVE-2 <sup>(9)</sup> 12/31/2008	SVE-2 1/14/2009	SVE-2 2/25/2009
Freon 12		ND	ND		ND	ND						
Freon 113		100	100	73	80	95	63	ND	ND		ND	ND
Chloroform		ND	ND		ND	ND						
1,1,1-Trichloroethane		ND	ND		ND	ND						
Trichloroethene		2,500	3,300	2,600	2,400	2,900	1,800	310	840		1,200	1,200
Tetrachloroethene		89	110	110	100	130	93	ND	45		66	51
cis-1,2-Dichloroethene		53	60	51	48	63	42	ND	ND		25	21
1,1-Dichloroethane		ND	ND		ND	ND						
Toluene		ND	ND	ND	ND	ND	ND	370	ND		ND	ND
2-Propanol		ND	ND		ND	ND						
Methylene Chloride		28	ND	ND	ND	ND	ND	23	ND		ND	ND
Carbon Disulfide		ND	18	ND	20	ND	ND	ND	ND		ND	ND
Hexane		ND	ND		ND	ND						
2-Butanone		ND	ND		ND	ND						
Ethanol		ND	ND		ND	ND						
Acetone		ND	ND	ND	ND	ND	66	ND	68		ND	ND
Benzene		ND	ND		ND	ND						
1,2-Dichloropropane		ND	ND		ND	ND						
Tetrahydrofuran		ND	ND		ND	ND						
2,2,4-Trimethylpentane		ND	ND		ND	ND						
Ethyl Benzene		ND	ND		ND	ND						
m,p-Xylene		ND	ND		ND	ND						
o-Xylene		ND	ND		ND	ND						
4-Ethyltoluene		ND	ND		ND	ND						
1,3,5-Trimethylbenzene		ND	ND		ND	ND						
1,2,4-Trimethylbenzene		ND	ND		ND	ND						
Heptane		ND	ND	ND	ND	ND	ND	27	ND		ND	ND
Cyclohexane		ND	ND		ND	ND						
Total VOCs <sup>(2)</sup>		2,770	3,588	2,834	2,648	3,188	2,064	730	953		1,291	1,272

.

Table 2. Summary of Extraction Well Vapor Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York.<sup>(1)</sup>

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-2 3/31/2009	SVE-2 <sup>(10)</sup> 5/12/2009	SVE-2 5/28/2009	SVE-2 6/30/2009	SVE-2 <sup>(11)</sup> 8/3/2009	SVE-2 8/31/2009	SVE-2 <sup>(12)</sup> 9/30/2009	SVE-2 12/30/2009	SVE-2 3/25/2010	SVE-2 6/16/2010	
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Freon 113		ND	ND	59	68	ND	ND	ND	ND	ND	ND	
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene		1,600	1,800	2,700	1,700	480	240	200	160	160	200	
Tetrachloroethene		58	59	100	49	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene		32	35	59	41	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene		ND	ND	ND	20	ND	ND	ND	ND	ND	ND	
2-Propanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Disulfide		ND	ND	ND	22	28	ND	ND	ND	ND	ND	
Hexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
m,p-Xylene		ND	ND	ND	61	ND	ND	ND	ND	ND	ND	
o-Xylene		ND	ND	ND	23	ND	ND	ND	ND	ND	ND	
4-Ethyltoluene		ND	ND	ND	32	ND	ND	ND	ND	ND	ND	
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2,4-Trimethylbenzene		ND	ND	ND	32	ND	ND	ND	ND	ND	ND	
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total VOCs (2)		1,690	1,894	2,918	2,048	508	240	200	160	160	200	

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-3 <sup>(3)</sup> 6/16/2006	SVE-3 6/30/2006	SVE-3 7/14/2006	SVE-3 7/28/2006	SVE-3 8/11/2006	SVE-3 8/25/2006	SVE-3 9/8/2006	SVE-3 10/5/2006	SVE-3 11/3/2006	SVE-3 12/5/2006	SVE-3 4/26/2007
Freon 12		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		130 J	320	110	73	79	93	110	91	110	100	70
Chloroform		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		600 J	1,000	290	180	310	270	480	450	480	350	210
Tetrachloroethene		ND J	49	ND	ND	ND	ND	34	ND	37	ND	ND
cis-1,2-Dichloroethene		27 J	150	71	38	60	76	140	170	240	240	180
1,1-Dichloroethane		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol		160 J	150	ND	26	ND	ND	72	32	14	16	ND
Methylene Chloride		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		917 J	1,669	471	317	449	439	836	743	881	706	460

Table 2. Summary of Extraction Well Vapor Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York.<sup>(1)</sup>

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-3 5/29/2007	SVE-3 6/27/2007	SVE-3 7/26/2007	SVE-3 <sup>(4)</sup> 9/6/2007	SVE-3 9/28/2007	SVE-3 10/25/2007	SVE-3 <sup>(5)</sup> 12/13/2007	SVE-3 12/27/2007	SVE-3 <sup>(6)</sup> 2/5/2008	SVE-3 2/26/2008	SVE-3 <sup>(7)</sup> 4/3/2008
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		110	120	160	110	100	92	44	48	44	ND	ND
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		340	340	460	310	340	260	130	170	92	71	55
Tetrachloroethene		34	42	69	ND	55	ND	ND	39	ND	ND	ND
cis-1,2-Dichloroethene		300	300	420	230	250	270	140	170	110	92	73
1,1-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	27	96
2-Propanol		ND	37	ND	ND	ND	ND	ND	ND	ND	ND	49
Methylene Chloride		ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane		ND	ND	ND	ND	ND	ND	23	ND	ND	ND	41
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	44
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND 🛔
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		784	839	1,109	650	745	622	356	427	246	190	358

Table 2. Summary of Extraction Well Vapor Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York.<sup>(1)</sup>

Constituents (units in ug/m³)	Sample ID: Date:	SVE-3 4/30/2008	SVE-3 5/27/2008	SVE-3 6/26/2008	SVE-3 7/23/2008	SVE-3 8/28/2008	SVE-3 9/30/2008	SVE-3 10/30/2008	SVE-3 11/25/2008	SVE-3 <sup>(9)</sup> 12/31/2008	SVE-3 1/14/2009	SVE-3 2/25/2009
Freon 12		ND	ND		ND	ND						
Freon 113		ND	ND	ND	ND	50	ND	ND	ND		ND	ND
Chloroform		ND	ND		ND	ND						
1,1,1-Trichloroethane		ND	ND		ND	ND						
Trichloroethene		88	110	100	120	160	160	100	71		100	39
Tetrachloroethene		ND	ND		ND	ND						
cis-1,2-Dichloroethene		93	140	130	140	330	300	110	190		150	93
1,1-Dichloroethane		ND	ND		ND	ND						
Toluene		ND	ND	ND	96	ND	ND	210	ND		ND	ND
2-Propanol		ND	ND		ND	ND						
Methylene Chloride		ND	ND		ND	ND						
Carbon Disulfide		ND	16	ND	26	ND	ND	ND	ND		ND	ND
Hexane		ND	ND		ND	ND						
2-Butanone		ND	ND		ND	ND						
Ethanol		ND	ND		ND	ND						
Acetone		ND	ND		ND	ND						
Benzene		ND	ND		ND	ND						
1,2-Dichloropropane		ND	ND	ND	38	ND	ND	ND	ND		ND	ND
Tetrahydrofuran		ND	ND		ND	ND						
2,2,4-Trimethylpentane		ND	ND		ND	ND						
Ethyl Benzene		ND	ND		ND	ND						
m,p-Xylene		ND	ND		ND	ND						
o-Xylene		ND	ND		ND	ND						
4-Ethyltoluene		ND	ND		ND	ND						
1,3,5-Trimethylbenzene		ND	ND		ND	ND						
1,2,4-Trimethylbenzene		ND	ND		ND	ND						
Heptane		ND	ND		ND	ND						
Cyclohexane		ND	ND		ND	ND						
Total VOCs (2)		181	266	230	420	540	460	420	261		250	132

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	SVE-3 3/31/2009	SVE-3 <sup>(10)</sup> 5/12/2009	SVE-3 5/28/2009	SVE-3 6/30/2009	SVE-3 <sup>(11)</sup> 8/3/2009	SVE-3 8/31/2009	SVE-3 <sup>(12)</sup> 9/30/2009	SVE-3 12/30/2009	SVE-3 3/25/2010	SVE-3 6/16/2010
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		63	56	35	76	28	ND	ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene		110	110	78	140	40	ND	28	27	21	ND
1,1-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		ND	ND	120	19	ND	ND	ND	ND	ND	ND
2-Propanol		ND	ND	90	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	23	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	29	37	ND	ND	ND	ND	ND
Hexane		ND	ND	75	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	21	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	49	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	ND	130 J	ND	ND	ND	ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	24	52	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	26	ND	ND	ND	ND	ND	ND
Heptane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane		ND	ND	46	ND	ND	ND	ND	ND	ND	ND
Total VOCs (2)		173	166	691	342	105	ND	28	27	21	ND

Table 2. Summary of Extraction Well Vapor Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York.<sup>(1)</sup>

#### Notes:

- 1. Samples collected by ARCADIS personnel on the dates shown and submitted to Air Toxics Laboratories in Folsom, CA for volatile organic compound (VOC) analyses using Direct Inject Method TO-14. Only VOCs detected at or above their respective laboratory quantification limits at any sample location during the project are presented in this table.
- 2. "Total VOCs" represents the sum of individual concentrations of compounds listed in this table.
- 3. Due to laboratory error, samples SVE-1, SVE-2, and SVE-3 were analyzed outside of the recommended hold time. Although subsequent laboratory testing indicating the results are representative, these results are nonetheless considered estimated, and are noted with a J qualifier.
- 4. The August 2007 monthly compliance sampling event was completed on September 6, 2007.
- 5. Samples SVE-1 and EFF-1 collected on November 29, 2007 arrived at the laboratory flat. November 2007 monthly compliance sampling was re-conducted on December 13, 2007.
- 6. Samples collected on January 31, 2008 were delivered to the laboratory outside of the recommended holding time. January 2008 monthly compliance sampling was re-conducted on February 5, 2008.
- 7. Sample SVE-2 collected on March 26, 2008 arrived at the laboratory flat. March 2008 monthly compliance sampling was re-conducted on April 3, 2008.
- 8. Sample SVE-1 was not collected during the November 2008 operational period due to a lack of a sufficient quantity of sample bags.
- 9. Samples were not collected during the December 2008 operational period as a result of the system being intermittently offline due to water accumulation in the system knock-out tank.
- 10. The April 2009 monthly compliance sampling was completed on May 12, 2009.
- 11. The July 2009 monthly compliance sampling was completed on August 3, 2009.
- 12. Based on September 22, 2009 New York State Department of Conservation (NYSDC) approval, the frequency of compliance monitoring was decreased from monthly to quarterly beginning with the fourth quarter 2009 (October 1 through December 31, 2009).
- ug/m<sup>3</sup> Micrograms per cubic meter
- ND Analyte not detected at, or above its laboratory quantification limit
- J The compound was positively identified, however, the associated numerical value is an estimated concentration only
- -- Sample not collected

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	EFF-1 6/30/2006	EFF-1 7/28/2006	EFF-1 8/11/2006	EFF-1 8/25/2006	EFF-1 9/8/2006	EFF-1 10/5/2006	EFF-1 11/3/2006	EFF-1 12/5/2006	EFF-1 4/26/2007	EFF-1 5/29/2007	EFF-1 6/27/2007
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		ND	ND	ND	ND	49	72	61	64	74	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	28	ND	ND	ND	ND
Trichloroethene		140	54	ND	ND	ND	120	82	160	200	390	130
cis-1,2-Dichloroethene		ND	21	79	110	140	140	98	93	68	84	26
Toluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	77	60
2-Propanol		170	58	27	ND	70	46	12	20	61	39	81
Benzene		18	ND	ND	ND	ND	ND	ND	ND	54	ND	ND
MTBE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1 Dichloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	18	85
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	NĎ	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs (2)		328	133	106	110	259	378	281	337	457	608	382

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	EFF-1 7/26/2007	EFF-1 <sup>(3)</sup> 9/6/2007	EFF-1 9/28/2007	EFF-1 10/25/2007	EFF-1 <sup>(4)</sup> 12/13/2007	EFF-1 12/27/2007	EFF-1 <sup>(5)</sup> 2/5/2008	EFF-1 2/26/2008	EFF-1 <sup>(6)</sup> 4/3/2008	EFF-1 4/30/2008	EFF-1 5/27/2008
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		340	220	160	97	53	ND	49	60	58	76	87
1,1,1-Trichloroethane		120	74	ND	ND	ND	ND	ND	ND	ND	30	58
Trichloroethene		2,800	2,100	2,600	1,100	700	680	590	820	820	1,200	2,500
cis-1,2-Dichloroethene		440	220	210	160	130	96	92	120	120	97	140
Toluene		ND	ND	ND	ND	ND	63	84	22	ND	ND	ND
2-Propanol		ND	ND	ND	ND	ND	ND	64	ND	ND	ND	52
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1 DCE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND	32	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	38	42	ND	ND	53	ND
2-Butanone		ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs (2)		3,700	2,614	2,970	1,357	883	926	921	1,022	998	1,456	2,858

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	EFF-1 6/26/2008	EFF-1 7/23/2008	EFF-1 8/28/2008	EFF-1 9/30/2008	EFF-1 10/30/2008	EFF-1 11/25/2008	EFF-1 <sup>(7)</sup> 12/31/2008	EFF-1 1/14/2009	EFF-1 2/25/2009	EFF-1 3/31/2009	EFF-1 <sup>(8)</sup> 5/12/2009
Freon 12		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Freon 113		76	55	65	42	ND	ND		ND	ND	ND	ND
1,1,1-Trichloroethane		36	32	39	ND	ND	ND		ND	ND	ND	ND
Trichloroethene		2,300	1900	2,900	2,000	350	56		490	330	580	680
cis-1,2-Dichloroethene		96	81	170	140	45	ND		83	25	62	79
Toluene		ND	210	ND	ND	45	ND		ND	ND	ND	ND
2-Propanol		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
MTBE		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
1,1 DCE		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
2-Butanone		ND	21	ND	ND	ND	ND		ND	ND	ND	ND
Carbon Disulfide		ND	22	ND	ND	ND	ND		ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
1,2-Dichloropropane		ND	83	ND	ND	ND	ND		ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	50	ND		ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	66	ND		ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	23	ND		ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	110	ND		ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	60	ND		ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	60	ND		ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	45	ND		ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	80	ND		ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		2,508	2,404	3,174	2,182	934	56		573	355	642	759

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

Constituents (units in ua/m <sup>3</sup> )	Sample ID: Date:	EFF-1 5/28/2009	EFF-1 6/30/2009	EFF-1 <sup>(9)</sup> 8/3/2009	EFF-1 8/31/2009	EFF-1 9/30/2009	EFF-1 <sup>(10)</sup> 9/30/2009
							·····
Freon 12		ND	ND	ND	ND	ND	
Freon 113		ND	53	ND	ND	ND	
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	
Trichloroethene		1,600	2,300	520	260	150	+-
cis-1,2-Dichloroethene		140	120	24	ND	ND	
Toluene		ND	ND	ND	ND	ND	
2-Propanol		ND	ND	ND	ND	ND	
Benzene		ND	33	ND	ND	ND	
МТВЕ		ND	ND	ND	ND	ND	
1,1 DCE		ND	ND	ND	ND	ND	
Methylene Chloride		25	ND	ND	ND	ND	
Ethanol		ND	ND	ND	ND	ND	
2-Butanone		ND	ND	ND	ND	ND	
Carbon Disulfide		ND	21	19	ND	ND	
Acetone		ND	ND	ND	ND	ND	
1,2-Dichloropropane		ND	ND	ND	ND	ND	
Tetrahydrofuran		ND	ND	ND	ND	ND	
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	
Ethyl Benzene		ND	ND	ND	ND	ND	
m,p-Xylene		ND	ND	ND	ND	ND	
o-Xylene		ND	ND	ND	ND	ND	
4-Ethyltoluene		ND	ND	ND	ND	ND	
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	
Total VOCs <sup>(2)</sup>		1,765	2,527	563	260	150	

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	EFF-2 6/30/2006	EFF-2 7/28/2006	EFF-2 8/11/2006	EFF-2 8/25/2006	EFF-2 9/8/2006	EFF-2 10/5/2006	EFF-2 11/3/2006	EFF-2 12/5/2006	EFF-2 4/26/2007	EFF-2 5/29/2007	EFF-2 6/27/2007
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		340	51	ND	ND	ND	29	ND	94	ND	ND	ND
cis-1,2-Dichloroethene		ND	ND	ND	ND	ND	ND	ND	22	ND	310	360
Toluene		48	ND	ND	ND	ND	ND	ND	19	ND	ND	ND
2-Propanol		51	32	29	13	140	65	34	21	52	ND	38
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
МТВЕ		ND	53	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1 DCE		ND	29	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		ND	24	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	, ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs (2)		439	189	29	13	140	94	34	156	52	310	508

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	EFF-2 7/26/2007	EFF-2 <sup>(3)</sup> 9/6/2007	EFF-2 9/28/2007	EFF-2 10/25/2007	EFF-2 <sup>(4)</sup> 12/13/2007	EFF-2 12/27/2007	EFF-2 <sup>(5)</sup> 2/5/2008	EFF-2 2/26/2008	EFF-2 <sup>(6)</sup> 4/3/2008	EFF-2 4/30/2008	EFF-2 5/27/2008
Freon 12		ND	ND	ND	ND	ND	33	ND	ND	ND	ND	ND
Freon 113		280	280	240	210	110	76	110	99	71	100	98
1,1,1-Trichloroethane		ND	55	63	ND	60	55	59	45	47	48	74
Trichloroethene		ND	ND	34	110	150	190	270	260	330	570	1,000
cis-1,2-Dichloroethene		540	320	270	190	140	130	150	140	140	150	160
Toluene		ND	ND	ND	ND	ND	ND	ND	32	ND	ND	ND
2-Propanol		ND	ND	75	ND	ND	ND	ND	59	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1 DCE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND	130	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND	57	70	ND
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18
Acetone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs (2)		820	655	682	510	460	614	589	635	645	938	1,350

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	EFF-2 6/26/2008	EFF-2 7/23/2008	EFF-2 8/28/2008	EFF-2 9/30/2008	EFF-2 10/30/2008	EFF-2 11/25/2008	EFF-2 <sup>(7)</sup> 12/31/2008	EFF-2 1/14/2009	EFF-2 2/25/2009	EFF-2 3/31/2009	EFF-2 <sup>(8)</sup> 5/12/2009
Freon 12		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Freon 113		110	96	120	49	ND	ND	No. or	ND	ND	ND	ND
1,1,1-Trichloroethane		48	47	74	45	ND	ND		ND	ND	ND	ND
Trichloroethene		1,000	1,300	2,400	1,900	380	420		700	510	820	740
cis-1,2-Dichloroethene		120	93	150	110	32	35		73	68	92	66
Toluene		ND	110	ND	ND	140	32		ND	ND	ND	ND
2-Propanol		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
MTBE		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
1,1 DCE		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Methylene Chloride		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
2-Butanone		ND	18	ND	ND	ND	ND		ND	ND	ND	ND
Carbon Disulfide		16	26	ND	ND	ND	ND		ND	ND	ND	ND
Acetone		ND	54	ND	ND	ND	ND		ND	ND	ND	ND
1,2-Dichloropropane		ND	41	ND	ND	ND	ND		ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	39	ND		ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	53	ND		ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	95	ND		ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	51	ND		ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	50	ND		ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	38	ND		ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	65	ND		ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		1,294	1,785	2,744	2,104	943	487		773	578	912	806

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

Constituents (units in ug/m <sup>3</sup> )	Sample ID: Date:	EFF-2 5/28/2009	EFF-2 6/30/2009	EFF-2 <sup>(9)</sup> 8/3/2009	EFF-2 8/31/2009	EFF-2 <sup>(11)</sup> 9/30/2009	EFF-2 12/30/2009	EFF-2 3/25/2010	EFF-2 6/16/2010
Freon 12		ND	ND	ND	ND	ND	ND	ND	ND
Freon 113		53	54	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		ND	30	ND	ND	ND	ND	ND	ND
Trichloroethene		1,700	2,500	590	300	170	81	68	88
cis-1,2-Dichloroethene		160	120	29	ND	ND	ND	ND	ND
Toluene		ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol		ND	ND	ND	ND	ND	ND	ND	ND
Benzene		ND	ND	ND	ND	ND	ND	ND	ND
МТВЕ		ND	ND	ND	ND	ND	ND	ND	ND
1,1 DCE		ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride		21	ND	ND	ND	ND	ND	ND	ND
Ethanol		ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone		ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide		ND	20	30	ND	ND	ND	ND	ND
Acetone		ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND
Tetrahydrofuran		ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane		ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene		ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene		ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene		ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs <sup>(2)</sup>		1,934	2,724	649	300	170	81	68	88

Table 3. Summary of Carbon Effluent Sample Analytical Results, Vapor Recovery System, United Stellar Industries, Plainview, New York. (1)

#### Notes:

- 1. Samples collected by ARCADIS personnel on the dates shown and submitted to Air Toxics Laboratories in Folsom, CA for volatile organic compound (VOC) analyses using Direct Inject Method TO-14. Only VOCs detected at or above their respective laboratory quantification limits at any sample location during the project are presented in this table.
- 2. "Total VOCs" represents the sum of individual concentrations of compounds listed in this table.
- 3. The August 2007 monthly compliance sampling event was completed on September 6, 2007.
- 4. Samples SVE-1 and EFF-1 collected on November 29, 2007 arrived at the laboratory flat. November 2007 monthly compliance sampling was re-conducted on December 13, 2007.
- 5. Samples collected on January 31, 2008 were delivered to the laboratory outside of the recommended holding time. January 2008 monthly compliance sampling was re-conducted on February 5, 2008.
- 6. Sample SVE-2 collected on March 26, 2008 arrived at the laboratory flat. March 2008 monthly compliance sampling was re-conducted on April 3, 2008.
- 7. Samples were not collected during the December 2008 operational period as a result of the system being intermittently offline due to water accumulation in the system knock-out tank.
- 8. The April 2009 monthly compliance sampling was completed on May 12, 2009.
- 9. The July 2009 monthly compliance sampling was completed on August 3, 2009.
- 10. Based on September 22, 2009 New York State Department of Conservation (NYSDEC) carbon treatment, and therefore sample location EFF-1, were removed from system operation on December 3, 2009.
- 11. Based on September 22, 2009 approval, the frequency of compliance monitoring was decreased from monthly to quarterly beginning with the fourth quarter 2009 (October 1 through December 31, 2009).
- ug/m<sup>3</sup> Micrograms per cubic meter
- ND Analyte not detected at, or above its laboratory quantification limit
- -- Sample not collected

Table A1. NYSDEC DAR-1 December 30, 2009, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

#### Mass Balance

Measured Effluent Flowrate =	215.8	ACFM				
		% of Total Flow				
SVE-1 Measured Flowrate (ACFM) =	65.6	0.41				
SVE-2 Measured Flowrate (ACFM) =	30.0	0.19				
SVE-3 Measured Flowrate (ACFM) =	62.5	0.40				
Sum of Individual Flows (ACFM) =	158.1					
		Lab Data (ug/m <sup>3</sup> )		Mass Balance Concentration <sup>(1)</sup>	Actual Effluent Concentration	
	SVE-1	SVE-2	SVE-3	(ug/m <sup>3</sup> )	(ug/m <sup>3</sup> )	
Trichloroethene	83	160	0	65	81	
cis-1,2-Dichloroethene	0	0	27	11	0	

#### Notes/Assumptions:

1. Mass balance concentration = Lab Data Concentration SVE-1 x SVE-1 % of Total Flow + Lab Data Concentration SVE-2 x SVE-2 % of Total Flow + Lab Data Concentration SVE-3 x SVE-3 % of Total Flow.

Table A1. NYSDEC DAR-1 December 30, 2009, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

Discharge Temperature <sup>(1)</sup>	т	553 °R	
Ambient Temperature (2)	Та	503 °R	
Stack Diameter	D	4 ìn	
Stack Radius	R	0.167 ft	
Stack Area	А	0.09 ft <sup>2</sup>	
Exit Velocity	V	41.2 fps	
Exit Flow	Q	216 acfm	į
Exit Flow	Q	206 scfm	
Stack Height	h <sub>s</sub>	12 ft	
Building Height	h <sub>b</sub>	10 ft	
Ratio of Heights	h <sub>s</sub> /h <sub>b</sub>	1.20	
Plume rise credit? $h_s/h_b > 1.5?$	(If no, h <sub>e</sub> =h <sub>s</sub> )	No	
Momentum Flux	Fm = Ta/T * V2 * R2	n/a ft <sup>4</sup> /s <sup>2</sup>	
Effective Stack Height	h <sub>e</sub>	12 ft	
Reduction Factor? $2.5 > h_s/h_b > 1.5?$		No, do not reduce impact	
Actual Annual Impact	C <sub>a</sub>	RF*6*Q <sub>a</sub> /h <sub>e</sub> <sup>2.25</sup>	
Mass Flow	Q <sub>a</sub>	S lbs emitted for last 12 months	

#### Parameters for 12/30/2009 Sampling Event

#### Abbreviations:

°R: Degrees Rankine

in: Inches

ft: Feet

fps: Feet per second

acfm: Actual cubic feet per minute

scfm: Standard cubic feet per minute

s: Second

lbs: Pounds

#### Notes/Assumptions:

- 1. The stack discharge temperature is based on recorded parameters.
- 2. The ambient temperature based on www.weather.com historic temperatures.

Table A1. NYSDEC DAR-1 December 30, 2009, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

Compounds	Maximum Limit on C <sub>a</sub> (AGC <sup>2</sup> ) ug/m <sup>3</sup>	Maximum Mass Flow Q <sub>a</sub> Ib/yr	Actual Effluent Emissions C <sub>a</sub> ug/m <sup>3</sup>	Mass Flow per Hour Ib/hr	Mass Flow per Year lb/yr	Percent of Annual	
Trichloroethene	0.5	22.33	81.00	6.25E-05	0.54763	2.45	
cis-1,2-Dichloroethene	63	2,814.15	0.00	0.00E+00	0.00000	0.00	

#### Calculation of AGC Based on Actual Effluent Results From 12/30/2009 Sampling Event (1)

#### Calculation of AGC Based on Influent Results From 12/30/2009 Sampling Event<sup>(1)</sup>

Compounds	Maximum Limit on C <sub>a</sub> (AGC <sup>2</sup> ) ug/m <sup>3</sup>	Maximum Mass Flow Q <sub>a</sub> Ib/vr	Influent Concentrations C <sub>a</sub> uo/m <sup>3</sup>	Mass Flow per Hour	Mass Flow per Year	Percent of Annual	
Trichloroethene	0.5	22.33	64.80	5.00E-05	0.43810	1.96	
cis-1,2-Dichloroethene	63	2,814.15	10.67	8.24E-06	0.07216	0.00	

#### Notes/Assumptions:

1. Calculations assume that the system will run with the maximum allowable concentrations between quarterly readings.

2. AGC refers to the Annual Guideline Concentration outlined in the DAR-1 AGC/SGC Tables dated September 10, 2007.

#### Abbreviations:

ug/m<sup>3:</sup> micrograms per cubic meter lb/yr: pounds per year lb/hr: pounds per hour

Table A2. NYSDEC DAR-1 March 25, 2010, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

Mass Balance						
Measured Effluent Flowrate =	257.0	ACFM				
		% of Total Flow				
SVE-1 Measured Flowrate (ACFM) =	75.6	0.43				
SVE-2 Measured Flowrate (ACFM) =	41.8	0.24				
SVE-3 Measured Flowrate (ACFM) =	57.2	0.33				
Sum of Individual Flows (ACFM) =	174.6					
		Lab Data		Mass Balance	Actual Effluent	
		(ug/m <sup>3</sup> )		Concentration (1)	Concentration	
	SVE-1	SVE-2	SVE-3	(ug/m <sup>3</sup> )	(ug/m <sup>3</sup> )	
Trichloroethene	81	160	0	73	68	
cis-1,2-Dichloroethene	0	0	21	7	0	

#### Notes/Assumptions:

1. Mass balance concentration = Lab Data Concentration SVE-1 x SVE-1 % of Total Flow + Lab Data Concentration SVE-2 x SVE-2

% of Total Flow + Lab Data Concentration SVE-3 x SVE-3 % of Total Flow.

Table A2. NYSDEC DAR-1 March 25, 2010, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

#### Parameters for 03/25/2010 Sampling Event

Discharge Temperature <sup>(1)</sup>	Ţ	561	R
Ambient Temperature <sup>(2)</sup>	Та	515	'nR
Stack Diameter	D	4	in
Stack Radius	R	0.167	ft
Stack Area	А	0.09	ft <sup>2</sup>
Exit Velocity	V	49.1	fps
Exit Flow	Q	257	acfm
Exit Flow	Q	242	scfm
Stack Height	h <sub>s</sub>	12	ft
Building Height	h <sub>b</sub>	10	ft
Ratio of Heights	h <sub>s</sub> /h <sub>b</sub>	1.20	
Plume rise credit? h <sub>s</sub> /h <sub>b</sub> > 1.5?	(If no, h <sub>e</sub> =h <sub>s</sub> )	No	
Momentum Flux	Fm = Ta/T * V2 * R2	n/a	ft <sup>4</sup> /s <sup>2</sup>
Effective Stack Height	h <sub>e</sub>	12	ft
Reduction Factor? $2.5 > h_s/h_b > 1.5?$		No, do not reduce impac	ot
Actual Annual Impact	C <sub>a</sub>	RF*6*Q <sub>a</sub> /h <sub>e</sub> <sup>2.25</sup>	
Mass Flow	Q <sub>a</sub>	S lbs emitted for last 12 months	

#### Abbreviations:

°R: Degrees Rankine

in: Inches

ft: Feet

fps: Feet per second

acfm: Actual cubic feet per minute

scfm: Standard cubic feet per minute

- s: Second
- lbs: Pounds

#### Notes/Assumptions:

- 1. The stack discharge temperature is based on recorded parameters.
- 2. The ambient temperature based on www.weather.com historic temperatures.

Table A2. NYSDEC DAR-1 March 25, 2010, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

Compounds	Maximum Limit on C <sub>a</sub> (AGC <sup>2</sup> )	Maximum Mass Flow Q <sub>a</sub>	Actual Effluent Emissions C <sub>a</sub>	Mass Flow per Hour	Mass Flow per Year	Percent of Annual	
	ug/m <sup>3</sup>	lb/yr	ug/m <sup>3</sup>	lb/hr	lb/yr	%	
Trichloroethene cis-1,2-Dichloroethene	0.5 63	22.33 2,814.15	68.00 0.00	6.15E-05 0.00E+00	0.53890 0.00000	2.41 0.00	

#### Calculation of AGC Based on Actual Effluent Results From 03/25/2010 Sampling Event (1)

### Calculation of AGC Based on Influent Results From 03/25/2010 Sampling Event (1)

Compounds	Maximum Limit on C <sub>a</sub> (AGC <sup>2</sup> )	Maximum Mass Flow Q <sub>a</sub>	Influent Concentrations C <sub>a</sub>	Mass Flow per Hour	Mass Flow per Year	Percent of Annual	
Trichloroethene	0.5	22.33	73.38	6.64E-05	0.58157	2.60	
cis-1,2-Dichloroethene	63	2,814.15	6.88	6.22E-06	0.05452	0.00	

#### Notes/Assumptions:

1. Calculations assume that the system will run with the maximum allowable concentrations between quarterly readings.

2. AGC refers to the Annual Guideline Concentration outlined in the DAR-1 AGC/SGC Tables dated September 10, 2007.

#### Abbreviations:

ug/m<sup>3:</sup> micrograms per cubic meter Ib/yr: pounds per year Ib/hr: pounds per hour

Table A3. NYSDEC DAR-1 June 16, 2010, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

Mass Balance						
Measured Effluent Flowrate =	255.9	ACFM				
		% of Total Flow				
SVE-1 Measured Flowrate (ACFM) =	90.7	0.41				
SVE-2 Measured Flowrate (ACFM) =	56.9	0.26				
SVE-3 Measured Flowrate (ACFM) =	74.9	0.34				
Sum of Individual Flows (ACFM) =	222.5					
		Lab Data		Mass Balance	Actual Effluent	
		(ug/m <sup>3</sup> )		Concentration <sup>(1)</sup>	Concentration	
	SVE-1	SVE-2	SVE-3	(ug/m <sup>3</sup> )	(ug/m <sup>3</sup> )	
Trichloroethene	0	200	0	51	88	
cis-1,2-Dichloroethene	0	0	0	0	0	

#### Notes/Assumptions:

1. Mass balance concentration = Lab Data Concentration SVE-1 x SVE-1 % of Total Flow + Lab Data Concentration SVE-2 x SVE-2 % of Total Flow + Lab Data Concentration SVE-3 x SVE-3 % of Total Flow.

Parameters for 06/16/2010 Sampling Event

Table A3. NYSDEC DAR-1 June 16, 2010, Air Modeling Estimate for Vapor Recovery System, Spiegel, Plainview, NY.

		· · · · · · · · · · · · · · · · · · ·
Discharge Temperature <sup>(1)</sup>	т	569 °R
Ambient Temperature <sup>(2)</sup>	Та	534 <sup>°</sup> R
Stack Diameter	D	4 in
Stack Radius	R	0.167 ft
Stack Area	А	0.09 ft <sup>2</sup>
Exit Velocity	V	48.9 fps
Exit Flow	Q	256 acfm
Exit Flow	Q	237 scfm
Stack Height	h <sub>s</sub>	12 ft
Building Height	h <sub>b</sub>	10 ft
Ratio of Heights	h <sub>s</sub> /h <sub>b</sub>	1.20
Plume rise credit? $h_s/h_b > 1.5?$	(If no, h <sub>e</sub> =h <sub>s</sub> )	No
Momentum Flux	Fm = Ta/T * V2 * R2	n/a ft <sup>4</sup> /s <sup>2</sup>
Effective Stack Height	h <sub>e</sub>	12 ft
Reduction Factor? $2.5 > h_s/h_b > 1.5?$	No, do not reduce i	
Actual Annual Impact	Ca	RF*6*Q <sub>a</sub> /h <sub>e</sub> <sup>2.25</sup>
Mass Flow	Q <sub>a</sub>	S lbs emitted for last 12 months

#### Abbreviations:

°R: Degrees Rankine

- in: Inches
- ft: Feet
- fps: Feet per second
- acfm: Actual cubic feet per minute
- scfm: Standard cubic feet per minute
- s: Second
- Ibs: Pounds

#### Notes/Assumptions:

- 1. The stack discharge temperature is based on recorded parameters.
- 2. The ambient temperature based on www.weather.com historic temperatures.