Environmental Engineering, Consulting & Remediation, Inc.

January 12, 2016

Subject: JANUARY 4, 2016 AIR SPARGE CONFIRMATION TEST SUMMARY
Lake Tahoe Laundry Works
1024 Lake Tahoe Boulevard
South Lake Tahoe, California

E_2C Remediation (E_2C) is pleased to present this summary of air sparge confirmation test conducted on January 4, 2016.

1) Selection of testing wells and monitoring wells

   Three air sparge wells (AS-16, AS-6 and AS-8) were selected. See Figure 1 for their locations. Four groundwater monitoring wells (MW-11S, MW-9S, MW-5S, and MW-5D) were used for monitoring groundwater level changes and air pressure changes.

   The distance between AS-16 and MW-11S is approximately 10.5 ft;
   The distance between AS-6 and MW-9S is approximately 23.7 ft;
   The distance between AS-8 and MW-5S is approximately 31.2 ft;
   The distance between AS-8 and MW-9S is approximately 50.9 ft;

2) Testing Method

   a. Depth to water and wellhead air pressure were measured before the test began;
   b. Compressed air was applied at AS-16, AS-6 and AS-8 one well at a time, sequentially. The applied flow rate ranged from approximately 2 to 6 scfm at a pressure of 17 psi;
   c. Depth to water and air pressure were measured at MW-11S, MW-9S, MW-5S, and MW-5D at an interval of approximately 15 minutes;
   d. Measurements were recorded on field data sheets (see attached).

3) Testing Results

   - Both depth to water and air pressure changes were observed at the monitoring wells MW-11S, MW-9S and MW-5S;
   - Little variation of depth to water and air pressure was observed at MW-5D;

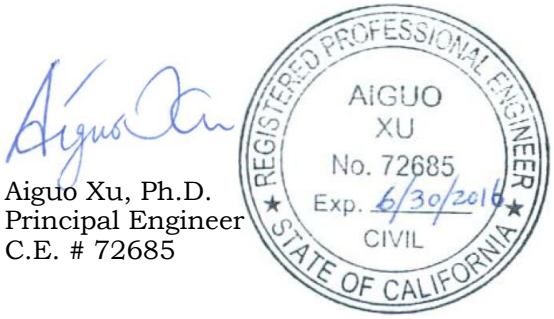
Conclusion

The air sparge confirmation test confirmed that the radius of influence at the site from individual air sparge wells at the site exceeds 25 ft.

Based on 25 ft radii, the air sparge plan view coverage is illustrated in Figure 2.

Please contact Aiguo Xu or Philip Goalwin at 916-782-8700, if there are any questions regarding this air sparge confirmation test.

Respectfully,
E_2C Remediation



Aiguo Xu, Ph.D.
Principal Engineer
C.E. # 72685

Attachments: Test Field Data Sheets
Figure 1 Site Plan
Figure 2 Air Sparge Radii of Influence

1020 Winding Creek Road, Suite 110, Roseville, CA 95678
tel 916.782.8700 fax 916.782.8750

RADIUS OF INFLUENCE DATA LOG

Job Number: 1950 (LTLW) Date: 1-4-16

Recorded By: J. Irwin Instrument Used: Manometer Magnatelic Water TAPE

Time	Well Number	Pressure	DTW	Comments
12:00	MW-11	Ø	16.10	
〃	MW-9	Ø	16.94	Pre-START UP
〃	MW-5S	Ø	14.19	
〃	MW-5D	Ø	22.94	
12:15	MW-11	+.09" H_2O	14.09	17 PSI 2.5 SCFM (AS-16)
〃	MW-9	Ø	16.90	〃 〃
〃	MW-5S	Ø	14.15	
〃	MW-5D	Ø	22.93	
12:30	MW-11	+.35" H_2O	13.01	17PSI 3 SCFM (AS-16)
〃	MW-9	+.01" H_2O	16.83	〃 〃
〃	MW-5S	Ø	14.13	
〃	MW-5D	Ø	22.92	
12:45	MW-11	+1.6" H_2O	12.70	17PSI 3.5 SCFM (AS-16)
〃	MW-9	+.01" H_2O	16.78	〃 〃
〃	MW-5S	Ø	14.10	
〃	MW-5D	Ø	22.90	
1:00	MW-11	+2.2" H_2O	12.70	17PSI 3.5 SCFM (AS-16)
〃	MW-9	+.02" H_2O	16.70	〃 〃
〃	MW-5S	Ø	14.08	
〃	MW-5D	Ø	22.89	
1:15	MW-11	+1.1" H_2O	12.78	17PSI 2 SCFM (AS-6)
〃	MW-9	+.02" H_2O	16.71	〃 〃
〃	MW-5S	Ø	14.05	
〃	MW-5D	Ø	22.89	
1:30	MW-11	+.07" H_2	12.84	17PSI 2 SCFM (AS-6)
〃	MW-9	+.35" H_2O	16.60	〃 〃
〃	MW-5S	Ø	14.03	
〃	MW-5D	Ø	22.89	
1:45	MW-11	+.05" H_2O	12.93	17PSI 2 SCFM (AS-6)
〃	MW-9	+.67" H_2O	16.31	〃 〃
〃	MW-5S	Ø	14.02	
〃	MW-5D	Ø	22.89	
2:00	MW-11	+.04" H_2O	13.01	17PSI 2 SCFM (AS-6)

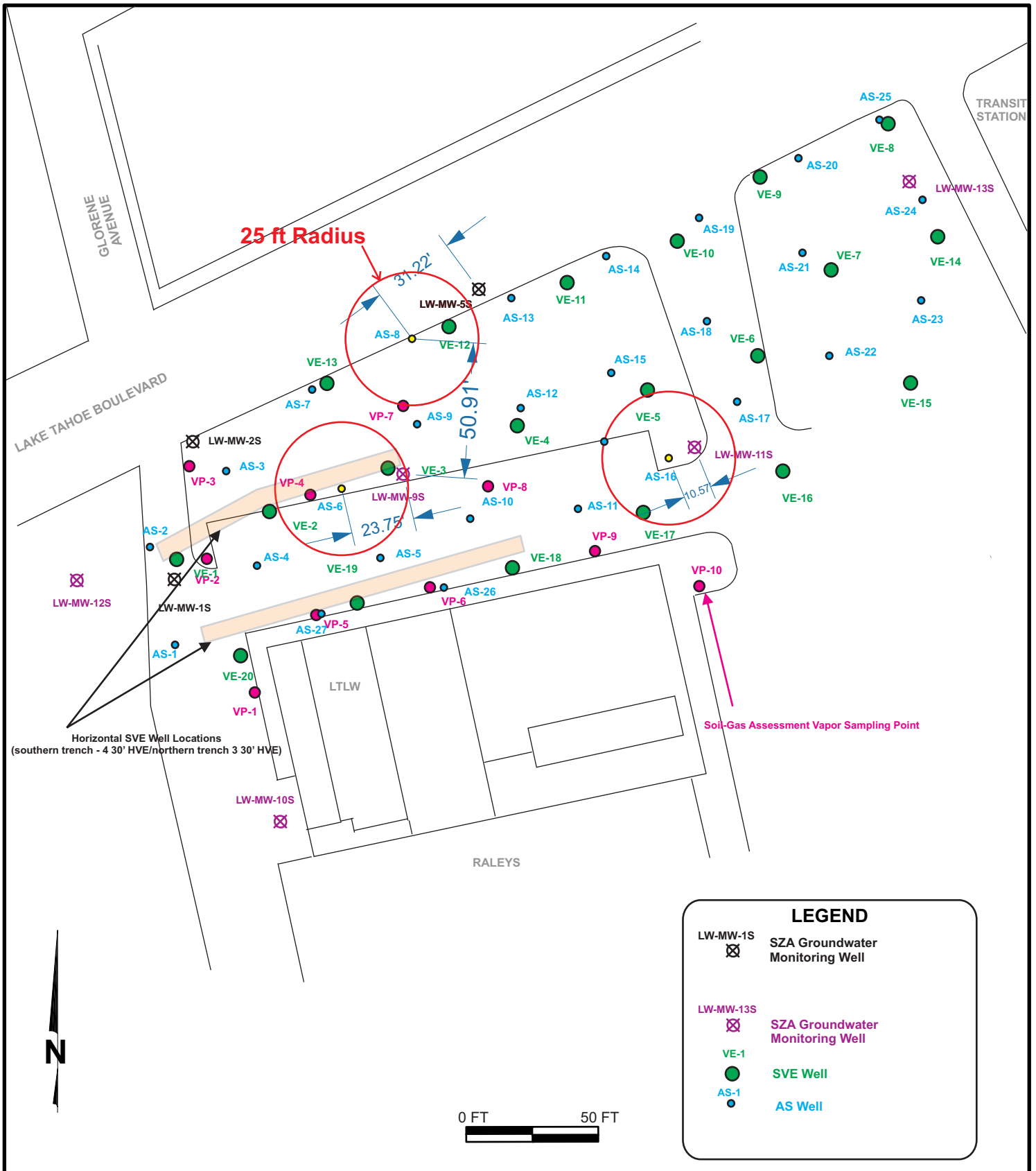
Pg 1 of 2

RADIUS OF INFLUENCE DATA LOG

Job Number: 1950 (LTLW) Date: 1-4-16

Recorded By: J. Irwin Instrument Used: magnahelic manometer water tape

Time	Well Number	Vacuum	DTW	Comments	
2:00	MW-9	+.90" H_2O	16.12	17 PSI	2 scfm (AS-6)
2:00	MW-5S	Ø	14.01		
	MW-5D	Ø	22.90	17 PSI	2scfm (AS-6)
2:15	MW-11	+.63" H_2O	13.17	17 PSI	2scfm (AS-6)
〃	MW-9	+1.00" H_2O	15.94	〃	〃
〃	MW-5S	Ø	13.99		
	MW-5D	Ø	22.90		
2:30	MW-11	+.05" H_2O	13.38	17PSI	2scfm (AS-6)
〃	MW-9	+1.10" H_2O	15.67	〃	〃
〃	MW-5S	Ø	13.97		
	MW-5D	Ø	22.90		
2:45	MW-11	+.04" H_2O	13.80	17PSI	2scfm (AS-8)
〃	MW-9	+4.77" H_2O	17.66	〃	〃
〃	MW-5S	+.03" H_2O	13.66		
	MW-5D	Ø	22.90		
3:00	MW-11	+.04" H_2O	14.50	17PSI	3scfm (AS-8)
〃	MW-9	+8.10" H_2O	10.47	〃	〃
〃	MW-5S	+.07" H_2O	13.21		
	MW-5D	Ø	22.90		
3:15	MW-11	+.05" H_2O	15.02	17PSI	5scfm (AS-8)
〃	MW-9	+12.37" H_2O	7.31	〃	〃
〃	MW-5S	+.10" H_2O	12.87		
	MW-5D	Ø	22.90		
3:30	MW-11	+.07" H_2O	15.32	17PSI	6scfm (AS-8)
〃	MW-9	+16.5" H_2O	4.90	〃	〃
〃	MW-5S	+.13" H_2O	12.40		
	MW-5D	Ø	22.90		



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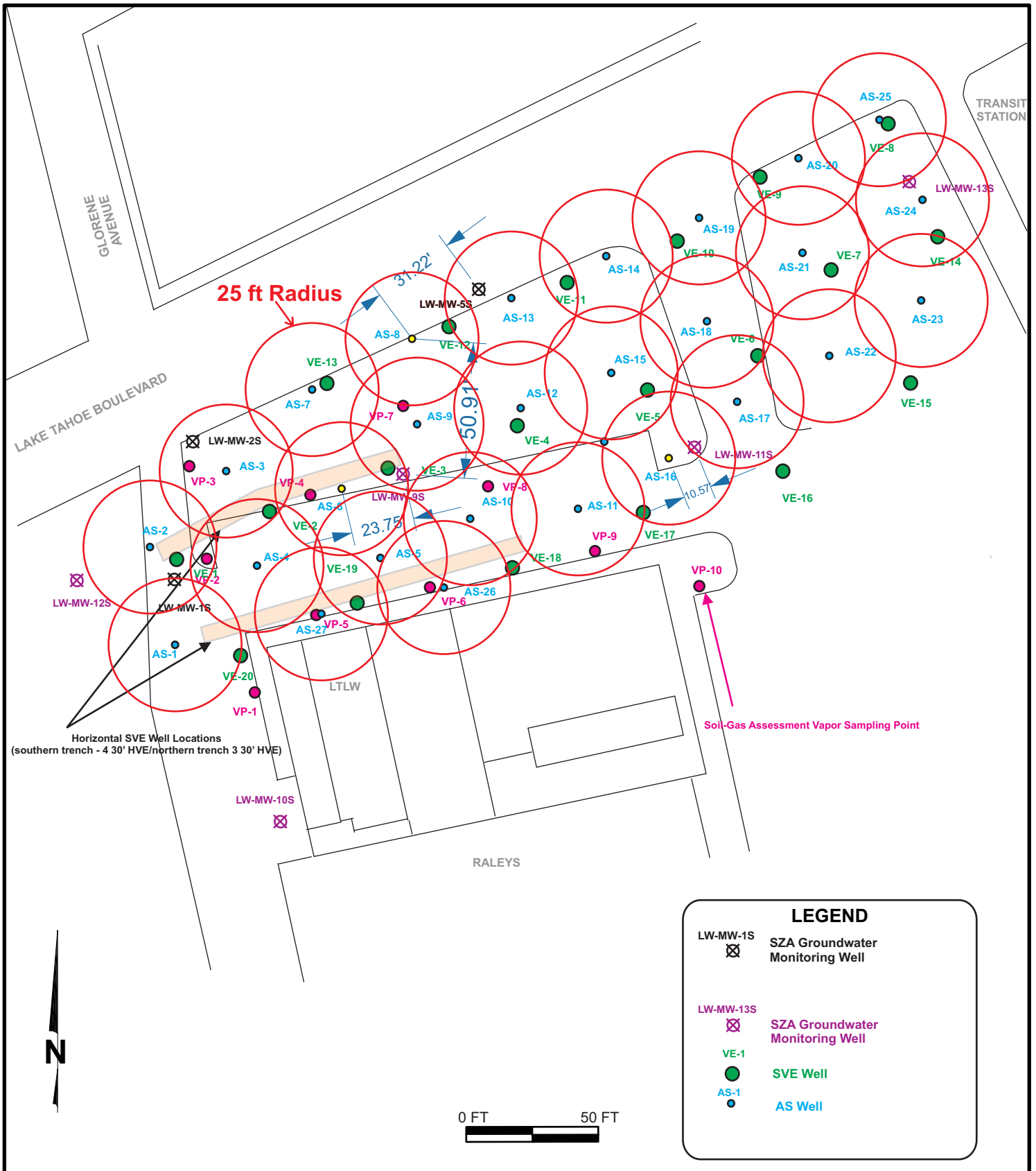
LAKE TAHOE LAUNDRY WORKS
1024 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA

SITE PLAN

FIGURE

1



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AIR SPARGE RADII OF INFLUENCE

FIGURE
2