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12 November 2014

Ms. Melanie Morash
Remedial Project Manager
U. S. Environmental Protection Agency
Region 9
75 Hawthorne Street, SFD-7-1
San Francisco, CA 94105

Re: Work Plan Addendum for Source Area Removal Activities
Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California

Dear Ms. Morash:

Northrop Grumman Systems Corporation (Northrop Grumman) is submitting the enclosed Work Plan Addendum for Source Area Removal Activities for the former TRW Microwave site for your review and approval. The addendum was prepared to present the proposed approach and rationale for expanding the source area excavation work that is currently underway at the site.

If you have any questions, please do not hesitate to contact me at 703-280-4035, or our project manager, Linda Niemeyer, at 760-944-9490.

Sincerely,

Joseph P. Kwan
Corporate Director, Environmental Remediation
on behalf of Northrop Grumman Systems Corporation

Enclosure: Work Plan Addendum for Source Area Removal Activities

cc: Rebecca Mora - AECOM
Linda Niemeyer - Watermark

AECOM

WORK PLAN ADDENDUM FOR SOURCE AREA REMOVAL ACTIVITIES

FORMER TRW MICROWAVE SITE
825 STEWART DRIVE
SUNNYVALE, CALIFORNIA

November 12, 2014

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FORMER TRW MICROWAVE SITE
825 STEWART DRIVE
SUNNYVALE, CALIFORNIA

November 12, 2014

Prepared by:

AECOM
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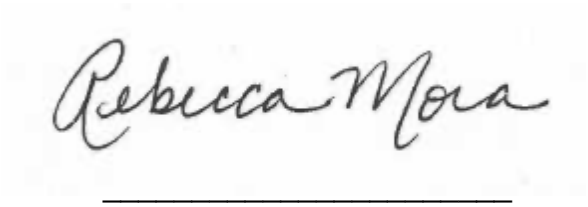
Prepared for:
Northrop Grumman Systems Corporation
2980 Fairview Park Drive
Falls Church, VA 22042



Rebecca Mora
Senior Engineer/Project Manager

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1.0 INTRODUCTION

On behalf of Northrop Grumman Systems Corporation, AECOM has prepared this addendum to the *Well Destruction and Source Removal Work Plan* (Work Plan) (AECOM, 2014) for the former TRW Microwave site (Site), dated 18 September 2014, to present proposed additional source area removal activities. Field activities described in this addendum (Work Plan Addendum) will be overseen by AECOM and Orion Environmental Inc. (Orion).

In accordance with Section 4.0 of the Work Plan, soil borings were drilled prior to the start of the source area excavation activities. These borings were located to the north, west, and south of the proposed excavation area to either 1) document the levels of volatile organic compound (VOC)-impacted material that may remain after excavation is complete or 2) adjust the planned extent of the excavation. Figure 1 shows the locations of the original five soil borings (SB-1 through SB-5) and the extent of the originally proposed excavation in gray. Based on soil results from the five initial soil borings, the footprint of the excavation was increased to the north near the Eductor and to the west (areas shown in yellow on Figure 1).

Additional step-out borings were then drilled and soil samples were collected for analysis of VOCs to determine whether the source area excavation should be expanded farther. Figure 1 shows the locations of the additional soil borings (SB-6, SB-7, and SB-11 through SB-28). Note that SB-8, -9, and -10 are not shown on Figure 1, as they were angled borings under the building footing and were not related to defining the excavation extent. Table 1 summarizes the VOC soil results for these step-out borings. Previous confirmation soil borings drilled during the 2013 and 2014 membrane interface probe investigations (MIP-A, MIP-B, MIP-C, and MIP-D) are also shown on Figure 1 and their VOC soil results are included in Table 1. As shown in Table 1, elevated VOC impacts are present outside of the originally proposed excavation area.

In an effort to correlate the saturated soil VOC results with groundwater concentrations, discrete groundwater samples were collected from selected locations (SB-27 and SB-28), at depths of 30 feet below ground surface (bgs) for both SB-27 and SB-28 and 15 feet bgs for SB-28, using direct push hydropunch techniques. These groundwater sampling locations (shown on Figure 1 in blue) correspond with adjacent or co-located saturated soil sampling locations. The groundwater sample collected from SB-27 corresponds with saturated soil samples collected from the same borehole, and groundwater samples collected from SB-28 correspond to saturated soil samples collected from adjacent borehole SB-16. Groundwater VOC results and sample depths for these hydropunch locations are shown in Table 2. When comparing groundwater and saturated soil VOC data from the same sampling depths in SB-16 and SB-28, it appears that trichloroethene (TCE) groundwater concentrations are approximately an order of magnitude lower than the saturated soil TCE concentrations, while the cis-1,2-dichloroethene (cis-1,2-DCE) groundwater concentrations are approximately half of the saturated soil cis-1,2-DCE concentrations. The groundwater sample collected at 30 feet bgs in boring SB-28 did not have a corresponding saturated soil sample at the same depth; however, the groundwater data reveal a narrow zone impacted by higher cis-1,2-DCE concentrations at 30 feet bgs which were not observed in the saturated soil samples from 28 feet bgs and 34 feet bgs. In general, VOC

results from the discrete groundwater samples indicate that cis-1,2-DCE is less likely to adsorb onto soil and more likely to migrate downgradient of the source area than is TCE.

2.0 OBJECTIVES AND RATIONALE

The objective of the additional source area removal activities proposed in this Work Plan Addendum is to remove residually-impacted soil that could continue to contribute VOCs to groundwater and migrate downgradient.

Six water-yielding zones, Zone A and Zones B1 through B5, have been identified beneath the Site or in the surrounding area. These zones consist of permeable sediments, ranging from silty sand to sand and gravel, and are vertically separated by laterally continuous lower permeability clay and silt intervals. Based on groundwater monitoring data, the primary source area impacts related to the former onsite source are in Zones A and B1. In the source area, Zone A extends from the water table to approximately 20 feet bgs and Zone B1 extends from approximately 25 feet bgs to 35-40 feet bgs. The confining layer that separates Zone A and Zone B1 is present between approximately 20 feet bgs and 25 feet bgs within the source area.

TCE and cis-1,2-DCE are the primary VOCs detected in groundwater in downgradient onsite Zone A and Zone B1 wells. Therefore, the additional source area removal activities will be focused on addressing removal of TCE and cis-1,2-DCE. Based on the soil and groundwater data discussed in Section 1.0, the following rationale is proposed for guiding the additional source area removal activities:

1. As a general rule, saturated soil concentrations of TCE that are greater than 1,500 micrograms per kilogram (µg/kg) and/or saturated soil concentrations of cis-1,2-DCE that are greater than 500 µg/kg will be excavated. The lower concentration criteria for cis-1,2-DCE reflect the fact that cis-1,2-DCE is less likely to adsorb onto soil and more likely to migrate downgradient of the source area. Based on the correlation between saturated soil concentrations and groundwater concentrations discussed above, expected groundwater concentrations remaining in the source area after excavation would be less than 150 micrograms per liter (µg/L) for TCE and less than 250 µg/L for cis-1,2-DCE, which are similar to concentrations detected in downgradient onsite wells.
2. If saturated soil concentrations are above the aforementioned concentration criteria, but only in Zone B1 (e.g., below 20 feet bgs) and not in the overlying Zone A, the area will not be excavated. In this case, the detected concentrations are likely related to migrating groundwater, which is not practical or reasonable to address with excavation.

3.0 SCOPE OF EXPANDED SOURCE AREA REMOVAL

Based on the proposed concentration criteria described in Section 2.0 and the saturated soil sample VOC results summarized in Table 1, the proposed expanded excavation area is shown on Figure 1 in blue. As shown on Figure 1 and in Table 1, VOC soil analytical results from borings SB-17, -18, -19, and -20 define the northern extent that meet the aforementioned proposed concentration criteria and VOC soil analytical results from borings SB-22, -23, and -24 define the western extent. Soil analytical results are pending from borings SB-29 through SB-36

and thus the excavation extent will be adjusted as necessary based on how these results compare to the proposed concentration criteria. Excavation depths will likely range between 25 feet bgs to 40 feet bgs and will be guided by photo ionization detector readings collected during excavation activities.

The field procedures for implementing the expanded source area removal will be consistent with Sections 2.0 and 5.0 of the original Work Plan. The work will be conducted under the site-specific health and safety plan included in the original Work Plan, which is still applicable to this expanded scope of work.

4.0 REFERENCES

AECOM, 2014. *Well Destruction and Source Removal Work Plan*, Former TRW Microwave Facility, 825 Stewart Drive Sunnyvale, California. September 18.

TABLE 1

SOIL ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

			Volatile Organic Compounds (µg/kg)[a]														
Soil Boring	**Sample Depth (feet)**	**Sample Date**	**PCE**	**TCE**	**1,1-DCE**	**cis-1,2-DCE**	**trans-1,2-DCE**	**VC**	**CBz**	**1,2-DCB**	**1,3-DCB**	**1,4-DCB**	**1,2,4-TCB**	**Acetone**	**Toluene**	**Ethylbenzene**	**Xylenes**
SB-1	5	9/29/14	0.93 J[b]	3.7 J	ND<4.0[c]	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<40	ND<4.0	ND<4.0	ND<8.0
	8	9/29/14	1.4 J	2.6 J	ND<3.7	1.0 J	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<37	ND<3.7	ND<3.7	ND<7.3
	12	9/29/14	5.6	6.5	ND<3.7	11	ND<3.7	ND<3.7	0.66 J	8.7	ND<3.7	ND<3.7	ND<3.7	ND<37	ND<3.7	ND<3.7	ND<7.3
	15	9/29/14	150 J	460	ND<370	360 J	ND<370	ND<370	ND<370	10,000	58 J	430	2,200	ND<3,700	ND<370	ND<370	ND<750
	20	9/29/14	ND<420	ND<420	ND<420	260 J	ND<420	61 J	ND<420	3,900	ND<420	64 J	ND<420	ND<4,200	ND<420	ND<420	ND<830
	25	9/29/14	ND<360	35 J	ND<360	1,600	ND<360	72 J	ND<360	2,900	ND<360	ND<360	ND<360	ND<3,600	ND<360	ND<360	180 J
SB-2	5	9/30/14	ND<4.7	ND<4.7	ND<4.7	ND<4.8	ND<4.7	ND<4.8	ND<4.8	ND<4.8	ND<4.7	ND<4.7	ND<4.7	ND<47	ND<4.7	ND<4.8	ND<9.6
	9	9/30/14	ND<3.9	1.1 J	ND<3.2	ND<3.9	ND<3.2	ND<3.9	ND<3.9	ND<3.9	ND<3.2	ND<3.9	ND<3.2	ND<32	ND<3.2	ND<3.9	ND<7.7
	13.5	9/30/14	ND<350	ND<350	ND<350	2,000	ND<350	110 J	67 J	260 J	ND<350	ND<350	83 J	ND<3,500	ND<350	ND<350	ND<710
	19	9/30/14	ND<370	ND<370	ND<370	ND<370	ND<370	43 J	350 J	2,800	41 J	240 J	700	ND<3,700	ND<370	ND<370	ND<730
	23	9/30/14	ND<3.5	ND<3.5	ND<3.5	ND<3.5	ND<3.5	ND<3.5	19	4.7	ND<3.5	0.56 J	ND<3.5	ND<35	2.0 J	0.63 J	0.95 J
	25	9/30/14	ND<3.5	1.3 J	ND<3.5	1.1 J	ND<3.5	1.5 J	22	4.4	ND<3.5	ND<3.5	ND<3.5	ND<35	ND<3.5	1.7 J	0.85 J
SB-3	5	9/29/14	2.2 J	5.1	ND<3.8	7.5	ND<3.8	ND<3.8	0.87 J	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<38	ND<3.8	ND<3.8	ND<7.6
	11	9/29/14	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	52	1.8 J	0.73 J	4.5	ND<3.7	46	1.5 J	2.9 J	3.3 J
	15.5	9/29/14	ND<410	ND<410	ND<410	ND<410	ND<410	ND<410	2,100	ND<410	ND<410	110 J	ND<410	ND<4,100	ND<410	ND<410	ND<830
	20	9/29/14	ND<390	ND<390	ND<390	ND<390	ND<390	ND<390	1,600	ND<390	ND<390	72 J	ND<390	ND<3,900	ND<390	ND<390	ND<790
	24	9/29/14	ND<370	ND<370	ND<370	ND<370	ND<370	ND<370	1,900	ND<370	26 J	110 J	ND<370	ND<3,700	ND<370	97 J	ND<730
SB-4	3	9/30/14	ND<4.5	0.66 J	ND<4.5	3.3 J	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<45	ND<4.5	ND<4.5	ND<9.0
	17	9/30/14	ND<390	ND<390	ND<390	2,700	ND<390	180 J	6,800	15,000	150 J	790	500	ND<3,900	ND<390	1,100	3,900
	20	9/30/14	ND<390	ND<390	ND<390	ND<390	ND<390	ND<390	9,500	120 J	ND<390	270 J	ND<390	ND<3,900	ND<390	1,000	1,100
	22	9/30/14	ND<360	ND<360	ND<360	28 J	ND<360	ND<360	5,300	270 J	ND<360	110 J	ND<360	ND<3,600	ND<360	1,100	860
	23	9/30/14	ND<450	ND<450	ND<450	ND<450	ND<450	ND<450	9,500	790	ND<450	220 J	ND<450	ND<4,500	ND<450	960	770 J
	25	9/30/14	ND<360	ND<360	29 J	9,000	210 J	1,600	120 J	1,800	ND<360	ND<360	ND<360	ND<3,600	ND<360	690	760
SB-5	3	9/30/14	3.8 J	23	ND<4.7	7.6	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<47	ND<4.7	ND<4.7	ND<9.4
	10	9/30/14	ND<3.7	1.5 J	ND<3.7	ND<3.7	0.76 J	2.8 J	53	31	1.1 J	5	0.58 J	ND<37	ND<3.7	0.70 J	ND<7.4
	13	9/30/14	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	0.98 J	56	10	0.72 J	5.2	0.81 J	ND<37	ND<3.7	ND<3.7	ND<7.5
	15	9/30/14	ND<380	ND<380	ND<380	ND<380	ND<380	ND<380	2,400	620	150 J	990	380	ND<3,800	ND<380	ND<380	ND<750
	20	9/30/14	ND<390	ND<390	ND<390	ND<390	ND<390	ND<390	1,100	50 J	ND<390	59 J	ND<390	ND<3,900	ND<390	ND<390	ND<770
	22	9/30/14	ND<360	ND<360	ND<360	ND<360	ND<360	ND<360	2,200	110 J	ND<360	62 J	ND<360	ND<3,600	ND<360	66 J	ND<720
	25	9/30/14	ND<3.5	ND<3.5	ND<3.5	ND<3.5	ND<3.5	1.9 J	40	10	ND<3.5	ND<3.5	ND<3.5	ND<35	ND<3.5	7.5	3.9 J

TABLE 1

SOIL ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

Soil Boring	Sample Depth (feet)	Sample Date	Volatile Organic Compounds (µg/kg)[(a)]														
			PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CBz	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB	Acetone	Toluene	Ethylbenzene	Xylenes
SB-6	4	10/22/14	18.4	43.7	ND<4.2	ND<4.2	ND<4.2	ND<4.2	ND<4.2	2.9 J	ND<4.2	ND<4.2	ND<4.2	11.8	ND<4.2	ND<4.2	ND<8.5
	9	10/22/14	7.6	47.6	ND<4.9	122 J	ND<4.9	2.2 J	1.6 J	7.6	ND<4.9	ND<4.9	ND<4.9	14.7 J	ND<4.9	0.74 J	2.9 J
	13	10/22/14	478	876	ND<4.0	42.6	1.0 J	ND<4.0	ND<4.0	19.5	0.43 J	0.78 J	0.52 J	ND<32	ND<4.0	ND<4.0	ND<8.1
	18	10/22/14	112 J	486	ND<230	511	ND<230	ND<230	ND<230	4,270	26.6 J	218 J	877	ND<1,800	ND<230	ND<230	ND<460
	24	10/22/14	0.60 J	12	3.6 J	1,340	9.7	76.6	ND<4.2	119	ND<4.2	1.0 J	ND<4.2	19.6 J	ND<4.2	3.6 J	2.4 J
	28	10/22/14	ND<400	3,780	ND<400	1,130	ND<400	ND<400	ND<400	ND<400	ND<400	ND<400	ND<400	ND<3,200	ND<400	ND<400	ND<790
SB-7	4	10/22/14	5.9	59.7	ND<4.9	11.4	ND<4.9	ND<4.9	1.2 J	8.9	ND<4.9	1.1 J	ND<4.9	24.7 J	ND<4.9	1.2 J	5.8
	6	10/22/14	97.8	404	ND<4.2	49.4	ND<4.2	1.3 J	25.3	137 J	0.70 J	5.5	0.49 J	244	ND<4.2	14.8	57.6
	14	10/22/14	2,270	9,200	ND<820	625 J	ND<820	ND<820	747	6,430	ND<820	217 J	ND<820	ND<6,600	ND<820	441 J	1,660
	19	10/22/14	2,460	8,800	ND<710	552 J	ND<710	ND<710	554 J	5,270	ND<710	181 J	ND<710	ND<5,700	ND<710	366 J	1,380 J
	24	10/22/14	912	4,470	ND<390	318 J	ND<390	ND<390	292 J	1,800	ND<390	62.5 J	ND<390	ND<3,100	ND<390	141 J	529 J
	29	10/22/14	11.1	932	ND<3.7	31.9	ND<3.7	2.8 J	3.1 J	11.7	ND<3.7	ND<3.7	ND<3.7	55.1	ND<3.7	1.3 J	4.9 J
SB-8	5	10/23/14	394	1,750	ND<220	98.8 J	ND<220	ND<220	102 J	803	ND<220	24.6 J	ND<220	ND<1,800	ND<220	64.6 J	232 J
	10	10/23/14	44.4 J	382	ND<140	2,160	ND<140	33.0 J	106 J	439	ND<140	19.3 J	ND<140	ND<1,100	ND<140	27.7 J	66.6 J
	15	10/23/14	0.98 J	14.8	ND<4.9	6.8	ND<4.9	1.0 J	1,810	14.6	4.2 J	23.1	ND<4.9	10.7 J	1.8 J	30.3	28.4
	20	10/23/14	ND<460	ND<460	ND<460	ND<460	ND<460	ND<460	4,640	74.8 J	ND<460	346 J	ND<460	ND<3,700	ND<460	ND<460	ND<920
	25	10/23/14	ND<210	22.8 J	ND<210	ND<210	ND<210	ND<210	1,480	155 J	ND<210	30.8 J	ND<210	ND<1,600	ND<210	ND<210	50.9 J
	30	10/23/14	ND<140	162	ND<140	237	ND<140	ND<140	107 J	249	ND<140	ND<140	ND<140	ND<1,100	ND<140	ND<140	ND<270
	35	10/23/14	ND<230	33.9 J	ND<230	542	ND<230	58.5 J	ND<230	ND<230	ND<230	ND<230	ND<230	ND<1,800	ND<230	ND<230	ND<450
SB-9	5	10/23/14	84.6 J	899	ND<150	ND<150	ND<150	ND<150	ND<150	173	ND<150	ND<150	ND<150	ND<1,200	ND<150	ND<150	35.2 J
	10	10/23/14	302 J	6,320	ND<760	816	ND<760	ND<760	92.5 J	801	ND<760	ND<760	ND<760	ND<6,100	ND<760	ND<760	152 J
	15	10/23/14	288	2,730	ND<270	325	ND<270	ND<270	765	766	ND<270	79.6 J	ND<270	ND<2,100	ND<270	112 J	303 J
	20	10/23/14	ND<590	ND<590	ND<590	ND<590	ND<590	ND<590	6,080	116 J	ND<590	229 J	ND<590	ND<4,700	ND<590	106 J	ND<1,200
	25	10/23/14	ND<220	ND<220	ND<220	ND<220	ND<220	ND<220	2,310	94.4 J	ND<220	56.6 J	ND<220	ND<1,800	ND<220	39.1 J	ND<440
	30	10/23/14	ND<200	36.2 J	ND<200	ND<200	ND<200	ND<200	531	563	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<390

TABLE 1

SOIL ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

Soil Boring	Sample Depth (feet)	Sample Date	Volatile Organic Compounds (µg/kg)[a]														
			PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CBz	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB	Acetone	Toluene	Ethylbenzene	Xylenes
SB-10	5	10/23/14	1.6 J	10.5	ND<4.9	9.3	ND<4.9	ND<4.9	3.8 J	6	ND<4.9	ND<4.9	ND<4.9	ND<39	ND<4.9	ND<4.9	ND<9.8
	10	10/23/14	1.5 J	9.7	ND<4.9	11.4	0.89 J	3.9 J	4.8 J	23.1	ND<4.9	0.98 J	0.52 J	17.8 J	ND<4.9	ND<4.9	ND<9.8
	15	10/23/14	36.5 J	152 J	ND<220	112 J	ND<220	ND<220	43.9 J	351	ND<220	37.7 J	205 J	ND<1,800	ND<220	ND<220	ND<450
	20	10/23/14	ND<800	ND<800	ND<800	ND<800	ND<800	ND<800	109 J	7,380	ND<800	232 J	352 J	ND<6,400	ND<800	ND<800	ND<1,600
	25	10/23/14	ND<5	4.9 J	ND<5	ND<5	ND<5	2.5 J	10.2	16.1	ND<5	ND<5	ND<5	10.3 J	ND<5	0.55 J	2.1 J
	30	10/23/14	ND<170	25.7 J	ND<170	331	ND<170	ND<170	ND<170	ND<170	ND<170	ND<170	ND<170	ND<1,400	ND<170	ND<170	ND<350
SB-11	10	10/29/14	ND<27	ND<22	ND<22	ND<49	ND<22	ND<44	432	ND<22	ND<22	66.8 J	ND<22	ND<440	ND<22	ND<22	ND<44
	15	10/29/14	ND<25	ND<21	ND<21	ND<46	ND<21	ND<42	2,470	57.7 J	57.3 J	278	29.1 J	ND<420	ND<21	110 J	128 J
	20	10/29/14	ND<39	ND<33	ND<33	ND<72	ND<33	ND<66	4,260	436	ND<33	120 J	ND<33	ND<660	ND<33	38.0 J	ND<66
	25	10/29/14	ND<24	ND<20	ND<20	ND<44	ND<20	ND<40	31.4 J	358	ND<20	ND<20	ND<20	ND<400	ND<20	ND<20	ND<40
	30	10/29/14	ND<24	ND<20	ND<20	ND<43	ND<20	ND<39	145 J	935	ND<20	ND<20	ND<20	ND<390	ND<20	ND<20	79.2 J
SB-12	10	10/29/14	88.7 J	265 J	ND<28	2,680	ND<28	ND<57	380	1,530	ND<28	73.1 J	ND<28	ND<570	ND<28	85.2 J	205 J
SB-13	5	10/29/14	ND<0.75	1.3 J	ND<0.62	ND<1.4	ND<0.62	ND<1.2	ND<0.62	ND<0.62	ND<0.62	ND<0.62	ND<0.62	33.4 J	ND<0.62	ND<0.62	ND<1.2
	10	10/29/14	ND<0.48	0.78 J	ND<0.4	10.1	ND<0.4	53.7	24.5	39.5	0.56 J	2.0 J	0.62 J	10.9 J	ND<0.4	ND<0.4	1.2 J
	15	10/29/14	ND<26	ND<22	ND<22	250	ND<22	76.6 J	261	2,210	32.8 J	153 J	181 J	ND<430	ND<22	ND<22	ND<43
	20	10/29/14	ND<24	ND<20	ND<20	ND<44	ND<20	ND<40	456	ND<20	ND<20	30.7 J	ND<20	ND<400	ND<20	ND<20	ND<40
	25	10/29/14	ND<0.44	0.53 J	ND<0.37	ND<0.81	ND<0.37	1.3 J	3.5 J	6.8	ND<0.37	ND<0.37	ND<0.37	24.8 J	ND<0.37	1.6 J	0.93 J
	30	10/29/14	ND<23	ND<19	ND<19	238	ND<19	ND<38	ND<19	337	ND<19	ND<19	ND<19	ND<380	ND<19	ND<19	ND<38
SB-14	5	10/29/14	1.3 J	7.3	ND<0.43	1.6 J	ND<0.43	ND<0.86	ND<0.43	ND<0.43	ND<0.43	0.43 J	ND<0.43	ND<8.6	ND<0.43	ND<0.43	ND<0.86
	10	10/29/14	9.5	45.9	ND<0.37	67.2	0.54 J	5.5	ND<0.37	4.2	ND<0.37	0.83 J	0.39 J	ND<7.5	ND<0.37	ND<0.37	ND<0.75
	15	10/29/14	2,330	3,130	ND<25	131 J	ND<25	ND<51	ND<25	1,290	ND<25	107 J	28.6 J	ND<510	ND<25	ND<25	ND<51
	20	10/29/14	37.8 J	249	ND<19	59.6 J	ND<19	ND<38	ND<19	481	ND<19	22.0 J	132 J	ND<380	ND<19	ND<19	ND<38
	25	10/29/14	1.7 J	0.89 J	ND<0.43	ND<0.95	ND<0.43	1.7 J	ND<0.43	6.7	ND<0.43	ND<0.43	ND<0.43	13.0 J	ND<0.43	1.6 J	0.92 J
	30	10/29/14	ND<28	1,480	ND<23	252	ND<23	ND<46	ND<23	32.8 J	ND<23	ND<23	ND<23	ND<460	ND<23	ND<23	ND<46
SB-15	5	10/29/14	1.4 J	8.9	ND<0.41	1.3 J	ND<0.41	ND<0.83	ND<0.41	ND<0.41	ND<0.41	ND<0.41	ND<0.41	ND<8.3	ND<0.41	ND<0.41	ND<0.83
	10	10/29/14	5.1	80.8	ND<0.5	39.3	ND<0.5	2.5 J	ND<0.5	1.5 J	ND<0.5	ND<0.5	ND<0.5	ND<10	ND<0.5	ND<0.5	ND<1.0
	15	10/29/14	1,750	2,610	ND<20	133 J	ND<20	ND<39	ND<20	1,120	ND<20	68.6 J	261	ND<390	ND<20	ND<20	ND<39
	20	10/29/14	145 J	510	ND<20	137 J	ND<20	ND<39	ND<20	338	ND<20	36.8 J	146 J	ND<390	ND<20	ND<20	ND<39
	25	10/29/14	ND<0.44	0.56 J	ND<0.37	ND<0.81	ND<0.37	2.0 J	ND<0.37	ND<0.37	ND<0.37	ND<0.37	ND<0.37	23.6 J	ND<0.37	ND<0.37	ND<0.74
	30	10/29/14	ND<22	1,750	ND<18	406	ND<18	ND<37	ND<18	ND<18	ND<18	ND<18	ND<18	ND<370	ND<18	ND<18	ND<37

TABLE 1

SOIL ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

Soil Boring	Sample Depth (feet)	Sample Date	Volatile Organic Compounds (µg/kg)[a]														
			PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CBz	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB	Acetone	Toluene	Ethylbenzene	Xylenes
SB-16	5	10/29/14	1.9 J	7.2	ND<0.46	ND<1.0	ND<0.46	ND<0.91	ND<0.46	ND<0.46	ND<0.46	ND<0.46	ND<0.46	ND<9.1	ND<0.46	ND<0.46	ND<0.91
	10	10/29/14	2.8 J	52.2	ND<0.44	29.1	ND<0.44	1.5 J	ND<0.44	ND<0.44	ND<0.44	ND<0.44	ND<0.44	ND<8.8	ND<0.44	ND<0.44	ND<0.88
	15	10/29/14	801	1,900	ND<20	114 J	ND<20	ND<40	ND<20	721	ND<20	39.6 J	58.0 J	ND<400	ND<20	ND<20	ND<40
	20	10/29/14	34.7 J	382	ND<21	ND<45	ND<21	ND<41	ND<21	290	ND<21	25.6 J	234	ND<410	ND<21	ND<21	ND<41
	25	10/29/14	ND<0.5	0.96 J	ND<0.41	ND<0.91	ND<0.41	ND<0.83	ND<0.41	ND<0.41	ND<0.41	ND<0.41	ND<0.41	24.5 J	ND<0.41	ND<0.41	ND<0.83
	30	10/29/14	ND<28	1,700	ND<24	265	ND<24	ND<47	ND<24	ND<24	ND<24	ND<24	ND<24	ND<470	ND<24	ND<24	ND<47
SB-17	10	10/30/14	1.0	17.5	ND<4	16.6	ND<4	2.5	ND<4	0.68	ND<4	ND<4	ND<4	ND<32	ND<4	ND<4	ND<8
	15	10/30/14	174	497	ND<220	85.4	ND<220	ND<220	ND<220	311	ND<220	ND<220	ND<220	ND<1,700	ND<220	ND<220	ND<430
	20	10/30/14	34.0	486	ND<200	ND<200	ND<200	ND<200	ND<200	106	ND<200	ND<200	104	ND<1,600	ND<200	ND<200	ND<400
	25	10/30/14	ND<210	94.2	ND<210	442	ND<210	44.5	ND<210	ND<210	ND<210	ND<210	ND<210	ND<1,700	ND<210	ND<210	ND<420
	30	10/30/14	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	18.9	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	13.8	ND<4.1	ND<4.1	ND<8.2
SB-18	10	10/30/14	1.2	16.1	ND<3.9	25.5	ND<3.9	3.3	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<31	ND<3.9	ND<3.9	ND<7.8
	15	10/30/14	186	555	ND<210	208	ND<210	ND<210	ND<210	542	ND<210	27.4	48.7	ND<1,700	ND<210	ND<210	ND<430
	20	10/30/14	52.4	557	ND<220	54.9	ND<220	ND<220	ND<220	178	ND<220	ND<220	111	ND<1,800	ND<220	ND<220	ND<440
	25	10/30/14	ND<200	65.9	ND<200	1,330	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<410
	30	10/30/14	ND<200	383	ND<200	321	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<410
SB-19	5	10/30/14	1.1	4.2	ND<4.1	13.8	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<33	ND<4.1	ND<4.1	ND<8.1
	10	10/30/14	ND<200	ND<200	ND<200	62.2	ND<200	ND<200	58.2	223	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<400
	15	10/30/14	ND<200	ND<200	ND<200	73.8	ND<200	69.4	ND<200	2,080	ND<200	63.3	ND<200	ND<1,600	ND<200	ND<200	ND<390
	25	10/30/14	ND<200	28.3	ND<200	1,970	28.1	247	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<390
	30	10/30/14	130	51.2	ND<210	359	ND<210	ND<210	ND<210	580	ND<210	22.9	ND<210	ND<1,700	ND<210	ND<210	ND<420
SB-20	5	10/30/14	ND<4.5	2.7	ND<4.5	12	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<4.5	ND<36	ND<4.5	ND<4.5	ND<9
	10	10/30/14	ND<210	ND<210	ND<210	ND<210	ND<210	ND<210	178	254	ND<210	28.2	ND<210	ND<1,700	ND<210	ND<210	ND<420
	15	10/30/14	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	2,250	120	37.8	177	30.3	ND<1,600	ND<200	38.8	ND<390
	20	10/30/14	ND<210	ND<210	ND<210	ND<210	ND<210	91	30	827	ND<210	ND<210	ND<210	ND<1,700	ND<210	ND<210	ND<430
	25	10/30/14	ND<200	ND<200	ND<200	677	ND<200	134	156	238	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<410

TABLE 1

SOIL ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

Soil Boring	Sample Depth (feet)	Sample Date	Volatile Organic Compounds (µg/kg)[a]														
			PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CBz	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB	Acetone	Toluene	Ethylbenzene	Xylenes
SB-21	10	10/30/14	ND<22	ND<18	ND<18	69.8 J	ND<18	ND<36	286	287	ND<18	44.2 J	ND<18	ND<360	ND<18	37.9 J	62.2 J
	15	10/30/14	52.6 J	501	ND<24	1,190	ND<24	ND<48	918	1,480	ND<24	111 J	ND<24	ND<480	ND<24	190 J	258 J
	20	10/30/14	ND<25	ND<21	ND<21	ND<46	ND<21	ND<42	1,640	153 J	31.0 J	200 J	ND<21	ND<420	ND<21	163 J	182 J
	25	10/30/14	ND<24	ND<20	ND<20	ND<45	ND<20	ND<41	924	158 J	ND<20	71.0 J	ND<20	ND<410	ND<20	ND<20	ND<41
	30	10/30/14	ND<24	ND<20	ND<20	ND<43	ND<20	ND<39	390	115 J	ND<20	ND<20	ND<20	ND<390	ND<20	24.0 J	48.6 J
SB-22	5	11/5/14	ND<5.2	0.60 J	ND<5.2	ND<5.2	ND<5.2	ND<5.2	ND<5.2	ND<5.2	ND<5.2	0.78 J	ND<5.2	10.1 J	ND<5.2	ND<5.2	ND<10
	10	11/5/14	2.0 J	34.2	ND<4	15	ND<4	ND<4	ND<4	ND<4	ND<4	9.3 J	ND<4	ND<4	ND<4	ND<4	ND<8.1
	15	11/5/14	189 J	1,310	ND<210	92.9 J	ND<210	ND<210	ND<210	325	ND<210	26.8 J	ND<210	ND<1,700	ND<210	ND<210	ND<430
	20	11/5/14	82.6 J	745	ND<230	ND<230	ND<230	ND<230	ND<230	560	ND<230	33.4 J	270	ND<1,800	ND<230	ND<230	ND<460
	30	11/5/14	ND<200	273	ND<200	321	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<400
	35	11/5/14	ND<190	ND<190	ND<190	389	ND<190	ND<190	ND<190	ND<190	ND<190	ND<190	ND<190	ND<1,600	ND<190	ND<190	ND<390
	40	11/5/14	ND<200	644	ND<200	146 J	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<410
SB-23	5	11/5/14	1.4 J	6.0	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<34	ND<4.3	ND<4.3	ND<4.3
	10	11/5/14	1.8 J	35.8	ND<3.9	17.4	ND<3.9	1.1 J	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<31	ND<3.9	ND<3.9	ND<7.8
	15	11/5/14	10.4	118	ND<4.2	23.5	0.66 J	ND<4.2	ND<4.2	ND<4.2	ND<4.2	ND<4.2	ND<4.2	ND<33	ND<4.2	ND<4.2	ND<8.3
	20	11/5/14	4.0	57.7	ND<3.7	18.7	0.48 J	ND<3.7	ND<3.7	0.86 J	ND<3.7	ND<3.7	ND<3.7	ND<30	ND<3.7	ND<3.7	ND<7.5
	25	11/5/14	ND<190	712	ND<190	174 J	ND<190	ND<190	ND<190	ND<190	ND<190	ND<190	ND<190	ND<1,500	ND<190	ND<190	ND<380
	30	11/5/14	ND<230	402	ND<230	765	ND<230	ND<230	ND<230	ND<230	ND<230	ND<230	ND<230	ND<1,800	ND<230	ND<230	ND<460
	35	11/5/14	ND<180	ND<180	ND<180	577	ND<180	ND<180	ND<180	ND<180	ND<180	ND<180	ND<180	ND<1,400	ND<180	ND<180	ND<360
	40	11/5/14	3.2 J	183 J	ND<4.3	11.3	ND<4.3	14.6	ND<4.3	0.75 J	ND<4.3	ND<4.3	ND<4.3	ND<34	ND<4.3	ND<4.3	ND<8.6
SB-24	5	11/6/14	3.1 J	10.3	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	0.45 J	ND<4.4	27.7 J	ND<4.4	ND<4.4	ND<8.7
	10	11/6/14	2.2 J	38.9	ND<4.3	10.8	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	ND<4.3	22.9 J	0.43 J	ND<4.3	ND<8.5
	15	11/6/14	234	907	ND<220	58.7 J	ND<220	ND<220	ND<220	45.2 J	ND<220	ND<220	ND<220	ND<1,800	ND<220	ND<220	ND<440
	20	11/6/14	44.0 J	647	ND<220	ND<220	ND<220	ND<220	ND<220	173	ND<220	ND<220	60.3 J	ND<1,800	ND<220	ND<220	ND<440
	25	11/6/14	ND<220	980	ND<220	182 J	ND<220	ND<220	ND<220	ND<220	ND<220	ND<220	ND<220	ND<1,800	ND<220	ND<220	ND<450
	30	11/6/14	ND<200	325	ND<200	491	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<400
	35	11/6/14	ND<3.7	21.4	1.1 J	220	0.52 J	19.5	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<30	ND<3.7	ND<3.7	ND<7.4
	40	11/6/14	1.2 J	115	ND<4	8.7	ND<4	18.7	ND<4	ND<4	ND<4	ND<4	ND<4	ND<32	ND<4	ND<4	ND<8.1

TABLE 1

SOIL ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

Soil Boring	Sample Depth (feet)	Sample Date	Volatile Organic Compounds (µg/kg)[a]														
			PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CBz	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB	Acetone	Toluene	Ethylbenzene	Xylenes
SB-25	5	11/6/14	1.7 J	8.1	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	ND<3.8	11.2 J	ND<3.8	ND<3.8	ND<7.6
	10	11/6/14	6.4	94.6	ND<4.1	22.0	0.42 J	1.7 J	ND<4.1	1.3 J	ND<4.1	ND<4.1	ND<4.1	9.3 J	ND<4.1	ND<4.1	0.84 J
	15	11/6/14	1,220	3,010	ND<210	127 J	ND<210	ND<210	ND<210	207 J	ND<210	ND<210	ND<210	ND<1,700	ND<210	ND<210	ND<420
	20	11/6/14	29.8 J	360	ND<180	88.3 J	ND<180	ND<180	ND<180	297	ND<180	ND<180	118 J	ND<1,400	ND<180	ND<180	ND<360
	25	11/6/14	ND<200	755	ND<200	1,480	20.4 J	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<410
	30	11/6/14	ND<4	286	0.94 J	114	0.81 J	14.2	ND<4	ND<4	ND<4	ND<4	ND<4	8.8 J	ND<4	ND<4	ND<7.9
	35	11/6/14	ND<220	ND<220	ND<220	503	ND<220	73.6 J	ND<220	ND<220	ND<220	ND<220	ND<220	ND<1,700	ND<220	ND<220	ND<440
	40	11/6/14	ND<4.1	103	ND<4.1	30	ND<4.1	76.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<33	ND<4.1	ND<4.1	ND<8.2
SB-26	5	11/6/14	2.0 J	4.0 J	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	ND<4.1	9.7 J	ND<4.1	ND<4.1	ND<8.2
	10	11/6/14	ND<3.7	0.97 J	ND<3.7	20.7	0.40 J	13.8	0.62 J	1.2 J	ND<3.7	ND<3.7	ND<3.7	20.3 J	ND<3.7	ND<3.7	ND<7.5
	15	11/6/14	41.2 J	380	ND<200	136 J	ND<200	ND<200	ND<200	350	ND<200	34.7 J	27.8 J	ND<1,600	ND<200	ND<200	ND<400
	20	11/6/14	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	85.4 J	725	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<410
	25	11/6/14	ND<200	64.9 J	ND<200	408	43.9 J	87.8 J	ND<200	57.6 J	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<390
	30	11/6/14	ND<4.4	97.6 J	1.7 J	301	5.1	9.3	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<8.7
	35	11/6/14	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	41.5	ND<4.6	ND<4.6	ND<9.1
	40	11/6/14	9.5	ND<3.9	0.47 J	233	1.0 J	51.7	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	19.9 J	ND<3.9	ND<3.9	ND<7.8
SB-27	25	11/6/14	ND<350	ND<350	ND<350	ND<350	ND<350	ND<350	4,340	120 J	ND<350	124 J	ND<350	ND<2,800	ND<350	177 J	211 J
	28	11/6/14	139 J	533	ND<180	637	ND<180	ND<180	499	1,440	ND<180	45.2 J	ND<180	ND<1,400	ND<180	202	192 J
	35	11/6/14	93.6 J	1,130	ND<170	510	ND<170	ND<170	27.1 J	601	ND<170	ND<170	ND<170	ND<1,400	ND<170	29.1 J	89.3 J
	40	11/6/14	ND<200	132 J	ND<200	294	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<1,600	ND<200	ND<200	ND<390
SB-28	35	11/6/14	ND<3.9	57.9	1.3 J	246	1.4 J	71.4	ND<3.9	ND<3.9	ND<3.9	0.40 J	ND<3.9	17.0 J	ND<3.9	ND<3.9	ND<7.8
	40	11/6/14	ND<160	811	ND<160	713	ND<160	33.9 J	ND<160	40.4 J	ND<160	ND<160	31.4 J	ND<1,300	ND<160	ND<160	ND<330
Previous Borings																	
MIP-A	10	7/11/13	ND<3.5	3.1 J	ND<3.5	1.4 J	ND<3.5	3.6	14	4.0	ND<3.5	ND<3.5	ND<3.5	ND<3.5	ND<3.5	ND<3.5	NC<3.5
	18	7/11/13	ND<180	ND<180	ND<180	ND<180	ND<180	ND<180	3,900	160 J	ND<180	89 J	ND<180	ND<180	ND<180	ND<180	ND<180
	18-REP	7/11/13	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	4,500	140 J	ND<200	110 J	ND<200	ND<200	ND<200	ND<200	ND<200
	21	7/11/13	ND<190	ND<190	ND<190	ND<190	ND<190	ND<190	1,800	90 J	ND<190	220	ND<190	ND<190	ND<190	ND<190	ND<190
	28	7/11/13	ND<200	2,200	ND<200	860	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200	ND<200
	35	7/11/13	ND<3.7	8.0	0.47 J	58	ND<3.7	34	ND<3.7	ND<3.7	ND<3.7	ND<3.7	ND<3.7	37	ND<3.7	ND<3.7	ND<3.7

TABLE 1

SOIL ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

Soil Boring	Sample Depth (feet)	Sample Date	Volatile Organic Compounds (µg/kg)[a]														
			PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CBz	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB	Acetone	Toluene	Ethylbenzene	Xylenes
MIP-B	9.8	7/11/14	ND<3.2	ND<3.2	ND<3.2	18	ND<3.2	38	27	40	ND<3.2	ND<3.2	ND<3.2	ND<32	ND<3.2	ND<3.2	ND<6.4
	13	7/11/14	ND<340	ND<340	ND<340	2,600	ND<340	ND<340	670	880	ND<340	ND<340	ND<340	ND<3,400	ND<340	ND<340	ND<680
	17.8	7/11/14	ND<360	ND<360	ND<360	ND<360	ND<360	ND<360	2,900	<360	ND<360	ND<360	ND<360	ND<3,600	ND<360	ND<360	ND<720
	20	7/11/14	ND<3.6	ND<3.6	ND<3.6	ND<3.6	ND<3.6	ND<3.6	50	5.6	ND<3.6	ND<3.6	ND<3.6	ND<36	ND<3.6	ND<3.6	ND<7.1
	25	7/11/14	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<3.4	ND<34	ND<3.4	ND<3.4	ND<6.8
MIP-C	10	711/14	ND<370	ND<370	ND<370	25,000	ND<370	470	1,100	29,000	ND<370	1,000	ND<370	ND<3,700	ND<370	530	1,400
	10-REP	7/11/14	ND<370	ND<370	ND<370	27,000	ND<370	500	890	25,000	ND<370	840	ND<370	ND<3,700	ND<370	430	1,100
	12	7/11/14	ND<350	ND<350	ND<350	22,000	ND<350	580	1,100	19,000	ND<350	630	ND<350	ND<3,500	ND<350	ND<350	810
	16	7/11/14	ND<300	ND<300	ND<300	8,300	ND<300	440	12,000	5,100	ND<300	900	ND<300	ND<3,000	ND<300	450	ND<590
	16-REP	7/11/14	ND<330	ND<330	ND<330	8,400	ND<330	510	12,000	4,400	ND<330	890	ND<330	ND<3,300	ND<330	460	ND<670
	20	7/11/14	ND<360	ND<360	ND<360	ND<360	ND<360	ND<360	11,000	ND<360	ND<360	500	ND<360	ND<3.,600	ND<360	ND<360	ND<720
	25	7/11/14	ND<350	ND<350	ND<350	ND<350	ND<350	ND<350	10,000	ND<350	ND<350	ND<350	ND<350	ND<3,500	ND<350	590	810
MIP-D	5 to 10	7/11/14	ND<460	ND<460	ND<460	ND<460	ND<460	ND<460	ND<460	490	ND<460	ND<460	ND<460	ND<4,600	ND<460	ND<460	ND<460

(a) Volatile organic compounds (VOCs) tested using SW846 8260B and reported in micrograms per kilogram (µg/kg).
Compounds abbreviated in the table are identified as follows:

PCE = Tetrachloroethene
TCE = Trichloroethene
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
VC = Vinyl Chloride
CBz = Chlorobenzene
1,2-DCB = 1,2-Dichlorobenzene
1,3-DCB = 1,3-Dichlorobenzene
1,4-DCB = 1,4-Dichlorobenzene
1,2,4-TCB = 1,2,4-Trichlorobenzene

Only VOCs detected in at least one sample are shown; see laboratory report for complete analytical results.

(b) J - J-flag results are less than the reporting limit but greater than or equal to the method detection limit; the concentration is an approximate value.

(c) ND - Not detected at reporting limit.

TABLE 2

GRAB GROUNDWATER ANALYTICAL RESULTS
FORMER TRW MICROWAVE SITE
SUNNYVALE, CALIFORNIA

Soil Boring	Sample Depth Interval (feet)	Sample Date	Volatile Organic Compounds (µg/l)[a]														
			PCE	TCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CBz	1,2-DCB	1,3-DCB	1,4-DCB	1,2,4-TCB	Acetone	Toluene	Ethylbenzene	Xylenes
SB-27	28 to 30	11/6/14	146	2,970	ND<100[b]	3,210	ND<100	48.5 J[c]	146	508	ND<100	ND<100	ND<100	ND<2,000	ND<100	41.2 J	139 J
SB-28	14 to 16	11/6/14	16.6	167	ND<2.5	70.4	4.0	0.69 J	ND<2.5	6.0	ND<2.5	ND<2.5	ND<2.5	ND<50	ND<2.5	ND<2.5	ND<5.0
	28 to 30	11/6/14	4.6	164	1.1 J	161	1.7 J	3.6	ND<2.5	2.3 J	ND<2.5	ND<2.5	ND<2.5	14.8 J	ND<2.5	ND<2.5	ND<5.0

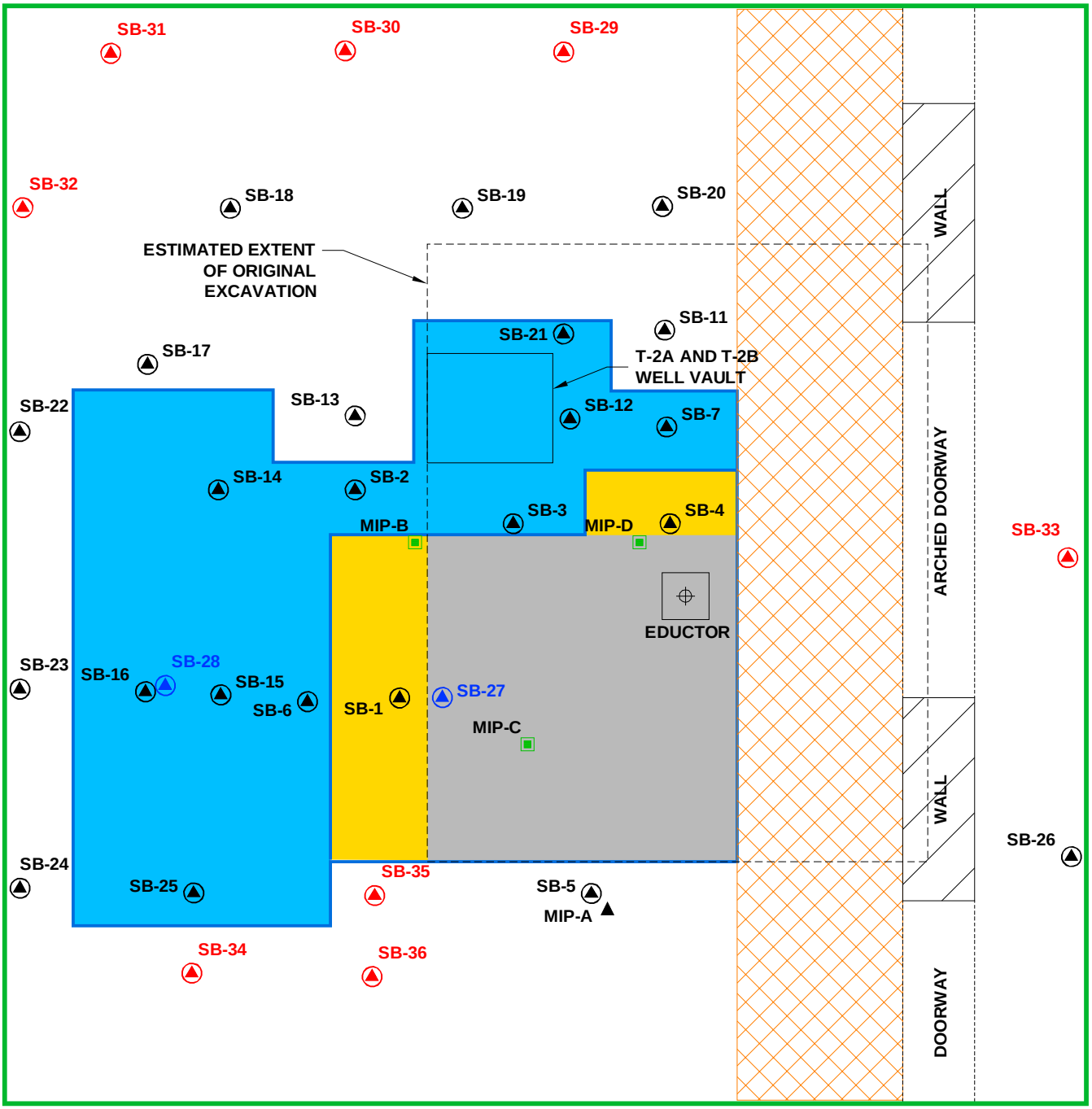
(a) Volatile organic compounds (VOCs) tested using SW846 8260B and reported in micrograms per liter (µg/l).
Compounds abbreviated in the table are identified as follows:

PCE = Tetrachloroethene
TCE = Trichloroethene
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
VC = Vinyl Chloride
CBz = Chlorobenzene
1,2-DCB = 1,2-Dichlorobenzene
1,3-DCB = 1,3-Dichlorobenzene
1,4-DCB = 1,4-Dichlorobenzene
1,2,4-TCB = 1,2,4-Trichlorobenzene

Only VOCs detected in at least one sample are shown; see laboratory report for complete analytical results.

(b) ND - Not detected at reporting limit.

(c) J - J-flag results are less than the reporting limit but greater than or equal to the method detection limit; the concentration is an approximate value.



Inset A - See Figure 4
In Well Destruction and Source Removal Work Plan (AECOM, 2014)

Legend

- Borehole Location (October/November 2014)
- Borehole Location with Associated Grab Groundwater Sample (November 2014)
- Borehole Location with Analytical Results Pending (November 2014)
- Confirmation Borehole Location (July 2014)
- Continuous Core and Soil Sampling Location (July 2013)
- Initial expansion of excavation based on analytical results from SB-1 through SB-5 (Originally planned excavation extent shown in gray)
- Proposed expansion of excavation based on analytical results from SB-6 through SB-28.
- Originally Planned Excavation Extent
- Approximate Extent of Building Footing

Abbreviations

MIP membrane interface probe

NORTH

0 2.5' 5'

1" = 5'

Former TRW Microwave Facility

Soil Boring Locations and Proposed Expanded Excavation Area

Date: 11-14	NORTHROP GRUMMAN	Figure
Project No. 60238860		1

File: W:\work\60238860_NG\CADD\Fig 1_SB Loc and Proposed Epanded Excavation Area_A2.dwg Layout: Layout1 User: mexias Plotted: Nov 12, 2014 - 4:34pm