TABLE 3-1
MONITORING AND PRIVATE WELL INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
Private Wells														
1	7620 15TH ST E	1118674.20	478656.98	Unknown	PWS								Monitoring	Former
2	7300 15TH ST E	1118473.96	478862.89	Unknown	PWS								Monitoring	Former
3	1306 ROME AVE	1117213.07	478259.72	Floridan	PWS	82	438		438				Irrigation	Former
4	1309 HARDIN AVE	1117027.58	478198.27	AF Gravels	PWS				139				Potable	Former
5	1227/1231 HARDIN AVE	1116979.89	477790.79	Unknown	PWS								Monitoring	Former
6	7580 15TH ST E	1116990.24	478635.74	USAS	PWS	5	15		15				Monitoring	Current
7	7561/7571 15TH ST E	1117178.00	478965.80	AF Gravels	PWS	30	150		150				Potable	Current
8	7602 16TH ST CT E	1116883.25	479319.48	Unknown	PWS								Irrigation	Current
9	7604/7608 16TH ST E	1116820.81	479160.30	LSAS	PWS	30	74.5		74.5				Potable	Former
10	7609 16TH ST E	1116758.14	479305.10	USAS	PWS				18				Potable	Former
11	7616 16TH ST E	1116597.98	479144.05	AF Gravels	PWS	35	97		98				Potable	Former
12	7620 16TH ST E	1116539.96	479118.52	USAS	PWS				22				Irrigation	Former
13	7624 16TH ST E	1116474.97	479118.52	LSAS	PWS	30	91		91				Irrigation	Former
14.16	1507 TALLEVAST RD	1116331.06	479079.06	LSAS	PWS	30	84		85				Irrigation	Former
15	7671 15TH ST E	1116335.70	478893.38	USAS	PWS				20	12/24/1994			Monitoring	Current
17	7621 16TH ST E	1116543.34	479290.68	AF Gravels	PWS	36	233.1		233.1				Potable	Former
18	1615 TALLEVAST RD	1116413.19	479472.02	AF Gravels	PWS	36	171.7		171.7				Irrigation	Former
19	7605 17TH ST E	1116699.85	479855.57	LSAS*	PWS				65				Irrigation	Former
20	1709 76TH AVE DR E	1116652.01	479822.06	Unknown	PWS								Irrigation	Former
21	1710/1714 76TH AVE DR E	1116558.52	479828.77	LSAS	PWS	31	65		65				Irrigation	Former
22	7619 17TH ST E	1116502.82	479838.05	USAS	PWS				26				Irrigation	Former
23	7623 17TH ST E	1116392.07	479825.25	USAS	PWS				74				Irrigation	Current
24	1712 TALLEVAST RD	1116221.97	479863.58	USAS	PWS		144		144				Irrigation	Former
25	7515 18TH ST E	1117196.82	480262.81	USAS	PWS				23				Potable	Former
26	7519 18TH ST E	1116980.96	480193.18	AF Gravels	PWS	29	171		171	7/16/1992			Potable	Former
27	7609 18TH ST E	1116730.28	480195.50	AF Gravels	PWS	29	153		154				Potable	Former
28	7611 18TH ST E	1116676.18	480216.39	AF Gravels	PWS	67	116		116	5/1/1960			Potable	Former
29	7615 18TH ST E	1116570.13	480255.84	LSAS	PWS	28	69		69				Potable	Former
30	7619 18TH ST E	1116544.60	480286.02	AF Gravels	PWS	36	105.8		105.8				Potable	Former
31	1811 TALLEVAST RD	1116349.63	480457.78	LSAS	PWS	31	77.5		77.5				Potable	Former
32	7624 19TH ST E	1116302.90	480525.39	AF Gravels	PWS	32	114		114				Potable	Former
33	7600 19TH ST E	1116927.57	480590.08	AF Gravels	PWS				140				Irrigation	Former
34	7603 19TH ST E	1116751.17	480645.78	AF Gravels*	PWS	32	95.2		95.2				Potable	Former
35	1911/1913 TALLEVAST RD	1116343.87	480820.24	LSAS	PWS		66		66				Potable	Former
36	1955 TALLEVAST RD	1116363.55	480973.06	LSAS	PWS				33				Irrigation	Former
37	2003 TALLEVAST RD	1116294.92	481246.69	AF Gravels	PWS	34	142.7		142.7				Potable	Former
38	2105 TALLEVAST RD	1116334.80	481721.80	AF Gravels	PWS	28			152				Irrigation	Current
39	1812 TALLEVAST RD	1116166.26	480446.17	LSAS*	PWS				74				Irrigation	Former
40	1808 TALLEVAST RD	1116007.94	480307.26	LSAS	PWS		75		75				Irrigation	Former
41	1864 TALLEVAST RD	1115718.75	480671.32	AF Gravels	PWS	37	128.9		128.9				Potable	Former
42	1804 TALLEVAST RD	1115852.92	480260.49	AF Gravel	PWS	40	213		213				Potable	Former
43	7715 17TH ST CT E	1115832.03	480042.31	LSAS	PWS				110				Irrigation	Former
44	7716 17TH ST CT E	1115829.71	479914.65	LSAS	PWS		30		30				Potable	Former
45	7813 17TH ST CT E	1115402.63	479991.24	USAS*	PWS				15				Irrigation	Former

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REMEDIAL ACTION PLAN ADDENDUM
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TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
46	7819 17TH ST E	1115176.37	479774.01	USAS	PWS				15				Irrigation	Former
47	7851 15TH ST E	1115602.24	479322.77	Floridan	PWS	250	480	480	480	4/23/1999			Irrigation	Current
48	7741 15TH ST E	1115609.98	479325.11	Floridan*	PWS	221	360		360				Irrigation	Current
49	7715 15TH ST E	1116105.92	478826.06	Floridan	PWS	75	135		460	12/23/1996			Irrigation	Former
50	1234 CLYDE JONES RD	1116123.73	477776.39	Unknown	PWS								Monitoring	Former
51	7850 15TH ST E	1115242.48	478779.64	Unknown	PWS								Monitoring	Former
52	7881 15TH ST E	1115155.39	479089.56	USAS	PWS	2	12		12	4/9/1999			Monitoring	Current
53	8011 15TH ST E	1113795.19	479547.94	Floridan	PWS	210	375		375	10/11/2000			Irrigation	Current
54	8061 15TH ST E	1113485.37	479323.23	Unknown	PWS								Monitoring	Former
55	7350 26TH CT E	1118523.64	483932.65	USAS	PWS	5	10		15	7/28/1987			Monitoring	Current
56	7455 16TH ST E	1118889.60	479335.77	Unknown	PWS								Irrigation	Current
57	7500 26TH CT E	1117497.03	483902.43	Floridan	PWS	57	440		440	5/6/2005			Irrigation	Current
58	7501 15TH ST	1117355.00	479481.50	AF Gravels	PWS				85				Irrigation	Current
59	7524 COMMERCE PLACE	1117425.62	477907.08	AF Gravels	PWS				175				Irrigation	Former
60	7575 COMMERCE CT	1117040.64	476955.81	Unknown	PWS								Irrigation	Current
61	7602 17TH ST E	1116874.45	479662.70	AF Gravels*	PWS				120				Irrigation	Former
62	7603 18TH ST E	1116834.38	480187.42	Unknown	PWS								Potable	Former
63	1012 PONDEROSA PINE LANE	1118710.13	476764.04	AF Gravels	PWS	30			120	5/19/1995			Irrigation	Current
64	1107 TALLEVAST RD	1116695.42	476957.75	Unknown	PWS								Irrigation	Current
65	1201 TALLEVAST RD	1116658.82	478548.29	AF Gravels	PWS								Irrigation	Current
66	1305 HARDIN AVE	1117006.68	478142.95	AF Gravels	PWS				120				Potable	Former
67	1375 HARDIN AVE	1116995.28	478288.20	Unknown	PWS								Potable	Former
68	1401 COMMERCE BLVD	1117997.33	478625.27	Unknown	PWS								Irrigation	Former
69	1403 HARDIN AVE	1116995.28	478349.35	Unknown	PWS								Potable	Former
70	1600 TALLEVAST RD	1116048.85	479365.52	AF Gravels	PWS		178		178				Irrigation	Former
71	1607 TALLEVAST RD	1116309.26	479281.34	AF Gravels	PWS	28			60.5				Irrigation	Former
72	1611 TALLEVAST RD	1116326.55	479370.63	AF Gravels	PWS		90		90				Irrigation	Former
73	1619 TALLEVAST RD	1116419.15	479568.39	AF Gravels	PWS				119				Potable	Former
74	1701 BIOTECH WAY	1119104.50	479636.80	Unknown	PWS								Irrigation	Current
75	1715 TALLEVAST RD	1116362.93	479944.83	LSAS	PWS		75		75				Irrigation	Former
76	1790 TALLEVAST RD	1115659.46	480218.01	LSAS	PWS				49				Irrigation	Former
77	1807 TALLEVAST RD	1116397.58	480188.66	USAS	PWS		41		41				Irrigation	Former
78	1905 72ND DR E	1119624.49	481017.78	AF Gravels	PWS	34	120		120	2/8/2005			Irrigation	Current
79	1915 72ND DR E	1119550.61	481059.44	AF Gravels	PWS	50	120		125	10/2/2004			Irrigation	Current
80	2217 72ND AVE E	1119684.26	482065.83	AF Gravels	PWS	47	125		125	6/23/2004			Irrigation	Current
81	2227 72ND AVE E	1119740.29	482338.66	AF Gravels	PWS	38	120		120	2/16/2005			Irrigation	Current
82	2305 72ND AVE E	1119672.92	482643.27	AF Gravels	PWS	15			125	3/10/2004			Irrigation	Current
83	2337 72ND DR E	1119116.14	482840.57	AF Gravels	PWS	40	130		130	1/29/2005			Irrigation	Current
84	2400 TALLEVAST RD	1115775.25	481997.41	AF Gravels	PWS								Irrigation	Current
85	2411 TALLEVAST RD	1116453.00	482751.00	AF Gravels	PWS	38.5			129				Irrigation	Current
86	7061 15TH ST E	1120319.94	479061.71	Unknown	PWS								Irrigation	Current
87	7116 24TH CT E	1119930.26	482858.04	AF Gravels	PWS	80	120			4/29/2005			Irrigation	Current
88	7126 24TH CT E	1119797.43	482859.45	AF Gravels	PWS	80	120		120	4/27/2005			Irrigation	Current
89	7175 21ST ST E	1119965.55	481622.84	AF Gravels*	PWS	61	109		109	8/11/2005			Irrigation	Current
90	7198 21ST ST E	1119469.59	481319.23	Unknown	PWS								Irrigation	Current

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TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
91	7205/7207 21ST ST E	1119578.10	481573.30	AF Gravels	PWS	36			120	2/10/2005			Irrigation	Current
92	7212 24TH CT E	1119411.24	482831.60	AF Gravels	PWS	80	120		120	4/25/2005			Irrigation	Current
93	7216 21ST ST E	1119332.70	481325.50	AF Gravels	PWS	80	125		125	10/28/2005			Irrigation	Current
94	7220 24TH CT E	1119286.40	482830.61	AF Gravels	PWS	80	120		120	4/21/2005			Irrigation	Current
95	7230 15TH ST E	1119156.00	478632.20	Unknown	PWS								Irrigation	Current
96	7245 21ST ST E	1119011.39	481496.59	AF Gravels	PWS	30			120	1/25/2006			Irrigation	Current
97	7260 15TH ST E	1118674.20	478636.98	AF Gravels	PWS	46			165	8/12/1998			Irrigation	Current
98	7519 18TH ST E (East Well)	1116980.96	480243.18	AF Gravels	PWS								Potable	Current
99	7606 16TH ST CT E	1116804.35	479379.96	AF Gravels	PWS		150.5		150.5				Irrigation	Former
100	7630 MATOAKA RD	1117072.70	484225.70	Unknown	PWS								Irrigation	Current
101	7845 27th ST E	1115099.41	484666.02	Unknown	PWS								Irrigation	Current
102	8005 15TH ST E	1114041.47	479818.79	Unknown	PWS								Irrigation	Current
103	8155 27TH ST E	1113580.60	484994.40	Unknown	PWS								Irrigation	Current
104	8161 15TH ST E	1113485.37	479323.23	USAS	PWS	4	14		14				Irrigation	Current
105	904 PONDEROSA PINE LANE	1118749.26	476179.13	Unknown	PWS								Irrigation	Current
106	905 PONDEROSA PINE LANE	1118958.89	476215.83	Unknown	PWS								Irrigation	Current
107	911 SOUTHERN PINE LANE	1118636.86	476373.49	Unknown	PWS								Irrigation	Current
108	916 PONDEROSA PINE LANE	1118844.58	476700.95	Unknown	PWS								Irrigation	Former
109	7603 19TH ST E Well #2	1116497.83	480683.98	AF Gravels*	PWS	30	112		112	11/2/1978			Potable	Former
110	7619 18TH ST E Well #2	1116514.60	480236.02	Floridan*	PWS				320				Potable	Former
111	1710/1714 76TH AVE DR E Well #2	1116558.52	479793.77	AF Gravels*	PWS		144		144				Irrigation	Former
112	7609 16TH ST E Well #2	1116778.14	479305.10	LSAS	PWS	32	140		140	10/13/1992			Potable	Former
113	1613 76TH AVE DR E	1116659.50	479474.10	LSAS	PWS				86				Potable	Former
114	7604 19TH ST E	1116657.47	480573.63	LSAS*	PWS	30	50		50				Potable	Current
115	7828 17TH ST CT E	1115322.42	479913.94	USAS*	PWS		40		40				Unknown	Former
116	7205 15TH ST E	1119475.89	478894.65	Floridan*	PWS				780				Irrigation	Former
117	7205 15TH ST E Well #2	1119482.85	478908.57	Lower AF*	PWS	36	235	235	235	6/28/2000			Potable	Current
118	7616 17TH ST CT E	1116490.49	480021.10	Unknown	PWS								Unknown	Former
119	7201 15TH ST E	1118932.57	478868.46	Floridan*	PWS				764				Irrigation	Former
120	2224 72ND AVE E	1119566.54	482358.78	AF Gravels*	PWS	63	125		125	3/13/2006			Irrigation	Current
121	7178 21ST ST E	1119714.34	481426.60	AF Gravels*	PWS	30	120		120	1/21/2006			Irrigation	Current
122	7614 16TH ST CT E	1116657.65	479390.48	LSAS*	PWS				68				Potable	Current
123	7716 17TH ST CT E	1115857.57	479914.79	USAS	PWS				16.25				Potable	Former
124	7720 17th ST Ct E	1115763.62	479867.73	LSAS	PWS	34	50		50				Potable	Former
127	7921 15th ST E	1114889.10	479146.54	Unknown	PWS								Irrigation	Current
128	670 TALLEVAST RD	1117492.02	474573.13	Unknown	PWS								Irrigation	Current
129	701 TALLEVAST RD	1118157.46	474435.65	Unknown	PWS								UNKNOWN	Current
130	839 TALLEVAST RD	1117613.01	475480.55	Unknown	PWS								Irrigation	Current
131	857 TALLEVAST RD	1117629.51	475816.02	Unknown	PWS								Irrigation	Current
In-Situ Pilot Test														
150	CO-A1D	1116006.66	479784.59	USAS	TSL	27	30	30		2/15/2008		31.47	Temporary	Current
151	CO-A2D	1116001.89	479784.64	USAS	TSL	27	30	30		2/15/2008		31.42	Temporary	Current
152	CO-A2S	1116000.76	479784.26	USAS	TSL	19	24	24		2/13/2008		31.47	Temporary	Current
153	CO-A3D	1116000.95	479779.16	USAS	TSL	27	30	30		2/14/2008		31.45	Temporary	Current
154	CO-A3S	1116002.99	479778.46	USAS	TSL	19	24	24		2/13/2008		31.40	Temporary	Current
155	CO-A4D	1116006.52	479778.28	USAS	TSL	27	30	30		2/14/2008		31.47	Temporary	Current
156	CO-B1D	1116007.99	479787.12	USAS	TSL	27	30	30		2/15/2008		31.42	Temporary	Current
157	CO-B1S	1116007.46	479788.33	USAS	TSL	19	24	24		2/11/2008		31.42	Temporary	Current

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Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
158	CO-B2D	1116000.62	479787.67	USAS	TSL	27	30	30		2/15/2008		31.47	Temporary	Current
159	CO-B3D	1115997.40	479781.57	USAS	TSL	27	30	30		2/14/2008		31.45	Temporary	Current
160	CO-B4D	1116000.87	479775.25	USAS	TSL	27	30	30		2/14/2008		31.37	Temporary	Current
161	CO-B5D	1116008.73	479777.16	USAS	TSL	27	30	30		2/14/2008		31.34	Temporary	Current
162	CO-B5S	1116007.90	479775.96	USAS	TSL	19	24	24		2/13/2008		31.44	Temporary	Current
163	CO-C1D	1116011.82	479788.66	USAS	TSL	26	30	30		2/12/2008		31.41	Temporary	Current
164	CO-C1S	1116010.51	479789.72	USAS	TSL	19	24	24		2/12/2008		31.51	Temporary	Current
165	CO-C2D	1116004.14	479791.87	USAS	TSL	26	30	30		2/11/2008		31.46	Temporary	Current
166	CO-C3D	1116014.52	479780.72	USAS	TSL	26	30	30		2/11/2008		31.52	Temporary	Current
167	CO-C3S	1116013.11	479781.46	USAS	TSL	19	24	24		2/11/2008		31.27	Temporary	Current
168	CO-D1D	1116014.50	479791.45	USAS	TSL	26	30	30		2/12/2008		31.43	Temporary	Current
169	CO-D1S	1116012.92	479792.88	USAS	TSL	19	24	24		2/12/2008		31.52	Temporary	Current
3100	T-A1S	1115951.62	479808.94	USAS	TSL	19	24	24		2/15/2008		30.84	Temporary	Current
3101	T-A1D	1115952.83	479808.20	USAS	TSL	27	30	30		2/18/2008		31.02	Temporary	Current
3102	T-A2S	1115948.19	479811.15	USAS	TSL	19	24	24		2/19/2008		30.93	Temporary	Current
3103	T-A2D	1115947.09	479810.18	USAS	TSL	27	30	30		2/18/2008		30.95	Temporary	Current
3104	T-A3S	1115944.47	479805.04	USAS	TSL	19	24	24		2/15/2008		30.90	Temporary	Current
3105	T-A3D	1115945.67	479803.88	USAS	TSL	27	30	30		2/19/2008		30.98	Temporary	Current
3106	T-A4S	1115949.00	479802.80	USAS	TSL	19	24	24		2/15/2008		30.87	Temporary	Current
3107	T-A4D	1115949.90	479803.11	USAS	TSL	27	30	30		2/18/2008		30.94	Temporary	Current
3108	T-B1S	1115952.97	479811.27	USAS	TSL	19	24	24		2/15/2008		30.83	Temporary	Current
3109	T-B1D	1115954.73	479810.70	USAS	TSL	26	30	30		2/18/2008		30.97	Temporary	Current
3110	T-B2S	1115945.67	479813.89	USAS	TSL	19	24	24		2/15/2008		30.91	Temporary	Current
3111	T-B2D	1115947.05	479813.49	USAS	TSL	27	30	30		2/18/2008		30.90	Temporary	Current
3112	T-B3S	1115941.11	479808.29	USAS	TSL	19	24	24		2/15/2008		30.90	Temporary	Current
3113	T-B3D	1115942.09	479807.45	USAS	TSL	27	30	30		2/14/2008		30.93	Temporary	Current
3114	T-B4S	1115944.14	479801.67	USAS	TSL	19	24	24		2/11/2008		30.95	Temporary	Current
3115	T-B4D	1115942.45	479802.26	USAS	TSL	27	30	30		2/14/2008		30.91	Temporary	Current
3115.25	T-B5S	1115953.91	479802.08	USAS	TSL	19	24	24		2/15/2008		30.88	Temporary	Current
3115.5	T-B5D	1115954.59	479802.01	USAS	TSL	27	30	30		2/18/2008		30.98	Temporary	Current
3116	T-C1S	1115958.65	479803.13	USAS	TSL	19	24	24		2/13/2008		30.97	Temporary	Current
3117	T-C1D	1115958.61	479804.71	USAS	TSL	26	30	30		2/12/2008		30.96	Temporary	Current
3118	T-C2S	1115958.60	479806.54	USAS	TSL	19	24	24		2/13/2008		31.02	Temporary	Current
3119	T-C2D	1115958.69	479807.96	USAS	TSL	26	30	30		2/12/2008		30.98	Temporary	Current
3120	T-C3S	1115957.08	479812.62	USAS	TSL	19	24	24		2/14/2008		30.99	Temporary	Current
3121	T-C3D	1115957.93	479810.71	USAS	TSL	26	30	30		2/12/2008		30.98	Temporary	Current
3122	T-C4S	1115955.16	479814.97	USAS	TSL	19	24	24		2/14/2008		30.89	Temporary	Current
3123	T-C4D	1115956.56	479813.93	USAS	TSL	26	30	30		2/13/2008		30.90	Temporary	Current
3124	T-C5S	1115951.63	479816.31	USAS	TSL	19	24	24		2/14/2008		30.95	Temporary	Current
3125	T-C5D	1115953.41	479815.97	USAS	TSL	26	30	30		2/13/2008		30.92	Temporary	Current
3126	T-C6S	1115947.56	479816.40	USAS	TSL	19	24	24		2/14/2008		30.90	Temporary	Current
3127	T-C6D	1115949.36	479816.39	USAS	TSL	26	30	30		2/13/2008		30.81	Temporary	Current
3200	TL-INJ	1115966.52	479771.89	LSAS	IW	35	40	45	40	2/5/2008		30.99	Injection	Current
3201	TL-4-1	1115969.76	479769.87	LSAS	TSL	35	40	40		2/8/2008		31.25	Temporary	Current
3202	TL-4-2	1115966.16	479775.94	LSAS	TSL	35	40	40		2/7/2008		31.20	Temporary	Current

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REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
3203	TL-4-3	1115963.61	479769.29	LSAS	TSL	35	40	40		2/7/2008		31.08	Temporary	Current
3204	TL-5-1	1115969.67	479775.61	USAS	TSL	25	30	30		3/14/2008	31.38	31.18	Temporary	Current
3205	TL-7-1	1115960.50	479776.07	LSAS	TSL	35	40	40		2/6/2008		30.99	Temporary	Current
3206	TL-10-1	1115972.63	479779.81	LSAS	TSL	35	40	40		2/6/2008		31.26	Temporary	Current
Extraction Wells														
205	EW-102	1116241.71	479608.78	LSAS	EW	31	36	41	41	10/26/2007		30.52	Extraction	Current
206	EW-103	1116206.50	479834.30	USAS	EW	5	20	25	25	5/31/2006	31.70	29.86	Extraction	Current
207	EW-104	1116203.30	479834.50	LSAS	EW	26	31	36	36	5/31/2006	31.67	29.77	Extraction	Current
208	EW-105	1116071.30	479825.30	USAS	EW	5	25	30	30	5/3/2006	32.03	30.4	Extraction	Current
209	EW-106	1116071.10	479819.20	LSAS	EW	26	31	36	36	5/3/2006	32.05	30.33	Extraction	Current
210	EW-107	1115916.94	479918.26	USAS	EW	7	27	32.2	32	10/24/2007		29.64	Extraction	Current
211	EW-109	1115848.00	479712.20	USAS	EW	5	25	30	30	5/2/2006	32.02	30.1	Extraction	Current
212	EW-110	1115847.40	479703.00	LSAS	EW	30	35	40	40	5/2/2006	31.80	30.12	Extraction	Current
214	EXL-1 (EW-108)	1116041.67	479786.71	LSAS	EW	35.5	40.5		40.5	8/31/2005	31.84	30.09	Extraction	Current
215	EXU-1 (EW-101)	1116077.50	479833.16	USAS	EW	15	30		30	8/30/2005	31.98	30.31	Extraction	Current
Monitoring Wells														
200	DW-1	1115999.90	479897.20	AF Gravels	MW	82	92	105	99	1/15/2002	31.24	31	Monitoring	Current
213	EW-UAFG-1	1116092.19	479826.11	AF Gravels	EW	98	108	110	108	6/2/2006		31.66	Extraction	Current
278	IW-1	1115949.04	479807.21	USAS	IW	27	30	30		2/15/2008		30.99	Injection	Former
279	IW-2	1116004.26	479781.56	USAS	IW	27	30	30		2/13/2008		31.50	Injection	Former
280	IWI-1	1116095.00	479874.20	AF Gravels	MW	100	110		110	9/2/2005	32.02	31.71	Monitoring	Current
281	IWI-2	1116093.50	479884.80	Clay/Sand Zone 3&4	MW	162	172		175	9/12/2005	32.01	31.62	Monitoring	Current
1001	MW-1	1116094.12	479769.39	USAS	MW	5	20	21	20	2/1/2001		32.21	Monitoring	Former
1002	MW-2	1115983.93	479928.48	USAS	MW	5	20	21	18.51	2/1/2001	0.00	29.846	Monitoring	Former
1003	MW-3	1115907.50	479823.90	USAS	MW	5	20	33	17.95	2/1/2001	30.90	30.52	Monitoring	Current
1004	MW-4	1116220.10	479655.00	USAS	MW	4	19	25	18.87	2/1/2001	31.91	31.5	Monitoring	Current
1005	MW-5	1116075.50	479470.10	USAS	MW	4	10		10.32	2/1/2003	32.48	32.17	Monitoring	Current
1006	MW-6	1116167.90	479454.20	USAS	MW	4	10		10.25	2/1/2003	32.14	31.92	Monitoring	Current
1007	MW-7S	1115920.80	479560.80	USAS	MW	4	10	33	9.99	2/1/2003	31.77	31.5	Monitoring	Current
1007.5	MW-7D	1115920.90	479558.80	USAS	MW	15	20	33	19.96	2/1/2003	31.71	31.3	Monitoring	Current
1008	MW-8S	1115814.90	479686.80	USAS	MW	4	10	31	10.47	2/1/2003	31.22	30.99	Monitoring	Current
1008.5	MW-8D	1115814.90	479684.60	USAS	MW	15	20	31	18.6	2/1/2003	31.23	30.96	Monitoring	Current
1009	MW-9S	1115803.68	479967.10	USAS	MW	4	10	35	10	2/1/2003	30.70	30.24	Monitoring	Current
1009.5	MW-9D	1115800.77	479967.10	USAS	MW	15	20	35	20	2/1/2003	30.63	30.21	Monitoring	Current
1010	MW-10	1116068.60	479807.90	USAS	MW	15	20	29	20.21	2/1/2003	32.09	31.74	Monitoring	Current
1011	MW-11	1116058.30	479658.30	USAS	MW	15	20		19.43	2/1/2003	32.12	31.87	Monitoring	Current
1012	MW-12	1115994.90	479914.60	USAS	MW	15	20		20.36	2/1/2003	31.31	31.04	Monitoring	Current
1013	MW-13S	1116522.36	479717.42	USAS	MW	4	10	28	9.97	2/1/2003	31.07	30.66	Monitoring	Current
1013.5	MW-13D	1116517.51	479717.42	USAS	MW	15	20	28	19.85	2/1/2003	31.02	30.85	Monitoring	Current
1014	MW-14S	1116490.49	480099.10	USAS	MW	4	10	27	9.76	2/1/2003	30.01	29.74	Monitoring	Current
1014.5	MW-14D	1116485.64	480099.10	USAS	MW	15	20	27	19.89	2/1/2003	30.04	29.75	Monitoring	Current
1015	MW-15S	1116094.58	480165.64	USAS	MW	4	10		9.8	2/1/2003	30.52	30.09	Monitoring	Current
1015.5	MW-15D	1116098.94	480165.64	USAS	MW	15	20		18.71	2/1/2003	30.56	30.2	Monitoring	Current
1016	MW-16S	1116497.83	480623.98	USAS	MW	4	10	29	9.73	2/1/2003	27.47	27.26	Monitoring	Current
1016.5	MW-16D	1116495.09	480623.98	USAS	MW	15	20	29	18.26	2/1/2003	27.63	27.26	Monitoring	Current

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REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
1017	MW-17S	1116361.67	480154.59	USAS	MW	4	10	29	9.3	10/1/2003	30.46	30.09	Monitoring	Current
1017.5	MW-17D	1116369.71	480154.77	USAS	MW	15	20	29	19	10/1/2003	30.52	30.23	Monitoring	Current
1018	MW-18S	1116235.11	480487.06	USAS	MW	4	10	31	9.59	10/1/2003	28.32	28	Monitoring	Current
1018.5	MW-18D	1116235.56	480494.36	USAS	MW	15	20	31	18.83	10/1/2003	28.32	28.04	Monitoring	Current
1019	MW-19	1116223.10	479711.00	Lower AF Sands	MW	277.5	297.5	298	302	11/22/2004	31.74	31.25	Monitoring	Current
1020	MW-20	1115255.66	480137.14	USAS	MW	35	40	40	39.7	12/1/2004	30.52	30.29	Monitoring	Current
1021	MW-21	1116885.80	479787.76	S&P Sands	MW	135	145	145	148.8	12/4/2004	29.05	28.88	Monitoring	Current
1022	MW-22	1115225.18	479964.34	Lower AF Sands	MW	277	297	297	294.15	12/17/2004	29.06	28.71	Monitoring	Current
1023	MW-23	1115232.42	479963.94	S&P Sands	MW	152	172	172	171.91	12/6/2004	28.89	28.7	Monitoring	Current
1024	MW-24	1114781.28	479859.55	USAS	MW	30.5	35.5	35.5	34.93	12/17/2004	30.30	30.01	Monitoring	Current
1025	MW-25	1115122.43	479790.59	USAS	MW	36.4	43.4	43.4	43.38	12/17/2004	29.85	29.58	Monitoring	Current
1026	MW-26	1116732.14	481085.35	USAS	MW	21.5	26.5	26.5	23.72	12/18/2004	26.99	26.76	Monitoring	Current
1027	MW-27	1115716.49	480599.17	USAS	MW	30	35	35	34.58	12/17/2004	27.24	27.06	Monitoring	Current
1028	MW-28	1116028.97	480469.60	USAS	MW	25	30	30	29.69	12/17/2004	28.10	27.81	Monitoring	Current
1029	MW-29	1116222.40	480512.91	USAS	MW	25	30	30	29.83	12/17/2004	27.97	27.73	Monitoring	Current
1030	MW-30	1116249.25	479182.81	USAS	MW	23.5	28.5	28.5	28.47	12/15/2004	29.50	29.24	Monitoring	Current
1031	MW-31	1116682.96	479180.51	Lower AF Sands	MW	275	295	295	213.41	12/15/2004	28.80	28.49	Monitoring	Current
1032	MW-32	1115966.20	479787.20	USAS	MW	24.5	29.5	29.5	30.17	12/18/2004	31.26	31	Monitoring	Current
1033	MW-33	1115966.30	479781.80	LSAS	MW	35.5	40.5	40.9	41.9	12/18/2004	31.26	31	Monitoring	Current
1034	MW-34	1115605.88	479392.51	S&P Sands	MW	145	155	155.5	157.72	12/20/2004	30.21	29.99	Monitoring	Current
1035	MW-35	1115600.63	479392.19	USAS	MW	25	30	30.5	30.39	12/16/2004	30.28	29.88	Monitoring	Current
1036	MW-36	1116074.10	479807.70	USAS	MW	23	28	28	27.85	1/8/2005	32.11	31.71	Monitoring	Current
1037	MW-37	1116087.30	479807.80	LSAS	MW	35.5	40.5	41	40.55	12/19/2004	31.93	31.6	Monitoring	Current
1038	MW-38	1116027.40	479854.07	USAS	MW	23	28	28	27.98	1/8/2005	31.44	31.15	Monitoring	Current
1039	MW-39	1116028.00	479849.10	LSAS	MW	35.5	40.5	41	40.42	12/19/2004	31.43	31.18	Monitoring	Current
1040	MW-40	1115975.00	479897.80	USAS	MW	23	28	28	27.75	1/8/2005	31.65	31.32	Monitoring	Current
1041	MW-41	1115980.10	479897.50	LSAS	MW	35.5	40.5	41.5	40.97	12/21/2004	31.53	31.22	Monitoring	Current
1042	MW-42	1116082.70	479898.40	USAS	MW	23	28	28.5	26.97	12/21/2004	31.79	31.49	Monitoring	Current
1043	MW-43	1116082.80	479905.00	LSAS	MW	35.5	40.5	41	40.15	12/21/2004	31.79	31.48	Monitoring	Current
1044	MW-44	1115706.01	479702.50	S&P Sands	MW	142	152	152	150.25	12/19/2004	31.25	30.88	Monitoring	Current
1045	MW-45	1116527.86	479720.36	S&P Sands	MW	150	160	160	162.79	1/3/2005	30.95	30.58	Monitoring	Current
1046	MW-46	1116637.47	480603.63	Lower AF Sands	MW	280	300	300	299.7	12/21/2004	27.69	27.33	Monitoring	Current
1047	MW-47	1116714.08	479409.88	USAS	MW	22	27	35	26.81	12/20/2004	29.70	29.42	Monitoring	Current
1048	MW-48	1116358.39	479407.76	LSAS	MW	33.5	38.5	38.5	38.45	12/20/2004	30.65	30.4	Monitoring	Current
1049	MW-49	1116676.30	480147.81	S&P Sands	MW	146	156	156	153.22	1/3/2005	29.65	29.37	Monitoring	Current
1050	MW-50	1116886.26	480607.68	Lower AF Sands	MW	245	255	255	252.35	1/11/2005	27.84	27.56	Monitoring	Current
1051	MW-51	1116735.59	481093.86	Lower AF Sands	MW	261.6	271.6	271.6	271.75	1/11/2005	27.22	26.89	Monitoring	Current
1052	MW-52	1116216.41	480572.19	S&P Sands	MW	147	157	157	156.44	1/7/2005	27.53	27.11	Monitoring	Current
1053	MW-53	1116027.60	480482.25	S&P Sands	MW	141	151	151	150.06	1/7/2005	28.06	27.77	Monitoring	Current
1054	MW-54	1115722.53	480599.99	S&P Sands	MW	145	155	155.5	155.79	12/30/2004	27.28	26.88	Monitoring	Current
1055	MW-55	1114774.29	479859.18	AF Gravels	MW	127	137	137	138.63	1/8/2005	30.25	30.03	Monitoring	Current
1056	MW-56	1115144.28	479086.00	S&P Sands	MW	145	155	145	157.88	1/10/2005	27.46	27.28	Monitoring	Current
1057	MW-57	1115934.80	479308.30	S&P Sands	MW	136	146	146	149.14	1/9/2005	30.63	30.35	Monitoring	Current
1058	MW-58	1116229.50	479395.90	S&P Sands	MW	140	150	150	152.71	12/17/2004	31.59	31.26	Monitoring	Current
1059	MW-59	1116689.26	479181.80	S&P Sands	MW	140	150	150	157.73	1/4/2005	28.70	28.48	Monitoring	Current

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REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
1060	MW-60	1116865.11	479250.83	S&P Sands	MW	145	155	155	158.45	1/7/2005	28.59	28.33	Monitoring	Current
1061	MW-61	1116779.19	478825.12	S&P Sands	MW	135	145	145	147.97	1/11/2005	27.86	27.5	Monitoring	Current
1062	MW-62	1116772.95	480607.22	USAS	MW	17.5	22.5	23	22.11	1/5/2005	27.60	27.35	Monitoring	Current
1063	MW-63	1116627.50	480603.50	USAS	MW	25	30	30	30.64	1/3/2005	27.64	27.37	Monitoring	Current
1064	MW-64	1116199.25	480633.91	USAS	MW	25	30	30	30.98	1/3/2005	27.62	27.38	Monitoring	Current
1065	MW-65	1116463.19	480341.58	USAS	MW	19	24	24	22.75	1/3/2005	29.14	28.76	Monitoring	Current
1066	MW-66	1116662.47	480147.23	USAS	MW	18.5	23.5	23.5	22.72	1/4/2005	29.57	29.2	Monitoring	Current
1067	MW-67	1116580.79	479798.76	USAS	MW	24	29	29	28.31	1/4/2005	31.14	30.79	Monitoring	Current
1068	MW-68	1116674.70	479178.19	LSAS	MW	35.5	40.5	41	41.41	1/3/2005	28.86	28.6	Monitoring	Current
1069	MW-69	1116855.08	478819.78	USAS	MW	23	28	28.8	28.45	1/4/2005	27.19	26.91	Monitoring	Current
1070	MW-70	1116240.60	479613.10	USAS	MW	23	28	28.5	27.41	12/29/2004	32.06	31.89	Monitoring	Current
1071	MW-71	1116240.70	479928.47	USAS	MW	24	29	29.5	28.28	12/29/2004	31.58	31.23	Monitoring	Current
1072	MW-72	1116028.90	479405.60	USAS	MW	23.5	28.5	29	28.77	12/19/2004	31.37	30.97	Monitoring	Current
1073	MW-73	1115538.70	478832.30	USAS	MW	22	27	27.4	26.84	1/4/2005	26.23	26.03	Monitoring	Current
1074	MW-74	1115144.22	479094.30	USAS	MW	27.5	32.5	33	33.34	1/4/2005	28.14	27.9	Monitoring	Current
1075	MW-75	1115028.65	479612.71	USAS	MW	39.5	44.5	45	43.95	1/3/2005	31.69	31.38	Monitoring	Current
1076	MW-76	1115900.58	479939.64	USAS	MW	23	28	28	27.79	1/4/2005	31.08	30.84	Monitoring	Current
1077	MW-77	1116024.22	480141.44	LSAS	MW	36	40.5	40.5	37.84	1/5/2005	30.06	29.73	Monitoring	Current
1078	MW-78	1115643.12	479814.30	LSAS	MW	36	41	41	40.1	1/6/2005	30.48	30.23	Monitoring	Current
1079	MW-79	1116346.06	480155.44	LSAS	MW	36	41	41	40.41	1/7/2005	30.47	30.11	Monitoring	Current
1080	MW-80	1116029.30	479413.30	LSAS	MW	36	41	41	41.57	1/8/2005	31.49	30.99	Monitoring	Current
1081	MW-81	1116469.48	479719.88	LSAS	MW	36	41	41	41.09	1/7/2005	31.23	31.01	Monitoring	Current
1082	MW-82	1115136.58	479086.15	LSAS	MW	36.5	41.5	46	41.63	1/11/2005	27.44	27.24	Monitoring	Current
1083	MW-83	1115973.29	481137.27	AF Gravels	MW	102	112	112	112	1/11/2005	25.70	25.51	Monitoring	Current
1084	MW-84	1116125.10	479267.80	LSAS	MW	35.5	40.5	41	41.65	1/11/2005	31.52	31.15	Monitoring	Current
1085	MW-85	1115122.86	479798.65	LSAS	MW	50	55	56	54.7	1/11/2005	29.70	29.55	Monitoring	Current
1086	MW-86	1116813.47	479771.09	LSAS	MW	30	35	36	35.62	1/11/2005	29.04	28.77	Monitoring	Current
1087	MW-87	1115594.54	479392.19	LSAS	MW	36	41	43.5	41.55	1/11/2005	30.39	30.26	Monitoring	Current
1088	MW-88	1115151.13	479085.42	Clay/Sand Zone 1	MW	76	86	87	87	1/10/2005	27.42	27.28	Monitoring	Current
1089	MW-89	1116651.54	480147.99	USAS	MW	27	32	32	32.8	1/11/2005	29.72	29.5	Monitoring	Current
1090	MW-90	1116947.78	480147.86	USAS	MW	25.5	30.5	31	30.05	1/17/2005	28.21	27.95	Monitoring	Current
1091	MW-91	1116221.95	480517.41	LSAS	MW	32.5	37.5	38	38.91	1/17/2005	27.95	27.66	Monitoring	Current
1092	MW-92	1116642.43	480603.95	LSAS	MW	33	38	38.5	37.95	1/17/2005	27.57	27.35	Monitoring	Current
1093	MW-93	1116881.16	480607.48	LSAS	MW	33	38	38	37.49	1/18/2005	27.96	27.73	Monitoring	Current
1094	MW-94	1115686.92	481248.33	USAS	MW	24.5	29.5	29.5	29.36	1/19/2005	25.59	25.4	Monitoring	Current
1095	MW-95	1115599.81	481412.85	USAS	MW	23	28	28	27.69	1/19/2005	25.15	24.85	Monitoring	Current
1096	MW-96	1116931.14	481305.00	Clay/Sand Zone 3&4	MW	196	206	206.5		2/3/2005	25.39	25.14	Monitoring	Current
1097	MW-97	1117509.08	480622.26	Clay/Sand Zone 3&4	MW	208	226	226		2/5/2005	25.38	25.29	Monitoring	Current
1098	MW-98	1115540.50	478826.80	LSAS	MW	33	38	39		2/4/2005	26.05	25.75	Monitoring	Current
1099	MW-99	1115155.33	478724.36	Clay/Sand Zone1	MW	71	81	81		2/6/2005	25.54	25.26	Monitoring	Current
1100	MW-100	1115161.99	478724.23	USAS	MW	25	30		30	2/6/2005	25.55	25.23	Monitoring	Current
1101	MW-101	1114765.82	479859.06	LSAS	MW	53	58		58	2/7/2005	30.40	30.09	Monitoring	Current
1102	MW-102	1115934.50	478815.30	AF Gravels	MW	90	100		99.8	2/8/2005	26.38	26.1	Monitoring	Current
1103	MW-103	1115938.80	478815.40	USAS	MW	25	30		30	2/8/2005	26.45	26.19	Monitoring	Current
1104	MW-104	1115427.87	480681.27	USAS	MW	25.4	30.4		30.4	2/9/2005	26.65	26.39	Monitoring	Current

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MONITORING AND PRIVATE WELL INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
1105	MW-105	1115423.35	480686.48	LSAS	MW	41.8	46.8		46.8	2/9/2005	26.56	26.41	Monitoring	Current
1106	MW-106	1114638.45	479081.29	LSAS	MW	40	45		45	3/16/2005	28.53	28.31	Monitoring	Current
1107	MW-107	1115424.61	481911.99	USAS	MW	21	26		26	4/4/2005	24.96	24.72	Monitoring	Current
1108	MW-108	1116953.35	478497.62	USAS	MW	23	28		28	3/15/2005	24.67	24.36	Monitoring	Current
1109	MW-109	1116915.03	479424.22	USAS	MW	23	28		28	3/15/2005	28.77	28.45	Monitoring	Current
1110	MW-110	1116809.60	479768.62	USAS	MW	23	28		28	3/15/2005	29.10	28.8	Monitoring	Current
1111	MW-111	1116309.14	481112.28	USAS	MW	23	28		28	3/15/2005	26.66	26.37	Monitoring	Current
1112	MW-112	1114637.79	479100.85	Clay/Sand Zone 1	MW	76	86		86	3/16/2005	28.53	28.28	Monitoring	Current
1113	MW-113	1116317.34	481112.50	LSAS	MW	37	42		42	3/15/2005	26.62	26.31	Monitoring	Current
1114	MW-114	1114818.18	480946.63	USAS	MW	35	40		40	4/4/2005	25.20	24.79	Monitoring	Current
1115	MW-115	1117655.08	479304.72	USAS	MW	20	25		25	5/23/2005	30.47	30.21	Monitoring	Current
1116	MW-116	1117841.60	478090.60	USAS	MW	21	26		26	5/23/2005	22.22	21.84	Monitoring	Current
1117	MW-117	1115996.30	478349.60	LSAS	MW	37	42		42	5/24/2005	21.84	21.56	Monitoring	Current
1118	MW-118	1115992.30	478342.70	USAS	MW	20	25		25	5/24/2005	21.72	21.47	Monitoring	Current
1119	MW-119	1115332.60	477435.70	LSAS	MW	31	36		36	5/24/2005	21.56	21.18	Monitoring	Current
1120	MW-120	1115332.20	477443.80	USAS	MW	20	25		25	5/24/2005	21.46	21.18	Monitoring	Current
1121	MW-121	1116298.75	477942.51	USAS	MW	18	23		23	5/24/2005	21.65	21.35	Monitoring	Current
1122	MW-122	1116318.75	477311.59	USAS	MW	21	26		26	5/24/2005	20.34	20.06	Monitoring	Current
1123	MW-123	1115854.50	479689.20	Floridan	MW	375	395		395	6/20/2005	31.38	30.9	Monitoring	Current
1124	MW-124	1114089.30	479644.20	Clay/Sand Zone 2	MW	127	137		137	7/20/2005	29.23	28.97	Monitoring	Current
1125	MW-125	1117654.90	479278.39	Venice Clay	MW	30	35		35	7/21/2005	29.74	29.52	Monitoring	Current
1126	MW-126	1114637.23	479093.42	USAS	MW	27	32		32	7/20/2005	28.61	28.32	Monitoring	Current
1127	MW-127	1116081.20	479807.80	AF Gravels	MW	100	110	110		8/30/2005	32.10	31.74	Monitoring	Current
1128	MW-128	1116056.40	479791.20	S&P Sands	MW	140	150	150		9/1/2005	32.04	31.59	Monitoring	Current
1129	MW-129	1116237.90	479402.60	AF Gravels	MW	103	113	113		9/7/2005	31.66	31.41	Monitoring	Current
1130	MW-130	1115935.80	479318.80	AF Gravels	MW	100	110	110		9/8/2005	30.72	30.37	Monitoring	Current
1131	MW-131	1116615.30	480603.90	AF Gravels	MW	100	110	110		9/9/2005	27.63	27.33	Monitoring	Current
1132	MW-132	1116352.70	480155.20	AF Gravels	MW	101	111	111		9/10/2005	30.35	30.07	Monitoring	Current
1133	MW-133	1116222.70	480525.50	AF Gravels	MW	100	110	110		9/13/2005	27.95	27.68	Monitoring	Current
1134	MW-134	1115934.00	479884.00	AF Gravels	MW	103	113	113		9/14/2005	31.36	31.1	Monitoring	Current
1135	MW-135	1116875.10	480606.60	AF Gravels	MW	94	104	104		9/15/2005	27.90	27.64	Monitoring	Current
1136	MW-136	1117550.00	481348.50	AF Gravels	MW	98.5	108.5	108.5		10/27/2005	25.62	25.23	Monitoring	Current
1137	MW-137	1117532.70	481332.50	USAS	MW	17	22	22		12/28/2005	25.86	25.49	Monitoring	Current
1138	MW-138	1117533.30	481324.10	LSAS	MW	38	43	43		12/28/2005	25.87	25.49	Monitoring	Current
1139	MW-139	1117541.10	481318.80	S&P Sands	MW	147	157	157		12/28/2005	25.72	25.46	Monitoring	Current
1140	MW-140	1117540.00	481346.40	Lower AF Sands	MW	280	300	300		12/28/2005	25.72	25.52	Monitoring	Current
1141	MW-141	1116972.80	481290.50	USAS	MW	15	20	20		12/27/2005	25.84	25.55	Monitoring	Current
1142	MW-142	1116968.10	481290.00	LSAS	MW	26	31	31		12/27/2005	25.94	25.64	Monitoring	Current
1143	MW-143	1116889.30	481295.20	AF Gravels	MW	96	106	106		12/27/2005	25.76	25.6	Monitoring	Current
1144	MW-144	1116932.10	481316.50	S&P Sands	MW	140	150	150		12/27/2005	25.77	25.51	Monitoring	Current
1145	MW-145	1116889.40	481329.60	Lower AF Sands	MW	280	300	300		12/27/2005	25.88	25.45	Monitoring	Current
1146	MW-146	1116296.20	481324.80	USAS	MW	19.5	24.5	24.5		12/19/2005	26.34	26.06	Monitoring	Current
1147	MW-147	1116298.90	481310.00	LSAS	MW	29.5	34.5	34.5		12/19/2005	26.21	25.94	Monitoring	Current
1148	MW-148	1116292.10	481316.60	AF Gravels	MW	95.5	105.5	105.5		12/19/2005	26.39	25.9	Monitoring	Current
1149	MW-149	1116301.40	481315.30	S&P Sands	MW	145	155	155		12/19/2005	26.42	26.2	Monitoring	Current

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MONITORING AND PRIVATE WELL INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
1150	MW-150	1116310.80	481316.60	Lower AF Sands	MW	285	305	305		12/19/2005	26.34	26.09	Monitoring	Current
1151	MW-151	1116340.20	478626.00	USAS	MW	17	22	22		1/8/2006	22.65	22.44	Monitoring	Current
1152	MW-152	1116334.10	478612.00	LSAS	MW	37.5	42.5	42.5		1/8/2006	22.50	22.21	Monitoring	Current
1153	MW-153	1116327.60	478634.40	AF Gravels	MW	97	107	107		1/12/2006	22.72	22.5	Monitoring	Current
1154	MW-154	1116339.20	478611.40	S&P Sands	MW	144.5	154.5	154.5		1/8/2006	22.43	22.25	Monitoring	Current
1155	MW-155	1116327.30	478625.40	Lower AF Sands	MW	284	304	304		1/8/2006	22.62	22.34	Monitoring	Current
1156	MW-156	1116219.70	481760.10	USAS	MW	15	20	20		1/9/2006	25.11	24.81	Monitoring	Current
1157	MW-157	1116219.80	481753.00	LSAS	MW	33	38	38		1/9/2006	25.04	24.74	Monitoring	Current
1158	MW-158	1116220.50	481725.80	AF Gravels	MW	100	110	110		1/9/2006	25.03	24.78	Monitoring	Current
1159	MW-159	1116219.80	481747.60	S&P Sands	MW	140	150	150		1/9/2006	24.94	24.68	Monitoring	Current
1160	MW-160	1116219.90	481742.10	Lower AF Sands	MW	280	300	300		1/9/2006	24.97	24.72	Monitoring	Current
1161	MW-161	1116219.80	481735.00	Floridan	MW	381	401	401		1/20/2006	25.18	24.91	Monitoring	Current
1162	MW-162	1117489.80	480619.30	USAS	MW	11	16	16		1/19/2006	25.68	25.38	Monitoring	Current
1163	MW-163	1117498.10	480619.10	LSAS	MW	30	35	35		1/19/2006	25.88	25.6	Monitoring	Current
1164	MW-164	1117507.80	480632.00	AF Gravels	MW	92	102	102		1/18/2006	25.87	25.59	Monitoring	Current
1165	MW-165	1117479.80	480618.80	S&P Sands	MW	142	152	152		2/15/2006	25.58	25.35	Monitoring	Current
1166	MW-166	1117493.70	480624.70	Lower AF Sands	MW	281	301	301		1/24/2006	25.93	25.69	Monitoring	Current
1167	MW-167	1114036.90	479625.10	USAS	MW	20	25	25		1/31/2006	27.45	27.05	Monitoring	Current
1168	MW-168	1114043.20	479628.80	LSAS	MW	42	47	47		1/31/2006	27.62	27.41	Monitoring	Current
1169	MW-169	1114052.80	479599.60	AF Gravels	MW	106	116	116		1/25/2006	27.80	27.48	Monitoring	Current
1170	MW-170	1114048.50	479632.20	Lower AF Sands	MW	280	300	300		2/1/2006	27.74	27.5	Monitoring	Current
1171	MW-171	1116301.40	477984.80	LSAS	MW	35	40	40		1/19/2006	21.71	21.49	Monitoring	Current
1172	MW-172	1116301.80	477969.60	AF Gravels	MW	100	110	110		1/19/2006	21.79	21.53	Monitoring	Current
1173	MW-173	1116302.50	477949.70	S&P Sands	MW	142	152	152		1/18/2006	21.78	21.42	Monitoring	Current
1174	MW-174	1116303.40	477925.60	Lower AF Sands	MW	275	295	295		1/23/2006	21.66	21.39	Monitoring	Current
1175	MW-175	1117655.40	479160.90	AF Gravels	MW	98.3	108.3	108.3		1/17/2006	28.33	27.8	Monitoring	Current
1176	MW-176	1117657.20	479264.00	S&P Sands	MW	150	160	160		1/17/2006	29.41	29.01	Monitoring	Current
1177	MW-177	1117657.90	479274.20	Lower AF Sands	MW	285	305	305		1/16/2006	29.56	29.28	Monitoring	Current
1178	MW-178	1117857.20	478082.90	LSAS	MW	31.5	36.5	36.5		1/22/2006	22.12	21.82	Monitoring	Current
1179	MW-179	1117852.10	478082.80	AF Gravels	MW	93	103	103		1/22/2006	22.10	21.87	Monitoring	Current
1180	MW-180	1117846.20	478082.70	S&P Sands	MW	145.3	155.3	155.3		1/21/2006	22.26	21.97	Monitoring	Current
1181	MW-181	1117840.90	478082.70	Lower AF Sands	MW	275	295	295		1/19/2006	22.33	22.09	Monitoring	Current
1182	MW-182	1114044.70	479595.20	S&P Sands	MW	164	174	174		2/2/2006	27.57	27.19	Monitoring	Current
1183	MW-183	1116213.00	483001.00	USAS	MW	15	20	20		2/2/2006	24.51	24.2	Monitoring	Current
1184	MW-184	1116212.80	483006.50	LSAS	MW	28	33	33		2/7/2006	24.50	24.22	Monitoring	Current
1185	MW-185	1116212.60	483013.80	AF Gravels	MW	85	95	95		2/15/2006	24.49	24.3	Monitoring	Current
1186	MW-186	1116212.60	483019.30	S&P Sands	MW	150	160	160		2/14/2006	24.58	24.37	Monitoring	Current
1187	MW-187	1116212.40	483023.70	Lower AF Sands	MW	280	300	300		2/7/2006	24.54	24.34	Monitoring	Current
1188	MW-188	1115114.60	483132.60	USAS	MW	12	17	17	18.08	2/28/2006	22.21	21.97	Monitoring	Current
1189	MW-189	1115037.00	483130.90	LSAS	MW	28	33	33	32.24	2/17/2006	22.46	22.21	Monitoring	Current
1190	MW-190	1115024.90	483130.20	AF Gravels	MW	90	100	116	99.2	2/28/2006	22.34	22.11	Monitoring	Current
1191	MW-191	1115006.70	483129.60	S&P Sands	MW	146	156	156		2/28/2006	22.29	21.97	Monitoring	Current
1192	MW-192	1114995.40	483128.90	Lower AF Sands	MW	280	300	301		2/21/2006	22.22	21.85	Monitoring	Current
1193	MW-193	1117380.40	483147.10	AF Gravels	MW	90	100	100		2/17/2006	22.09	21.77	Monitoring	Current
1194	MW-194	1117388.60	483147.40	S&P Sands	MW	145	155	155		2/21/2006	22.04	21.7	Monitoring	Current

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MONITORING AND PRIVATE WELL INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
1195	MW-195	1117421.70	483147.10	Lower AF Sands	MW	280	300	300		2/20/2006	22.25	22.08	Monitoring	Current
1196	MW-196	1118775.20	479461.70	AF Gravels	MW	90	100	100		3/7/2006	27.15	26.67	Monitoring	Current
1197	MW-197	1120223.80	479487.40	AF Gravels	MW	106	116	116		3/8/2006	29.34	28.99	Monitoring	Current
1198	MW-198	1116350.70	483906.60	USAS	MW	11	16	16		3/6/2006	20.81	20.55	Monitoring	Current
1199	MW-199	1116357.60	483906.70	LSAS	MW	30	35	35		3/6/2006	20.74	20.42	Monitoring	Current
1200	MW-200	1116364.60	483906.70	AF Gravels	MW	90	100	100		3/5/2006	20.80	20.62	Monitoring	Current
1201	MW-201	1116371.10	483907.00	S&P Sands	MW	150	160	160		3/4/2006	20.80	20.54	Monitoring	Current
1202	MW-202	1116377.20	483907.40	Lower AF Sands	MW	280	300	300		3/3/2006	20.83	20.62	Monitoring	Current
1203	MW-203	1116352.10	481686.50	Floridan	MW	390	410	420	410	3/8/2006	25.30	27.2	Irrigation	Current
1204	MW-204	1117434.50	483919.10	USAS	MW	11	16	16		3/7/2006	21.38	21.14	Monitoring	Current
1205	MW-205	1117425.80	483919.00	LSAS	MW	30	35	35		3/7/2006	21.51	21.21	Monitoring	Current
1206	MW-206	1117408.20	483919.00	AF Gravels	MW	90	100	100		3/7/2006	21.64	21.24	Monitoring	Current
1207	MW-207	1117373.10	483920.00	Lower AF Sands	MW	281	301	301		3/16/2006	21.82	21.57	Monitoring	Current
1208	MW-208	1112424.90	483379.00	USAS	MW	16	21	21		4/3/2006	15.72	15.43	Monitoring	Current
1209	MW-209	1112406.10	483378.00	LSAS	MW	41	46	46		3/27/2006	15.64	15.24	Monitoring	Current
1210	MW-210	1112309.00	483379.80	AF Gravels	MW	93	103	116		3/13/2006	15.94	15.52	Monitoring	Current
1211	MW-211	1112386.10	483377.50	S&P Sands	MW	140	150	150		3/27/2006	15.83	15.39	Monitoring	Current
1212	MW-212	1112341.90	483378.10	Lower AF Sands	MW	281	301	301		3/17/2006	15.89	15.56	Monitoring	Current
1213	MW-213	1116930.10	482102.30	USAS	MW	15	20	20		3/19/2006	25.50	25.28	Monitoring	Current
1214	MW-214	1116939.10	482100.40	LSAS	MW	30	35	35		3/19/2006	25.52	25.19	Monitoring	Current
1215	MW-215	1116945.30	482099.80	AF Gravels	MW	90	100	100		3/18/2006	25.48	25.16	Monitoring	Current
1216	MW-216	1116953.30	482103.00	S&P Sands	MW	140	150	150		3/18/2006	25.46	25.2	Monitoring	Current
1217	MW-217	1116958.60	482101.90	Lower AF Sands	MW	280	300	300		3/16/2006	25.49	25.14	Monitoring	Current
1218	MW-218	1116909.20	482101.90	Floridan	MW	365	385	435	385	4/2/2006	25.60	26.03	Monitoring	Current
1219	MW-219	1114676.70	478668.70	USAS	MW	22	27	27		3/14/2006	22.33	21.91	Monitoring	Current
1220	MW-220	1114676.70	478661.50	LSAS	MW	39	44	44		3/14/2006	22.40	22.04	Monitoring	Current
1221	MW-221	1114677.10	478656.70	AF Gravels	MW	97	107	115	107	3/14/2006	22.44	22.24	Monitoring	Current
1222	MW-222	1114664.70	478661.20	S&P Sands	MW	133	143	145	143	3/15/2006	22.44	22.23	Monitoring	Current
1223	MW-223	1110918.50	481909.10	Hard Streak Clay	MW	10	15	15		3/19/2006	17.55	17.11	Monitoring	Current
1224	MW-224	1110918.70	481904.20	Venice Clay	MW	25	30	30		3/19/2006	17.65	17.22	Monitoring	Current
1225	MW-225	1110918.50	481914.00	Venice Clay	MW	40	45	45		3/18/2006	17.55	17.13	Monitoring	Current
1226	MW-226	1110919.30	481919.50	AF Gravels	MW	90	100	115	100	3/17/2006	17.51	17.14	Monitoring	Current
1227	MW-227	1110919.50	481897.70	S&P Sands	MW	145	155	160	155	3/18/2006	17.73	17.4	Monitoring	Current
1228	MW-228	1118370.70	484002.10	AF Gravels	MW	98	108	116	108	3/17/2006	20.99	20.73	Monitoring	Current
1229	MW-229	1117716.80	480083.80	USAS	MW	17.5	22.5	22.5		3/19/2006	30.38	30.14	Monitoring	Current
1230	MW-230	1117726.80	480084.20	LSAS	MW	31	36	36		3/18/2006	30.35	30.02	Monitoring	Current
1231	MW-231	1117736.60	480084.90	AF Gravels	MW	97	107	116	107	3/18/2006	30.26	29.97	Monitoring	Current
1232	MW-232	1116659.50	479409.10	AF Gravels	MW	98	108	116	108	3/20/2006	29.84	29.51	Monitoring	Current
1233	MW-233	1115377.50	479693.70	AF Gravels	MW	90	100	115	100	3/20/2006	30.98	30.49	Monitoring	Current
1234	MW-234	1117562.50	482498.10	USAS	MW	15	20	20		3/21/2006	25.06	24.68	Monitoring	Current
1235	MW-235	1117562.50	482504.80	LSAS	MW	35	40	40		3/21/2006	24.99	24.71	Monitoring	Current
1236	MW-236	1117562.00	482517.10	AF Gravels	MW	90	100	100		3/21/2006	25.05	24.77	Monitoring	Current
1237	MW-237	1117563.20	482491.30	S&P Sands	MW	145	155	155		3/31/2006	25.08	24.76	Monitoring	Current
1238	MW-238	1117562.80	482523.40	Lower AF Sands	MW	280	300	300		3/30/2006	24.97	24.54	Monitoring	Current
1239	MW-239	1116835.30	480147.90	AF Gravels	MW	98	108	116	108	3/21/2006	28.91	28.43	Monitoring	Current

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REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TOS (ft bgs)	BOS (ft bgs)	TD of Investigation (ft bgs)	Approx. Well Depth (ft btoc or bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active
1241	MW-241	1110918.80	481948.00	Lower AF Sands	MW	281	301	301		4/3/2006	17.57	17.28	Monitoring	Current
1242	MW-242	1117033.00	478102.30	USAS	MW	20	25	25		3/30/2006	22.95	22.6	Monitoring	Current
1243	MW-243	1117038.50	478102.10	LSAS	MW	33	38	38		3/29/2006	22.94	22.62	Monitoring	Current
1244	MW-244	1117047.90	478102.30	AF Gravels	MW	106	116	126.5	116	3/29/2006	22.98	22.66	Monitoring	Current
1245	MW-245	1117442.90	477006.50	Hard Streak Clay	MW	17	22	22		4/3/2006	19.28	18.92	Monitoring	Current
1246	MW-246	1117461.00	477006.20	LSAS	MW	40	45	45		4/3/2006	19.23	18.96	Monitoring	Current
1247	MW-247	1117475.10	477006.00	AF Gravels	MW	98	108	115	108	4/2/2006	19.24	19.01	Monitoring	Current
1248	MW-248	1115431.44	480664.29	AF Gravels	MW	103	113	115	113	4/4/2006	26.77	26.57	Monitoring	Current
1249	MW-249	1116758.20	483114.20	AF Gravels	MW	88	98	100	98	1/31/2007	22.88	22.6	Monitoring	Current
1250	MW-250	1116415.30	482141.20	AF Gravels	MW	90	100	100		2/1/2007	25.10	24.83	Monitoring	Current
1251	MW-251	1116789.19	478825.12	Floridan	MW	380	400	400		4/14/2007	0.00	27.37	Monitoring	Current
1252	MW-252	1116223.67	479716.17	S&P Sands	MW	145	155	156	155	11/20/2007	0.00	31.56	Monitoring	Current
1253	MW-253	1116222.74	479708.69	AF Gravels	MW	100	110	110	110	11/21/2007	0.00	31.48	Monitoring	Current
1254	MW-254	1115994.16	479778.00	USAS	MW	24	29	30	29.5	12/17/2007	0.00	31.39	Monitoring	Current
1301	PZ-LSAS-1	1116008.16	479913.27	LSAS	MW	30	35	36	35.45	11/26/2007		31.12	Monitoring	Current
1302	PZ-LSAS-2	1116009.16	479841.01	LSAS	MW	30	35	36.5	36.5	11/26/2007		31.44	Monitoring	Current
1303	PZ-LSAS-3	1116053.38	479722.44	LSAS	MW	29	34	36	33.57	11/27/2007		32.16	Monitoring	Current
1304	PZ-LSAS-4	1116051.78	479837.48	LSAS	MW	30	35	36	35.44	11/27/2007		31.6	Monitoring	Current
1305	PZ-LSAS-5	1116043.94	479863.85	LSAS	MW	28.3	33.3	36	32.87	11/27/2007		31.61	Monitoring	Current
1306	PZ-LSAS-6	1116076.61	479769.30	LSAS	MW	30	35	36	35.75	11/27/2007		32.73	Monitoring	Current
1307	PZ-LSAS-7	1116105.61	479830.02	LSAS	MW	28	33	36	33.74	11/29/2007		31.9	Monitoring	Current
1400	RW-1	1116057.63	479799.05	USAS	MW	15	20				32.1	31.98	Monitoring	Current
1401	RW-2	1116012.31	479907.64	USAS	MW	15	20				31.42	31.27	Monitoring	Current
3300	TW-84A	1114904.89	479639.86	USAS	MW	2	12	12	12	10/11/2007		32.1	Monitoring	Current
3301	TW-84B	1114922.82	479785.39	USAS	MW	2	12	12	12	10/11/2007		32.07	Monitoring	Current

Footnotes:

AF Gravels = Arcadian Formation Gravels
LSAS = Lower Shallow Aquifer System
Lower AF = Lower Arcadian Formation
S&P Sands = Salt & Pepper Sands
USAS = Upper Surficial Aquifer System
ft amsl = feet above mean sea level
ft btoc = feet below top of casing
ft bgs = feet below ground surface
TOS = top of screen
BOS = bottom of screen
IW = injection well
EW = extraction well
TD = total depth
PWS = private well supply
MW = monitoring well
TSL =Temporary soil
GS = ground surface

For private wells, the top of screen refers to the bottom of the surface casing and the bottom of the screen is the bottom of the borehole.

TABLE 4-1
OTHER INVESTIGATION LOCATION INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TD of Investigation (ft bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active	Notes
170.1	CPT-1	1115990.95	479771.74	USAS	TSL					Temporary	Former	ChemOx Pilot Study Area
170.2	CPT-2	1116090.44	479775.93	USAS	TSL					Temporary	Former	Building 5 patio area
170.3	CPT-3	1116147.21	479659.25	USAS	TSL					Temporary	Former	Building 1 area
170.4	CPT-4	1115990.17	479679.04	USAS	TSL					Temporary	Former	Building 2 area
170.5	CPT-1S	1115630.15	480744.19	USAS	TSL					Temporary	Former	East of facility
170.6	CPT-2S	1115602.92	480747.66	USAS	TSL					Temporary	Former	East of facility
216	GT-D-1	1115119.87	479084.47	Clay/Sand Zone 3	TSL	178	12/3/2007	27.76		Temporary	Former	
217	GT-D-2	1116354.43	479406.33	Clay/Sand Zone 3	TSL	180	12/10/2007	30.74		Temporary	Former	MW-48 area
218	GT-D-3	1116545.37	479720.33	Clay/Sand Zone 3	TSL	175	12/13/2007	31.16		Temporary	Former	MW-13 cluster
219	GT-D-4	1116057.95	479806.98	Clay/Sand Zone 3	TSL	178	11/12/2007	32.11		Temporary	Former	Building 5 patio area
220	GT-D-5	1115725.95	480608.25	Clay/Sand Zone 3	TSL	175	12/13/2007	24.42		Temporary	Former	MW-27 cluster
221	GT-D-6	1116311.14	481338.08	Clay/Sand Zone 3	TSL	178	11/28/2007	26.73		Temporary	Former	MW-146 cluster
222	GT-S-7	1115380.71	479693.43	LSAS	TSL	48	12/4/2007	30.98		Temporary	Former	MW-233 area
223	GT-S-8	1115932.60	479389.48	LSAS	TSL	37	11/15/2007	30.99		Temporary	Former	MW-57 area
224	GT-S-9	1116333.42	480096.49	LSAS	TSL	38	12/3/2007	30.42		Temporary	Former	MW-17 area
225	GT-S-10	1116199.87	480582.60	LSAS	TSL	39	12/14/2007	27.62		Temporary	Former	MW-18 area
282	Lower LSAS boring near IW-1	1115948.75	479823.06	LSAS	TSL	53	3/13/2008	31.25		Temporary	Former	USAS Tracer Study Area
283	Lower LSAS boring near PZ-LSAS-3	1116021.85	479713.44	LSAS	TSL	53	3/14/2008	31.93		Temporary	Former	EXL-1 area
284	Lower LSAS boring near TL-INJ	1115967.18	479765.93	LSAS	TSL	55	3/13/2008	31.48		Temporary	Former	MW-32 area
300	MIP-1	1116117.01	479781.82	USAS	TSL	28.75	11/12/2007	32.99		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
301	MIP-2	1116101.04	479765.52	USAS	TSL	28.75	11/12/2007	32.83		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
302	MIP-3	1116088.37	479812.57	USAS	TSL	28.45	11/12/2007	32.00		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
303	MIP-4	1116118.97	479762.56	USAS	TSL	28.45	11/13/2007	33.00		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
304	MIP-5	1116117.51	479815.60	USAS	TSL	27.55	11/13/2007	32.19		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
305	MIP-6	1116089.69	479784.64	USAS	TSL	28.55	11/13/2007	32.75		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
306	MIP-7	1116065.39	479813.14	USAS	TSL	28.05	11/14/2007	32.16		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
307	MIP-8	1116065.65	479784.26	USAS	TSL	28.55	11/14/2007	32.58		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
308	MIP-9	1116066.11	479763.20	USAS	TSL	28.25	11/14/2007	32.76		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
309	MIP-10	1116088.36	479841.94	USAS	TSL	27.95	11/14/2007	32.05		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
310	MIP-11	1116064.63	479838.73	USAS	TSL	28.05	11/14/2007	32.11		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
311	MIP-12	1116039.57	479807.92	USAS	TSL	28.25	11/15/2007	31.84		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
312	MIP-13	1116040.46	479783.48	USAS	TSL	28.35	11/15/2007	31.94		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
313	MIP-14	1116041.10	479761.94	USAS	TSL	28.25	11/15/2007	32.01		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
314	MIP-15	1116040.23	479838.93	USAS	TSL	28.05	11/15/2007	31.75		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
315	MIP-16	1116149.57	479780.83	USAS	TSL	27.55	11/15/2007	32.62		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
316	MIP-17	1116150.70	479806.22	USAS	TSL	28.25	11/19/2007	32.67		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
317	MIP-18	1116014.37	479807.21	USAS	TSL	28.75	11/19/2007	31.71		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
318	MIP-19	1116014.68	479781.83	USAS	TSL	29.45	11/19/2007	31.83		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
319	MIP-20	1116013.38	479837.32	USAS	TSL	28.55	11/19/2007	31.55		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
320	MIP-21	1115989.52	479806.67	USAS	TSL	29.75	11/19/2007	31.66		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
321	MIP-22	1115989.69	479781.57	USAS	TSL	31.15	11/19/2007	31.63		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
322	MIP-23	1116015.66	479756.63	USAS	TSL	31.05	11/20/2007	31.87		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
323	MIP-24	1115990.42	479757.08	USAS	TSL	31.65	11/20/2007	31.63		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
324	MIP-25	1115964.34	479757.09	USAS	TSL	31.05	11/20/2007	31.46		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
325	MIP-26	1115963.92	479781.09	USAS	TSL	31.45	11/20/2007	31.42		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
326	MIP-27	1115963.90	479807.08	USAS	TSL	29.45	11/20/2007	31.40		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)

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TABLE 4-1
OTHER INVESTIGATION LOCATION INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TD of Investigation (ft bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active	Notes
327	MIP-28	1115964.40	479838.00	USAS	TSL	29.65	11/20/2007	31.51		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
328	MIP-29	1115939.07	479838.14	USAS	TSL	30.15	11/21/2007	31.27		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
329	MIP-30	1115937.81	479863.68	USAS	TSL	29.45	11/21/2007	31.41		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
330	MIP-31	1115915.85	479863.63	USAS	TSL	30.00	11/21/2007	31.18		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
331	MIP-32	1116099.34	479736.24	USAS	TSL	28.35	11/26/2007	32.3		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
332	MIP-33	1116093.10	479717.52	USAS	TSL	28.15	11/26/2007	32.3		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
333	MIP-34	1116094.64	479686.01	USAS	TSL	28.75	11/26/2007	32.67		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
334	MIP-35	1116149.43	479753.22	USAS	TSL	28.15	11/26/2007	32.64		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
335	MIP-36	1116040.19	479864.19	USAS	TSL	28.75	11/27/2007	31.76		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
336	MIP-37	1116133.55	479724.90	USAS	TSL	28.75	11/27/2007	32.67		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
337	MIP-38	1116134.35	479699.16	USAS	TSL	28.25	11/27/2007	32.63		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
338	MIP-39	1116134.60	479675.01	USAS	TSL	28.35	11/27/2007	32.70		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
339	MIP-40	1116134.87	479647.86	USAS	TSL	28.55	11/27/2007	32.46		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
340	MIP-41	1116163.24	479673.30	USAS	TSL	28.15	11/28/2007	32.26		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
341	MIP-42	1116165.27	479697.31	USAS	TSL	27.95	11/28/2007	32.31		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
342	MIP-43	1116163.51	479647.71	USAS	TSL	28.15	11/28/2007	32.62		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
343	MIP-44	1116193.25	479661.00	USAS	TSL	28.05	11/28/2007	32.24		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
344	MIP-45	1116232.07	479669.22	USAS	TSL	27.55	11/28/2007	32.17		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
345	MIP-46	1116193.50	479647.53	USAS	TSL	28.15	11/28/2007	32.40		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
346	MIP-47	1116216.36	479648.24	USAS	TSL	27.35	11/29/2007	32.20		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
347	MIP-48	1116100.33	479648.57	USAS	TSL	29.85	11/29/2007	32.48		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
348	MIP-49	1116097.54	479662.16	USAS	TSL	28.55	11/29/2007	32.02		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
349	MIP-50	1116068.01	479665.50	USAS	TSL	29.15	11/29/2007	32.03		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
350	MIP-51	1116059.85	479685.54	USAS	TSL	29.25	11/29/2007	32.35		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
351	MIP-52	1116059.21	479707.58	USAS	TSL	30.65	11/29/2007	32.40		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
352	MIP-53	1115989.52	479837.42	USAS	TSL	28.85	12/3/2007	31.53		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
353	MIP-54	1115988.55	479863.67	USAS	TSL	28.95	12/3/2007	31.43		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
354	MIP-55	1116012.02	479863.94	USAS	TSL	28.85	12/3/2007	31.37		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
355	MIP-56	1115988.30	479888.85	USAS	TSL	29.45	12/3/2007	31.36		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
356	MIP-57	1115988.23	479914.15	USAS	TSL	29.25	12/3/2007	31.42		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
357	MIP-58	1115963.48	479863.05	USAS	TSL	29.15	12/3/2007	31.67		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
358	MIP-59	1115963.35	479888.62	USAS	TSL	29.45	12/4/2007	31.67		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
359	MIP-60	1115936.91	479889.82	USAS	TSL	29.45	12/4/2007	31.63		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
360	MIP-61	1115914.56	479889.59	USAS	TSL	29.75	12/4/2007	31.32		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
361	MIP-62	1115914.48	479915.60	USAS	TSL	30.15	12/4/2007	31.53		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
362	MIP-63	1115935.30	479915.30	USAS	TSL	29.75	12/4/2007	31.68		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
363	MIP-64	1115963.85	479914.98	USAS	TSL	29.95	12/4/2007	31.83		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
364	MIP-65	1116012.10	479888.74	USAS	TSL	28.55	12/4/2007	31.26		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
365	MIP-66	1116039.87	479888.85	USAS	TSL	28.65	12/5/2007	31.60		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
366	MIP-67	1116064.64	479889.04	USAS	TSL	28.55	12/5/2007	31.86		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
367	MIP-68	1116064.54	479864.08	USAS	TSL	28.55	12/5/2007	31.95		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
368	MIP-69	1115916.10	479837.61	USAS	TSL	31.85	12/5/2007	31.07		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
369	MIP-70	1115939.18	479807.13	USAS	TSL	31.35	12/5/2007	31.16		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
370	MIP-71	1115915.58	479806.22	USAS	TSL	31.95	12/5/2007	31.0		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
371	MIP-72	1115964.40	479731.90	USAS	TSL	30.85	12/5/2007	31.5		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
372	MIP-73	1115964.96	479707.26	USAS	TSL	28.25	12/5/2007	31.5		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)

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TABLE 4-1
OTHER INVESTIGATION LOCATION INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TD of Investigation (ft bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active	Notes
373	MIP-74	1115966.17	479686.43	USAS	TSL	28.25	12/6/2007	31.4		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
374	MIP-75	1115989.81	479689.62	USAS	TSL	28.25	12/6/2007	31.7		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
375	MIP-76	1116040.53	479706.79	USAS	TSL	30.65	12/6/2007	32.1		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
376	MIP-77	1116059.37	479731.61	USAS	TSL	28.75	12/6/2007	32.4		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
377	MIP-78	1115941.08	479707.71	USAS	TSL	28.65	12/6/2007	31.5		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
378	MIP-79	1115940.85	479731.40	USAS	TSL	28.65	12/6/2007	31.5		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
379	MIP-80	1116135.11	479623.55	USAS	TSL	28.25	12/10/2007	32.66		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
380	MIP-81	1116161.42	479602.22	USAS	TSL	29.85	12/10/2007	32.64		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
381	MIP-82	1116196.72	479617.79	USAS	TSL	28.35	12/10/2007	32.62		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
382	MIP-83	1116163.56	479723.14	USAS	TSL	28.35	12/11/2007	32.19		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
383	MIP-84	1116173.28	479750.78	USAS	TSL	27.95	12/11/2007	32.60		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
384	MIP-85	1116175.34	479779.31	USAS	TSL	27.85	12/11/2007	32.58		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
385	MIP-86	1116175.63	479804.96	USAS	TSL	27.65	12/11/2007	32.64		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
386	MIP-87	1116194.50	479730.83	USAS	TSL	27.75	12/11/2007	32.61		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
387	MIP-88	1116134.38	479785.27	USAS	TSL	28.25	12/11/2007	32.71		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
388	MIP-89	1116092.61	479725.51	USAS	TSL	28.05	12/12/2007	32.3		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
389	MIP-90	1116059.40	479696.56	USAS	TSL	29.35	12/12/2007	32.4		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
390	MIP-91	1116059.15	479719.36	USAS	TSL	29.25	12/12/2007	32.4		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
391	MIP-92	1115920.59	479731.49	USAS	TSL	28.25	12/12/2007	31.4		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
392	MIP-93	1116040.44	479668.63	USAS	TSL	30.45	12/17/2007	31.8		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
393	MIP-94	1115989.24	479662.24	USAS	TSL	27.75	12/17/2007	31.4		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
394	MIP-95	1115969.79	479660.77	USAS	TSL	28.05	12/17/2007	31.5		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
395	MIP-96	1115963.67	479635.62	USAS	TSL	28.55	12/17/2007	31.6		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
396	MIP-97	1115926.74	479645.93	USAS	TSL	28.35	12/17/2007	30.9		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
397	MIP-98	1115986.94	479645.44	USAS	TSL	28.85	12/18/2007	32.4		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
398	MIP-99	1116015.86	479666.63	USAS	TSL	28.25	12/18/2007	31.7		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
399	MIP-100	1116073.15	479648.58	USAS	TSL	28.35	12/18/2007	32.3		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
400	MIP-101	1115925.96	479919.39	USAS	TSL	29.65	12/18/2007	31.6		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
401	MIP-102	1115949.91	479920.45	USAS	TSL	29.65	12/18/2007	31.7		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
402	MIP-103	1115975.27	479921.18	USAS	TSL	29.25	12/19/2007	31.6		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
403	MIP-104	1116000.22	479913.46	USAS	TSL	28.80	12/19/2007	31.3		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
404	MIP-105	1116025.10	479915.44	USAS	TSL	24.10	12/19/2007	31.3		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
405	MIP-106	1116051.67	479919.72	USAS	TSL	28.45	12/19/2007	31.6		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
406	MIP-107	1116169.17	479823.11	USAS	TSL	27.05	12/19/2007	31.8		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
407	MIP-108	1116194.07	479823.29	USAS	TSL	27.05	12/19/2007	31.8		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
408	MIP-109	1116213.10	479792.04	USAS	TSL	27.05	12/20/2007	31.8		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
409	MIP-110	1116219.36	479764.09	USAS	TSL	26.45	12/20/2007	31.6		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
410	MIP-111	1116214.74	479737.14	USAS	TSL	26.95	12/20/2007	31.7		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
411	MIP-112	1116213.57	479710.24	USAS	TSL	26.95	12/20/2007	31.9		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
412	MIP-113	1116214.40	479684.54	USAS	TSL	27.25	12/20/2007	31.7		Temporary	Former	MIP Area A (Lockheed Martiin Tallevast Facility)
413	MIP-1W	1115719.33	480599.22	USAS	TSL	34.45	12/13/2007	27.5		Temporary	Former	MIP Area B (Southeast of Facility)
414	MIP-2W	1115720.54	480590.82	USAS	TSL	36.55	12/13/2007	27.6		Temporary	Former	MIP Area B (Southeast of Facility)
415	MIP-3W	1115669.27	480591.78	USAS	TSL	34.85	12/13/2007	27.6		Temporary	Former	MIP Area B (Southeast of Facility)
416	MIP-4W	1115799.30	480468.41	USAS	TSL	32.75	12/13/2007	28.3		Temporary	Former	MIP Area B (Southeast of Facility)
417	MIP-5W	1115541.70	480599.43	USAS	TSL	34.25	12/13/2007	26.9		Temporary	Former	MIP Area B (Southeast of Facility)
418	MIP-6W	1115717.60	480712.81	USAS	TSL	34.65	12/14/2007	27.1		Temporary	Former	MIP Area B (Southeast of Facility)

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TABLE 4-1
OTHER INVESTIGATION LOCATION INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TD of Investigation (ft bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active	Notes
419	MIP-7W	1115653.45	480709.37	USAS	TSL	34.75	12/14/2007	27.1		Temporary	Former	MIP Area B (Southeast of Facility)
420	MIP-8W	1115646.11	480659.20	USAS	TSL	34.95	12/14/2007	27.2		Temporary	Former	MIP Area B (Southeast of Facility)
421	MIP-9W	1115601.40	480662.89	USAS	TSL	35.85	12/14/2007	27.3		Temporary	Former	MIP Area B (Southeast of Facility)
422	MIP-10W	1115691.86	480651.89	USAS	TSL	34.65	1/3/2008	27.6		Temporary	Former	MIP Area B (Southeast of Facility)
423	MIP-11W	1115603.69	480704.46	USAS	TSL	37.25	1/3/2008	26.8		Temporary	Former	MIP Area B (Southeast of Facility)
424	MIP-12W	1115717.71	480549.45	USAS	TSL	35.25	1/4/2008	27.9		Temporary	Former	MIP Area B (Southeast of Facility)
425	MIP-13W	1115729.52	480525.36	USAS	TSL	34.65	1/4/2008	28.1		Temporary	Former	MIP Area B (Southeast of Facility)
426	MIP-14W	1115664.51	480555.92	USAS	TSL	35.35	1/4/2008	27.8		Temporary	Former	MIP Area B (Southeast of Facility)
427	MIP-15W	1115616.78	480601.85	USAS	TSL	35.45	1/4/2008	27.6		Temporary	Former	MIP Area B (Southeast of Facility)
428	MIP-16W	1115775.47	480603.35	USAS	TSL	34.05	1/7/2008	27.6		Temporary	Former	MIP Area B (Southeast of Facility)
429	MIP-17W	1115548.59	480670.36	USAS	TSL	34.75	1/7/2008	26.9		Temporary	Former	MIP Area B (Southeast of Facility)
430	MIP-18W	1115554.48	480708.40	USAS	TSL	35.25	1/7/2008	26.9		Temporary	Former	MIP Area B (Southeast of Facility)
431	MIP-19W	1115767.09	480556.96	USAS	TSL	33.85	1/7/2008	27.9		Temporary	Former	MIP Area B (Southeast of Facility)
432	MIP-20W	1115668.37	480654.59	USAS	TSL	35.15	1/7/2008	27.8		Temporary	Former	MIP Area B (Southeast of Facility)
433	MIP-21W	1115648.16	480685.34	USAS	TSL	34.95	1/8/2008	27.0		Temporary	Former	MIP Area B (Southeast of Facility)
434	MIP-22W	1115619.89	480660.08	USAS	TSL	35.45	1/8/2008	27.2		Temporary	Former	MIP Area B (Southeast of Facility)
435	MIP-23W	1115637.44	480636.04	USAS	TSL	35.35	1/10/2008	27.5		Temporary	Former	MIP Area B (Southeast of Facility)
436	MIP-24W	1115682.01	480712.54	USAS	TSL	34.45	1/10/2008	27.2		Temporary	Former	MIP Area B (Southeast of Facility)
437	MIP-25W	1115628.27	480707.49	USAS	TSL	35.85	1/10/2008	27.3		Temporary	Former	MIP Area B (Southeast of Facility)
438	MIP-26W	1115624.13	480679.42	USAS	TSL	35.55	1/10/2008	26.8		Temporary	Former	MIP Area B (Southeast of Facility)
439	MIP-27W	1115587.86	480682.65	USAS	TSL	35.95	1/10/2008	27.4		Temporary	Former	MIP Area B (Southeast of Facility)
440	MIP-28W	1115945.88	480481.15	USAS	TSL	31.15	1/16/2008	28.2		Temporary	Former	MIP Area B (Southeast of Facility)
441	MIP-29W	1115947.20	480452.45	USAS	TSL	31.75	1/16/2008	28.3		Temporary	Former	MIP Area B (Southeast of Facility)
442	MIP-30W	1115751.60	480595.70	USAS	TSL	34.15	1/16/2008	27.4		Temporary	Former	MIP Area B (Southeast of Facility)
443	MIP-31W	1115722.01	480651.25	USAS	TSL	34.15	1/16/2008	27.7		Temporary	Former	MIP Area B (Southeast of Facility)
500	MIP-1S	1115646.88	480738.76	USAS	TSL	34.35	2/18/2008	26.97		Temporary	Former	MIP Area B (Southeast of Facility)
501	MIP-2S	1115577.23	480738.25	USAS	TSL	27.45	2/18/2008	26.99		Temporary	Former	MIP Area B (Southeast of Facility)
502	MIP-3S	1115700.08	480738.77	USAS	TSL	33.75	2/18/2008	26.87		Temporary	Former	MIP Area B (Southeast of Facility)
503	MIP-4S	1115705.63	480790.58	USAS	TSL	34.55	2/18/2008	26.45		Temporary	Former	MIP Area B (Southeast of Facility)
504	MIP-5S	1115651.64	480797.00	USAS	TSL	33.05	2/19/2008	26.17		Temporary	Former	MIP Area B (Southeast of Facility)
505	MIP-6S	1115594.70	480800.87	USAS	TSL	33.85	2/19/2008	26.35		Temporary	Former	MIP Area B (Southeast of Facility)
506	MIP-7S	1115551.40	480737.43	USAS	TSL	28.75	2/20/2008	26.99		Temporary	Former	MIP Area B (Southeast of Facility)
507	MIP-8S	1115717.45	480738.19	USAS	TSL	33.75	2/20/2008	26.73		Temporary	Former	MIP Area B (Southeast of Facility)
508	MIP-9S	1115650.47	480821.27	USAS	TSL	33.25	2/20/2008	26.14		Temporary	Former	MIP Area B (Southeast of Facility)
509	MIP-10S	1115674.90	480798.66	USAS	TSL	33.55	2/20/2008	26.15		Temporary	Former	MIP Area B (Southeast of Facility)
510	MIP-11S	1115551.50	480763.72	USAS	TSL	34.65	2/21/2008	26.69		Temporary	Former	MIP Area B (Southeast of Facility)
511	MIP-12S	1115526.63	480737.16	USAS	TSL	38.15	2/21/2008	27.15		Temporary	Former	MIP Area B (Southeast of Facility)
512	MIP-13S	1115525.86	480765.75	USAS	TSL	34.95	2/21/2008	26.70		Temporary	Former	MIP Area B (Southeast of Facility)
513	MIP-14S	1115501.43	480799.48	USAS	TSL	34.95	2/21/2008	26.37		Temporary	Former	MIP Area B (Southeast of Facility)
514	MIP-15S	1115500.65	480764.28	USAS	TSL	34.05	2/26/2008	26.51		Temporary	Former	MIP Area B (Southeast of Facility)
515	MIP-16S	1115500.50	480737.51	USAS	TSL	33.35	2/28/2008	26.76		Temporary	Former	MIP Area B (Southeast of Facility)
516	MIP-17S	1115522.79	480801.05	USAS	TSL	33.35	2/28/2008	26.30		Temporary	Former	MIP Area B (Southeast of Facility)
516	MIP-17th Street	NS	NS	USAS	TSL	24.85	2/28/2008	NS		Temporary	Former	MIP Area C (South of Facility)
	MIP-ANT	NS	NS	USAS	TSL	32.35	2/25/208	NS		Temporary	Former	MIP Area C (South of Facility)
1466	SD-01	1116705.00	481570.70	USAS	TSL	2.3	11/8 &12/07	23.1		Temporary	Former	Pond TW-6 - East
1467	SD-02	1116704.00	481631.10	USAS	TSL	2.4	11/8 &12/07	23.4		Temporary	Former	Pond TW-6 - West

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TABLE 4-1
OTHER INVESTIGATION LOCATION INFORMATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Sort Number or Map Number	Location	Northing	Easting	Zone	Type	TD of Investigation (ft bgs)	Installation Date	GS Elevation (ft amsl)	Top of Inner Casing (ft amsl)	Usage	Active	Notes
1468	SD-03	1116151.00	479358.40	USAS	TSL	2.85	11/7/2007	22.2		Temporary	Former	Facility Pond - North
1469	SD-04	1116125.60	479400.90	USAS	TSL	3.7	11/7/2007	26		Temporary	Former	Facility Pond - East
1470	SD-05	1116126.40	479314.30	USAS	TSL	3.3	11/7/2007	26.2		Temporary	Former	Facility Pond - West
1471	SD-06	1116100.20	479354.00	USAS	TSL	3	11/7/2007	22.3		Temporary	Former	Facility Pond - South
1472	SD-07	1116270.10	477439.90	USAS	TSL	2.55	11/7/2007	11.8		Temporary	Former	Tallevast Rd Ditch -West
1473	SD-08	1116262.20	477440.40	USAS	TSL	3	11/7/2007	11.5		Temporary	Former	Tallevast Rd Ditch -West
1474	SD-09	1116254.00	478274.70	USAS	TSL	2.5	11/7/2007	12		Temporary	Former	Tallevast Rd Ditch -East
1475	SD-10	1116245.50	478274.80	USAS	TSL	2.7	11/7/2007	12.5		Temporary	Former	Tallevast Rd Ditch -East
1476	SD-11	1114307.60	478869.70	USAS	TSL	2.8	11/7 & 12/07	22.3		Temporary	Former	Convention Center Pond - North
1477	SD-12	1114292.10	478850.90	USAS	TSL	2.25	11/7 & 12/07	21.5		Temporary	Former	Convention Center Pond - South
1478	SD-13	1115896.40	478884.50	USAS	TSL	1.1	11/13 & 18/07	22.1		Temporary	Former	Golf Course Pond TL-10 - Northwest
1479	SD-14	1115877.20	479006.70	USAS	TSL	2.5	11/8/2007	24.5		Temporary	Former	Golf Course Pond TL-10 - Northeast
1480	SD-15	1115752.30	478959.40	USAS	TSL	2.85	11/8/2007	19.2		Temporary	Former	Golf Course Pond TL-10 - North Center
1481	SD-16	1115603.80	478924.00	USAS	TSL	2.7	11/8 &13/07	24.6		Temporary	Former	Golf Course Pond TL-10 - Center
1482	SD-17	1115472.00	478992.00	USAS	TSL	2.2	11/8 &13/07	16.2		Temporary	Former	Golf Course Pond TL-10 - South Center
1483	SD-18	1115435.40	479041.00	USAS	TSL	2.5	11/8 &13/07	24.4		Temporary	Former	Golf Course Pond TL-10 - South
1484	SD-19	1114815.60	478902.80	USAS	TSL	3.2	11/13/2007	13.7		Temporary	Former	84-Lumber - South
1485	SD-20	1114891.50	478884.20	USAS	TSL	2.85	11/13/2007	22.35		Temporary	Former	84-Lumber - North
1486	SD-21	1116867.02	481017.98	USAS	TSL	3.7	11/17/2007	18.35		Temporary	Former	1975/2003 Tallevast Rd Pond - East
1487	SD-22	1116838.13	481048.53	USAS	TSL	3.2	11/17/2007	22.41		Temporary	Former	1975/2003 Tallevast Rd Pond - West
3001	Staff Gauge-1	1114049.06	480004.49	Surface	SG				26.29	Monitoring	Current	Convention Center Staff Gauge
3002	Staff Gauge-2	1116073.87	479347.66	Surface	SG				28.62	Monitoring	Current	Facility Pond Staff Gauge
3003	Staff Gauge-3	1117285.97	477086.83	Surface	SG				17.41	Monitoring	Current	Commerce Court Pond Staff Gauge
3004	Staff Gauge-4	1117760.95	478910.41	Surface	SG				24.18	Monitoring	Current	Staff Gauge Near Commerce Center
3005	Staff Gauge-5	1115937.64	478868.31	Surface	SG				26.91	Monitoring	Current	Golf Course Pond TL-10 Staff Gauge
3006	Staff Gauge-6	1117390.02	483032.76	Surface	SG				19.82	Monitoring	Current	
3007	Staff Gauge-7	1116273.45	477483.37	Surface	SG				13.18	Monitoring	Current	Tallevast Road Ditch Staff Gauge
3008	Staff Gauge-8	1116675.53	481608.55	Surface	SG				26.38	Monitoring	Current	Pond TW-6 Staff Gauge
3009	Staff Gauge-9	1116810.50	481114.99	Surface	SG				24.93	Monitoring	Current	1975/2003 Tallevast Road Pond Staff Gauge; southern end
3010	Stilling Well-1	1116075.93	479347.38	Surface	SW				30.83	Monitoring	Current	On-Site Pond Stilling Well (Adjacent to Staff Gauge-2)
3011	Stilling Well-2	1116273.45	477483.37	Surface	SW				14.55	Monitoring	Current	Tallevast Road Ditch Stilling Well
3012	Stilling Well-3	1116674.69	481609.03	Surface	SW				26.04	Monitoring	Current	Pond TW-6 Stilling Well
3013	Stilling Well-4	1116810.87	481115.47	Surface	SW				26.96	Monitoring	Current	1975/2003 Tallevast Road Pond Stilling Well; southern end
3014	Stilling Well-5	NS	NS	Surface	SW				NS	Monitoring	Current	Golf Course Stilling Well

Footnotes:

NS = not surveyed
ft bgs = feet below ground surface
ft amsl = feet above mean sea level
USAS = Upper Surficial Aquifer System
LSAS = Lower Shallow Aquifer System
TD = total depth
GS = ground surface
TSL = temporary soil
SG = staff gauge
SW = stilling well

TABLE 4-2
SYNTHETIC PRECIPITATION LEACHING PROCEDURE
RESULS FOR SOIL SAMPLES HA-006 AND HA-007

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Parameter	Sample	SPLP Result (µg/L)	GCTL (µg/L)
Be	HA-006	0.74 U	4
	HA-007	2.2 I	
Cr	HA-006	8.5 U	100
	HA-007	8.5 U	

Notes:

U = Parameter is not detected.
I = Value is reported between the MDL and PQL.
MDL = Method detection limit
PQL = Practical quantitation limit
Be = Beryllium
Cr = Chromium
µg/L = Micrograms per liter
GCTL= Groundwater Cleanup Target Level
SPLP = Synthetic precipitation leaching procedure

TABLE 4-3
LONG-TERM MONITORING TRANSDUCER LOCATIONS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Monitoring Well	Zone	TD Well (ft btoc)	Location
On-Facility			
MW-36	USAS	27.85	These wells are located on the Lockheed Martin Tallevast Facility.
PZ-LSAS-7	Upper LSAS	33.8	
MW-37	Lower LSAS	40.55	
MW-127	AF Gravels	113	
MW-128	S&P Sands	152.8	
MW-19	Lower AF Sands	302	
MW-123	Floridan	395	
Southwest Area (Airport Area)			
MW-219	USAS	27.17	These wells are located to the southwest of the Facility along 15th St, just east of SRQ.
MW-220	LSAS	44.1	
MW-221	AF Gravels	107	
MW-222	S&P Sands	143	
Northwest Area (Industrial Park)			
MW-116	USAS	26	These wells are located northwest of the Facility, in the commercial/industrial area north of SRQ, and are laterally distant from the Facility.
MW-178	LSAS	36.55	
MW-179	AF Gravels	102.51	
MW-180	S&P Sands	154.98	
MW-181	Lower AF Sands	301.78	
Northeast Area			
MW-141	USAS	20.2	These wells are northeast of the facility in Tallevast Commerce Park, near the pond TW-6, and are laterally distant from the Facility.
MW-142	LSAS	31.25	
MW-143	AF Gravels	108.2	
MW-144	S&P Sands	152.4	
MW-145	Lower AF Sands	>300	
Golf Course			
MW-103	USAS	30	These wells are located on the golf course. The stilling well is located in pond TL-10 on the golf course.
MW-98	LSAS	37.63	
MW-102	AF Gravels	99.8	
Stilling Well-5	Unassigned		
Tallevast Road Ditch			
MW-121	USAS	23.44	These wells are located near the Tallevast Road ditch, just north of the airport. The stilling well is located in the Tallevast Road ditch.
MW-171	LSAS	39.9	
MW-172	AF Gravels	110.08	
MW-173	S&P Sands	152.39	
MW-174	Lower AF Sands	294.98	
Stilling Well-2	Unassigned		
Convention Center			
MW-167	USAS	24.9	These wells are on the Convention Center, south of the Facility, and are laterally distant from the Facility.
MW-168	LSAS	46.61	
MW-170	Lower AF Sands	> 150	
MW-182	S&P Sands	176.9	
MW-169	AF Gravels	115.52	

Notes:
AF Gravels = Arcadia Formation Gravels
LSAS = Lower Shallow Aquifer System
Lower AF Sands = Lower Arcadia Formation Sands
S&P Sands = Salt & Pepper Sands
USAS = Upper Surficial Aquifer System
ft btoc = Feet below top of casing
SRQ = Sarasota Bradenton International Airport

TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	EXC-01	EXC-02	EXC-03	EXC-04	EXC-05	EXC-06	EXC-07	EXC-08	EXC-09	EXC-10
Sample Depth (ft):					4	4	3	4	3	5	4	4	4	4
Date Collected:					09/27/01	09/27/01	09/27/01	09/27/01	09/27/01	09/27/01	09/28/01	09/28/01	09/28/01	09/28/01
Sample Name:					EXC-01-4	EXC-02-4	EXC-03-3	EXC-04-4	EXC-05-3	EXC-06-5	EXC-07-4	EXC-08-4	EXC-09-4	EXC-10-4
PAHs - Benzo(a)pyrene Equivalents														
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics														
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)														
Tetrachloroethene	30	8,800	18,000	ug/kg	570 U	5.8 U	6.3 U	510 U	5.4 U	7.1 U	6.8 U	NA	5.9 U	6.5 U
Petroleum Products (FL-PRO)														
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	***18,000,000***	5,800 U	15,000	**2,300,000**	10,000	310,000	5,700 U	5,400 U	6,000 U	5,400 U
Petroleum Products (LGCYPET)														
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals														
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	2,000	1,200 U	1,300 U	1,000 U	1,600	1,200 U	1,100 U	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	1,100 U	1,200 U	2,300	2,600	3,000	12,000	1,100 U	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	EXC-11	EXC-12	EXC-13	EXC-14	FABC-SB01	FABC-SB02	FABC-SB03	FABC-SB04	FABC-SB05
Sample Depth (ft):					4	4	5	5	4	5	4	4	4
Date Collected:					09/28/01	09/28/01	09/28/01	09/28/01	08/20/97	08/19/97	08/19/97	08/19/97	08/20/97
Sample Name:					EXC-11-4	EXC-12-4	EXC-13-5	EXC-14-5	FABC-SB01-4	FABC-SB02-5	FABC-SB03-4	FABC-SB04-4	FABC-SB05-4
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	5 U	5 U	5 U	5 U	5 U
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	6.3 U	NA	NA	NA	NA	NA
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	6,000 U	5,700 U	36,000	6,300 U	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	1,000 U	NA	1,000 U	1,000 U	1,000 U
Beryllium	63,000	120,000	1,400,000	ug/kg	8,100	NA	1,200 U	NA	200 U	NA	200 U	200 U	200 U
Chromium	38,000	210,000	470,000	ug/kg	5,400	NA	1,700	NA	1,000	NA	7,000	4,000	3,000
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	2,000 U	NA	2,000 U	2,000 U	2,000 U

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	FABC-SB09 4 08/20/97 FABC-SB09-4	FABC-SB10 4 08/20/97 FABC-SB10-4	FABC-SB11A 4 08/20/97 FABC-SB11A-4	FABC-SB11B 4 08/20/97 FABC-SB11B-4	FABC-SB12 1 08/20/97 FABC-SB12-1	FABC-SB12 4 08/20/97 FABC-SB12-4	FABC-SB13 5 08/19/97 FABC-SB13-5	FABC-SB14 5 08/19/97 FABC-SB14-5	FABC-SB15 5 08/19/97 FABC-SB15-5
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	NA	1,000 U	1,000 U	**5,000**	1,000 U	1,000 U	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	200 U	200 U	10,500	200 U	200 U	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	2,000	3,000	7,000	2,000	2,000	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	2,000 U	2,000 U	2,000	2,000 U	2,000 U	NA	NA	NA

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SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	FABC-SB18 4 08/20/97 FABC-SB18-4	FABC-SB19 4 08/20/97 FABC-SB19-4	FABC-SB20 4 08/20/97 FABC-SB20-4	FABC-SB21A 1 08/20/97 FABC-SB21A-1	FABC-SB21A 4 08/20/97 FABC-SB21A-4	FABC-SB21B 1 08/20/97 FABC-SB21B-1	FABC-SB21B 4 08/20/97 FABC-SB21B-4	HA-001 0 - 0.5 11/10/04 HA001L-06	HA-001 0.5 - 1 11/10/04 HA001L-12
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	6.6 U	5.6 U
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	86,000	23,000 U
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	1,000 U	NA	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	690 U	570 U
Beryllium	63,000	120,000	1,400,000	ug/kg	200 U	NA	200 U	200 U	200 U	200	200 U	3,300	3,600
Chromium	38,000	210,000	470,000	ug/kg	3,000	NA	3,000	4,000	3,000	4,000	2,000	31,000	7,300
Copper	- -	150,000	89,000,000	ug/kg	2,000 U	NA	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	50,000	13,000

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	HA-001 1 - 2 11/10/04 HA001L-24	HA-002 0 - 0.5 11/10/04 HA002L-06	HA-002 0.5 - 1 11/10/04 HA002L-12	HA-002 1 - 2 11/10/04 HA002L-24	HA-003 0 - 0.5 11/10/04 HA003L-06	HA-003 0.5 - 1 11/10/04 HA003L-12	HA-003 1 - 2 11/10/04 HA003L-24	HA-004 0 - 0.5 11/11/04 HA004L-06	HA-004 0.5 - 1 11/11/04 HA004L-12
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	***935.15***	**250.24**	NA	NA	NA	NA	**571.33**	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	5.1 U	5.2 U	4.6 U	5.6 U	5.8 U	4.9 U	6.5 U	4.9 U	5.2 U
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	22,000 U	23,000 U	21,000 U	22,000 U	24,000 U	22,000 U	27,000 U	22,000 U	22,000 U
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	540 U	850	530 U	560 U	1,300	650	680 U	760	550 U
Beryllium	63,000	120,000	1,400,000	ug/kg	1,100 U	2,700	1,100 U	1,100 U	2,500	1,100 U	1,400 U	1,100 U	1,100 U
Chromium	38,000	210,000	470,000	ug/kg	4,500	18,000	2,700	3,400	14,000	5,400	1,900	3,500	1,100 U
Copper	- -	150,000	89,000,000	ug/kg	5,600	68,000	5,100	6,700	45,000	15,000	3,900	1,100 U	1,600

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	HA-004 1 - 2 11/11/04 HA004L-24	HA-005 0 - 0.5 11/11/04 HA005L-06	HA-005 0.5 - 1 11/11/04 HA005L-12	HA-005 1 - 2 11/11/04 HA005L-24	HA-006 0 - 0.5 11/12/04 HA006L-06	HA-006 0.5 - 1 11/12/04 HA006L-12	HA-006 1 - 2 11/12/04 HA006L-24	HA-007 0 - 0.5 11/09/04 HA007L-06	HA-007 0.5 - 1 11/09/04 HA007L-12
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	**619.37**	NA	NA	**652.07**	**244.89**	NA	**547.49**	**319.55**
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	5.6 U	4.8 U	5.1 U	5 U	5.9 U	5.9 U	5.3 U	5.4 U	5.1 U
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	23,000 U	22,000 U	22,000 U	22,000 U	130,000	22,000 U	21,000 U	22,000 U	22,000 U
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	580 U	1,100	**5,500**	2,000	**4,000**	710	530 U	1,100	**11,000**
Beryllium	63,000	120,000	1,400,000	ug/kg	1,200 U	12,000	1,100 U	1,100 U	99,000	25,000	1,200	89,000	21,000
Chromium	38,000	210,000	470,000	ug/kg	1,200 U	8,800	15,000	16,000	20,000	42,000	2,000	53,000	20,000
Copper	- -	150,000	89,000,000	ug/kg	1,200 U	1,100 U	2,100	1,600	34,000	120,000	6,000	25,000	26,000

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	HA-007 1 - 2 11/09/04 HA007L-24	HA-008 0 - 0.5 11/12/04 HA008L-06	HA-008 0.5 - 1 11/12/04 HA008L-12	HA-008 1 - 2 11/12/04 HA008L-24	HA-009 0 - 0.5 11/10/04 HA009L-06	HA-009 0.5 - 1 11/10/04 HA009L-12	HA-009 1 - 2 11/10/04 HA009L-24	HA-010 0 - 0.5 11/10/04 HA010L-06	HA-010 0.5 - 1 11/10/04 HA010L-12
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	**297.08**	NA	NA	**251.24**	NA	NA	***775.59***	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	4.9 U	4.6 U	5.3 U	5 U	5.7 U	4.3 U	5.5 U	5.1 U	5 U
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	21,000 U	21,000 U	21,000 U	22,000 U	36,000	22,000	22,000 U	27,000	47,000
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	530 U	530 U	530 U	540 U	520 U	530 U	550 U	530 U	630
Beryllium	63,000	120,000	1,400,000	ug/kg	88,000	1,100 U	1,100 U	1,100 U	1,000 U	1,100 U	1,100 U	1,100 U	1,100 U
Chromium	38,000	210,000	470,000	ug/kg	5,500	1,100 U	1,700	1,100 U	1,000 U	1,500	1,100 U	1,200	2,300
Copper	- -	150,000	89,000,000	ug/kg	**610,000**	5,300 U	5,300 U	5,400 U	1,100	6,800	1,100 U	1,100 U	9,600

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SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	HA-010 1 - 2 11/10/04 HA010L-24	HA-011 0 - 0.5 11/11/04 HA011L-06	HA-011 0.5 - 1 11/11/04 HA011L-12	HA-011 1 - 2 11/11/04 HA011L-24	HA-012 0 - 0.5 11/11/04 HA012L-06	HA-012 0.5 - 1 11/11/04 HA012L-12	HA-012 1 - 2 11/11/04 HA012L-24	HA-013 0 - 0.5 11/11/04 HA013L-06	HA-013 0.5 - 1 11/11/04 HA013L-12
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	**592.97**	**144.69**	NA	***838.01***	**117.605**	NA	**294.94**	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	5.4 U	5.1 U	5.3 U	5.5 U	5.2 U	5.6 U	5.2 U	5.4 U	5.2 U
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	22,000 U	21,000 U	21,000 U	24,000 U	21,000 U	22,000 U	24,000 U	22,000 U	21,000 U
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	550 U	530 U	530 U	590 U	530 U	560 U	600 U	**2,400**	530 U
Beryllium	63,000	120,000	1,400,000	ug/kg	1,100 U	1,100 U	1,100 U	1,200 U	1,100 U	1,100 U	1,200 U	1,100 U	1,100 U
Chromium	38,000	210,000	470,000	ug/kg	1,100 U	1,300	1,100 U	2,000	1,100 U	1,100 U	2,700	5,300	1,100 U
Copper	- -	150,000	89,000,000	ug/kg	2,700	2,200	1,300	1,200 U	1,100 U	1,100 U	1,200 U	4,300	1,600

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	HA-013 1 - 2 11/11/04 HA013L-24	HA-014 0 - 0.5 11/10/04 HA014L-06	HA-014 0.5 - 1 11/10/04 HA014L-12	HA-014 1 - 2 11/10/04 HA014L-24	HA-015 0 - 0.5 11/11/04 HA015L-06	HA-015 0.5 - 1 11/11/04 HA015L-12	HA-015 1 - 2 11/11/04 HA015L-24	HA-016 0 - 0.5 11/11/04 HA016L-06	HA-016 0.5 - 1 11/11/04 HA016L-12
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	**122.605**	NA	NA	**246.28**	**228.26**	NA	**470.1**	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	5.3 U	4.8 U	6.4 U	5 U	6 U	5.3 U	5.3 U	52	26
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	22,000 U	22,000 U	21,000 U	22,000 U	22,000 U	21,000 U	21,000 U	28,000	22,000 U
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	540 U	550 U	530 U	540 U	540 U	530 U	530 U	580 U	540 U
Beryllium	63,000	120,000	1,400,000	ug/kg	1,100 U	19,000	3,000	1,100 U	1,100 U	1,100 U	1,100 U	1,200 U	1,100 U
Chromium	38,000	210,000	470,000	ug/kg	1,100 U	4,200	1,300	1,100 U	1,500	1,100 U	1,100 U	2,700	1,200
Copper	- -	150,000	89,000,000	ug/kg	1,100 U	14,000	1,500	1,100 U	5,400 U	5,300 U	5,300 U	7,100	3,200

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	HA-016 1 - 2 11/11/04 HA016L-24	HA-142 0 - 0.5 12/05/04 HA142L-06	HA-142 0.5 - 1 12/05/04 HA142L-12	HA-144 0 - 0.5 12/05/04 HA144L-06	LMC-BLDG3A 0 - 1 02/04/09 LMC-BLDG3A (0'-1) - 020409	LMC-BLDG3B 0 - 1 02/04/09 LMC-BLDG3B (0'-1) - 020409
PAHs - Benzo(a)pyrene Equivalents										
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	**560**	**173**	**191.5**	NA	**180.35**
Volatile Organics										
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)										
Tetrachloroethene	30	8,800	18,000	ug/kg	24	NA	NA	NA	3.1 U	3.1 U
Petroleum Products (FL-PRO)										
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	22,000 U	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)										
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	110,000 J	26,000 J
Metals										
Arsenic	- -	2,100	12,000	ug/kg	560 U	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	1,100 U	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	1,100 U	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	1,600	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	LMC-BLDG3C 0 - 1 02/04/09 LMC-BLDG3C (0'-1) - 020409	SB-01 0.25 01/31/01 TT-SB-01-3	SB-01 0.5 01/31/01 TT-SB-01-6	SB-02 0.25 01/31/01 TT-SB-02-3	SB-02 0.5 01/31/01 TT-SB-02-6	SB-05 0.25 02/01/01 TT-SB-05-3	SB-05 0.5 02/01/01 TT-SB-05-6
PAHs - Benzo(a)pyrene Equivalents											
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA
Volatile Organics											
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)											
Tetrachloroethene	30	8,800	18,000	ug/kg	3.1 U	6.7 U	6.6 U	8.2 U	5.5 U	8.7 U	6.1 U
Petroleum Products (FL-PRO)											
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	18,000	**2,000,000**	5,200 U	5,700 U	5,400 U	5,600 U
Petroleum Products (LGCYPET)											
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	15,000 J	NA	NA	NA	NA	NA	NA
Metals											
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	1,000 U	1,200 U	1,000 U	1,100 U	**180,000**	6,900
Chromium	38,000	210,000	470,000	ug/kg	NA	1,000 U	12,000	1,000 U	9,900	46,000	21,000
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SB-07	SB-07	SB-11	SB-12	SB-12	SB-15	SB-15	SB-16
Sample Depth (ft):					0.25	0.5	0.25	0.25	0.5	0 - 0.17	0.42	0 - 0.17
Date Collected:					01/30/01	01/30/01	01/31/01	02/01/01	02/01/01	01/30/01	01/30/01	01/30/01
Sample Name:					TT-SB-07-3	TT-SB-07-6	TT-SB-11-3	TT-SB-12-3	TT-SB-12-6	TT-SB-15-1-2	TT-SB-15-5	TT-SB-16-1-2
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	6.5 U	6.1 U	6.1 U	6.1 U	5.8 U	NA	NA	NA
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	5,400 U	6,100 U	5,600 U	5,100 U	6,000 U	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	1,100	570 U	630 U
Beryllium	63,000	120,000	1,400,000	ug/kg	11,000	1,200 U	1,100 U	1,000 U	1,200 U	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	3,200	1,800	5,100	1,000 U	2,700	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SB-16	SB-17	SB-17	SB-18	SB-18	SP-1	SP-1	SP-2
Sample Depth (ft):					0.42	0 - 0.17	0.42	0 - 0.17	0.42	0 - 0.5	0.5 - 2	0 - 0.5
Date Collected:					01/30/01	01/30/01	01/30/01	01/30/01	01/30/01	08/11/08	08/11/08	08/11/08
Sample Name:					TT-SB-16-5	TT-SB-17-1-2	TT-SB-17-5	TT-SB-18-1-2	TT-SB-18-5	SP-1 (0-0.5')	SP-1 (0.5-2')	SP-2 (0-0.5')
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	3 UJ	3 UJ	3.2 UJ
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	560 U	530 U	530 U	540 U	570 U	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID: / Sample Depth (ft): / Date Collected: / Sample Name:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SP-2 0.5 - 2 08/11/08 SP-2 (0.5-2')	SP-3 0 - 0.5 08/12/08 SP-3 (0-0.5')	SP-3 0.5 - 2 08/12/08 SP-3 (0.5-2')	SP-4 0 - 0.5 08/12/08 SP-4 (0-0.5')	SP-4 0.5 - 2 08/12/08 SP-4 (0.5-2')	SP-5 0 - 0.5 08/11/08 SP-5 (0-0.5')	SP-5 0.5 - 2 08/11/08 SP-5 (0.5-2')	SP-6 0 - 0.5 08/12/08 SP-6 (0-0.5')
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	3.1 UJ	3.2 UJ	2.8 UJ	3 UJ	3 UJ	3 UJ	3 UJ	2.9 UJ
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SP-6	SP-7	SP-7	SP-8	SP-8	SP-9	SP-9	SP-10
Sample Depth (ft):					0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5
Date Collected:					08/12/08	08/12/08	08/12/08	08/11/08	08/11/08	08/11/08	08/11/08	08/08/08
Sample Name:					SP-6 (0.5'-2')	SP-7 (0-0.5')	SP-7 (0.5-2')	SP-8 (0-0.5')	SP-8 (0.5-2')	SP-9 (0-0.5')	SP-9 (0-5-2')	SP-10 (0-0.5')
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	3.1 UJ	3.1 UJ	3.2 UJ	3 UJ	3.1 UJ	2.9 UJ	2.5 UJ	3.2 UJ
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SP-10	SP-11	SP-11	SP-12	SP-12	SP-13	SP-13	SP-14
Sample Depth (ft):					0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5
Date Collected:					08/08/08	08/08/08	08/08/08	08/18/08	08/18/08	08/15/08	08/15/08	08/15/08
Sample Name:					SP-10 (0.5-2')	SP-11 (0-0.5')	SP-11 (0.5-2')	SP - 12R (0 - 0.5'	SP - 12R (0.5 - 2'	SP-13(0-6)"	SP-13(6-24")"	SP-14 (0-6)"
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	3.3 UJ	3 UJ	60 UJ	3.1 U	3.1 U	3.3 U	4.4 U	3.5 U
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SP-14	SP-15	SP-15	SP-16	SP-16	SP-17	SP-17	SP-18
Sample Depth (ft):					0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5
Date Collected:					08/15/08	08/15/08	08/15/08	08/15/08	08/15/08	08/15/08	08/15/08	08/26/08
Sample Name:					SP-14 (6-24")"	SP-15 (0-6)"	SP-15 (6-24")"	SP-16 (0-6)"	SP-16 (6-24")"	SP-17 (0-6)"	SP-17 (6-24")"	SP-18 (0-0.5')
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	5.8 U	5 U	3.1 U	3.8 U	4.1 U	3.6 U	2.9 U	3.1 U
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SP-18	SP-19	SP-19	SP-20	SP-20	SP-21	SP-21	SP-22
Sample Depth (ft):					0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5
Date Collected:					08/26/08	08/26/08	08/26/08	08/26/08	08/26/08	08/26/08	08/26/08	08/26/08
Sample Name:					SP-18 (0.5-2')	SP-19 (0-0.5)	SP-19 (0.5-2')	SP-20 (0-0.5')	SP-20 (0.5-2')	SP-21 (0-0.5')	SP-21 (0.5-2')	SP-22 (0-0.5')
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	3.2 U	2.9 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	2.9 U
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SP-22	SP-23	SP-23	SP-24	SP-24	SP-25	SP-25	SP-26
Sample Depth (ft):					0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5
Date Collected:					08/26/08	08/26/08	08/26/08	08/27/08	08/27/08	08/27/08	08/27/08	08/27/08
Sample Name:					SP-22 (0.5-2')	SP-23 (0-0.5')	SP-23 (0.5-2')	SP-24 (0-0.5)	SP-24 (0.5-2)	SP-25 (0-0.5)	SP-25 (0.5-2)	SP-26 (0-0.5)
PAHs - Benzo(a)pyrene Equivalents												
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics												
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)												
Tetrachloroethene	30	8,800	18,000	ug/kg	2.9 U	3.2 U	3 U	3.1 U	54 U	3.2 U	3.2 U	2.7 U
Petroleum Products (FL-PRO)												
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)												
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE 7-1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Location ID:	GW Leachability SCTLs	Residential SCTLs	Industrial SCTLs	Units	SP-26	SP-27	SP-27	SP-28	SP-28	SP-29	SP-29	SP-30	SP-30
Sample Depth (ft):					0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2	0 - 0.5	0.5 - 2
Date Collected:					08/27/08	08/27/08	08/27/08	08/27/08	08/27/08	09/03/08	09/03/08	09/03/08	09/03/08
Sample Name:					SP-26 (0.5-2)	SP-27 (0-0.5)	SP-27 (0.5-2)	SP-28 (0-0.5)	SP-28 (0.5-2)	SP-29 (0'-0.5')	SP-29 (0.5'-2')	SP-30 (0'-0.5')	SP-30 (0.5'-2')
PAHs - Benzo(a)pyrene Equivalents													
Total B(a)P Equivalents	- -	100	700	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics													
Tetrachloroethene	30	8,800	18,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organics (8260B)													
Tetrachloroethene	30	8,800	18,000	ug/kg	3.2 U	3.1 U	3.4 U	2.9 U	3.3 U	3.7 U	3.1 U	3.1 U	3.3 U
Petroleum Products (FL-PRO)													
Total Petroleum Hydrocarbons	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Products (LGCYPET)													
Total Petroleum Hydrocarbons (C8-C40)	340,000	460,000	2,700,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Arsenic	- -	2,100	12,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	63,000	120,000	1,400,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	38,000	210,000	470,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	- -	150,000	89,000,000	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA

Footnotes:

I = Detected but below reporting limit. Result is an estimated concentration.
U = The analyte was analyzed for, but not detected.
J = Estimated value.
UJ = The analyte was analyzed for, but not detected. The reporting limit is an estimated value.
Shade = Exceeding the GW Leachability SCTLs
Bold = Exceeding the Residential SCTLs
Italics = Exceeding the Industrial SCTLs
SCTL = Soil cleanup target level.
GW = Groundwater.
NA = Not analyzed.
ug/kg = Micrograms per kilogram.
PAH = Polycyclic aromatic hydrocarbon.
ft = Feet.

TABLE 8-1
REMEDIAL TECHNOLOGY AND PROCESS OPTION EVALUATION

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FL

EVALUATION CRITERIA

RAW SCORE

MEDIA	GENERAL RESPONSE ACTION	TECHNOLOGIES OR PROCESS OPTIONS	FEASIBILITY	Stops Further Spread of Plume	Address all COCs	No Collateral Impacts	Minimum Residual Contamination	Minimum Residual Risk	IMPLEMENTABILITY	Regulatory Acceptance	Minimizes Community Concerns	Minimal Access Agreements	Minimal Disruption	Sustainable Long Term Approach	LONG TERM HH&EE	No Direct Exposure	Limited Residual Contamination	Reasonable Mitigation of Concurrent Effects	Stops Further Spread of Contaminants	COC Permanently Eliminated	SHORT TERM HH&EE	No Direct Exposure	Dispersion Arrested	Limited Invasiveness	No Harmful Supplies Required	No Hazardous Methods
SOIL	NO FURTHER ACTION	NO FURTHER ACTION	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	2	0	0	1	1	0
SOIL	INSTITUTIONAL & ENGINEERING CONTROLS	INSTITUTIONAL & ENGINEERING CONTROLS	3	1	1	1	0	0	5	1	1	1	1	1	3	1	0	1	1	0	5	1	1	1	1	1
SOIL	REMOVAL	EXCAVATION	4	1	1	0	1	1	2	1	0	0	0	1	2	0	1	0	1	0	2	0	1	0	1	0
GROUNDWATER	NO FURTHER ACTION	NO FURTHER ACTION	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	2	0	0	1	1	0
GROUNDWATER	NATURAL ATTENUATION W/MONITORING	NATURAL ATTENUATION W/MONITORING	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	2	0	0	1	1	0
GROUNDWATER	*IN SITU* TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	1	1	0	0	0	0	3	1	1	0	0	1	1	1	0	0	0	0	3	1	0	0	1	1
GROUNDWATER	*IN SITU* TREATMENT	*IN SITU* CHEMICAL OXIDATION	2	1	1	0	0	0	2	1	0	0	0	1	1	0	1	0	0	0	1	1	0	0	0	0
GROUNDWATER	*IN SITU* TREATMENT	ELECTRIC RESISTIVE HEATING	1	0	0	1	0	0	3	1	1	0	0	1	1	1	0	0	0	0	1	1	0	0	0	0
GROUNDWATER	GROUNDWATER RECOVERY	TRENCH EXTRACTION	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	4	1	1	0	1	1
GROUNDWATER	GROUNDWATER RECOVERY	VERTICAL WELL EXTRACTION	5	1	1	1	1	1	4	1	1	1	0	1	5	1	1	1	1	1	4	1	1	0	1	1
GROUNDWATER	*EX SITU*	AIR STRIPPING	2	1	0	0	1	0	3	1	0	1	0	1	3	1	1	0	1	0	4	0	1	1	1	1
GROUNDWATER	*EX SITU*	LIQUID-PHASE GRANULAR ACTIVATED CARBON	4	1	0	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	4	1	1	1	0	1
GROUNDWATER	*EX SITU*	ADVANCED OXIDATIVE PROCESSES	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1
GROUNDWATER	GROUNDWATER DISCHARGE	DIRECT DISCHARGE TO POTW	2	0	1	0	1	0	2	0	0	1	1	0	1	0	1	0	0	0	3	0	1	1	1	0
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	0	0	0	0	0	0	4	1	1	1	1	0	3	1	0	1	0	1	3	1	0	1	0	1
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	*IN SITU* CHEMICAL OXIDATION	4	1	1	0	1	1	2	1	0	1	0	0	3	0	1	0	1	1	2	0	1	1	0	0
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	ELECTRIC RESISTIVE HEATING	0	0	0	0	0	0	4	1	1	1	1	0	1	0	0	1	0	0	3	1	0	1	1	0
GROUNDWATER - HOT SPOTS	GROUNDWATER RECOVERY	FOCUSED GROUNDWATER EXTRACTION/INJECTION	5	1	1	1	1	1	5	1	1	1	1	1	4	1	1	1	1	0	5	1	1	1	1	1
GROUNDWATER - HOT SPOTS	GROUNDWATER RECOVERY	DUAL-PHASE EXTRACTION	1	0	0	1	0	0	4	1	1	1	1	0	2	1	1	0	0	0	3	1	0	0	1	1
GROUNDWATER - HOT SPOTS	REMOVAL	EXCAVATION	2	1	1	0	0	0	2	1	0	1	0	0	1	0	0	0	1	0	1	0	0	0	1	0

MEDIA	GENERAL RESPONSE ACTION	TECHNOLOGIES OR PROCESS OPTIONS	OPERABILITY	Easily Controlled	Performance Range Sufficient	Performance Parameters Adequate	Ease of Monitoring Operating Parameters	Simplicity	MAINTAINABILITY	No Specialized Tooling	Ease of Component Access	No Specialized Skills for Troubleshooting/Repair	No Extraordinary Measures Needed for Maintenance	Shutdown Not Required for Maintenance	RELIABILITY	Simple System Functions	Durable System	Process Insensitive to Change	Not Dependent on Unreliable Component	Monitorability of Failure Indicators	CLEAN UP TIME	Minimal Start Delays	Interruptions Unlikely During Implementation	Definitive Period	Short Post Monitoring	No Major Unknowns	COST EFFICACY	Capital Cost	Operating Cost	Maintenance Cost	Monitoring Cost	D&D Cost	COMPOSITE SCORE
SOIL	NO FURTHER ACTION	NO FURTHER ACTION	1	0	0	0	0	1	3	0	1	1	0	1	1	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	10
SOIL	INSTITUTIONAL & ENGINEERING CONTROLS	INSTITUTIONAL & ENGINEERING CONTROLS	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	4	1	1	1	0	1	1	1	0	0	0	0	36
SOIL	REMOVAL	EXCAVATION	3	0	1	1	1	0	3	1	1	1	0	0	3	0	1	1	0	1	3	1	0	1	1	0	4	0	1	1	1	1	26
GROUNDWATER	NO FURTHER ACTION	NO FURTHER ACTION	1	0	0	0	0	1	3	0	1	1	0	1	1	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	10
GROUNDWATER	NATURAL ATTENUATION W/MONITORING	NATURAL ATTENUATION W/MONITORING	1	0	0	0	0	1	2	0	0	1	0	1	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	9
GROUNDWATER	*IN SITU* TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	1	0	0	0	0	1	2	1	0	1	0	0	1	0	0	0	0	1	1	1	0	0	0	0	3	0	1	1	0	1	16
GROUNDWATER	*IN SITU* TREATMENT	*IN SITU* CHEMICAL OXIDATION	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	2	0	0	1	0	1	11
GROUNDWATER	*IN SITU* TREATMENT	ELECTRIC RESISTIVE HEATING	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	0	1	0	1	0	9
GROUNDWATER	GROUNDWATER RECOVERY	TRENCH EXTRACTION	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	44
GROUNDWATER	GROUNDWATER RECOVERY	VERTICAL WELL EXTRACTION	5	1	1	1	1	1	4	1	1	1	0	1	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	42
GROUNDWATER	*EX SITU*	AIR STRIPPING	3	1	0	1	0	1	3	1	1	1	0	0	3	1	1	0	0	1	4	1	0	1	1	1	5	1	1	1	1	1	30
GROUNDWATER	*EX SITU*	LIQUID-PHASE GRANULAR ACTIVATED CARBON	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	43
GROUNDWATER	*EX SITU*	ADVANCED OXIDATIVE PROCESSES	5	1	1	1	1	1	4	1	1	1	1	0	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	44
GROUNDWATER	GROUNDWATER DISCHARGE	DIRECT DISCHARGE TO POTW	1	0	0	0	0	1	3	0	0	1	1	1	2	1	1	0	0	0	2	0	0	1	1	0	5	1	1	1	1	1	21
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	5	1	1	1	1	1	18
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	*IN SITU* CHEMICAL OXIDATION	2	0	1	0	0	1	0	0	0	0	0	0	3	0	1	1	1	0	1	0	0	1	0	0	5	1	1	1	1	1	22
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	ELECTRIC RESISTIVE HEATING	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	2	1	0	0	1	0	1	1	0	0	0	0	13
GROUNDWATER - HOT SPOTS	GROUNDWATER RECOVERY	FOCUSED GROUNDWATER EXTRACTION/INJECTION	4	1	1	1	1	0	5	1	1	1	1	1	5	1	1	1	1	1	5	1	1	1	1	1	4	1	1	1	1	0	42
GROUNDWATER - HOT SPOTS	GROUNDWATER RECOVERY	DUAL-PHASE EXTRACTION	0	0	0	0	0	0	2	1	1	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	3	1	0	1	1	0	17
GROUNDWATER - HOT SPOTS	REMOVAL	EXCAVATION	3	1	0	1	1	0	3	0	1	1	1	0	5	1	1	1	1	1	2	1	0	0	1	0	4	0	1	1	1	1	23

EVALUATION CRITERIA
RAW SCORE x WEIGHTING FACTOR

WEIGHTED SCORE

MEDIA	GENERAL RESPONSE ACTION	TECHNOLOGIES OR PROCESS OPTIONS	FEASIBILITY	IMPLEMENTABILITY	LONG TERM HH&EE	SHORT TERM HH&EE	OPERABILITY	MAINTAINABILITY	RELIABILITY	CLEAN UP TIME	COST EFFICACY		COMPOSITE SCORE
		WEIGHTING FACTORS:	**4**	**3**	**5**	**5**	**4**	**3**	**3**	**4**	**3**		
SOIL	NO FURTHER ACTION	NO FURTHER ACTION	0	6	0	10	4	9	3	4	0		36
SOIL	INSTITUTIONAL & ENGINEERING CONTROLS	**INSTITUTIONAL & ENGINEERING CONTROLS**	12	15	15	25	20	15	15	16	3	Preferred Score >130	**136**
SOIL	REMOVAL	EXCAVATION	16	6	10	10	12	9	9	12	12		96
GROUNDWATER	NO FURTHER ACTION	NO FURTHER ACTION	0	6	0	10	4	9	3	4	0		36
GROUNDWATER	NATURAL ATTENUATION W/MONITORING	NATURAL ATTENUATION W/MONITORING	0	6	0	10	4	6	6	0	0		32
GROUNDWATER	*IN SITU* TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	4	9	5	15	4	6	3	4	9		59
GROUNDWATER	*IN SITU* TREATMENT	*IN SITU* CHEMICAL OXIDATION	8	6	5	5	4	0	3	4	6		41
GROUNDWATER	*IN SITU* TREATMENT	ELECTRIC RESISTIVE HEATING	4	9	5	5	0	0	3	0	6		32
GROUNDWATER	GROUNDWATER RECOVERY	**TRENCH EXTRACTION**	20	15	25	20	20	15	15	20	15	Preferred Score >130	**165**
GROUNDWATER	GROUNDWATER RECOVERY	**VERTICAL WELL EXTRACTION**	20	12	25	20	20	12	15	20	15	Preferred Score >130	**159**
GROUNDWATER	*EX SITU*	AIR STRIPPING	8	9	15	20	12	9	9	16	15		113
GROUNDWATER	*EX SITU*	**LIQUID-PHASE GRANULAR ACTIVATED CARBON**	16	15	25	20	20	15	15	20	15	Preferred Score >130	**161**
GROUNDWATER	*EX SITU*	**ADVANCED OXIDATIVE PROCESSES**	20	15	25	25	20	12	15	20	15	Preferred Score >130	**167**
GROUNDWATER	GROUNDWATER DICHARGE	DIRECT DISCHARGE TO POTW	8	6	5	15	4	9	6	8	15		76
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	0	12	15	15	4	0	3	4	15		68
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	*IN SITU* CHEMICAL OXIDATION	16	6	15	10	8	0	9	4	15		83
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	ELECTRIC RESISTIVE HEATING	0	12	5	15	0	0	6	8	3		49
GROUNDWATER - HOT SPOTS	GROUNDWATER RECOVERY	**FOCUSED GROUNDWATER EXTRACTION/INJECTION**	20	15	20	25	16	15	15	20	12	Preferred Score >130	**158**
GROUNDWATER - HOT SPOTS	GROUNDWATER RECOVERY	DUAL-PHASE EXTRACTION	4	12	10	15	0	6	3	4	9		63
GROUNDWATER - HOT SPOTS	REMOVAL	EXCAVATION	8	6	5	5	12	9	15	8	12		80

Notes:
1) Criteria score is based on 9 "attributes" with a maximum possible score of 5.
2) Prefered technology or process options that have a weighted score > 130 are preferred.

TABLE 8-2
SUMMARY OF REMEDIAL TECHNOLOGY AND PROCESS OPTION ESTIMATED COSTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

MEDIA	GENERAL RESPONSE ACTION	TECHNOLOGIES OR PROCESS OPTIONS	Cost/Pounds of Contaminants															Appendix H
			Capital			Operating			Maintenance			Monitoring			D&D			
			low	high	median	low	high	median	low	high	median	low	high	median	low	high	median	Table #*
SOIL	NO FURTHER ACTION	NO FURTHER ACTION	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	none
	INSTITUTIONAL & ENGINEERING CONTROLS	INSTITUTIONAL & ENGINEERING CONTROLS	$ 2,700	$ 6,667	**$ 4,683**	$ 1,600	$ 2,400	$ 2,000	$ 54	$ 133	$ 94	$ -	$ -	$ -	$ -	$ -	$ -	H-1
	REMOVAL	EXCAVATION	$ 10,968	$ 41,720	$ 26,344	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	H-2
		Range	$ 2,700	$ 41,720	$ 22,210	$ -	$ 2,400	$ 1,200	$ -	$ 133	$ 67	$ -	$ -	$ -	$ -	$ -	$ -	
GROUNDWATER	NO FURTHER ACTION	NO FURTHER ACTION	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	none
	NATURAL ATTENUATION W/MONITORING	NATURAL ATTENUATION W/MONITORING	$ -	$ -	$ -	$ 352	$ 960	**$ 656**	$ 248	$ 1,408	**$ 828**	$ 12,800	$ 24,000	$ 18,400	$ 51	$ 103	**$ 77**	H-3
	IN SITU TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	$ 30,700	$ 94,667	$ 62,683	$ 30,675	$ 133,200	**$ 81,938**	$ 927	$ 3,253	**$ 2,090**	$ 5,333	$ 20,000	$ 12,667	$ 2,093	$ 3,700	**$ 2,897**	H-4
		IN SITU CHEMICAL OXIDATION	$ 30,700	$ 94,667	$ 62,683	$275,475	$1,293,733	$ 784,604	$ -	$ 1,627	**$ 813**	$ 5,333	$ 20,000	$ 12,667	$ 2,093	$ 3,700	**$ 2,897**	H-5
		ELECTRIC RESISTIVE HEATING	$ 30,700	$ 94,667	$ 62,683	$156,330	$ 358,660	**$ 257,495**	$ 10,100	$ 44,000	$ 27,050	$ 5,333	$ 15,000	**$ 10,167**	$ 6,087	$ 16,687	$ 11,387	H-6
	GROUNDWATER RECOVERY	TRENCH EXTRACTION	$ 750	$ 1,500	**$ 1,125**	$ 133	$ 228	**$ 181**	$ 47	$ 75	**$ 61**	$ 147	$ 293	**$ 220**	$ 40	$ 80	**$ 60**	H-7
		VERTICAL WELL EXTRACTION	$ 434	$ 758	**$ 596**	$ 585	$ 1,003	**$ 794**	$ 228	$ 398	**$ 313**	$ 1,639	$ 3,279	**$ 2,459**	$ 91	$ 166	**$ 129**	H-8
	EX SITU	AIR STRIPPING	$ 99	$ 185	**$ 142**	$ 1,828	$ 3,133	**$ 2,480**	$ 20	$ 100	**$ 60**	$ 205	$ 410	**$ 308**	$ 10	$ 23	**$ 17**	H-9
		LIQUID-PHASE GRANULAR ACTIVATED CARBON	$ 60	$ 100	**$ 80**	$ 914	$ 1,567	**$ 1,240**	$ 30	$ 100	**$ 65**	$ 137	$ 246	**$ 191**	$ 10	$ 23	**$ 17**	H-10
		ADVANCED OXIDATIVE PROCESSES	$ 1,300	$ 1,800	**$ 1,550**	$ 914	$ 1,567	**$ 1,240**	$ 72	$ 180	**$ 126**	$ 137	$ 246	**$ 191**	$ 3	$ 7	**$ 5**	H-11
	GROUNDWATER DISCHARGE	DIRECT DISCHARGE TO POTW	$ 1,184	$ 2,258	**$ 1,721**	$ 718	$ 1,232	**$ 975**	$ 275	$ 473	**$ 374**	$ 1,663	$ 3,326	**$ 2,494**	$ 131	$ 246	**$ 189**	H-12
		Range	$ -	$ 94,667	$ 47,333	$ 133	$1,293,733	$ 646,933	$ -	$ 44,000	$ 22,000	$ 137	$ 24,000	$ 12,068	$ 3	$ 16,687	$ 8,345	
GROUNDWATER - HOT SPOTS	*IN SITU* TREATMENT	ENHANCED BIOLOGICAL DEGRADATION	$ 650	$ 1,083	**$ 867**	$ 3,337	$ 10,162	**$ 6,749**	$ 650	$ 1,083	**$ 867**	$ 23,333	$ 45,000	**$ 34,167**	$ 325	$ 477	**$ 401**	H-13
		IN SITU CHEMICAL OXIDATION	$ 650	$ 1,083	**$ 867**	$ 15,340	$ 50,700	**$ 33,020**	$ 650	$ 1,083	**$ 867**	$ 23,333	$ 45,000	**$ 34,167**	$ 325	$ 477	**$ 401**	H-14
		ELECTRIC RESISTIVE HEATING	$ 2,800	$ 4,667	**$ 3,733**	$ 57,567	$ 190,000	$ 123,783	$ 5,300	$ 19,667	$ 12,483	$ 23,333	$ 60,000	$ 41,667	$ 1,100	$ 1,860	$ 1,480	H-15
	GROUNDWATER RECOVERY	FOCUSED GROUNDWATER EXTRACTION/INJECTION	$ 2,400	$ 4,500	**$ 3,450**	$ 3,826	$ 6,559	**$ 5,193**	$ 2,400	$ 4,500	**$ 3,450**	$ 23,333	$ 45,000	**$ 34,167**	$ 950	$ 1,587	$ 1,268	H-16
		DUAL-PHASE EXTRACTION	$ 3,220	$ 6,033	**$ 4,627**	$ 48,689	$ 146,459	$ 97,574	$ 4,553	$ 12,533	**$ 8,543**	$ 23,333	$ 45,000	**$ 34,167**	$ 867	$ 1,533	$ 1,200	H-17
	REMOVAL	EXCAVATION	$ 17,067	$ 68,493	$ 42,780	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,333	$ 45,000	**$ 34,167**	$ -	$ -	$ -	H-18
		Range	$ 650	$ 68,493	$ 34,572	$ -	$ 190,000	$ 95,000	$ -	$ 19,667	$ 9,833	$ 23,333	$ 60,000	$ 41,667	$ -	$ 1,860	$ 930	

Notes:

The ratio of cost to mass of contaminant ultimately removed (or sequestered) in $/lb is printed in **bold** if it is less than the statistical median of the cost effectiveness ratios of the technologies considered

* See Appendix H for Cost Estimate Details

TABLE 9-1
PROPOSED REMEDIAL ACTION ALTERNATIVE EXTRACTION AND RECHARGE SYSTEM

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Extraction Wells and Trenches

Unit	*Number of Extraction Wells and Trenches*	*Extraction Rate (gpm)*
	4 trenches	
USAS	37 (5 from IRA)	145
LSAS	27 (5 from IRA)	30
AF Gravels	11	17
S&P Sands	2	4
Total	**77 wells (10 from IRA)**	**196**

Injection Wells

Unit	*Number of Injection Wells*	*Injection Rate (gpm)*
USAS	5	10

Recharge Galleries

Designation	*Infiltration Rate (gpm)*
TW-6	34
TL-1	10
TW-18	4
Total	**48**

Notes:

gpm - gallons per minute

Extraction Rate - Total for all remediation systems, including IRA extraction wells.
IRA - Interim Remedial Action
AF Gravels = Arcadia Formation Gravels
LSAS = Lower Shallow Aquifer System
S&P Sands = Salt & Pepper Sands
USAS = Upper Surficial Aquifer System

TABLE 9-2
SUMMARY OF MODEL-PREDICTED TIMES TO ACHIEVE GCTLS
FOLLOWING REMEDIAL ACTION PLAN SYSTEM STARTUP

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

			Time to Achieve GCTL (years)			
Compound	**GCTL (ug/L)**	**Unit**	**Entire Model**	**On Facility**	**Golf Course**	**Off Facility**
TCE	3	USAS	31	22	9	31
		LSAS	26	26	21	23
		AF Gravels	19	19	7	14
		S&P Sands	23	23	1	8
1,4 Dioxane	3.2	USAS	25	8	10	25
		LSAS	48	48	47	48
		AF Gravels	39	38	39	26
		S&P Sands	37	37	12	34

Notes:

AF Gravels = Arcadia Formation Gravels
GCTL- Groundwater Cleanup Target Level
LSAS = Lower Shallow Aquifer System
S&P Sands = Salt & Pepper Sands
TCE = Trichloroethene
USAS = Upper Surficial Aquifer System
ug/L = Micrograms per liter

TABLE 10-1
REMEDIATION SYSTEM ESTIMATED COMBINED INFLUENT CONCENTRATIONS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Parameter	Estimated Concentration (µg/L)
trichloroethene (TCE)	630
1,4-dioxane	140
1,1-dichloroethane (1,1-DCA)	40
tetrachloroethene (PCE)	40
cis-1,2- dichloroethene (cis-1,2-DCE)	30
1,1-dichloroethene (1,1-DCE)	90
Total Iron	9200
Total Aluminum	180

Notes:
µg/L = microgram(s) per liter

TABLE 10-2A
PHOTO-CAT RATE CONSTANT

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Date	Flow Rate (gpm)	TCE Influent (ppb)	TCE Mid-Process (ppb)	Power (kW)	Percent Removal (%)	TCE Rate Constant (Lpm/kW)
2/5/2008	25	530	0.5	38.4	100%	17.17
2/6/2008	25	380	0.5	38.4	100%	16.35
2/12/2008	25	590	0.5	38.4	100%	17.43
2/19/2008	25	490	0.5	38.4	100%	16.97
2/26/2008	25	1200	0.5	38.4	100%	19.18
3/4/2008	25	740	0.5	38.4	100%	17.99
3/28/2008	25	680	0.5	38.4	100%	17.78
AVERAGE	**25.0**	**659**	**0.5**	**38.4**	**100%**	**17.55**

Date	Flow Rate (gpm)	1,4 Dioxane Influent (ppb)	1,4 Dioxane Mid-Process (ppb)	Power (kW)	Percent Removal (%)	1,4 Dioxane Rate Constant (Lpm/kW)
2/5/2008	25	200	0.54	38.4	100%	14.57
2/6/2008	25	210	0.54	38.4	100%	14.69
2/12/2008	25	260	0.54	38.4	100%	15.22
2/19/2008	25	200	0.54	38.4	100%	14.57
2/26/2008	25	290	0.54	38.4	100%	15.49
3/4/2008	25	310	0.54	38.4	100%	15.65
3/28/2008	25	320	1	38.4	100%	14.21
AVERAGE	**25.0**	**256**	**0.6**	**38.4**	**100%**	**14.92**

Date	Flow Rate (gpm)	1,1-DCA Influent (ppb)	1,1-DCA Mid-Process (ppb)	Power (kW)	Percent Removal (%)	1,1-DCA Rate Constant (Lpm/kW)
2/5/2008	25	55	19	38.4	65%	2.62
2/6/2008	25	58	27	38.4	53%	1.88
2/12/2008	25	69	18	38.4	74%	3.31
2/19/2008	25	63	21	38.4	67%	2.71
2/21/2008	25	74	17	38.4	77%	3.62
3/4/2008	25	73	16	38.4	78%	3.74
3/28/2008	25	59	13	38.4	78%	3.73
AVERAGE	**25.0**	**64**	**19**	**38.4**	**71%**	**3.09**

Footnotes:
1,1-DCA = 1,1-Dichloroethane
gpm = Gallons per minute
kW = Kilowatts
Lpm/kW = Liters per minute/kilowatt
ppb = Parts per billion
TCE = Trichloroethene
% = Percent
Base Equation from Section 10.2.2.3

TABLE 10-2B
PHOTO-CAT POWER REQUIREMENTS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Estimated Flow Rate (gpm)	Estimated Rate Constant (Lpm/kW)	Estimated 1,1-DCA Influent Concentration (ppb)	Desired 1,1-DCA Effluent Concentration (ppb)	Power Requirement (kW)
100	3.09	40	70	NA
200	3.09	40	70	NA
300	3.09	40	70	NA

Estimated Flow Rate (gpm)	Estimated Rate Constant (Lpm/kW)	Estimated TCE Influent Concentration (ppb)	Desired TCE Effluent Concentration (ppb)	Power Requirement (kW)
100	17.55	629	3	115
200	17.55	629	3	231
300	17.55	629	3	346

Estimated Flow Rate (gpm)	Estimated Rate Constant (Lpm/kW)	Estimated 1,4-Dioxane Influent Concentration (ppb)	Desired 1,4-Dioxane Effluent Concentration (ppb)	Power Requirement (kW)
100	14.92	138	3.2	95
200	14.92	138	3.2	191
300	14.92	138	3.2	286

Footnotes:

1,1-DCA = 1,1-Dichloroethane
gpm = Gallons per minute
kW = Kilowatts
Lpm/kW = Liters per minute/kilowatt
ppb = Parts per billion
TCE = Trichloroethene
Base Equation from Section 10.2.2.3
346 Minimum design requirement

TABLE 10-2C
PHOTO-CAT 1,1-DICHLOROETHANE REMOVAL

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Estimated Flow Rate (gpm)	Estimated Rate Constant (Lpm/kW)	Power (kW)	Estimated 1,1-DCA Influent Concentration (ppb)	Calculated 1,1-DCA Effluent Concentration (ppb)
100	3.09	365	40	2.03
200	3.09	365	40	9.02
300	3.09	365	40	14.81
100	3.09	243	40	5.50
200	3.09	243	40	14.83
300	3.09	243	40	20.65

Footnotes:

1,1-DCA = 1,1-Dichloroethane
gpm = Gallons per minute
kW = Kilowatts
Lpm/kW = Liters per minute/kilowatt
ppb = Parts per billion
Base Equation from Section 10.2.2.3

TABLE 10-3
EFFLUENT LIMITATIONS FOR MCUO IUD PERMIT #IW 0025S

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Parameter	Unit	MCUO IUD Permit #IW 0025S Effluent Limitation	GCTL	Surface Water Quality Criteria
pH	SU	5 – 11.5	--	--
1,4-dioxane	mg/L	Report	0.0032	0.12
TCE	mg/L	0.003	0.003	0.0807
PCE	mg/L	0.003	0.003	0.00885
1,1-DCE	mg/L	0.007	0.007	0.0032
1,1-DCA	mg/L	0.07	0.07	--
cis-1,2-DCE	mg/L	0.07	0.07	--
Vinyl chloride	mg/L	0.001	0.001	0.0024
Metals				
Aluminum	mg/L	Report	0.2	0.013
Arsenic	mg/L	2.51	0.01	0.05
Beryllium	mg/L	0.004	0.004	0.00013
Cadmium	mg/L	0.73	0.005	0.0012 [2/]
Chromium	mg/L	9.9	0.1	0.011
Copper	mg/L	28.48	1	0.0101 [2/]
Nickel	mg/L	11.08	0.1	0.0565 [2/]
Lead	mg/L	1.87	0.015	0.0036 [2/]
Zinc	mg/L	4.78	5	0.1299 [2/]
Sodium	mg/L	NA	160	--
Other Parameters [1/]				
Chloride	mg/L	NA	250	--
Sulfate	mg/L	NA	250	--
TDS	mg/L	NA	500	--

Notes:

[1/] Secondary water quality standard, Chapter 62-550 F.A.C.

[2/] Calculated based on estimated hardness of receiving water.

cis-1,2-DCE = cis-1,2-dichloroethene

1,1-DCA = 1,1-dichloroethane

1,1-DCE = 1,1-dichloroethene

GCTL = Groundwater Cleanup Target Level

IUD = Industrial User Discharge

MCUO = Manatee County Utility Operations Department Office of Industrial Compliance

mg/L = milligrams per liter

NA = not applicable

PCE = tetrachloroethene

SU = standard units

TCE = trichloroethene

TDS = total dissolved solids

"- - " is no criteria

TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
Treatment System - Figure 10-18						
Treatment System Influent	FE/FIT-100	Totalizing flow meter with indicating transmitter	1. Flow = 150 gpm - low flow	1	Data will be used to operate Sodium Hydroxide Metering Pump (P-700A) if low flow condition is detected, P-700A shall not operate.	
	AE/AIT-100	pH Sensor	1. pH = 6.8 - low level 2. pH = 7.2 - high level	2 3	Data will be used to start or stop the Sodium Hydroxide Metering Pump (P-700A) and ensure the correct pH is maintained in the Primary Settling Tank (T-110A/B).	
	TE/TT-100	Temperature Sensor	Manual set point	NA	High temperature response: 1. Alarm - Notify Operator.	
Primary Settling Tanks (T-110A/B)	LS-110A-1 LS-110B-1	Level Switch	1. 48 inches - low / low level	4	Alarm - Notify Operator. Disable solids transfer pumps (P-110A/B)	
	LS-110A-2 LS-110B-2	Level Switch	1. 80 inches - high level	5	Critical Alarm - Notify Operator. Stop extraction well pumps.	
	LE/LIT-110A-3 LE/LIT-110B-3	Level Transmitter	1. 60 inches - low level 2. 74 inches - high level 3. 80 inches - high / high level	4 5 6	1. Alarm - Notify Operator; Disables solids transfer pumps (P-110A/B). 2. Stop extraction well pumps. 3. Critical alarm. Extraction well system shut down.	
	LS-110A-4 LS-110B-4	Level Switch	1. 80 inches - high / high / high level	6	1. Critical alarm. Stop extraction well pumps. Alarm - Notify Operator.	
	AE/AIT-110A/B	pH Sensor	Indication only	NA	Data will be used to monitor the pH in the Primary settling tanks T-110A/B.	
Solids Transfer Pumps (P-110A/B)	HS-110A/B	HOA selector switch	1. Hand 2. Auto 3. Off	NA	1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	KC-110A/B	Timer control	Auto	NA	Pump shall operate 5 minutes per hour.	PLC programmable timer.
	YI-110A/B	Status Indicator	On/Off	NA	1. Indicates status of P-110A/B. A discord alarm will occur if P-110A or P-110B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
	PI/PS-110A/B	Pressure Switch	Manual set point	7	High pressure response: 1. Shuts down power to solids transfer pumps P-110A/B	
Solids Contact Tank (T-120)	AE/AIT-120	pH Sensor	1. pH = 8.2 - low level 2. pH = 8.6 - high level	8 9	Data will be used to either start or stop the Sodium Hydroxide Metering Pump (P-700B) to ensure the correct pH is maintained in the Solids Contact Tank (T-120)	
	LS-120-1	Level Switch	1. 60 inches - low / low level	10	Alarm - Notify Operator. Disable mixer M-120.	
	LS-120-2	Level Switch	1. 92 inches - high level	12	Critical Alarm - Notify Operator. Stop extraction well pumps.	
	LE/LIT-120-3	Level Transmitter	1. 72 inches - low level 2. 88 inches - high level 3. 92 inches - high / high level	10 11 12	1. Alarm - Notify Operator. Disable mixer M-120. 2. Stop extraction well pumps. 3. Critical Alarm. Extraction well system shut down.	
	LS-120-4	Level Switch	1. 92 inches - high / high / high level	12	1. Extraction well system shut down Critical Alarm - Notify Operator.	
	M-120	Mixer	On/Off	NA	Mixer will operate when system operates. Mixer shall be shut off at low and low low tank levels or manually.	
	FE/FIT-120	Totalizing flow meter with indicating transmitter	NA	NA	4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	
Aerator Recirculation System	FE/FCV-150A/B	Mass flow controller	On/Off	NA	1. Indicates status of flow controller. Flow controller shall operate when system operates and shall be shut down manually. 2. Flow Valve FV-150 opens or closes depending on the control device and alarms it is subject to. FV-150 shall be energized/de-energized in conjunction with pump AC-900 operation.	The purpose is to control the flow of compressed air to A-150A/B
	PI/PIT-150A/B	Pressure transmitter	PLC adjustable set point to detect pressure at the Aerators (A-150A/B)	13 = low and high	Low pressure response: 1. shut down power to Pumps P-150A/B. 2. notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-150A/B. 2. Notify operator. 3. Flashing strobe light. 4. Shut down air compressor (AC-900).	The purpose is to monitor pressure in the compressed air line to maintain the performance of the aerators
	FE/FIT-150A/B	Totalizing flow meter with indicating transmitter	NA	NA	4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading. Flow rate will be used to control flow valves FV-150A/B.	
	FV-150A/B	Flow Valve	PLC adjustable set point	NA	Flow Valve FV-150A/B opens or closes depending on the control device and alarms it is subject to. FV-150 shall be energized/de-energized in conjunction with operation of Pumps P-150A/B.	The purpose is to control the flow of aerated groundwater to Tanks T-110A/B and T-140A/B.
Treatment System - Figure 10-19						

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TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
Secondary Settling Tanks (T-140A/B)	LS-140A-1 LS-140B-1	Level Switch	1. 48 inches - low / low level	14	Alarm - Notify Operator. Disable solids transfer pumps (P-140A/B)	
	LS-140A-2 LS-140B-2	Level Switch	1. 80 inches - high level	16	Critical Alarm - Notify Operator. Extraction well system shut down.	
	LE/LIT-140A-3 LE/LIT-140B-3	Level Transmitter	1. 60 inches - low level 2. 76 inches - high level 3. 80 inches - high / high level	14 15 16	1. Alarm - Notify Operator; Disables solids transfer pumps (P-140A/B). 2. Stop extraction well pumps. 3. Critical alarm. Extraction well system shut down.	
	LS-140A-4 LS-140B-4	Level Switch	1. 80 inches - high / high / high level	16	1. Extraction well system shut down. Critical Alarm - Notify Operator.	
Secondary Solids Transfer Pumps (P-140A/B)	HS-140A/B	HOA selector switch	1. Hand 2. Auto 3. Off	NA	1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	KC-140A/B	Timer control	Auto	NA	Pump shall operate 5 minutes per hour.	PLC programmable timer.
	YI-140A/B	Status Indicator	On/Off	NA	1. Indicates status of P-140A/B. A discord alarm will occur if P-140A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
	PI/PS-140A/B	Pressure Switch	Manual set point	17	High pressure response: 1. Shuts down power to solids transfer pumps P-140A/B	
Filter Feed Tank (T-200)	LS-200-1	Level Switch	1. 24 inches - low / low level	18	Alarm - Notify Operator. Disable P-200A/B/C and P-150A/B.	
	LS-200-2	Level Switch	1. 60 inches - high level	21	Critical Alarm - Notify Operator. Extraction well system shut down.	
	LE/LIT-200-3	Level Transmitter	1. 36 inches - low level 2. 48 inches - high level 3. 60 inches - high / high level	19 20 21	1. Alarm - Notify Operator. Stop filter feed pumps P-200A/B/C and aerator recirculation pumps P-150A/B. 2. Start filter feed pumps P-200A/B/C. 3. Critical alarm. Extraction well system shut down.	Run permissives to Extraction Wells for high and low shut downs. Run permissives for P-150A/B.
	LS-200-4	Level Switch	1. 60 inches - high / high / high level	21	1. Extraction well system shut down Critical Alarm - Notify Operator.	
Filter Feed Pump (P-200A/B/C)	VFD-200A/B/C	Variable Flow Drive	PLC adjustable set point	NA	The purpose is to maintain a constant flow rate through the media filters (F-210A/B/C) and ultrafilters (F-230A/B/C), which will be measured by flow meters (FE/FIT-230A/B/C) on the ultrafilter effluent line.	Maintain P-200A/B/C flow rate higher than T-200 influent flow rate.
	HS-200A/B/C	HOA selector switch	1. Hand 2. Auto 3. Off	NA	1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-200A/B/C	Status Indicator	On/Off	NA	1. Indicates status of P-2000A/B/C. A discord alarm will occur if P-200A/B/C is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
Double Mechanical Seal Flushing System (Pumps P-200A/B/C)	FI/FS-200A/B/C	Flow switch	PLC adjustable set point	22	Low flow response: 1. Alarm - notify operator. 2. Shut down pumps (P-200A/B/C).	Flow switch monitors flow of seal water to the filter feed pumps.
	PI/PCV-200A/B/C	On/Off	Manual set point		PCV-200A/B/C opens or closes depending on the pressure in the line. PCV-200A/B/C shall be energized/de-energized in conjunction with P-200A/B/C operation.	
	FV-200A/B/C	NA.	PLC adjustable set point		Flow Valve FV-200A/B/C opens or closes depending on the control device and alarms it is subject to. FV-200A/B/C shall be energized/de-energized in conjunction with pump P-200A/B/C operation.	The purpose is to control the flow of seal water to Pump P-200A/B/C.
Aerator Recirculation Pump (P-150A/B)	HS-150A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-150A/B	Status Indicator	On/Off		1. Indicates status of P-150A/B. A discord alarm will occur if P-150A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
	PI/PS-150A/B	Pressure Switch	Manual set point	23	High pressure response: 1. Notify operator. 2. Shuts down power to aerator recirculation pumps P-150A/B.	High pressure may indicate a plugged line or aerator. Notify operator that aerator maintenance is required.
Double Mechanical Seal Flushing System (Pumps P-150A/B)	FS-150A/B	Flow switch	PLC adjustable set point	24	Low flow response: 1. Alarm - notify operator. 2. Shut down pumps (P-150A/B).	Flow switch monitors flow of seal water for the centrifugal pumps.
	FV-150A/B	Flow Valve	On/Off		Flow Valve FV-150A/B opens or closes depending on the control device and alarms it is subject to. FV-150A/B shall be energized/de-energized in conjunction with pump P-150A and P-150B operation.	The purpose is to control the flow of seal water to Pump P-150A/B.
	PI/PCV-150A/B	Pressure Control Valve	NA.		PCV-150A/B opens or closes depending on the pressure in the line. PCV-150A/B shall be energized/de-energized in conjunction with P-150A and P-150B operation.	

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TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
Sump Pump (P-1200)	LS-1200A/B/C	Level switch	1. xx inches - low level 2. xx inches - high level 3. xx inches - high / high level 4. xx inches - high / high / high level	25 26 27 28	1. Low level response - Sump Pump (P-1200) will turn off. 2. High level response - Sump Pump (P-1200) will turn on. 3. High High level response - Notify Operator - System shutdown. 4. High High High level response - Critical Alarm - System shutdown.	
	HS-1200	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	KC-1200	Timer control	30 minutes		Alarm - Notify Operator.	The purpose is to notify the operator if the sump pump has been running for 30 consecutive minutes.
	YI-1200	Status Indicator	On/Off		1. Indicates status of P-1200. A discord alarm will occur if P-1200 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
Treatment System - Figure 10-20						
Media Filters (F-210A/B/C)	PI/PIT-210A-1; PI/PIT-210B-1; PI/PIT-210C-1; DPI-210A/B/C	Pressure Transmitter, Differential Pressure Indicator	PLC adjustable set point to detect pressure at the inlet and outlet of each media filter	29 = low and high 30 = differential	Low pressure response: 1. Shut down power to Pumps P-200A/B/C. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-200A/B/C. 2. Notify operator. 3. Flashing strobe light. High differential pressure response: 1. Initiate change in operating trains, turn on standby train. 2. Initiate backwash sequence, turn on filter backwash pumps P-210A/B. 3. Backwashed train becomes standby.	The purpose is to optimize operation of filters and monitor pressure in filter feed line. Low pressure may indicate leakage and high pressure indicates media and/or piping may be plugged. High differential pressure indicates backwash of filters is required. The filter system will be operated via a remote control panel provided by the filter vendor. This remote control panel will be tied into the main system control panel and will receive permissive signal from the main PLC. **Note: if operating at maximum flow rate, a change in operating trains is not possible. Two vessels will operate a higher velocity for backwash period.
	FV-210A-1/2; FV-210B-1/2; FV-210C-1/2	Flow Valve	On/Off		Flow Valves will open or close depending on media filter operation. FV-210A/B/C-1 will be open during media filter operation; FV-210A/B/C-2 will be open during filter backwash. The flow valves shall be energized/de-energized in conjunction with pump P-200A/B/C and P-210A/B operation.	The purpose is to control the flow of compressed air to the pneumatic actuated valves associated with media filter operation.
Ultrafilters (F-230A/B/C)	PI/PIT-230A-1/2; PI/PIT-230B-1/2; PI/PIT-230C-1/2; DPI-230A/B/C	Pressure Transmitter, Differential Pressure Indicator	PLC adjustable set point to detect pressure at the inlet and outlet of each media filter	31 = low and high 32 = differential	Low pressure response: 1. Shut down power to Pumps P-200A/B/C. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-200A/B/C. 2. Notify operator. 3. Flashing strobe light. High differential pressure response: 1. Initiate backwash sequence, turn on Backwash Pumps P-230A/B. 2. Flashing strobe light.	The purpose is to optimize operation of the ultrafilters. Low pressure may indicate leakage and high pressure indicates membranes and/or piping may be plugged. High differential pressure indicates backwash of ultrafilters is required. The ultrafilter system will be operated via a remote control panel provided by the ultrafilter vendor. This remote control panel will be tied into the main system control panel and will receive permissive signal from the main PLC. **Note: UF backwash will not initiate a change in operating trains; backwash will occur while system is running.
	FE/FIT-230A/B/C	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	Flow will be used to maintain flow rate from filter feed pumps P-200A/B/C by controlling VFD on each pump.
	AE/AIT-230A/B/C	Turbidity meter	1. Turbidity = xxx - high level	33	High turbidity indicates backwash of ultrafilter is required. Initiate backwash sequence, turn on Backwash Pumps P-230A/B.	
	FV-230A-1/2; FV-230B-1/2; FV-230C-1/2	Flow Valve	PLC adjustable set point		Flow Valves will open or close depending on ultrafilter operation. FV-230A/B/C-1 will be open during ultrafilter operation; FV-230A/B/C-2 will be open during ultrafilter backwash. The flow valves shall be energized/de-energized in conjunction with pump P-200A/B/C and P-230A/B operation.	The purpose is to control the flow of compressed air to the pneumatic actuated valves associated with ultrafilter operation.
Ultrafilter Chemical Enhanced Backwash System	FV-240	Flow Valve	On/Off		Flow valve FV-240 will open or close depending on timing of the backwash cycle. FV-240 will open during chemical backwash; providing compressed air to open the pneumatic actuated valve on the hydrochloric acid feed line. The flow valves shall be energized/de-energized in conjunction with pump P-230A/B operation.	The purpose is to control the flow of compressed air to the pneumatic actuated valves associated with UF chemical enhanced backwash cycle.
	LS-240	Level switch	1. xx inches - low level	34	1. Indicates low level in hydrochloric acid tank. Alarm - notify operator.	

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TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
	FV-250	Flow Valve	On/Off		Flow valve FV-250 will open or close depending on timing of the backwash cycle. FV-250 will open during chemical backwash; providing compressed air to open the pneumatic actuated valve on the sodium hypochlorite feed line. The flow valves shall be energized/de-energized in conjunction with pump P-230A/B operation.	The purpose is to control the flow of compressed air to the pneumatic actuated valves associated with UF chemical enhanced backwash cycle.
	LS-250	Level switch	1. xx inches - low level	35	1. Indicates low level in sodium hypochlorite tank. Alarm - notify operator.	
Plant Floor Leak Sensors	LS-1400A/B/C/D	Level switch	1. xx inches - high level	36	1. Indicates leak in plant. Treatment system shut down. Critical Alarm - Notify Operator.	
Treatment System - Figure 10-21						
Backwash Surge Tank (T-800)	LS-800-1	Level Switch	1. 12 inches - low / low level	37	Alarm - Notify Operator. Shut down surge transfer pumps P-800A/B.	
	LS-800-2	Level Switch	1. 156 inches - high level	40	Critical Alarm - Notify Operator. Shut down filter backwash pumps P-210A/B and P-230A/B.	
	LE/LIT-800-3	Level Transmitter	1. 18 inches - low level 2. 24 inches - high level 3. 156 inches - high / high level	38 39 40	1. Alarm - Notify Operator. Stop surge transfer pumps P-800A/B. 2. Start surge transfer pumps P-800A/B. 3. Critical Alarm - Notify operator. Shut down filter backwash pumps P-210A/B and P-230A/B.	
	LS-800-4	Level Switch	1. 156 inches - high / high / high level	41	1. Shut down filter backwash pumps P-210A/B and P-230A/B. Critical Alarm - Notify Operator.	
Surge Transfer Pumps (P-800A/B)	HS-800A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	P-800A/B shall operate based on water level in the backwash surge tank (T-800).
	YI-800A/B	Status Indicator	On/Off		1. Indicates status of P-800A/B. A discord alarm will occur if P-800A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
	FE/FIT-800	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	
Double Mechanical Seal Flushing System (Pumps P-800A/B)	FS-800A/B	Flow switch	PLC adjustable set point	42	Low flow response: 1. Alarm - notify operator. 2. Shut down pumps (P-800A/B).	Flow switch monitors flow of seal water to the surge transfer pumps.
	FV-800A/B	Flow Valve	On/Off		Flow Valve FV-800A/B opens or closes depending on the control device and alarms it is subject to. FV-800A/B shall be energized/de-energized in conjunction with pump P-800A and P-800B operation.	The purpose is to control the flow of seal water to Pump P-800A/B.
	PI/PCV-800A/B	Pressure Control Valve	NA.		PCV-800A/B opens or closes depending on the pressure in the line. PCV-800A/B shall be energized/de-energized in conjunction with P-800A/B operation.	
Clarifier Solids Line (influent to T-810)	FE/FIT-810	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	
Solids Thickening Tank (T-810)	LS-810-1	Level Switch	1. 48 inches - low / low level	43	Alarm - Notify Operator. Shut down filter press feed pumps P-810A/B.	
	LS-810-2	Level Switch	1. 80 inches - high level	46	Critical Alarm - Notify Operator. Shut down surge transfer pumps P-800A/B.	
	LE/LIT-810-3	Level Transmitter	1. 60 inches - low level 2. 76 inches - high level 3. 80 inches - high / high level	44 45 46	1. Alarm - Notify Operator. Stop filter press feed pumps P-810A/B. 2. Start filter press feed pumps P-810A/B. 3. Stop surge transfer pumps P-800A/B.	
	LS-810-4	Level Switch	1. 80 inches - high / high / high level	47	1. Treatment system shut down Critical Alarm - Notify Operator. Shut down surge transfer pumps P-800A/B.	
Filter Press Feed Pumps (P-810A/B)	FV-810A/B	Flow Valve	On/Off		Flow Valve FV-810A/B opens or closes depending on operation of the filter press feed pumps P-810A/B. FV-810A/B shall be energized/de-energized in conjunction with Filter Press FP-820 operation.	The purpose is to control the flow of compressed air to Pumps P-810A/B.
	HS-810A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The flow valve shall operate regardless of the status of alarms and interlocks. 2. The flow valve shall be subject to control devices, interlocks and alarms. 3. The flow valve shall not operate.	
	QE/QIT-810	Pulse counter	Manual set point		A pulse will be sent to PLC, PLC to convert quantity of pulses into a flow rate.	
Filter Press (FP-820)	PI/PS-820A/B	Pressure Switch	Manual set point	48	High / high pressure response: 1. Shuts down power to filter press feed pumps P-810A/B. 2. Notify operator.	Monitors feed to filter press
	HS-820	HOA selector switch	1. Hand 2. Auto 3. Off		1. The filter press shall operate regardless of the status of alarms and interlocks. 2. The filter press shall be subject to control devices, interlocks and alarms. 3. The filter press shall not operate.	The filter press will be operated via a remote control panel provided by the filter press vendor. This remote control panel will be tied into the main system control panel and will receive permissive signal from the main PLC.
	YI-820	Status Indicator	On/Off		1. Indicates status of filter press. A discord alarm will occur if the filter press is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	

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TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
	FV-820	Flow Valve	On/Off		Flow Valve FV-820 opens or closes depending on operation of the filter press. FV-820 shall be energized/de-energized in conjunction with Filter Press FP-820 operation.	The purpose is to control the flow of compressed air to the filter press.
Treatment System - Figure 10-22						
AOP Feed Tank (T-300)	LS-300-1	Level Switch	1. 24 inches - low / low level	49	Alarm - Notify Operator. Shut down AOP feed pumps P-300A/B; and filter backwash pumps P-210A/B and P-230A/B.	
	LS-300-2	Level Switch	1. 156 inches - high level	52	Critical Alarm - Notify Operator. Shut down filter feed pumps P-200A/B.	
	LE/LIT-300-3	Level Transmitter	1. 60 inches - low level 2. 144 inches - high level 3. 156 inches - high / high level	50 51 52	1. Alarm - Notify Operator. Stop AOP feed pumps (P-300A/B) and filter backwash pumps P-201A/B and P-230A/B. 2. Start AOP feed pumps (P-300A/B); and filter backwash pumps P-210A/B and/or P-230A/B. 3. Stop filter feed pumps P-200A/B/C.	Run permissives for filter backwash pumps P-210A/B and P-230A/B.
	LS-300-4	Level Switch	1. 156 inches - high / high / high level	53	1. Treatment system shut down Critical Alarm - Notify Operator. Shut down filter feed pumps P-200A/B.	
	TE/TT-300	Temperature Sensor	Manual set point		Data will be used to monitor temperature.	
AOP Feed Pumps (P-300A/B/C)	HS-300A/B/C	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-300A/B/C	Status Indicator	On/Off		1. Indicates status of P-300A/B/C. A discord alarm will occur if P-300A/B/C is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
AOP Feed Pumps Discharge Line	PI/PIT-300	Pressure transmitter	PLC adjustable set point	54 = low and high	Low pressure response: 1. Shut down power to Pumps P-300A/B/C. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-300A/B/C. 2. Notify operator. 3. Flashing strobe light.	The purpose is to optimize operation of the AOP. Low pressure may indicate leakage and high pressure indicates piping may be plugged.
	AE/AIT-300	pH Sensor	1. pH = xxx - low level 2. pH = xxx - high level	55 56	Data will be used to either start or stop the Sulfuric Acid Metering Pump (P-710A) to ensure the correct pH is maintained in the AOP (PC-310A/B/C).	
MF Backwash Pump (P-210A/B)	VFD-210A/B	Variable Flow Drive	PLC adjustable set point		The purpose is to maintain a constant backwash flow rate through the media filters (F-210A/B/C).	
	HS-210A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	Pump operation shall be tied to differential pressure switches (DPI-210A/B/C). Run permissive based on level in AOP feed tank T-300 and Backwash surge tank T-800. Do not operate if P-230A/B is engaged.
	YI-210A/B	Status Indicator	On/Off		1. Indicates status of P-210A/B. A discord alarm will occur if P-210A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
	KC-210A/B	Timer Control	PLC adjustable set point		Pumps operate 15 minutes per day during backwash cycle.	Timer control may be a backup controller for backwash cycle.
	FE/FIT-210	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading. Flow rate will be used to control the VFDs on the MF backwash pumps P-210A/B.	Totalized flow may be used in conjuction with timer control for the backwash cycle. Backwash may be controlled based on the flow rate of backwash feed for a set time period.
	PI/PIT-210	Pressure transmitter	PLC adjustable set point	57 = low and high	Low pressure response: 1. Shut down power to Pumps P-210A/B. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-210A/B. 2. Notify operator. 3. Flashing strobe light.	Low pressure may indicate leakage and high pressure indicates piping may be plugged.
UF Backwash Pump (P-230A/B)	VFD-230A/B	Variable Flow Drive	PLC adjustable set point		The purpose is to maintain a constant backwash flow rate through the ultrafilters (F-230A/B/C).	
	HS-230A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	Pump operation shall be tied to differential pressure switches (DPI-230A/B/C). Run permissive based on level in AOP feed tank T-300 and Backwash surge tank T-800. Do not operate if P-210A/B is engaged.
	YI-230A/B	Status Indicator	On/Off		1. Indicates status of P-230A/B. A discord alarm will occur if P-230A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	

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TABLE 10-4
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REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
	KC-230A/B	Timer Control	PLC adjustable set point		Pumps operate 1 minute per hour during backwash cycle. Chemical enhanced backwash cycle occurs 1 time per day, for approximately 25 minutes.	Timer control may be a backup controller for backwash cycle.
UF Backwash Pump (P-230A/B) (continued)	FE/FIT-230	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading. Flow rate will be used to control the VFDs on the UF backwash pumps P-230A/B.	Totalized flow may be used in conjuction with timer control for the backwash cycle. Backwash may be controlled based on the flow rate of backwash feed for a set time period.
	PI/PIT-230	Pressure transmitter	PLC adjustable set point	58 = low and high	Low pressure response: 1. Shut down power to Pumps P-230A/B. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-230A/B. 2. Notify operator. 3. Flashing strobe light.	Low pressure may indicate leakage and high pressure indicates piping may be plugged.
Sodium Hydroxide Tote (T-700A/B)	LIT-700A/B	Level Transmitter	1. xx inches = low level	59	Indicates level in tank. Alarm - notify operator.	
Sodium Hydroxide Metering Pump (P-700A/B/C/D/E)	HS-700 A/B/C/DE	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	1. P-700A operation will be dependant upon pH in the Primary Tank Splitter Box (T-100). 2. P-700B operation will be dependant upon pH in the Solids Contact Tank (T-120). 3. P-700C operation will be dependant upon pH in the discharge line. 4. P-700D operation will be dependant upon the UF chemical enhanced backwash cycle. 5. P-700E operation will be dependant upon pH in the on-facility recharge line.
	YI-700 A/B/C/D/E	Status Indicator	On/Off		1. Indicates status of P-700A/B/C/D. A discord alarm will occur if P-700A/B/C/D is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
Sulfuric Acid Tote (T-710A/	LIT-710A	Level Transmitter	1. xx inches = low level	60	Indicates level in tank. Alarm - notify operator.	
Sulfuric Acid Metering Pump (P-710A/B)	HS-710A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	1. P-710A operation will be dependant upon pH in the AOP feed line. 2. P-710B operation will be dependant upon AOP cleaning cycle.
	Y-710A/B	Status Indicator	On/Off		1. Indicates status of P-710A/B. A discord alarm will occur if P-710A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
Treatment System - Figure 10-23						
Coagulant Aid Drum (T-830A)	LIT-830A	Level Transmitter	1. xx inches = low level	61	Indicates level in tank. Alarm - notify operator.	
Coagulant Aid Drum Pump (P-830)	HS-830	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	Y-830	Status Indicator	On/Off		1. Indicates status of P-830. A discord alarm will occur if P-830 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
Coagulant Aid Mix Tank (T830B)	LIT-830B	Level Transmitter	1. xx inches = low level	62	Indicates level in tank. Alarm - notify operator. Shut off mixer M-830.	
	M-830	Mixer	On/Off		Mixer will operate when coagulant aid system operates. Mixer shall be shut off at low tank level or manually.	
Coagulant Aid Metering Pump (P-830A/B)	HS-830A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	Pump operation will be dependant upon solids transfer pumps (P-110A, P-110B P-140A and P-140B) and filter press feed pumps (P-820A/B).
	YI-830A/B	Status Indicator	On/Off		1. Indicates status of P-830A/B. A discord alarm will occur if P-830A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
Pre-Coat Tank Mixer (M-840)	LT-840	Level Transmitter	1. xx inches = low level	63	Indicates level in tank. Alarm - notify operator. Shut off mixer M-840.	
	M-840	Mixer	On/Off		Mixer will operate when coagulant aid system operates. Mixer shall be shut off at low tank level or manually.	

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REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
Pre-Coat Feed Pump (P-840A/B)	FV-840A/B	Flow Valve	On/Off		Flow Valve FV-840A/B opens or closes depending on the control device and alarms it is subject to. FV-840A/B shall be energized/de-energized in conjunction with Filter Press FP-820 operation.	The purpose is to control the flow of compressed air to Pumps P-840A/B.
	HS-840A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The flow valve shall operate regardless of the status of alarms and interlocks. 2. The flow valve shall be subject to control devices, interlocks and alarms. 3. The flow valve shall not operate.	
Photo-Cat (PC-310 Pallets A/B/C)	FV-300A/B/C	Flow Valve	PLC adjustable set point		Flow Valve FV-300A/B/C opens or closes depending on the control device and alarms it is subject to. The flow valves shall be energized/de-energized in conjunction with the AOP feed pumps P-300A/B/C operation.	The purpose is to control the process water flow to the AOPs.
	FV-310A/B/C	Flow Valve	PLC adjustable set point		Flow Valve FV-310A/B/C opens or closes depending on the control device and alarms it is subject to. FV-310A/B/C shall be energized/de-energized in conjunction with sulfuric acid metering pump P-710B.	The purpose is to control the flow of sulfuric acid to AOP for maintenance purposes.
	FE/FIT-310A/B/C	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	
	AE/AIT-310A/B/C	pH Sensor	1. pH = xxx - low level 2. pH = xxx - high level	64 65	Data will be used to either start or stop the Sulfuric Acid Metering Pump (P-710B) to ensure the correct pH is maintained in the Photo-Cat units (PC-310A/B/C).	
	TE/TT-310A-1/2; TE/TT-310B-1/2; TE/TT-310C-1/2	Temperature Sensor	Manual set point		Data will be used to monitor operation of the Photo-Cat units.	
Treatment System - Figure 10-24						
GAC Vessels (F-400A/B/C and F-410A/BC)	PIT-400A/B/C; PIT-410A/B/C; DPI-400A/B/C; DPI-410A/B/C	Pressure Transmitter, Differential Pressure Indicator	PLC adjustable set point to detect pressure at the inlet and outlet of the GAC vessels	66 = low and high 67 = differential	Low pressure response: 1. Shut down power to Pumps P-300A/B. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-300A/B. 2. Notify operator. 3. Flashing strobe light. High differential pressure response: 1. Switch lead vessel position to standby and initiate carbon change out. Put current intermediate vessel in lead position.	The purpose is to optimize operation of the GAC filters. Low pressure may indicate leakage and high pressure indicates membranes and/or piping may be plugged. High differential pressure indicates changeout of carbon is required.
	FV-400-1 through FV-400-18; and FV-410-1 through FV-410-18	Flow Valve	On/Off		Flow Valves will open or close depending on GAC vessel operation. The flow valves shall be energized/de-energized in conjunction with pump filter feed pumps P-200A/B/C and GAC backwash pumps P-400A/B operation.	The purpose is to control the flow of compressed air to the pneumatic actuated valves associated with GAC vessel operation.
Treatment System - Figure 10-25						
Bag Filters (F-420A/B/C/D)	PIT-420A/B/C; DPI-420-1/2	Pressure Transmitter, Differential Pressure Indicator	PLC adjustable set point to detect pressure at the inlet and outlet of the Bag Filters	68 = low and high 69 = differential	Low pressure response: 1. Shut down power to Pumps P-400A/B. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-400A/B. 2. Notify operator. 3. Flashing strobe light. High differential pressure response: 1. Bag filter change out required.	The purpose is to optimize operation of the bag filters. Low pressure may indicate leakage and high pressure indicates membranes and/or piping may be plugged. High differential pressure indicates changeout of bag filter is required. **Note: add a run permissive to ensure that the backwash flow valves will close when the stand-by vessel is brought online.
Air Compressor (AC-900)	HS-900	HOA selector switch	1. Hand 2. Auto 3. Off		1. The compressor shall operate regardless of the status of alarms and interlocks. 2. The compressor shall be subject to control devices, interlocks and alarms. 3. The compressor shall not operate.	
	YI-900	Status Indicator	On/Off		1. Indicates status of AC-900. A discord alarm will occur if AC-900 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
	KV-900-1/2	Timer Valve	Manual set point		Drain valve on air receiver tank T-900 and air dryer AD-900 will open or close depending on a set timer.	
Effluent Tank (T-500)	LS-500-1	Level Switch	1. 48 inches - low / low level	70	Alarm - Notify Operator. Shut down discharge pumps P-500A/B and GAC backwash pumps P-400A/B.	
	LS-500-2	Level Switch	1. 96 inches - high level	73	Critical Alarm - Notify Operator. Shut down AOP feed pumps P-300A/B.	
	LE/LIT-500-3	Level Transmitter	1. 60 inches - low level 2. 84 inches - high level 3. 96 inches - high / high level	70 72 73	1. Alarm - Notify Operator. Stop discharge pumps (P-500A/B), on-facility recharge pump (P-510), Water softener feed pumps (P-600A/B) and Process water feed pumps (P-1000A/B). 2. Start discharge pumps (P-500A/B), GAC backwash pumps (P-400A/B), on-facility recharge pump (P-510), Water softener feed pumps (P-600A/B) and Process water feed pumps (P-1000A/B). 3. Stop AOP feed pumps P-300A/B/C.	

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TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
Effluent Tank (T-500) (continued)	LS-500-4	Level Switch	1. 96 inches - high / high / high level	74	1. Treatment system shut down Critical Alarm - Notify Operator. Shut down AOP feed pumps P-300A/B.	
	AE/AIT-500-1	pH Sensor	Indication only		Data will be used to monitor the pH of water being discharged to the POTW or on-facility injection wells.	
GAC Backwash Pump (P-400A/B)	HS-400A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	GAC backwash cycle will be initiated after carbon change out. Run permissives based on water level in Effluent tank T-500.
	YI-400A/B	Status Indicator	On/Off		1. Indicates status of P-400A/B. A discord alarm will occur if P-400A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
	FV-400	Flow Valve	PLC adjustable set point		Flow Valve FV-400 opens or closes depending on the control device and alarms it is subject to. FV-400 shall be energized/de-energized in conjunction with GAC backwash pumps P-400A/B operation.	
	FE/FIT-400	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	
	PI/PIT-400	Pressure transmitter	PLC adjustable set point	75 = low and high	Low pressure response: 1. Shut down power to Pumps P-400. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-400. 2. Notify operator. 3. Flashing strobe light.	Low pressure may indicate leakage and high pressure indicates piping may be plugged.
Discharge Pump (P-500A/B)	HS-500A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-500A/B	Status Indicator	On/Off		1. Indicates status of P-500A/B. A discord alarm will occur if P-500A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
On-Facility Recharge Pump (P-510)	HS-510	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-510	Status Indicator	On/Off		1. Indicates status of P-510. A discord alarm will occur if P-510 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
On-Facility Wells Recharge Line	FV-510	Flow Valve	PLC adjustable set point		Flow Valve FV-510 opens or closes depending on the control device and alarms it is subject to. FV-510 shall be energized/de-energized in conjunction with on-facility recharge pump P-510 operation.	The purpose is to control the process water discharge to the on-facility injection wells.
	FE/FIT-510	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	
	AE/AIT-510	pH/ORP Sensor	1. pH = xxx - low level; ORP = xxx - low level 2. pH = xxx - high level; ORP = xxx - high level	79 80	Data will be used to either start or stop the Sodium Hydroxide Metering Pump (P-700E) to ensure the correct pH is maintained in the recharge to on-facility injection wells.	
	TE/TT-510	Temperature Sensor	Manual set point	81	High temperature response: 1. Alarm - Notify Operator. 2. Shut down recharge pump P-510.	The purpose is to only recharge water with pH that is within the GCTL limits.
	PI/PCV-510	On/Off	Manual set point		PCV-510 opens or closes depending on the pressure in the on-facility inejction well. PCV-510 shall be energized/de-energized in conjunction with P-510 operation.	
Water Softener Feed Pump (P-600A/B)	VFD-600A/B	Variable Flow Drive	PLC adjustable set point		P-600A/B flow rate is either increased or decreased depending on the flow rate from T-660. Flow data from FE/FIT-660 shall be used to control the VFDs on the water softener feed pumps P-600A/B in order to maintain a constant level in T-660.	The purpose is to maintain the flow rate through the water softeners (F-600A/B) and the water softener regeneration line. Run permissive based on water level in Effluent Tank T-500 and Recharge Equalization Tank T-660.
	HS-600A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-600A/B	Status Indicator	On/Off		1. Indicates status of P-600A/B. A discord alarm will occur if P-600A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	

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TABLE 10-4
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REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
Water Softener Feed Pump (P-600A/B) (continued)	PIT-600	Pressure Transmitter	PLC adjustable set point	82 = low and high	Low pressure response: 1. Shut down power to Pumps P-600A/B. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to Pumps P-600A/B. 2. Notify operator. 3. Flashing strobe light.	The purpose is to optimize operation of the water softeners. Low pressure may indicate leakage and high pressure indicates membranes and/or piping may be plugged.
Process Water Pump (P-1000A/B)	HS-1000A/B	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	Run permissive based on water level in Effluent Tank T-500 and Recharge Equalization Tank T-660.
	YI-1000A/B	Status Indicator	On/Off		1. Indicates status of P-1000A/B. A discord alarm will occur if P-1000A/B is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
Seal Water Bladder Tank (T-1000)	PIT-1000	Pressure transmitter	PLC adjustable set point to detect pressure within the seal water bladder tank	83 = low 84 = high	Low pressure response: 1. Enable power to Pumps P-1000A/B. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Disable power to Pumps P-1000A/B. 2. Notify operator. 3. Flashing strobe light.	
	PRV-1000	Pressure Reducing Valve	Manual set point		Controls the flow of treated water to either the seal flush system or the hose bibs.	
	FV-1000	Flow Valve	On/Off		Flow Valve FV-1000 opens or closes depending on the control device and alarms it is subject to. FV-1000 shall be energized/de-energized in conjunction with the water softener regeneration cycle and pump P-1000A/B operation.	The purpose is to control the flow of compressed air to the seal water bladder tank.
Brine Storage Tank (T-610)	LIT-610	Level Transmitter	1. xx inches = low level	85	Indicates level in tank. Alarm - notify operator.	
	FV-610	Flow Valve	On/Off		Flow Valve FV-610 opens or closes depending on the control device and alarms it is subject to. FV-610 shall be energized/de-energized in conjunction with the water softener regeneration cycle and pump P-600A/B operation.	The purpose is to control the flow of compressed air to the pneumatic actuated valve on the brine solution feed line.
Treatment System - Figure 10-26						
POTW Discharge Line	AE/AIT-500-2	pH Sensor	1. pH = xxx - low level 2. pH = xxx - high level	76 77	Data will be used to either start or stop the Sodium Hydroxide Metering Pump (P-700C) to ensure the correct pH is maintained in the discharge to the POTW.	
	FV-500	Flow Valve	PLC adjustable set point		Flow Valve FV-500 opens or closes depending on the control device and alarms it is subject to. FV-500 shall be energized/de-energized in conjunction with discharge pumps P-500A/B operation.	The purpose is to control the process water discharge to the POTW.
	FE/FIT-500	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	
	TE/TT-500	Temperature Sensor	Manual set point	78	High temperature response: 1. Alarm - Notify Operator. 2. Shut down discharge pumps P-500A/B.	The purpose is to only discharge water with pH that is within the POTW discharge limits.
Water Softener Skid	FV-600A/B	Flow Valve	PLC adjustable set point		Flow Valve FV-600A/B opens or closes depending on the control device and alarms it is subject to. FV-600A/B shall be energized/de-energized in conjunction with the water softener regeneration cycle and pump P-600A/B operation.	The purpose is to control the flow of brine solution to the water softeners. Regeneration will disable RO system operation and control/alarm systems.
	AE/AIT-600	Hardness Sensor	1. Hardness = xxx - low level 2. Hardness = xxx - high level	86 87	Data will be used to either start or stop the water softener feed pumps (P-600A/B) and the water softener regeneration cycle to ensure the correct hardness is maintained throughout the reverse osmosis process.	
	FE/FIT-600	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading. Flow data will be used to control the VFDs on the water softener feed pumps P-600A/B.	Regenerate at XXX gallons. Regeneration cycle will be controlled manually or based on totalized flow.
Cartridge Filter (F-630)	FV-630	Flow Valve	On/Off		Flow Valve FV-630 opens or closes depending on the control device and alarms it is subject to. FV-630 shall be energized/de-energized in conjunction with reverse osmosis system operation and/or water softener regeneration.	The purpose is to control the flow of compressed air to the pneumatic valve on the reverse osmosis system influent line.

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TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
	PIT-630-1/2; DPI-630-1/2	Pressure Transmitter and Differential Pressure Indicator	PLC adjustable set point to detect pressure at the inlet and outlet of the Cartridge Filter F-630	87 = low and high 88 = differential	Low pressure response: 1. Shut down power to RO feed pump P-640. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to RO feed pump P-640. 2. Notify operator. High differential pressure response: 1. Cartridge changeout required.	
RO Feed Pump (P-640)	HS-640	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	Run permissive based on operation of water softener.
	YI-640	Status Indicator	On/Off		1. Indicates status of P-640. A discord alarm will occur if P-640 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
Reverse Osmosis Unit (RO-640A/B/C)	AE/AIT-640	pH/ORP Sensor	1. pH = xxx - low level 2. pH = xxx - high level	89 90	1. Data will be used to either start or stop the RO feed pump to ensure the correct pH and ORP is maintained in the RO system (RO-640A/B/C). 2. Shut down wetlands recharge pump P-660.	
	PIT-640A/B; DPI-640B	Pressure Transmitter and Differential Pressure Indicator	PLC adjustable set point to detect pressure at the inlet and outlet of the Reserve Osmosis Unit (RO-640A/B/C).	91 = low and high 92 = differential	Low pressure response: 1. Shut down power to RO feed pump P-640 and water softener feed pumps P-600A/B. 2. Notify operator. 3. Flashing strobe light. High pressure response: 1. Shut down power to RO feed pump P-640 and water softener feed pumps P-600A/B. High differential pressure response: 1. Switch lead membrane position to standby and initiate membrane cleaning.	
	FE/FIT-640-1	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	Measures the flow of RO permeate.
	FE/FIT-640-2	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	Measure the flow of RO reject water.
	FV-640A-1/2; FV-640B-1/2; FV-640C-1/2	Flow Valve	On/Off		Flow Valve FV-640A-1/2, FV-640B-1/2, FV-640C-1/2 opens or closes depending on the control device and alarms it is subject to. The flow valves shall be energized/de-energized in conjunction with the water softener feed pumps P-600A/B and RO feed pump P-640 operation.	The purpose is to control the flow of compressed air to the pneumatic actuated valves.
Sodium Bicarbonate Mix Tank (T-650)	LIT-650	Level Transmitter	1. xx inches = low level	93	1. Indicates level in tank. 2. Alarm - notify operator. 3. Shut off mixer M-650.	
	M-650	Mixer	On/Off		Mixer will operate when sodium bicarbonate system operates. Mixer shall be shut off dependant upon level in sodium bicarbonate mix tank T-650.	
Sodium Bicarbonate Metering Pump (P-650)	HS-650	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-650	Status Indicator	On/Off		1. Indicates status of P-650. A discord alarm will occur if P-650 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
Recharge Equalization Tank (T-660)	LS-660-1	Level Switch	1. xx inches - low / low level	94	Alarm - Notify Operator. Shut down wetland recharge pump P-660.	
	LS-660-2	Level Switch	1. xx inches - high level	97	Critical Alarm - Notify Operator. Shut down water softener feed pumps P-600A/B and RO feed pump P-640.	
	LE/LIT-660-3	Level Transmitter	1. xx inches - low level 2. xx inches - high level 3. xx inches - high / high level	95 96 97	1. Alarm - Notify Operator. Stop wetland injection pump P-660. 2. Start wetland injection pump P-660. 3. Stop RO feed pump P-640 and water softener feed pumps P-600A/B.	
Recharge Equalization Tank (T-660) (continued)	LS-660-4	Level Switch	1. xx inches - high / high / high level	98	1. Treatment system shut down Critical Alarm - Notify Operator. Shut down water softener feed pumps P-600A/B and RO feed pump P-640.	
	AE/AIT-660	pH/ORP/temp Sensor	1. pH = xxx - low level 2. pH = xxx - high level	99 100	1. Data will be used to either start or stop the RO feed pump to ensure the correct pH, ORP and temperature is maintained in the RO system (RO-640A/B/C). 2. Shut down wetlands recharge pump P-660.	

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TABLE 10-4
GROUNDWATER TREATMENT SYSTEM CONTROL LOGIC

REMEDIAL ACTION PLAN ADDENDUM

PROCESS UNIT	DEVICE ID	DEVICE TYPE	SET POINT	INTERLOCK	RESPONSE [2]	COMMENT
Wetland Recharge Pump (P-660)	HS-660	HOA selector switch	1. Hand 2. Auto 3. Off		1. Treatment system shut down Critical Alarm - Notify Operator. Shut down water softener feed pumps P-600A/B and RO feed pump P-640.	
	YI-660	Status Indicator	On/Off		1. Indicates status of P-660. A discord alarm will occur if P-660 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
POTW Waste Tank (T-620)	LS-620-1	Level Switch	1. xx inches - low / low level	101	Alarm - Notify Operator. Shut down POTW waste pump P-620.	
	LS-620-2	Level Switch	1. xx inches - high level	104	Critical Alarm - Notify Operator. Shut down water softener feed pumps P-600A/B and RO feed pump P-640.	
	LE/LIT-620-3	Level Transmitter	1. xx inches - low level 2. xx inches - high level 3. xx inches - high / high level	102 103 104	1. Alarm - Notify Operator. Stop POTW waste pump P-620. 2. Start POTW waste pump P-620. 3. Shut down water softener feed pumps P-600A/B and RO feed pump P-640.	
	LS-620-4	Level Switch	1. xx inches - high / high / high level	105	1. Treatment system shut down Critical Alarm - Notify Operator. Shut down water softener feed pumps P-600A/B and RO feed pump P-640.	
POTW Waste Pump (P-620)	HS-620	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-620	Status Indicator	On/Off		1. Indicates status of P-620. A discord alarm will occur if P-620 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator	
Treatment System - Figure 10-27						
RO CIP Solution Storage Tank (T-670)	LIT-670	Level Transmitter	1. xx inches = low level	106	1. Indicates level in tank. 2. Alarm - notify operator.	
RO CIP Pump (P-670)	HS-670	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	
	YI-670	Status Indicator	On/Off		1. Indicates status of P-670. A discord alarm will occur if P-670 is engaged to run and the return input from the auxiliary contact is not made. 2. Notify operator.	
RO CIP Effluent Line	FE/FIT-670	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading.	Measures the flow of RO CIP solution.
Extraction Wells (Each Well)	FE/FIT-XXXX	Totalizing flow meter with indicating transmitter	NA		4-20mA signal sent to PLC, PLC to calculate flow rate and track totalizer reading. High flow response: 1. Alarm - notify operator. 2. Shut down wetlands recharge pump P-660.	
	PIT-XXXX	Pressure Transmitter	PLC adjustable set point	107 = low and high	Low pressure response: 1. Shut down power to Pumps P-XXXX. 2. Notify operator. High pressure response: 1. Shut down power to Pumps P-XXXX. 2. Notify operator.	The purpose is to optimize operation of the extraction well pumps. Low pressure may indicate leakage and high pressure indicates the pump and/or piping may be plugged.
	LE/LIT-XXXX	Level Transmitter	1. xx inches - low level 2. xx inches - high level	108 109	Low level response: 1. Shut down power to Pumps P-XXXX. 2. Notify operator. High level response: 1. Start Extraction Well Pumps P-XXXX. 2. Notify operator.	
Extraction Well Pumps (P-XXXX)	VFD-XXXX	Variable Flow Drive	PLC adjustable set point		P-XXXX flow rate is either increased or decreased depending on the water level in tanks T-110A/B, T-120 and T-140A/B. Data from level sensors in these tanks shall be used to control the VFDs on the extraction well pumps P-XXXX.	
	HS-XXXX	HOA selector switch	1. Hand 2. Auto 3. Off		1. The pump shall operate regardless of the status of alarms and interlocks. 2. The pump shall be subject to control devices, interlocks and alarms. 3. The pump shall not operate.	

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TABLE 12-1
SUMMARY OF MONITORING SCHEDULE

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

Operational Year>	Year 1														Year 2												Year 3 through cessation of pumping											
Monitoring Task & Location(s) — Month >	1				2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Week >	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Treatment System - Analytical Results																																							
System Effluent - Treated Groundwater to POTW[1]	X[2]	X	X	X	X	X		X			X			X			X			X			X			X			X			X			X			X	
Recovery Wells and Trenches [3]	X	X	X	X	X	X		X			X			X			X			X			X			X			X			X			X			X	
System Influent - Extraction Wells (Post-Surge Tank)	As Necessary																																						
System Mid-Process - Before Lead GAC	As Necessary																																						
System Post-Lead GAC (Breakthrough)	As Necessary																																						
Treatment System - Volume Measurements																																							
Influent - Groundwater from Recovery Wells	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X			X			X			X			X			X			X			X	
Free Product - From Baffled Influent Tank	X	X	X	X	X	X		X			X			X			X			X			X			X			X			X			X			X	
Groundwater Analytical[3]																																							
Monitor Wells on Table 13-1					X			X			X			X[6]						X						X[6]						X						X[6]	
Water Levels																																							
Monitor Wells, Staff Gauges, Stilling Wells [4]					X			X			X			X			X			X			X			X			X			X						X	
Wetlands/Man-Made Lakes																																							
Hydroperiod & Vegetation					X			X			X			X			X			X			X			X			X			X			X			X	
Instrument Readings																																							
pH Meter	Continuous																																						
Flow Meter	Continuous																																						
Instrument Calibration																																							
pH Meter		X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Flow Meter															X												X													X
Reports																																							
FDEP Reports[5]						X			X			X			X			X			X			X			X				X						X			
MCUO Reports[6,7]						X			X			X			X			X			X			X			X				X						X			X

Notes:

[1] Effluent samples to be analyzed for parameters specified in Section 10.2.3 of the RAP and as required by Manatee County Utility Operations Department (MCUO)

[2] Samples will be collected daily on the first three days of the first week of system operations with 24-hour turnaround on analytical results of the samples.

[3] Samples will be analyzed for Volatile Organic Compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260 and 1,4-Dioxane by USEPA Method 8260 SIM ID w/heated purge.

[4] Monitoring wells to be sampled and locations where water levels are to be measured are provided in Tables 13-1 and 13-2.

[5] In accordance with Table A of Chapter 62-780, F.A.C., reports will be provided to FDEP within 60 days of sample collection. Reports will include wetland monitoring information.

[6] Will be reported in accordance with Manatee County Utility Operations Permit issued for the approved RAP.

[7] In accordance with MCUO Permit IW0025S, reports are expected top be due the 28th day of the month due.

FDEP = Florida Department of Environmental Protection.
GAC = Granular activated carbon unit.
POTW = Publicly Owned Treatment System.
Initiation of sampling is dependent on RAP approval.

TABLE 13-1
ANNUAL AND REMEDIAL ACTION QUARTERLY OR SEMI-ANNUAL SAMPLING PROGRAMS

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

RA MW	USAS	RA MW	LSAS	RA MW	AF Gravels	RA MW	S&P Sands	RA MW	Lower AF Sands	RA MW	Floridan
X	MW-100	X	MW-33		1201 TALLEVAST RD		MW-21	X	MW-19		7500 26TH CT E
	MW-103	X	MW-37		2105 TALLEVAST RD	X	MW-23		MW-22		7851 15TH ST E
X	MW-104		MW-39		2400 TALLEVAST RD	X	MW-34		MW-31		MW-123
	MW-107	X	MW-41		2411 TALLEVAST RD	X	MW-44		MW-50		MW-161
X	MW-108	X	MW-43		7561/7571 15TH ST E	X	MW-45		MW-51		MW-203
	MW-109	X	MW-48		8005 15TH ST E		MW-49		MW-150		MW-218
	MW-11	X	MW-68		EW-UAFG-1		MW-52		MW-155		MW-251
	MW-110		MW-77	X	IWI-1		MW-53		MW-160		
	MW-111		MW-78		MW-55		MW-54				
	MW-114	X	MW-79		MW-83		MW-56				
	MW-115	X	MW-80	X	MW-102	X	MW-57				
	MW-116	X	MW-81		MW-127		MW-58				
	MW-118	X	MW-82	X	MW-129		MW-59				
	MW-120		MW-84		MW-130		MW-60				
	MW-121	X	MW-85	X	MW-131	X	MW-128				
	MW-126	X	MW-86		MW-132		MW-182				
	MW-137		MW-87	X	MW-133		MW-240				
	MW-13D	X	MW-91	X	MW-134		MW-252				
	MW-141		MW-92		MW-135		IWI-2*				
	MW-146		MW-93		MW-136						
	MW-151	X	MW-98		MW-143						
	MW-156		MW-101		MW-148						
	MW-15D		MW-105	X	MW-153						
	MW-162		MW-106		MW-158						
	MW-16D		MW-113		MW-164						
	MW-17D		MW-117		MW-169						
	MW-20		MW-119		MW-175						
	MW-219		MW-142		MW-185						
	MW-229		MW-152		MW-200						
	MW-24		MW-163		MW-215						
	MW-242		MW-168		MW-221						
	MW-25		MW-178	X	MW-231						
X	MW-254 (MW-BT-1)		MW-220		MW-232						
	MW-26		MW-230	X	MW-233						
X	MW-27		MW-243	X	MW-239						
	MW-28		PZ-LSAS-1		MW-248						
X	MW-29		PZ-LSAS-2	X	MW-249						
	MW-30		PZ-LSAS-3	X	MW-250						
X	MW-32		PZ-LSAS-4	X	MW-253						
X	MW-35		PZ-LSAS-5								
X	MW-36		PZ-LSAS-6								
	MW-38		PZ-LSAS-7								
X	MW-40										
X	MW-42										
X	MW-47										
	MW-62										
X	MW-63										
	MW-64										
X	MW-65										
	MW-67										
X	MW-69										
	MW-70										
X	MW-71										
X	MW-72										
	MW-73										
	MW-74										
X	MW-75										
	MW-76										
	MW-7D										
	MW-89										
	MW-8D										
	MW-90										
X	MW-94										
	MW-95										
	MW-9D										

Footnotes:

All wells included in table will be sampled for the annual monitoring event.
* Clay and Sand Zone 3-4
AF Gravels = Arcadia Formation Gravels.
LSAS = Lower Shallow Aquifer System.
Lower AF Sands = Lower Arcadia Formation Sands.
S&P Sands = Salt & Pepper sands.
USAS = Upper Surficial Aquifer System.
RA MW = An X indicates the monitoring well is included in the remedial action quarterly or semi-annual sampling program.

TABLE 13-2
QUARTERLY OR SEMI-ANNUAL WATER LEVEL MONITORING PROGRAM

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

USAS	LSAS	AF Gravels	S&P Sands	Lower AF Sands	Surface Water
MW-100	MW-33	MW-55	MW-23	MW-19	Staff Gauge-01
MW-103	MW-37	MW-103	MW-34	MW-22	Staff Gauge-02
MW-104	MW-39	MW-127	MW-44	MW-46	Staff Gauge-03
MW-107	MW-41	MW-129	MW-45	MW-145	Staff Gauge-04
MW-108	MW-43	MW-130	MW-49	MW-155	Staff Gauge-05
MW-109	MW-48	MW-132	MW-52	MW-170	Staff Gauge-06
MW-11	MW-68	MW-133	MW-57	MW-174	Staff Gauge-07
MW-110	MW-77	MW-134	MW-58	MW-181	Staff Gauge-08
MW-114	MW-78	MW-135	MW-59		Staff Gauge-09
MW-115	MW-79	MW-143	MW-128		Stilling Well-01
MW-116	MW-80	MW-153	MW-144		Stilling Well-02
MW-121	MW-81	MW-158	MW-173		Stilling Well-03
MW-126	MW-82	MW-164	MW-180		Stilling Well-04
MW-13D	MW-84	MW-169	MW-182		Stilling Well-05
MW-141	MW-85	MW-171	MW-222		
MW-146	MW-86	MW-172	MW-252		
MW-151	MW-87	MW-179			
MW-156	MW-91	MW-175			
MW-15D	MW-92	MW-185			
MW-162	MW-93	MW-221			
MW-16D	MW-98	MW-232			
MW-17D	MW-101	MW-233			
MW-20	MW-105	MW-239			
MW-219	MW-113	MW-248			
MW-229	MW-142	MW-250			
MW-24	MW-152	MW-252			
MW-242	MW-168	MW-253			
MW-25	MW-171				
MW-254 (MW-BT-1)	MW-178				
MW-26	MW-220				
MW-27	MW-230				
MW-29	MW-243				
MW-30	PZ-LSAS-7				
MW-32					
MW-35					
MW-36					
MW-38					
MW-40					
MW-42					
MW-47					
MW-63					
MW-65					
MW-67					
MW-69					
MW-70					
MW-71					
MW-72					
MW-73					
MW-74					
MW-75					
MW-76					
MW-7D					
MW-89					
MW-8D					
MW-90					
MW-94					
MW-9D					
MW-3					
MW-4					
MW-5					
MW-6					
MW-10					
MW-12					
MW-14D					
MW-18D					
MW-167					

Footnotes:

AF Gravels = Arcadia Formation Gravels.
LSAS = Lower Shallow Aquifer System.
Lower AF Sands = Lower Arcadia Formation Sands.
S&P Sands = Salt & Pepper sands.

TABLE 13-2
QUARTERLY OR SEMI-ANNUAL WATER LEVEL MONITORING PROGRAM

REMEDIAL ACTION PLAN ADDENDUM
LOCKHEED MARTIN TALLEVAST SITE
TALLEVAST, FLORIDA

USAS = Upper Surficial Aquifer System.