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1 May 2009

Tom Alo California Regional Water Quality Control Board, San Diego Region 9174 Sky Park Court, Suite 100 San Diego, California 92123-4340

#### Subject: Interim Removal Action Status Airport/Former TRA Site 2701 North Harbor Drive San Diego, California

Dear Mr. Alo

Geosyntec Consultants (Geosyntec) has prepared this letter on behalf of TDY Industries, Inc. (TDY) to document the status of interim actions that have been performed at the Airport/Former Teledyne Ryan Facility (Site) to date. Interim remedial activities have been performed based on data from the Site Characterization Report dated 19 December 2005 (Geosyntec, 2005) and the Remedial Investigation and Feasibility Study (RI/FS) dated 30 March 2007 (Geosyntec, 2007). This memorandum documents the interim actions performed though April 2009 and presents the current status of each area based on a comparison of confirmation results to the risk based concentration (RBC) values presented in the RI/FS.

#### BACKGROUND

In ongoing efforts to remediate Areas of Concern (AOC) at the Site, interim remedial activities have been performed with the concurrence of the Regional Water Quality Control Board (RWQCB). To date, these interim actions consist of:

- Pothole excavations to address isolated soil impacts exceeding the RBCs within the Area D, Building 102, Building 120, Building 156, Building 158, and Building 158 AOC;
- Injection of ferrous sulfate (FeSO<sub>4</sub>) to address hexavalent chromium impacted groundwater in Building 158;
- An Enhanced In-Situ Bioremediation (EISB) pilot study in the Building 131/242 area; and

• An EISB interim action in the Building 166AST/120/121, former maintenance yard, and Building 180 AOCs.

The 131/242 pilot study results have been presented in the Pilot Study Report (Geosyntec, 2008). The Building 166AST/120/121, former maintenance yard, and Building 180 EISB interim action is in its initial stages. The results of these actions will be summarized in the semiannual groundwater monitoring reports and in a final summary report for the EISB implementation. The remaining interim actions are summarized herein.

### **BUILDING 131 POTHOLE EXCAVATION**

**Description:** A 20-foot by 20-foot by 5-foot deep excavation to remove soil with volatile organic compound (VOC) impacts.

**Confirmation Sampling Results:** Confirmation soil samples were collected from the side walls and bottom of the excavation and were analyzed for VOCs by EPA Method 8260. The results indicate that all VOCs concentrations were below RBCs (Table 1).

**Status:** Building 131 excavation is complete based on the confirmation results being below the RBCs. The excavation was backfilled and compacted with clean fill.

### **BUILDING 156 POTHOLE EXCAVATIONS**

**Description:** Two 10-foot by 10-foot by 5-foot deep excavations were performed to remove VOC (156A) and polychlorinated biphenyl (PCB) (156B) impacted soil. The 156A excavation was located in south west section of the building. Side wall and bottom confirmation samples were collected and analyzed for VOCs. The 156B excavation was located approximately 50 feet to the east of excavation 156A and was performed to remove PCB impacted soil. Side wall and bottom samples were collected and analyzed for PCBs.

<u>Confirmation Sampling Results</u>: Excavation B156A confirmation samples were analyzed for VOCs by EPA Method 8260. Excavation B156B confirmation samples were analyzed for PCBs by EPA Method 8082. The analytical results from both sets of confirmation sampling indicated that all constituents were below the RBCs (Table 2).

**Status:** The status of the two Building 156 excavations is complete based on the confirmation analytical results from both excavations being below the RBCs. The excavations were backfilled and compacted using clean fill.

### **AREA D POTHOLE EXCAVATION**

**Description:** A 10-foot by 15-foot by 11-foot deep excavation was performed to remove hydrocarbon impacted soil in the vicinity of a former underground storage tanks (UST) tank located in Area D. Monitor well TC4-WNC historically contained measurable light non-aqueous phase liquid (LNAPL). Three monitor wells (TC4-WNC, TC4-WNC Deep, and TC4-WSC) were located within the footprint of the excavation and were removed during the excavation activity. The excavation was advanced to approximately 11-feet below ground surface (bgs), approximately two feet below the water table. LNAPL was observed at the groundwater surface. A vacuum truck was used over a period of three days to repeatedly skim recoverable LNAPL from the excavation.

**Confirmation Sampling Results:** Confirmation samples were collected from the side walls and bottom of the excavation and were analyzed for total petroleum hydrocarbons (TPH) by EPA Method 8015. All sampled constituents were below the RBCs (Table 3). LNAPL was removed to the greatest extent practical with only a slight visible sheen remaining within the excavation following the three days of groundwater extraction.

**Status:** This location is complete based on the results from the confirmation samples being below the RBCs and the removal of LNAPL observed on the surface of groundwater within the excavation.

Monitor well AreaD-MW1 was installed in the center of the Area D excavation to evaluate groundwater quality following the removal action. A second well (AreaD-MW2) was added in April 2009 to monitor downgradient water quality. Both wells have been added to the semi-annual monitoring and reporting program and sampled for VOCs, TPH, and 1,4-Dioxane. Although AreaD-MW2 has not yet been sampled, no RBC exceedences have been detected in AreaD-MW1 to date.

### **BUILDING 158 POTHOLE EXCAVATION AND FERROUS SULFATE INJECTIONS**

**Description:** One 10-foot by 10-foot by 7 foot deep excavation was performed in Building 158 for removal of VOCs and TPH in soil (Figure 2) and FeSO<sub>4</sub> injections were performed to encourage in-situ reduction of hexavalent chromium (CrVI) in groundwater. During excavation activities, yellow soil staining was observed on the northern side wall of the planned excavation. Based on these observations total chromium (Cr) and CrVI analysis were added to the confirmation sampling. An RBC exceedance for CrVI was noted in this confirmation sample. The excavation was extended to the north with a 5-foot by 5-foot by 7-

foot deep excavation and a portion of the concrete slab was pulled back to the north and west. An x-ray fluorescence (XRF) analysis was performed to evaluate the potential extent of CrVI impacts in shallow soil.

**Confirmation Sampling Results:** The results from the VOC and TPH analysis were below RBCs; however, hexavalent chromium concentrations exceeded RBCs on the northern side wall. The excavation was extended to the north and the base and side walls of the excavation extension were sampled for Total Cr and CrVI. The north and west walls, and base of the excavation exceeded the RBCs for CrVI (Table 4). A 20-foot by 20-foot section of the floor slab was removed and the underlying soil was screened for total Cr using an XRF device. Confirmation samples were collected by hand auger and analyzed for total Cr and CrVI in the laboratory. The results indicated the potential extent of the hexavalent chromium in shallow soil was too large to address efficiently prior to building demolition. The excavation was backfilled and compacted with clean fill, covered with plastic, and sandbagged to reduce potential water infiltration.

To encourage hexavalent chromium reduction in groundwater, an  $FeSO_4$  solution was injected into the groundwater through 17 direct push points. After injections were completed, groundwater monitoring was performed to evaluate the effectiveness of the  $FeSO_4$  injections. The results indicate that while hexavalent chromium concentrations were initially reduced in groundwater, concentrations have since rebounded to pre-injection concentrations (Table 9).

**<u>Status</u>:** Further remedial measures are planned to address soil and groundwater impacts following building demolition.

Monitor well BLD158-MW1 was installed in the center of the Building 158 excavation to evaluate groundwater quality following the FeSO<sub>4</sub> injections. A second well (BLD158-MW2) was added in April 2009 to monitor downgradient water quality. Both wells have been added to the semi-annual monitoring and reporting program and sampled for chromium and hexavalent chromium. Although BLD158-MW1 was initially below RBCs for total Cr and CrVI, concentrations have since rebounded to pre-injection conditions. BLD158-MW2 has not yet been sampled.

### **BUILDING 102 POTHOLE EXCAVATION**

**Description:** A 10-foot by 10-foot by 7-foot deep excavation was performed to remove VOC and TPH impacted soil in the vicinity of a former diesel UST. The excavation was backfilled and compacted using clean fill.

<u>Confirmation Sampling Results</u>: Side wall and bottom confirmation samples were collected and analyzed prior to backfilling the excavation. No constituents exceeded RBCs in the confirmation samples (Table 5).

**Status:** The status of this excavation is complete based on the results from the confirmation sampling. However, an additional excavation in planned to address historical TPH impacts in the soil to the east of the interim excavation. This additional excavation will be performed once the building demolition is complete.

Monitor well BLD102-MW4 is located downgradient of the Building 102 Excavation. This well is part of the semi-annual monitoring and reporting program and is sampled for VOCs and TPH. BLD102-MW4 has consistently been below RBC concentrations since entering monitoring program in 2006.

### **BUILDING 120 POTHOLE EXCAVATIONS**

**Description:** Two excavations were conducted in Building 120. Excavation 120A was approximately 50-foot by 50-foot by 5 to 7 foot deep and located in the south central portion of Building 120 to address hydrocarbon impacted soil. Excavation 120B was a 10-foot by 10-foot by 7-foot excavation located in the north eastern section of Building 120, performed to remove VOC impacted soil.

The extent of the Building 120A excavation footprint increased from its original dimension of 34- by 27-feet, due to RBC exceedances in some of the initial side wall and bottom confirmation samples. To better delineate the potential extent of impacted soil, step out direct push borings were advanced around the excavation. Results from direct push investigation helped to define the potential extent of hydrocarbon impacted soil (Figure 3). The presence of LNAPL was also observed on the surface of the groundwater in the bottom of the southwestern quadrant of the excavation. Test pits were dug to the west and south of the excavation and also next to a former heavy machinery foundation east of the excavation (Figure 3). LNAPL was observed within each of the test pits. Soil and LNAPL samples were collected from each of the test pits. Building footings and obstructions hindered further step-out.

During excavation activities at B120B, the western edge of the excavation abutted a former pit. Soils were excavated to the pit wall leaving no material to collect a western confirmation sample.

**Confirmation Sampling Results:** Confirmation samples were collected from the side wall and bottom of excavation 120A as well as from step out borings and test pits. All samples were analyzed for TPH by EPA Method 8015, and a subset of the samples were additionally analyzed for PCBs by EPA Method 8082. The confirmation results indicate that the bottom of the southwest quadrant of the excavation and areas to south and west have impacts of TPH that exceed the RBCs in the vicinity of the water table (Table 6). PCBs were detected in the free product up to a concentration of approximately 7 mg/kg. The excavation was backfilled pending building demolition which will allow for unobstructed access for further remediation.

Excavation 120B confirmation samples were collected from the north, south, and east walls of the excavation. No confirmation samples were collected from the western wall as all soil was removed up to the pit retaining wall in this direction. No bottom sample was collected because the excavation extended to the groundwater table and was located within area to be treated by EISB. Excavation 120B confirmation samples were analyzed for VOCs by EPA Method 8260. The results indicate that detected VOCs are below the RBCs in all sidewall confirmation samples (Table 7). The excavation was backfilled and compacted using clean fill.

**Status:** Additional remedial activities at excavation 120A are still pending once building demolition is completed. These activities will be focused on removing LNAPL and TPH impacted soil to the south and west of the existing excavation and further addressing TPH impacts with the south western quadrant of the Building 120A excavation. The 120B excavation is complete based on the confirmation sample results.

Monitor wells B120-MW1, -2, -3, -6, -7, -8, and -9 are installed in the Building 166AST/120/121 AOC. Monitor wells B120-MW1 through -6 have been added to the semiannual monitoring and reporting program and the remaining Building 120 wells are sampled and reported semiannually and in conjunction with the EISB monitoring program. All of the wells are sampled for VOCs, TPH, and 1,4-Dioxane. Results to date indicated all wells, with the exception of B120-MW2, currently meet RBC values. Data from B120-MW2 indicate that additional source material (PCE) was flushed from the vadose zone during the injection process. There are strong indications of rapid degradation of these VOCs in this well.

#### **BUILDING 180 REMEDIAL POTHOLE EXCAVATION**

**Description:** A 10-foot by 10-foot by 5-foot deep excavation was performed to remove TPH impacted soil. Due to obstructions from the surrounding building, no further excavation could take place.

<u>Confirmation Sampling Results</u>: Side wall and bottom confirmation soil samples were collected along a stained soil horizon at approximately 1-foot bgs and analyzed for VOCs by EPA Method 8260, TPH by EPA Method 8015, and PCBs by EPA Method 8082. Results indicate exceedance of the RBCs for TPH in the north, south, and east side walls. All VOCs and PCBs were below RBCs (Table 8). The excavation could not be expanded to address the hydrocarbon impacted soil due to the surrounding building. The open excavation was backfilled and compacted with clean fill.

**Status:** The Building 180 excavation will be expanded to address the remaining hydrocarbon impacted soil once demolition of the buildings is complete. There is no evidence of historical groundwater impacts in the vicinity of this excavation. No groundwater monitoring is currently being performed.

#### Summary

This letter documents the current status of interim actions at the Site to date. Three interim removal actions are incomplete based on confirmation results (Building 158, Building 120A, and Building 180) and will be addressed after existing Site structures have been removed during Site Demolition. A fourth location has not yet been addressed Building 102B, and will also be addressed once access is available following building demolition.



Sincerely,

Brian Hitchens, PG, CHG Project Manager

Interim Remedial Action Status Memo 043009.doc

engineers | scientists | innovators

#### REFERENCES

- Geosyntec, 2005. Site Characterization Report, 2701 North Harbor Drive, San Diego, California. December 19, 2005.
- Geosyntec, 2007. Remedial Investigation/Feasibility Study Airport/Former TRA Facility, 2701 North Harbor Drive, San Diego, California, March 2007.
- Geosyntec, 2008. Enhanced In-Situ Bioremediation Pilot Study Building 131/242, 2701 North Harbor Drive, San Diego, California, June 11, 2008.

#### ATTACHEMENTS

- Table 1 Summary of Building 131 Soil Confirmation Analytical Detection Results
- Table 2 Summary of Building 156 Soil Confirmation Analytical Detection Results
- Table 3 Summary of Area D Soil Confirmation Analytical Detection Results
- Table 4 Summary of Building 158 Soil Confirmation Analytical Detection Results
- Table 5 Summary of Building 102 Soil Confirmation Analytical Detection Results
- Table 6 Summary of Building 120A Soil Confirmation Analytical Detection Results
- Table 7 Summary of Building 120B Soil Confirmation Analytical Detection Results
- Table 8 Summary of Building 180 Soil Confirmation Analytical Detection Results
- Table 9 Building 158 Groundwater Results
- Figure 1 Location of Interim Remedial Actions
- Figure 2 Building 158 Chromium Sample Results (mg/kg)
- Figure 3 Building 120A Excavation and Test Pits
- Copies to: John Anderson, RWQCB Fran Collier, DTSC, Beveryl Morisako, City of San Diego Richard Haimann, MWH



Edgard Bertaut, TDY Industries Paul Manasjan, San Diego Airport Authority Bill Hays, San Diego Port Authority Beth Breitenbach, Haley & Aldrich

					Building 131		
Soil Confirmation Analytical Dependence	Unita	DDC	131-N-082807	131-S-082807	131-E-082807	131-W-082807	131-B-082807
Son Commination Analytical Farameters	Units	NDC	8/28/2007	8/28/2007	8/28/2007	8/28/2007	8/28/2007
			North Wall	South Wall	East Wall	West Wall	Bottom
Volatile Organic Compounds (VOCs)							
n-Butylbenzene	µg/kg	150000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
sec-Butylbenzene	µg/kg	110000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
p-Isopropyltoluene	µg/kg	440000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
n-Propylbenzene	µg/kg	150000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
1,2,4-Trimethylbenzene	µg/kg	11000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
1,3,5-Trimethylbenzene	µg/kg	4500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
c-1,2-Dichloroethene	µg/kg	11000	31	25	35	18	ND<5.0
Tetrachloroethene	µg/kg	6000	44	11	18	50	ND<5.0
Trichloroethene	µg/kg	25000	67	24	67	28	ND<5.0

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram

					Building 156A					Building 156B		
Soil Confirmation Analytical Parameters	Unita	DDC	156A-S-082807	156A-N-082807	156A-E-082807	156A-W-082807	156A-B-082807	156B-N-082907	156B-S-082907	156B-E-082907	156B-W-082907	156B-B-082907
Son Confirmation Analytical Parameters	Units	KDU	8/28/2007	8/28/2007	8/28/2007	8/28/2007	8/28/2007	8/29/2007	8/29/2007	8/29/2007	8/29/2007	8/29/2007
			South Wall	North Wall	East Wall	West Wall	Bottom	North Wall	South Wall	East Wall	West Wall	Bottom
Volatile Organic Compounds (VOCs)												
n-Butylbenzene	µg/kg	150000	ND<5.0									
sec-Butylbenzene	µg/kg	110000	ND<5.0									
p-Isopropyltoluene	µg/kg	440000	ND<5.0									
n-Propylbenzene	µg/kg	150000	ND<5.0									
1,2,4-Trimethylbenzene	µg/kg	11000	ND<5.0									
1,3,5-Trimethylbenzene	µg/kg	4500	ND<5.0									
c-1,2-Dichloroethene	µg/kg	11000	ND<5.0									
Tetrachloroethene	µg/kg	6000	ND<5.0	ND<5.0	ND<5.0	82	ND<5.0	ND<5.0	11	ND<5.0	ND<5.0	5.2
Trichloroethene	µg/kg	25000	ND<5.0									
Polychlorinated Biphynels (PCBs)												
Aroclor-1248	µg/kg	4200	NA	NA	NA	NA	NA	ND<50	360	ND<50	ND<50	ND<50
Aroclor-1260	µg/kg	4200	NA	NA	NA	NA	NA	ND<50	ND<50	ND<50	ND<50	ND<50

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram

µg/kg - microgram per kilogram

					Area D		
Soil Confirmation Analytical Dopomators	Linita	DDC	TC4-N-9	TC4-E-9	TC4-W-9.5	TC4-S-9	TC4-B-10.8
Son Communation Analytical Parameters	Units	KDU	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
			North Wall	East Wall	West Wall	South Wall	Bottom
Polychlorinated Biphynels (PCBs)							
Aroclor-1248	µg/kg	4200	NA	NA	NA	NA	NA
Aroclor-1260	µg/kg	4200	NA	NA	NA	NA	NA
Total Petroleum Hydrocrabons (TPH)							
C6	mg/kg		-	-	-	1.8	-
C7	mg/kg	8500	-	-	4.8	48	75
C8	mg/kg		14	0.84	62	190	460
C9-C10	mg/kg		39	14	27	19	21
C11-C12	mg/kg		1000	330	410	120	110
C13-C14	mg/kg	6200	1900	990	1200	330	340
C15-C16	mg/kg		560	350	390	150	170
C17-C18	mg/kg		130	100	170	48	58
C19-C20	mg/kg		12	14	-	12	26
C21-C22	mg/kg		0.64	11	27	5.2	11
C23-C24	mg/kg		-	-	8.2	5	8
C25-C28	mg/kg	6400	-	0.42	0.091	8	9.8
C29-C32	mg/kg	0400	-	-	-	8.2	7.5
C33-C36	mg/kg		-	-	-	4.9	3
C37-C40	mg/kg		-	-	-	7	7.6
C41-C44	mg/kg		-	-	-	6.7	4.7
C-6-C44 Total	mg/kg	6200	3700	1800	2300	970	1300

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram

### Table 4 Summary of Building 158 Soil Confirmation Analytical Detection Results 2701 North Harbor Drive San Diego, California

							Buildin	ng 158			
Soil Confirmation Analytical Darameters	Unita	DPC	B158-EX1	B158-EX2	B158-W-EX	B158-N-EX	B158-E-EX	B158-B-EX	1/24/2008	1/24/2008	1/24/2008
Soli Confirmation Analytical Parameters	Units	KDU	10/15/2007	10/15/2007	10/2/2007	10/2/2007	10/2/2007	10/2/2007	158B-S-090507	158B-E-090507	158B-W-090507
			Hand Auger	Hand Auger	West Wall	North Wall	East Wall	Bottom	South Wall	East Wall	West Wall
Volatile Organic Compounds (VOCs)											
n-Butylbenzene	µg/kg	150000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
sec-Butylbenzene	µg/kg	110000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
p-Isopropyltoluene	µg/kg	440000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
n-Propylbenzene	µg/kg	150000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
1,2,4-Trimethylbenzene	µg/kg	11000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
1,3,5-Trimethylbenzene	µg/kg	4500	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
c-1,2-Dichloroethene	µg/kg	11000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
Tetrachloroethene	µg/kg	6000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
Trichloroethene	µg/kg	25000	NA	NA	NA	NA	NA	NA	ND<5.0	ND<5.0	ND<5.0
Metals											
Antimony	mg/kg	120	NA	NA	NA	NA	NA	NA	ND<0.750	ND<0.750	ND<0.750
Arsenic	mg/kg	23*	NA	NA	NA	NA	NA	NA	4.28	1.91	1.73
Barium	mg/kg	3100	NA	NA	NA	NA	NA	NA	66.7	37.9	168
Berylium	mg/kg	47	NA	NA	NA	NA	NA	NA	0.291	0.429	ND<0.250
Cadmium	mg/kg	99	NA	NA	NA	NA	NA	NA	ND<0.500	ND<0.500	ND<0.500
Chromium	mg/kg	450000	186	1310	132	489	50.8	163	39.7	27.5	16.1
Cobalt	mg/kg	140	NA	NA	NA	NA	NA	NA	8.38	4.42	12.1
Copper	mg/kg	12000	NA	NA	NA	NA	NA	NA	7.8	7.41	14.7
Lead	mg/kg	-	NA	NA	NA	NA	NA	NA	2.88	3.13	1.26
Mercury	mg/kg	79	NA	NA	NA	NA	NA	NA	ND<0.0835	ND<0.0835	ND<0.0835
Molydenum	mg/kg	1500	NA	NA	NA	NA	NA	NA	0.267	ND<0.250	ND<0.250
Nickel	mg/kg	340	NA	NA	NA	NA	NA	NA	5.64	5.06	4.4
Selenium	mg/kg	1500	NA	NA	NA	NA	NA	NA	ND<0.750	ND<0.750	ND<0.750
Silver	mg/kg	1500	NA	NA	NA	NA	NA	NA	ND<0.250	ND<0.250	ND<0.250
Thallium	mg/kg	20	NA	NA	NA	NA	NA	NA	ND<0.750	ND<0.750	2.77
Vanadium	mg/kg	300	NA	NA	NA	NA	NA	NA	36.5	21.3	38.9
Zinc	mg/kg	90000	NA	NA	NA	NA	NA	NA	23.4	28.4	32.2
Hexavalent Chromium											
Hexavalent Chromium	mg/kg	35	100	110	68	170	25	50	6.2	5.0	4.8

Notes:

RBC - Risk Based Concentration

\* - Site specific background concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram

## Table 5 Summary of Building 102 Soil Confirmation Analytical Detection Results 2701 North Harbor Drive San Diego, California

					Building 102		
Soil Confirmation Analytical Dependence	Unita	DDC	102-N-082907	102-S-082907	102-E-082907	102-W-082907	102-B-082907
Son Commination Analytical Parameters	Units	KDU	8/29/2007	8/29/2007	8/29/2007	8/29/2007	8/29/2007
			North Wall	South Wall	East Wall	West Wall	Bottom
Volatile Organic Compounds (VOCs)							
n-Butylbenzene	µg/kg	150000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
sec-Butylbenzene	µg/kg	110000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
p-Isopropyltoluene	µg/kg	440000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
n-Propylbenzene	µg/kg	150000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
1,2,4-Trimethylbenzene	µg/kg	11000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
1,3,5-Trimethylbenzene	µg/kg	4500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
c-1,2-Dichloroethene	µg/kg	11000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Tetrachloroethene	µg/kg	6000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Trichloroethene	µg/kg	25000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Total Petroleum Hydrocrabons (TPH)							
C6	mg/kg		NA	NA	NA	NA	NA
C7	mg/kg	8500	-	-	-	-	-
C8	mg/kg		-	-	-	-	-
C9-C10	mg/kg		-	-	-	-	0.81
C11-C12	mg/kg		-	-	-	-	63
C13-C14	mg/kg	6200	-	-	-	-	180
C15-C16	mg/kg		-	-	-	-	220
C17-C18	mg/kg		-	-	-	-	240
C19-C20	mg/kg		-	-	-	-	250
C21-C22	mg/kg		-	-	-	-	220
C23-C24	mg/kg		-	-	-	-	250
C25-C28	mg/kg	6400	-	-	-	-	470
C29-C32	mg/kg	0400	0.83	-	-	-	530
C33-C36	mg/kg		-	-	-	-	350
C37-C40	mg/kg		-	-	-	-	280
C41-C44	mg/kg		-	-	-	-	230
C-6-C44 Total	mg/kg	6200	ND<5.0	ND<5.0	ND<5.0	ND<5.0	3300

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram

							Building	120A					
Soil Confirmation Analytical Parameters	Unite	DBC	B120-NW-110207	B120-SW-110207	120A-N-083107	120A-N2-083107	120A-S-083107	120A-S2-083107	120A-E-083107	120A-E2-083107	B120-EX2	B120-EX3	B120-EX4
Son Commination Analytical Latameters	Units	KDC	11/2/2007	11/2/2007	8/13/2007	8/13/2007	8/13/2007	8/13/2007	8/13/2007	8/13/2007	2/20/2008	2/20/2008	2/20/2008
			West Wall - North	West Wall - South	North Wall West	North Wall East	South Wall West	South Wall East	East Wall	East Wall	Bottom	Bottom	Bottom
Polychlorinated Biphynels (PCBs)													
Aroclor-1248	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA	NA	ND<50	ND<50	ND<50
Aroclor-1260	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA	NA	ND<50	110	250
Total Petroleum Hydrocrabons (TPH)													
C6	mg/kg		-	-	NA	NA	NA	NA	NA	NA	-	-	-
C7	mg/kg	8500	-	-	-	-	-	-	-	-	-	-	-
C8	mg/kg		-	-	-	-	-	-	-	-	-	-	-
C9-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-
C11-C12	mg/kg		-	-	0.092	-	-	-	0.2	-	-	-	-
C13-C14	mg/kg	6200	-	-	0.2	-	0.18	-	0.093	-	6.1	24	37
C15-C16	mg/kg		-	-	4.8	-	0.24	-	-	-	61	260	390
C17-C18	mg/kg		-	-	27	-	0.18	-	0.17	-	220	860	1400
C19-C20	mg/kg		-	-	70	-	0.097	-	0.31	-	480	1900	2700
C21-C22	mg/kg		-	-	88	0.055	0.13	-	0.51	-	610	2400	3600
C23-C24	mg/kg		-	-	110	0.14	0.24	-	0.67	0.2	610	2400	3400
C25-C28	mg/kg	6400	-	-	150	0.54	0.069	-	0.23	0.05	920	3700	5800
C29-C32	mg/kg	0400	-	-	130	0.37	0.23	-	-	-	490	1900	2900
C33-C36	mg/kg		-	-	36	0.081	0.22	-	-	-	160	750	1100
C37-C40	mg/kg		-	-	13	-	-	-	-	-	92	460	510
C41-C44	mg/kg		-	-	9.7	-	-	-	-	-	32	160	180
C-6-C44 Total	mg/kg	6200	ND<5.0	ND<5.0	640	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	3700	15000	22000

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram μg/kg - microgram per kilogram

	Units RI	Building 120A												
Soil Confirmation Analytical Parameters	Unite	DBC	120A-B2-083107	120A-B3-083107	120A-B4-083107	E-2	E-3	B120-TP1-6.5	B120-TP2-6.5	B120-TP3-6.5	E4-3	E4-5	E4-7	E4-12
Son Commination Analytical Larameters	Units	KDC	8/13/2007	8/13/2007	8/13/2007	10/2/2008	10/2/2008	3/26/2008	3/26/2008	3/26/2008	10/10/2007	10/10/2007	10/10/2007	10/10/2007
			Bottom	Bottom	Bottom	Bottom	Bottom	Test Pit	Test Pit	Test Pit	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>
Polychlorinated Biphynels (PCBs)														
Aroclor-1248	µg/kg	4200	NA	NA	NA	NA	NA	ND<50	ND<50	ND<50	NA	NA	NA	NA
Aroclor-1260	µg/kg	4200	NA	NA	NA	NA	NA	ND<50	ND<50	ND<50	NA	NA	NA	NA
Total Petroleum Hydrocrabons (TPH)														
C6	mg/kg		NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	NA
C7	mg/kg	8500	-	-	-	-	-	-	-	-	-	-	-	-
C8	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-
C9-C10	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-
C11-C12	mg/kg		0.051	1.5	1.5	-	-	-	5.9	0.41	-	-	-	-
C13-C14	mg/kg	6200	0.36	60	13	-	-	0.023	66	11	-	-	150	-
C15-C16	mg/kg		2.9	530	93	-	-	0.58	230	44	-	-	1200	-
C17-C18	mg/kg		12	1700	280	-	-	2.1	1400	270	-	-	5600	-
C19-C20	mg/kg		22	3200	520	-	-	7.4	680	120	-	-	10000	0.12
C21-C22	mg/kg		26	3700	630	-	-	17	4300	940	-	0.77	12000	0.3
C23-C24	mg/kg		29	4200	620	-	-	29	3100	850	-	0.39	14000	0.13
C25-C28	mg/kg	6400	41	5700	1000	-	-	95	4700	680	-	0.26	20000	0.096
C29-C32	mg/kg	0400	27	3200	480	-	-	83	2400	480	-	-	12000	-
C33-C36	mg/kg		8.2	1100	150	-	-	46	580	150	-	-	3700	-
C37-C40	mg/kg		4.2	470	49	-	-	19	260	31	-	-	1500	-
C41-C44	mg/kg		4.7	240	45	-	-	7.6	230	32	-	-	500	-
C-6-C44 Total	mg/kg	6200	180	24000	3900	ND<5.0	ND<5.0	310	18000	3600	ND<5.0	ND<5.0	80000	ND<5.0

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram μg/kg - microgram per kilogram

									<b>Building 120A</b>	<u>L</u>					
Soil Confirmation Analytical Parameters	Unita	DDC	E5-1	E5-3	E5-5.5	E5-7	E5-12	E6-3.5	E6-3.5	E6-5.5	E6-7.5	E6-12	E7-3	E7-5	E7-7
Son Commination Analytical Farameters	Units	KDU	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007
			<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>						
Polychlorinated Biphynels (PCBs)															
Aroclor-1248	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA						
Aroclor-1260	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA						
Total Petroleum Hydrocrabons (TPH)															
C6	mg/kg		NA	NA	NA	NA	NA	NA	NA						
C7	mg/kg	8500	-	-	-	-	-	-	-	-	-	-	-	-	-
C8	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-
C9-C10	mg/kg		-	-	-	-	-	-	0.36	-	-	-	-	-	-
C11-C12	mg/kg		0.95	-	-	-	-	-	0.99	-	-	-	-	-	-
C13-C14	mg/kg	6200	7.9	-	-	-	-	-	1.2	-	0.19	-	-	-	-
C15-C16	mg/kg		19	-	-	-	-	-	1	-	0.67	-	-	-	-
C17-C18	mg/kg		16	-	-	-	-	-	0.96	-	0.79	-	-	-	-
C19-C20	mg/kg		15	-	-	-	-	-	0.82	-	0.98	-	-	-	-
C21-C22	mg/kg		23	-	-	-	-	-	0.55	-	0.48	-	-	-	-
C23-C24	mg/kg		26	-	-	-	-	-	0.3	-	0.22	-	-	-	-
C25-C28	mg/kg	6400	88	-	-	-	-	-	0.15	-	0.14	-	-	-	-
C29-C32	mg/kg	0400	140	-	-	-	-	-	-	-	-	-	-	-	-
C33-C36	mg/kg		98	-	-	-	-	-	-	-	-	-	-	-	-
C37-C40	mg/kg		88	-	-	-	-	-	-	-	-	-	-	-	-
C41-C44	mg/kg		86	-	-	-	-	-	-	-	-	-	-	-	-
C-6-C44 Total	mg/kg	6200	610	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6.4	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram μg/kg - microgram per kilogram

									<b>Building 120A</b>						
Soil Confirmation Analytical Paramotors	Unita	DPC	E7-12	E8-3	E8-5	E8-7	E8-12	C1-3	C1-5	C1-7	C1-12	C2-3	C2-5	C2-7	C2-12
Son Commination Analytical I al aneters	Units	KDC	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007
			<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>						
Polychlorinated Biphynels (PCBs)															
Aroclor-1248	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA						
Aroclor-1260	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA						
Total Petroleum Hydrocrabons (TPH)		-									-				
C6	mg/kg		NA	NA	NA	NA	NA	NA	NA						
C7	mg/kg	8500	-	-	-	-	-	-	-	-	-	-	-	-	-
C8	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-
C9-C10	mg/kg		_	-	-	-	-	-	-	-	-	1.1	0.034	-	-
C11-C12	mg/kg		-	-	-	-	-	-	0.025	-	-	2.5	1.3	-	-
C13-C14	mg/kg	6200	-	-	-	-	-	-	0.62	-	-	2.0	0.7	-	-
C15-C16	mg/kg		-	-	-	-	-	-	0.88	0.23	-	0.48	0.51	0.07	-
C17-C18	mg/kg		-	-	-	-	-	-	0.82	0.57	-	0.15	0.42	0.21	-
C19-C20	mg/kg		-	-	-	-	0.11	-	0.79	0.72	-	0.14	0.15	0.33	-
C21-C22	mg/kg		-	-	-	-	0.23	-	0.93	0.61	-	0.22	0.25	0.32	-
C23-C24	mg/kg		-	-	-	-	0.27	-	0.33	0.2	-	0.25	0.24	0.0082	-
C25-C28	mg/kg	6400	-	-	-	-	0.95	-	0.42	-	-	0.19	0.27	-	-
C29-C32	mg/kg	0400	-	-	-	-	1	-	-	-	-	-	-	-	-
C33-C36	mg/kg		-	-	-	-	0.28	-	-	-	-	-	-	-	-
C37-C40	mg/kg		-	-	-	-	0.16	-	-	-	-	-	-	-	-
C41-C44	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-	-
C-6-C44 Total	mg/kg	6200	ND<5.0	ND<5.0	ND<5.0	7.0	ND<5.0	ND<5.0	ND<5.0						

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram μg/kg - microgram per kilogram

								Build	ing 120A					
Soil Confirmation Analytical Parameters	Unite	DBC	C3-3	C3-5	C3-7	C3-12	C6-3	C6-5	C6-7	C6-12	C7-3	C7-5	C7-7	C7-12
Son Commination Analytical Larameters	Units	KDC	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007	10/10/2007
			<b>Direct Push</b>	Direct Push	<b>Direct Push</b>	<b>Direct Push</b>	Direct Push	<b>Direct Push</b>	<b>Direct Push</b>	<b>Direct Push</b>				
Polychlorinated Biphynels (PCBs)														
Aroclor-1248	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	µg/kg	4200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocrabons (TPH)														
C6	mg/kg	;	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C7	mg/kg	8500	-	-	-	-	-	-	-	-	-	-	-	-
C8	mg/kg	Ţ	-	-	-	-	-	-	-	-	-	-	-	-
C9-C10	mg/kg		-	-	0.11	-	-	-	-	-	-	-	-	-
C11-C12	mg/kg		-	-	1.1	-	-	-	-	-	0.15	-	-	-
C13-C14	mg/kg	6200	-	-	1.5	-	-	-	-	-	0.85	-	-	-
C15-C16	mg/kg		0.48	-	1.8	-	-	-	-	-	1.4	0.19	-	-
C17-C18	mg/kg	Ţ	0.61	-	1.2	-	-	-	-	-	1.2	0.45	-	-
C19-C20	mg/kg	5	0.081	-	1.1	-	-	-	-	-	1.1	0.7	-	-
C21-C22	mg/kg		-	-	0.81	-	-	-	-	-	1.1	0.63	-	-
C23-C24	mg/kg		-	-	0.39	-	-	-	-	-	0.84	0.3	-	-
C25-C28	mg/kg	6400	-	-	0.079	-	-	-	-	-	0.23	0.075	-	-
C29-C32	mg/kg	0400	-	-	-	-	-	-	-	-	-	-	-	-
C33-C36	mg/kg		-	-	-	-	-	-	-	-	-	-	-	-
C37-C40	mg/kg	;	-	-	-	-	-	-	-	-	-	-	-	-
C41-C44	mg/kg	5	-	-	-	-	-	-	-	-	-	-	-	-
C-6-C44 Total	mg/kg	6200	ND<5.0	ND<5.0	8.2	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6.9	ND<5.0	ND<5.0	ND<5.0

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

NA - Constituent not analyzed

mg/kg - milligram per kilogram

µg/kg - microgram per kilogram

				Building 120B	
Soil Confirmation Analytical Daramators	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	120B-S-083007	120B-E-083007		
Son Commitation Analytical Farameters		8/30/2007	8/30/2007	8/30/2007	
			North Wall	South Wall	East Wall
Volatile Organic Compounds (VOCs)					
n-Butylbenzene	µg/kg	150000	ND<5.0	ND<5.0	ND<5.0
sec-Butylbenzene	µg/kg	110000	ND<5.0	ND<5.0	ND<5.0
p-Isopropyltoluene	µg/kg	440000	ND<5.0	ND<5.0	ND<5.0
n-Propylbenzene	µg/kg	150000	ND<5.0	ND<5.0	ND<5.0
1,2,4-Trimethylbenzene	µg/kg	11000	ND<5.0	ND<5.0	ND<5.0
1,3,5-Trimethylbenzene	µg/kg	4500	ND<5.0	ND<5.0	ND<5.0
c-1,2-Dichloroethene	µg/kg	11000	ND<5.0	ND<5.0	ND<5.0
Tetrachloroethene	µg/kg	6000	28	12	ND<5.0
Trichloroethene	µg/kg	25000	ND<5.0	ND<5.0	ND<5.0

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

mg/kg - milligram per kilogram

## Table 8 Summary of Building 180 Soil Confirmation Analytical Detection Results 2701 North Harbor Drive San Diego, California

					Building 180		
Soil Confirmation Anglatical Demonstration	T Inst 4m	DDC	8/20/2008	8/20/2008	8/20/2008	8/20/2008	8/20/2008
Son Confirmation Analytical Parameters	Units	KBU	B180-EWALL	B180-WWALL	B180-SWALL	B180-NWALL	<b>B180-BOTTOM</b>
			East Wall	West Wall	South Wall	North Wall	Bottom
Volatile Organic Compounds (VOCs)							
n-Butylbenzene	µg/kg	150000	1800	ND<5.0	20	ND<5.0	ND<5.0
sec-Butylbenzene	µg/kg	110000	500	ND<5.0	17	22	ND<5.0
p-Isopropyltoluene	µg/kg	440000	1500	ND<5.0	20	ND<5.0	ND<5.0
n-Propylbenzene	µg/kg	150000	ND<120	ND<5.0	10	ND<5.0	ND<5.0
1,2,4-Trimethylbenzene	µg/kg	11000	740	ND<5.0	7.1	ND<5.0	ND<5.0
1,3,5-Trimethylbenzene	µg/kg	4500	850	ND<5.0	8.4	ND<5.0	ND<5.0
c-1,2-Dichloroethene	µg/kg	11000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Tetrachloroethene	µg/kg	6000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Trichloroethene	µg/kg	25000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Polychlorinated Biphynels (PCBs)							
Aroclor-1248	µg/kg	4200	ND<50	ND<50	ND<50	ND<50	ND<50
Aroclor-1260	µg/kg	4200	ND<50	1800	59	ND<50	ND<50
Total Petroleum Hydrocrabons (TPH)							
C6	mg/kg		-	-	-	-	-
C7	mg/kg	8500	-	-	2.3	-	-
C8	mg/kg		-	0.7	4.1	5.4	-
C9-C10	mg/kg		960	49	170	1800	-
C11-C12	mg/kg		2400	140	280	2500	-
C13-C14	mg/kg	6200	310	460	330	590	-
C15-C16	mg/kg		210	240	390	440	-
C17-C18	mg/kg		190	130	200	280	-
C19-C20	mg/kg		600	120	470	910	-
C21-C22	mg/kg		390	45	660	980	-
C23-C24	mg/kg		870	70	240	1200	-
C25-C28	mg/kg	6400	3300	260	940	3400	-
C29-C32	mg/kg	0400	2700	240	1300	3500	-
C33-C36	mg/kg		1700	200	890	3600	-
C37-C40	mg/kg		3100	300	1100	2900	-
C41-C44	mg/kg		-	-	500	1500	-
C-6-C44 Total	mg/kg	6200	17000	2300	7500	24000	ND<5.0

Notes:

RBC - Risk Based Concentration

ND<5.0 - Not detected above the reporting limit

mg/kg - milligram per kilogram

### Table 9Building 158 Groundwater Results2701 North Harbor Drive, San Diego, California

			T-48 GW-11*	T-49 GW-11*	BLD158-MW1	BLD158-MW1	BLD158-MW1
Parameter	Units	RBC	4/13/2006	4/13/2006	12/17/2007	4/22/2008	1/15/2009
Metals							
Chromium	mg/L	23,000	665	216	5.95	117	880
Hexavalent Chromium	mg/L	23	580	280	0.00519	110	700

Notes:

ND< - Analyte not detected above associated method detection limit (MDL)

RBC - Risk Based Concentration

mg/l - milligram per liter

\* - Hydropunch sample





