Table 1-1
Constituents of Concern
Evergreen Petroleum Short List
AOI 5 Remedial Investigation Report
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Volatile Organic Compounds	**CAS No.**
Benzene	71-43-2
Cumene	98-82-8
Dichloroethane, 1,2-	107-06-2
Ethylbenzene	100-41-4
Ethylene Dibromide	106-93-4
Methyl tert butyl ether	1634-04-4
Toluene	108-88-3
Trimethylbenzene, 1,2,4-	95-63-6
Trimethylbenzene, 1,3,5-	108-67-8
Xylenes	1330-20-7
Semi-Volatile Organic Compounds	**CAS No.**
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(b)fluroranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Chrysene	218-01-9
Fluorene	86-73-7
Naphthalene	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0
Metals	**CAS No.**
Lead	7439-92-1

This list of constituents is from Pennsylvania Department of Environmental Protection Short List of Petroleum Products (leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 fuel Oils) published as Table IV-9 in Chapter IV, Section E of the Land Recycling Program Technical Guidance Manual (Document Number 253-0300-100) effective June 8, 2002 and revised March 18, 2008.

Table 1-2
Constituents of Concern
Evergreen Comprehensive List
AOI 5 Remedial Investigation Report
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Volatile Organic Compounds	CAS No.
Benzene	71-43-2
Butylbenzene, sec-	135-98-8
Butylbenzene, tert-	98-06-6
Cumene	98-82-8
Cyclohexane	110-82-7
Dichloroethane, 1,2-	107-06-2
Ethylbenzene	100-41-4
Ethylene Dibromide	106-93-4
Hexane	110-54-3
Methyl tert-butyl ether	1634-04-4
Toluene	108-88-3
Trimethylbenzene, 1,2,4-	95-63-6
Trimethylbenzene, 1,3,5-	108-67-8
Xylenes	1330-20-7
Metals	**CAS No.**
Cobalt	7440-48-4
Lead	7439-92-1
Nickel	7440-02-0
Vanadium	7440-62-2
Zinc	7440-66-6

Semi-Volatile Organic Compounds	CAS No.
Acenaphthene	83-32-9
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(b)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Benzo(k)fluoranthene	207-08-9
Biphenyl, 1,1-	92-52-4
Bis(2-ethylhexyl) phthalate	117-81-7
Chrysene	218-01-9
Cresol, m- (3-methylphenol)	108-39-4
Cresol, o- (2-methylphenol)	95-48-7
Cresol, p- (4-methylphenol)	106-44-5
Dibenz(a,h)anthracene	53-70-3
Diethyl phthalate	84-66-2
Dimethylphenol, 2,4-	105-67-9
Dibutyl phthalate, n-	84-74-2
Dinitrophenol, 2,4-	51-28-5
Fluoranthene	206-44-0
Fluorene	86-73-7
Indeno(1,2,3-cd)pyrene	193-39-5
Methylnaphthalene, 2-	91-57-6
Naphthalene	91-20-3
Nitrophenol, 4-	100-02-7
Phenanthrene	85-01-8
Phenol	108-95-2
Pyrene	129-00-0
Pyridine	110-86-1
Quinoline	91-22-5

This list of constituents is generated from the Pennsylvania Deparment of Environmental Protection Southeast Regional Office Crude Oil Parameters for Corrective Action (CDB|SERO|PADEP|9 Aug 2013) combined with PADEP Short List of Petroleum Products(leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 Fuel Oils).

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-15-01	15 Plant former water treatment plant	Soil characterization in 15 Plant area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-15-02	15 Plant former water treatment plant	Soil characterization in 15 Plant area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-15-03	15 Plant former water treatment plant	Soil characterization in 15 Plant area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-15-04	15 Plant former water treatment plant	Soil characterization in 15 Plant area	0-2, 2-15	Evergreen Comprehensive COC List
AOI-5-BH-15-5	15 Plant former boiler house	Soil characterization in 15 Plant area	0-2, 2-15	Evergreen Comprehensive COC List
AOI-5-BH-15-6	15 Plant former boiler house	Soil characterization in 15 Plant area, investigation of RCRA AOC	0-2, 2-15	Evergreen Comprehensive COC List
AOI-5-BH-15-7	15 Plant former boiler house	Soil characterization in 15 Plant area	0-2, 2-15	Evergreen Comprehensive COC List
AOI-5-BH-15-10	15 Plant former boiler house	Soil characterization in 15 Plant area	0-2	Evergreen Comprehensive COC List
AOI5-BH-15-11	SWMU 60	Characterization of slop oil tank 388 (SWMU 60)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-15-12	SWMU 60	Characterization of slop oil tank 388 (SWMU 60)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-15-13	SWMU 60	Characterization of slop oil tank 388 (SWMU 60)	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-15-14	SWMU 60	Characterization of slop oil tank 388 (SWMU 60)	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-001	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2	Evergreen Comprehensive COC List
AOI5-BH-16-002	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-003	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-16-004	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-005	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-006	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-007	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-008	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-009	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-010	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-011	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-012	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-013	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-014	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-015	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-016	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-017	15 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-018	16 Plant /17 Plant Grid	Soil sampling grid to characterize soil in area of former Plants 15 and 17 in western part of AOI	0-2	Evergreen Comprehensive COC List; RCRA Metals

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-16-023	SWMU 69	Investigate soil in location of 1F Oil/ Water Separator and Feed Trench (SWMUs 68, 69) and 1F Electrical Box (AOC G)	0-2, 2-15+C9:G33	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-024	SWMUs 62 and 69	Investigate soil in location of Heat Exchanger Bundle Cleaning Area (SWMU 62) and 1 F Oil/Water Separator Feed Trench (SWMU 69)	0-2	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-025	SWMU 62	Investigate soil in location of Heat Exchanger Bundle Cleaning Area (SWMU 62)	0-2	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-026	SWMU 62	Investigate soil in location of Heat Exchanger Bundle Cleaning Area (SWMU 62)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-027	SWMU 62	Investigate soil in location of Heat Exchanger Bundle Cleaning Area (SWMU 62)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-028	SWMU 66	Investigate soil in location of 1D Oil/ Water Separator (SWMU 66)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-029	SWMU 66	Investigate soil in location of 1D Oil/ Water Separator (SWMU 66)	0-2	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-030	SWMU 66	Investigate soil in location of 1D Oil/ Water Separator (SWMU 66)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-031	SWMU 66	Investigate soil in location of 1D Oil/ Water Separator (SWMU 66)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-032	SWMU 56	Investigate soil in location of Asphalt Plant Area (SWMU 56)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-033	SWMU 56	Investigate soil in location of Asphalt Plant Area (SWMU 56)	0-2	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-034	SWMU 56	Investigate soil in location of Asphalt Plant Area (SWMU 56)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-035	SWMUs 87 - 94	Investigate soil in location of 15A-15H Oil/ Water Separators (SWMUs 87 to 94)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-036	SWMUs 87 - 94	Investigate soil in location of 15A-15H Oil/ Water Separators (SWMUs 87 to 94)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-037	SWMUs 87 - 94	Investigate soil in location of 15A-15H Oil/ Water Separators (SWMUs 87 to 94)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-16-038	SWMUs 87 - 94	Investigate soil in location of 15A-15H Oil/ Water Separators (SWMUs 87 to 94)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-039	SWMU 30	Investigate soil in location of Phillips Island Old Drum Storage/ Small Roll-Off Area (SWMU 30)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-040	SWMU 30	Investigate soil in location of Phillips Island Old Drum Storage/ Small Roll-Off Area (SWMU 30)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-041	SWMUs 32 and 33	Investigate soil in location of Impoundment tank T-101 (SWMU 32) and Phillips Island Surface Drainage Ditches (SWMU 33)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-042	SWMUs 32 and 33	Investigate soil in location of Impoundment tank T-101 (SWMU 32) and Phillips Island Surface Drainage Ditches (SWMU 33)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-043	SWMUs 32 and 33	Investigate soil in location of Impoundment tank T-101 (SWMU 32) and Phillips Island Surface Drainage Ditches (SWMU 33)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-044	SWMU 32	Investigate soil in location of Impoundment tank T-101 (SWMU 32)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-045	SWMU 65	Investigate soil in former 1F Oil Water/Separator location (SWMU 65)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-046	SWMU 65	Investigate soil in former 1F Oil Water/Separator location (SWMU 65)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-047	SWMU 65	Investigate soil in former 1F Oil Water/Separator location (SWMU 65)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-048	SWMU 65	Investigate soil in former 1F Oil Water/Separator location (SWMU 65)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-049	Tank 5	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-050	Tank 5	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-051	Tank 5	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-052	Area west of Tank 5	Characterize soil in area of historic releases	0-2	Evergreen Comprehensive COC List

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-16-053	Area west of Tank 5	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-054	Area west of Tank 5	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-055	Hewes Ave and Middle Creek Rd	Characterize soil in area of historic release at No. 3 valve box	0-2	Evergreen Comprehensive COC List
AOI5-BH-16-056	Hewes Ave and Middle Creek Rd	Characterize soil in area of historic release at No. 3 valve box	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-057	Tank 528	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-058	Tank 528	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-059	Tank 594	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-060	Tank 594	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-061	Tank 594	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-062	Tank 596	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-063	Tank 596	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-064	Tank 596	Characterize soil in historic product storage/open incident area	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-065	AOC D	Characterize soil in vicinity of mechanical center underground storage tanks	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-066	SWMU 55	Characterize soil in area of former benzene recovery system (SWMU 55)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-067	SWMU 55	Characterize soil in area of former benzene recovery system (SWMU 55)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-16-068	SWMU 55	Characterize soil in area of former benzene recovery system (SWMU 55)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-069	Tank 4; SWMU 4	Characterize soil in historic product storage/open incident area; characterize soil in area Solid Waste Facility (SWMUs 1- 21)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-070	Tank 4; SWMU 4	Characterize soil in historic product storage/open incident area; characterize soil in area Solid Waste Facility (SWMUs 1- 21)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-071	Tank 4; SWMU 4	Characterize soil in historic product storage/open incident area; characterize soil in area Solid Waste Facility (SWMUs 1- 21)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-072	Tank 4; SWMU 4	Characterize soil in historic product storage/open incident area; characterize soil in area Solid Waste Facility (SWMUs 1- 21)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-073	Tank 4; SWMU 4	Characterize soil in historic product storage/open incident area; characterize soil in area Solid Waste Facility (SWMUs 1- 21)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-074	Tank 4; SWMU 4	Characterize soil in historic product storage/open incident area; characterize soil in area Solid Waste Facility (SWMUs 1- 21)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-075	Tank 4; SWMU 4	Characterize soil in historic product storage/open incident area; characterize soil in area Solid Waste Facility (SWMUs 1- 21)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
AOI5-BH-16-076	Tank 130	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-077	Tank 130	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-078	Tank 130	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-079	Tank 131	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-080	Tank 131	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-081	Tank 131	Characterize soil in area of historic releases	0-2, 2-15	Evergreen Comprehensive COC List
AOI5-BH-16-082	Area east of SWMU 4	Speciation of NRDC MSC exceedances for chromium in area of former Tank 4	0-2	Chromium (Total, Trivalent, Hexavalent)

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-16-083	Area east of SWMU 4	Speciation of NRDC MSC exceedances for chromium in area of former Tank 4	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-16-084	Area east of SWMU 4	Speciation of NRDC MSC exceedances for chromium in area of former Tank 4	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-16-085	Area east of SWMU 4	Speciation of NRDC MSC exceedances for chromium in area of former Tank 4	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-16-086	SWMU 32/T-101 Tank	Speciation of NRDC MSC exceedances for chromium in area of T-101 Tank	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-17-01	Area of Tank 388	Delineation and speciation of NRDC MSC exceedances for chromium in Tank 388 containment area	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-17-02	Area of Tank 388	Delineation and speciation of NRDC MSC exceedances for chromium in Tank 388 containment area	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-17-03	Area of Tank 388	Delineation and speciation of NRDC MSC exceedances for chromium in Tank 388 containment area	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-17-04	Area of Tank 388	Delineation and speciation of NRDC MSC exceedances for chromium in Tank 388 containment area	0-2	Chromium (Total, Trivalent, Hexavalent)
AOI5-BH-17-05	Eastern AOI 5 boundary	Delineation of Acid Sludge	NA	NA
AOI5-BH-17-06	Eastern AOI 5 boundary	Delineation of Acid Sludge	NA	NA
AOI5-BH-17-07	Eastern AOI 5 boundary	Delineation of Acid Sludge	NA	NA
AOI5-BH-17-08	Eastern AOI 5 boundary	Delineation of Acid Sludge	3, 4-5, 8-10	pH, % acidity, density
AOI5-BH-17-09	Eastern AOI 5 boundary	Delineation of Acid Sludge	4-5	pH, % acidity, density
AOI5-BH-17-10	Area of Former Tank 600	Characterize soil in historic product storage/open incident area	0-2	PADEP Fuel Oil Nos. 4, 5, and 6
AOI5-BH-17-11	Area of Former Tank 600	Characterize soil in historic product storage/open incident area	0-2	PADEP Fuel Oil Nos. 4, 5, and 6

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Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI5-BH-17-12	Area of Former Tank 602	Characterize soil in historic product storage/open incident area	0-2	PADEP Fuel Oil Nos. 4, 5, and 6
AOI5-BH-17-13	Area of Former Tank 602	Characterize soil in historic product storage/open incident area	0-2	PADEP Fuel Oil Nos. 4, 5, and 6
MW-554	Tank 131 containment berm	Characterize groundwater in the Tank 131 containment berm	0-2, 2-15	Evergreen Comprehensive COC List
MW-555	North of 854 Building	LNAPL delineation near 854 Building and MW-45	0-2, 2-15	Evergreen Comprehensive COC List
MW-573	AOC D	Characterize area of former USTs near the Mechanical Center	0-2, 2-15	Evergreen Comprehensive COC List
MW-574	Area west of MW-439 (West of Tank 3)	Delineate LNAPL to the west of MW-439	0-2, 2-15	Evergreen Comprehensive COC List
MW-575	Blueball Avenue, eastern edge of 15 Plant	Delineate LNAPL to the west of MW-78	0-2, 2-15	Evergreen Comprehensive COC List
MW-576	Middle Creek Road	Downgradient well of former 15 Plant	0-2, 2-15	Evergreen Comprehensive COC List
MW-577	Area north of T-101; SWMU 30	LNAPL delineation of plumes near Middle Creek on western edge of AOI 5	0-2, 2-15	Evergreen Comprehensive COC List
MW-578	Plant 17	Delineate soil impacts in area of Tanks 613 through 619 / characterize groundwater in process area	0-2, 2-15	Evergreen Comprehensive COC List
MW-579	Plant 17	Delineate soil impacts in area of Tanks 613 through 619 / characterize groundwater in process area	0-2, 2-15	Evergreen Comprehensive COC List
MW-580	SWMU 55	Characterize soil in area of former benzene recovery system (SWMU 55)	0-2, 2-15	Evergreen Comprehensive COC List; RCRA Metals
MW-581	Area of SWMU 22	LNAPL delineation of plumes near Middle Creek on western edge of AOI 5	0-2, 2-15	Evergreen Comprehensive COC List
MW-582	Area west of T-101	LNAPL delineation of plumes near Middle Creek on western edge of AOI 5	0-2, 2-15	Evergreen Comprehensive COC List
MW-583	South of SWMU 66	Characterize area downgradient of several SWMUs	0-2, 2-15	Evergreen Comprehensive COC List

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Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI7-BH-15-001	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	2-15	Evergreen Delaware RCRA Investigation List*
AOI7-BH-15-002	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	2-15	Evergreen Delaware RCRA Investigation List*
AOI7-BH-15-004	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	2-15	Evergreen Delaware RCRA Investigation List*
AOI7-BH-15-005	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	2-15	Evergreen Delaware RCRA Investigation List*
AOI7-BH-15-008	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	2-15	Evergreen Delaware RCRA Investigation List*
AOI7-BH-15-011	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	2-15	Evergreen Delaware RCRA Investigation List*
AOI7-BH-16-008	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2, 2-15	0-2: Evergreen Delaware RCRA Investigation List*, 2-15: benzene, xylenes, arsenic, cobalt, and lead
AOI7-BH-16-009	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2, 2-15	0-2: Evergreen Delaware RCRA Investigation List*, 2-15: benzene, xylenes, and arsenic
AOI7-BH-16-010	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2, 2-15	0-2: Evergreen Delaware RCRA Investigation List*, 2-15: benzene, xylenes, arsenic, and lead
AOI7-BH-16-011	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2, 2-15	0-2: Evergreen Delaware RCRA Investigation List*, 2-15: benzo(a)pyrene, 2-methylnaphthalene, naphthalene, arsenic, and lead
AOI7-BH-16-016	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2, 2-15	0-2: Evergreen Delaware RCRA Investigation List*, 2-15: arsenic, lead and cobalt
AOI7-BH-16-017	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2, 2-15	0-2: Evergreen Delaware RCRA Investigation List*, 2-15: arsenic and lead
AOI7-BH-16-018	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2, 2-15	Evergreen Delaware RCRA Investigation List*

Table 3-1
Soil Characterization Activities Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Location ID	General Descripton of Physical Location	Location Rationale	Sample Depth Intervals (ft bgs)	Analyte List
AOI7-BH-16-019	SWMU 23 and 24	Characterize soil in area of SWMUs 23 and 34	0-2	Evergreen Delaware RCRA Investigation List*

Notes:
ft bgs = feet below ground surface
SWMU = Solid Waste Management Unit
AOC = Area of Concern
COC = constituent of concern
RCRA = Resource Conservation and Recovery Act
NRDC MSC = Non-Residential Direct Contact Medium-Specific Concentration
NA = Not applicable
*The Evergreen Delaware RCRA Investigation Lists includes Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), TCL pesticides and polychlorinated biphenyls (PBCs) and Target Analyte List (TAL) inorganics.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5_BH-15-01		AOI5_BH-15-02		AOI5_BH-15-03		AOI5_BH-15-04		AOI5_BH-15-11		AOI5_BH-15-12		AOI5_BH-15-13		AOI5_BH-15-14		AOI5_URS_PECO_B-2	AOI5_URS_PECO_B-4	AOI5_URS_PECO_B-5	AOI5_URS_PECO_B-6	AOI5_URS_PECO_B-7	AOI5_URS_PECO_B-8		AOI5_URS_PECO_B-9		
Sample Date			7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	22-Oct-14	30-Oct-14	23-Oct-14	24-Oct-14	30-Oct-14	15-Oct-14	29-Oct-14	15-Oct-14	15-Oct-14	28-Oct-14
Sample ID			AOI5_BH-15-01_0-2_01072015	AOI5_BH-15-01_2-4_01072015	AOI5_BH-15-02_0-2_01072015	AOI5_BH-15-02_12-14_01072015	AOI5_BH-15-03_0-2_01072015	AOI5_BH-15-03_4-6_01072015	AOI5_BH-15-04_0-2_01072015	AOI5_BH-15-04_4-6_01072015	AOI5-BH-15-11(0.0-2.0)	AOI5-BH-15-11(11.0-11.5)	AOI5-BH-15-12(0.0-2.0)	AOI5-BH-15-12(11.0-11.5)	AOI5-BH-15-13(0.0-2.0)	AOI5-BH-15-13(8.0-10.0)	AOI5-BH-15-14(0.0-2.0)	AOI5-BH-15-14(11.0-11.5)	AOI-5_PECO-B2_12-13_10222014	AOI5_PECO-B4_12-14'_10302014	AOI-5_PECO-B5_14-16_10232014	AOI-5_PECO-B6_12-14_10242014	AOI5_PECO-B7_12-14'_10302014	B-8 (0-2)	AOI5_PECO-B8_12-14'_10292014	B-9 (0-2)	B-9 (4-6)	B9_12-14'_10282014
Sample Depth			0 - 2 ft	2 - 4 ft	0 - 2 ft	12 - 14 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	11 - 11.5 ft	0 - 2 ft	11 - 11.5 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	11 - 11.5 ft	12 - 13 ft	12 - 14 ft	14 - 16 ft	12 - 14 ft	12 - 14 ft	0 - 2 ft	12 - 14 ft	0 - 2 ft	4 - 6 ft	12 - 14 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	AQUATERRA	AQUATERRA	AQUATERRA	AQUATERRA	AQUATERRA	URS	AQUATERRA	URS	URS	AQUATERRA
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	PACE	PACE	PACE	PACE	PACE	HCV	PACE	HCV	HCV	PACE
Laboratory Work Order		A B	JB85833	JB85833	JB85833	JB85833	JB85833	JB85833	JB85833	JB85833	JC4271	JC4271	JC4271	JC4271	JC4271	JC4271	JC4271	JC4271	30133009	30133378	30133009	30133009	30133378	4101608	30133378	4101608	4101608	30133378
Laboratory Sample ID	Units	SHS-PA	JB85833-1	JB85833-2	JB85833-3	JB85833-4	JB85833-5	JB85833-6	JB85833-7	JB85833-8	JC4271-3	JC4271-4	JC4271-5	JC4271-6	JC4271-7	JC4271-8	JC4271-9	JC4271-10	30133009001	30133378004	30133009002	30133009003	30133378003	AC81442-003	30133378002	AC81442-002	AC81442-001	30133378001
Volatile Organic Compounds																												
BENZENE	mg/kg	0.5^{AB}	0.00083	0.0954	ND (0.00043)	ND (0.052)	0.0079	0.247	***10.6*** ^{A}	ND (0.29)	ND (0.00074)	0.00024 J	0.0089	0.0437 J	ND (0.00067)	ND (0.21)	ND (0.00067)	0.215	ND (0.0048)	ND (0.0052)	ND (0.0050)	0.034	ND (0.0044)	0.033	ND (0.0056)	0.074	***15*** ^{B}	***0.61*** ^{B}
CYCLOHEXANE	mg/kg	6900^{AB}	0.0099	0.0631 J	ND (0.0017)	0.908	0.0034	ND (0.21)	26.7	51.2	ND (0.0030)	0.00099 J	0.0017 J	0.152 J	ND (0.0027)	0.779 J	ND (0.0027)	0.486	0.013	0.022	0.0049 J	4.4	0.050	0.0099	0.24	0.024	100	36.3
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0029)	ND (0.0031)	ND (0.0030)	ND (0.0032)	ND (0.0026)	ND (0.0025)	ND (0.0033)	ND (0.0022)	*ND (1.3)*	*ND (0.14)*
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.0010)	ND (0.12)	ND (0.00085)	ND (0.10)	ND (0.00085)	ND (0.10)	ND (0.15)	ND (0.15)	ND (0.0015) J	ND (0.0011) J	ND (0.0014) J	ND (0.17)	ND (0.0013)	ND (0.41)	ND (0.0013)	ND (0.20)	ND (0.0048)	ND (0.0052)	ND (0.0050)	ND (0.0054)	ND (0.0044)	ND (0.0012)	ND (0.0056)	ND (0.0011)	*ND (0.65)*	ND (0.27)
ETHYLBENZENE	mg/kg	70^{AB}	0.0195	0.318	ND (0.00085)	ND (0.10)	0.0028	0.120	1.32	0.428 J	ND (0.0015)	ND (0.0011)	0.0106	0.0507 J	ND (0.0013)	ND (0.41)	ND (0.0013)	0.0718 J	ND (0.0048)	0.0036 J	ND (0.0050)	ND (0.0054)	0.0055	0.0037	0.035	0.0059	12	7.7
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	0.0033 J	0.0569 J	ND (0.0043)	0.0809 J	0.0011 J	0.165 J	3.44	3.78	ND (0.0030)	0.00024 J	ND (0.0027)	0.0664 J	ND (0.0027)	1.69	ND (0.0027)	0.709	ND (0.0048)	ND (0.0052)	ND (0.0050)	0.035	ND (0.0044)	ND (0.0012)	ND (0.0056)	0.0037	3.9	5.2
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.0010)	ND (0.12)	ND (0.00085)	ND (0.10)	0.00050 J	ND (0.10)	ND (0.59)	ND (0.59)	ND (0.0015)	0.00075 J	0.0013 J	ND (0.17)	ND (0.0013)	ND (0.41)	ND (0.0013)	ND (0.20)	ND (0.0048)	ND (0.0052)	ND (0.0050)	ND (0.0054)	ND (0.0044)	ND (0.0012)	ND (0.0056)	ND (0.0011)	ND (0.65)	ND (0.27)
HEXANE	mg/kg	5600^{AB}	0.0023 J	0.203 J	ND (0.0043)	0.157 J	ND (0.0043)	ND (0.52)	35.0	ND (2.9)	ND (0.0074)	0.0017 J	0.0014 J	0.186 J	0.00055 J	0.301 J	ND (0.0067) J	0.539 J	0.020	0.053	ND (0.010)	0.38	0.12	-	0.82	-	-	61.4
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	0.00031 J	ND (0.0054)	0.00078 J	0.444 J	0.00066 J	***25.1*** ^{B}	0.00041 J	5.26	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	0.0014 J	0.0588 J	ND (0.0017)	0.210	0.00028 J	0.124 J	2.37	3.18	ND (0.0030)	0.00029 J	ND (0.0027)	0.0778 J	ND (0.0027)	1.25	ND (0.0027)	0.543	ND (0.0048)	ND (0.0052)	ND (0.0050)	0.10	ND (0.0044)	-	0.0020 J	-	-	1.3
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	ND (0.0020)	ND (0.25)	ND (0.0017)	ND (0.21)	ND (0.0017)	ND (0.21)	ND (1.2)	0.496 J	ND (0.0030)	0.00033 J	ND (0.0027)	0.0545 J	ND (0.0027)	1.54	ND (0.0027)	0.570	ND (0.0048)	ND (0.0052)	ND (0.0050)	ND (0.0054)	ND (0.0044)	-	ND (0.0056)	-	-	0.67
TOLUENE	mg/kg	100^{AB}	0.0022	0.0314 J	ND (0.00085)	ND (0.10)	0.00022 J	0.150	1.06	ND (0.59)	ND (0.0015)	ND (0.0011)	0.0135	ND (0.17)	ND (0.0013)	ND (0.41)	ND (0.0013)	ND (0.20)	0.0032 J	0.0038 J	0.0016 J	0.0078	0.0071	0.023	0.030	0.031	31	8.4
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	0.0071	1.50	ND (0.0017)	0.0559 J	0.0023	0.131 J	5.58	0.180 J	ND (0.0030)	ND (0.0022)	0.00032 J	0.173 J	ND (0.0027)	0.245 J	ND (0.0027)	0.367 J	ND (0.0048)	0.0061	ND (0.0050)	ND (0.0054)	0.012	-	0.061	-	-	***39.1*** ^{B}
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	0.0029	0.0705 J	ND (0.0017)	0.0220 J	0.0022	0.0414 J	21.9	ND (1.2)	ND (0.0030)	ND (0.0022)	ND (0.0027)	ND (0.34)	ND (0.0027)	ND (0.83)	ND (0.0027)	0.148 J	ND (0.0048)	0.0028 J	ND (0.0050)	ND (0.0054)	0.0056	-	0.030	-	-	20.7
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	0.0685	0.301	ND (0.00085)	0.0246 J	0.0014	0.243	7.37	0.145 J	ND (0.0015)	ND (0.0011)	0.0024	0.0846 J	ND (0.0013)	0.262 J	ND (0.0013)	0.0918 J	0.011 J	0.021	ND (0.015)	ND (0.016)	0.035	0.0145	0.20	0.0193	48.3	45.5
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.0030)	ND (0.0032)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0028)	ND (0.0031)	ND (0.0027)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0028)	ND (0.0027)	ND (0.0032)	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	4700^{AB}	0.0204 J	0.0283 J	ND (0.038)	0.248	0.0196 J	0.0452	0.833	ND (0.040)	0.0664	ND (0.039)	ND (0.041)	ND (0.041)	ND (0.041)	1.49	ND (0.036)	0.989	ND (0.0082)	ND (0.0084)	0.060	0.064	ND (0.0074)	ND (0.041)	ND (0.0076)	0.14	ND (0.13)	0.013
ANTHRACENE	mg/kg	350^{AB}	0.0182 J	ND (0.042)	ND (0.038)	0.0800	ND (0.034)	0.0156 J	ND (0.067)	0.109	0.288	ND (0.039)	0.0176 J	0.0215 J	0.0424	2.47	0.0192 J	1.56	ND (0.0082)	ND (0.0084)	0.066	0.035	0.0060 J	ND (0.041)	ND (0.0076)	ND (0.12)	ND (0.13)	0.0039 J
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	0.0762	0.0425	0.0180 J	0.0791	ND (0.034)	0.0270 J	0.543	0.130	0.529	ND (0.039)	0.0311 J	ND (0.041)	0.0878	0.258	ND (0.036)	0.163	ND (0.0082)	ND (0.0084)	0.030	0.018	0.045	ND (0.041)	ND (0.0076)	0.13	ND (0.13)	ND (0.0091)
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	0.0612	0.0421	ND (0.038)	0.0589	ND (0.034)	0.0152 J	0.402	0.0875	0.542	ND (0.039)	0.0286 J	ND (0.041)	0.106	0.0849	ND (0.036)	0.0549	ND (0.0082)	ND (0.0084)	0.0029 J	0.0075 J	0.035	0.056	ND (0.0076)	0.14	ND (0.13)	ND (0.0091)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.0570	0.0297 J	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.202	0.0274 J	0.659	ND (0.039)	0.0292 J	ND (0.041)	0.132	0.0520	0.0177 J	0.0409 J	ND (0.0082)	ND (0.0084)	0.0060 J	0.0049 J	0.056	0.050	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	0.0474	0.0546	ND (0.038)	0.0502	ND (0.034)	ND (0.035)	0.315	0.0767	0.477	ND (0.039)	0.0452	ND (0.041)	0.114	0.0668	0.0301 J	0.0398 J	ND (0.0082)	ND (0.0084)	ND (0.0079)	0.0085	0.023	0.073	ND (0.0076)	0.14	ND (0.13)	ND (0.0091)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	0.0451	0.0239 J	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.157	0.0165 J	0.247	ND (0.039)	ND (0.041)	ND (0.041)	0.0530	ND (0.038)	ND (0.036)	ND (0.042)	ND (0.0082)	ND (0.0084)	0.0058 J	0.0049 J	0.023	ND (0.041)	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	0.0159 J	ND (0.078)	ND (0.081)	0.0654 J	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	0.19	0.19 J
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	0.277	0.0850	0.0552 J	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	0.0707 J	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.021)	ND (0.38)	ND (0.061)	ND (0.064)	ND (0.45)
CHRYSENE	mg/kg	230^{AB}	0.0946	0.0522	0.0153 J	0.128	0.0175 J	0.0327 J	0.815	0.204	0.531	ND (0.039)	0.0417	ND (0.041)	0.116	0.441	0.0146 J	0.289	ND (0.0082)	ND (0.0084)	0.080	0.043	0.048	0.042	ND (0.0076)	0.26	ND (0.13)	ND (0.0091)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.040)	ND (0.042)	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.0761	ND (0.040)	0.109	ND (0.039)	ND (0.041)	ND (0.041)	0.0258 J	ND (0.038)	ND (0.036)	ND (0.042)	ND (0.0082)	ND (0.0084)	ND (0.0079)	ND (0.0084)	0.0093	0.063	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)	ND (0.17)	ND (0.17)	ND (0.34)	ND (0.20)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.21)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.010)	ND (0.38)	ND (0.030)	ND (0.032)	ND (0.45)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.79)	ND (0.84)	ND (0.77)	ND (0.79)	ND (0.68)	ND (0.70)	ND (1.3)	ND (0.79)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.21)	ND (1.0)	ND (1.0)	ND (0.99)	ND (1.0)	ND (0.92)	ND (0.21)	ND (0.95)	ND (0.61)	ND (0.63)	ND (1.1)
FLUORANTHENE	mg/kg	3200^{AB}	0.126	0.0536	0.0279 J	0.0390 J	ND (0.034)	0.0240 J	0.427	0.0553	1.15	ND (0.039)	0.0336 J	ND (0.041)	0.182	0.635	ND (0.036)	0.402	ND (0.0082)	ND (0.0084)	0.044	0.018	0.072	ND (0.041)	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)
FLUORENE	mg/kg	3800^{AB}	0.0241 J	ND (0.042)	ND (0.038)	0.506	0.0401	0.0735	1.78	0.567	0.107	ND (0.039)	ND (0.041)	0.0547	ND (0.041)	3.22	0.0200 J	2.21	ND (0.0082)	ND (0.0084)	0.11	0.081	ND (0.0074)	ND (0.041)	ND (0.0076)	0.23	0.25	0.012
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	0.0338 J	0.0186 J	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.110	ND (0.040)	0.420	ND (0.039)	0.0222 J	ND (0.041)	0.0962	0.0292 J	ND (0.036)	0.0222 J	ND (0.0082)	ND (0.0084)	ND (0.0079)	0.0014 J	0.020	0.046	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	0.0932	0.132	ND (0.077)	ND (0.079)	1.08	ND (0.070)	39.8	ND (0.079)	0.0972	ND (0.078)	0.0469 J	0.0531 J	0.0969	91.5	0.229	37.3	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	0.16	2.7	7.4
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.83)	ND (0.83)	ND (0.79)	ND (0.83)	ND (0.74)	-	ND (0.76)	-	-	ND (0.91)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.010)	ND (0.38)	ND (0.030)	ND (0.032)	ND (0.45)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.010)	-	ND (0.030)	ND (0.032)	-
NAPHTHALENE	mg/kg	25^{AB}	0.0197 J	0.0385 J	ND (0.038)	ND (0.040)	0.0777	ND (0.035)	4.04	ND (0.040)	0.0457	ND (0.039)	0.0218 J	0.0332 J	0.0511	7.64	0.0324 J	6.45	ND (0.0082)	ND (0.0084)	0.016	0.066	ND (0.0074)	ND (0.010)	0.0039 J	ND (0.030)	0.83	6.9
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.40)	ND (0.42)	ND (0.38)	ND (0.40)	ND (0.34)	ND (0.35)	ND (0.67)	ND (0.40)	ND (0.36) J	ND (0.39) J	ND (0.41) J	ND (0.41) J	ND (0.41) J	ND (0.38) J	ND (0.36) J	ND (0.42) J	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)
PHENANTHRENE	mg/kg	10000^{AB}	0.105	0.0742	0.0356 J	1.12	0.0953	0.140	4.30	1.25	0.855	ND (0.039)	0.0471	0.148	0.131	12.5	0.0636	6.36	ND (0.0082)	ND (0.0084)	0.11	0.24	0.012	ND (0.041)	ND (0.0076)	0.55	0.53	0.022
PHENOL	mg/kg	200^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	0.0683 J	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)
PYRENE	mg/kg	2200^{AB}	0.169	0.108	0.0291 J	0.463	0.0448	0.0977	2.01	0.429	0.823	ND (0.039)	0.0548	0.0497	0.179	2.68	0.0381	1.78	ND (0.0082)	ND (0.0084)	0.13	0.078	0.065	ND (0.041)	ND (0.0076)	0.45	0.20	0.0073 J
PYRIDINE	mg/kg	12^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (1.0)	ND (1.0)	ND (0.99)	ND (1.0)	ND (0.92)	-	ND (0.95)	-	-	ND (1.1)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)	ND (0.17)	ND (0.17)	ND (0.34)	ND (0.20)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.21)	ND (0.0082)	ND (0.0084)	ND (0.0079)	ND (0.017)	ND (0.0074)	-	ND (0.0076)	-	-	ND (0.046)
Metals																												
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	5.3	-	4.2	-	-	-	-	-	-	-	-	-	-	20	-	6.9	9.9	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	162	-	152	-	-	-	-	-	-	-	-	-	-	100	-	67	120	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	0.84 J	-	0.41 J	-	-	-	-	-	-	-	-	-	-	ND (0.49)	-	ND (0.49)	ND (0.51)	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	***834*** ^{A}	-	***511*** ^{A}	-	-	-	-	-	-	-	-	-	-	57	-	50	54	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	12.0	8.7	7.3	8.7	5.0 J	9.1	5.2 J	9.5	6.7	8.2	6.8	10.5	8.5	11.1	10.1	9.7	5.7	8.5	5.7	10.7	9.6	-	6.8	-	-	7.9
LEAD	mg/kg	450^{AB}	90.2	112	46.7	10.5	13.0	11.8	15.7	11.2	287	11.2	50.3	10.8	68.7	7.9	32.6	6.7	7.5	7.3	9.2	10.5	4.9	63	5.5	15	22	13.4
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	0.18	-	0.15	-	-	-	-	-	-	-	-	-	-	0.93	-	0.12	0.20	-
NICKEL	mg/kg	650^{AB}	76.2	23.6	15.3	20.9	12.3	15.8	11.0	17.6	52.8	20.6	30.0	22.5	33.7	12.4	19.6	15.0	8.8	14.6	12.0	15.5	29.6	19	11.7	18	32	14.6
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	1.9 J	-	ND (2.4)	-	-	-	-	-	-	-	-	-	-	ND (2.5)	-	ND (2.4)	ND (2.5)	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	ND (1.1)	-	1.2	-	-	-	-	-	-	-	-	-	-	ND (0.25)	-	ND (0.24)	ND (0.25)	-
VANADIUM	mg/kg	220^{A} 820^{B}	123	41.3	38.3	41.2	38.1	43.7	30.4	48.3	119	27.9	69.3	35.8	56.8	27.9	44.8	25.8	14.1	24.4	18.9	20.8	42.3	-	20.1	-	-	25.9
ZINC	mg/kg	12000^{AB}	1040	214	89.6	44.1	32.3	48.5	39.7	42.5	460	44.8	226	51.8	251	30.0	65.8	35.7	27.0	34.9	32.3	38.8	51.5	81	27.1	51	81	38.3

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-1		AOI5-2		AOI5-3		AOI5-4		AOI5-5		AOI5-6		AOI5-7		AOI-5-BH-15-5		AOI-5-BH-15-6		AOI-5-BH-15-7		AOI-5-BH-15-10	AOI5-BH-15-MH07-01	AOI5-BH-15-MH07-02	AOI5-BH-15-MH07-03	AOI5-BH-15-MH07-04	AOI5-BH-15-MH07-05	AOI5-BH-15-MH07-06	AOI5-BH-15-MH07-07
Sample Date			27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	15-Mar-16	15-Mar-16	15-Mar-16	15-Mar-16	16-Mar-16	15-Mar-16	15-Mar-16
Sample ID			1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	AOI-5-BH-15-5_0-2_20150724	AOI-5-BH-15-5_9-9.5_20150724	AOI-5-BH-15-6_0-2_20150724	AOI-5-BH-15-6_6-7_20150724	AOI-5-BH-15-7_0-2_20150724	AOI-5-BH-15-7_6-8_20150724	AOI-5-BH-15-10_0-2_20150724	AOI5-BH-15-MH07-01_031516	AOI5-BH-15-MH07-02_031516	AOI5-BH-15-MH07-03_031516	AOI5-BH-15-MH07-04_031516	AOI5-BH-15-MH07-05_031616	AOI5-BH-15-MH07-06_031516	AOI5-BH-15-MH07-07_031516
Sample Depth			0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	9 - 9.5 ft	0 - 2 ft	6 - 7 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	3 ft	3 ft	3 ft	3 ft	1 ft	3 ft	3 ft
Sampling Company			ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	JB99970A	JB99970A	JB99970A	JB99970A	JB99970A	JB99970A	JB99970A	1641428	1641428	1641428	1641428	1641428	1641428	1641428
Laboratory Sample ID	Units	SHS-PA	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	JB99970-8	JB99970-9	JB99970-4	JB99970-5	JB99970-6	JB99970-7	JB99970-10	8289408	8289409	8289410	8289411	8289414	8289412	8289413
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0030	ND (0.052)	0.00025 J	0.0012	0.00015 J	0.0012	0.0054	**28 [B]**	ND (0.026)	ND (0.023)	ND (0.023)	ND (0.027)	ND (0.020)	0.15 J
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0014 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	7.5	2.4	0.75	0.054 J	ND (0.054)	ND (0.040)	ND (0.052)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0013)	*ND (0.014)*	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	ND (0.0013)	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0013)	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	ND (0.0013)	ND (0.19)	ND (0.052)	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)
ETHYLBENZENE	mg/kg	70[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0058	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	0.00041 J	**71 [B]**	0.14 J	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00054 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	4.3	0.73	0.67	0.12 J	ND (0.054)	0.065 J	ND (0.052)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00039 J	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	ND (0.0013)	ND (0.095)	ND (0.026)	ND (0.023)	ND (0.023)	ND (0.027)	ND (0.020)	ND (0.026)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0016 J	ND (0.52)	0.0010 J	0.0013 J	0.0010 J	0.00096 J	0.0015 J	44	0.45	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	0.21 J
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	ND (0.052)	0.14 J	0.13 J	0.20 J	ND (0.040)	0.11 J
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0026)	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	2.7	0.91	0.69	0.49	0.081 J	0.15 J	0.10 J
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0026)	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	ND (0.19)	0.23 J	0.12 J	ND (0.046)	ND (0.054)	0.046 J	ND (0.052)
TOLUENE	mg/kg	100[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0015	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	0.00031 J	0.00045 J	**350 [B]**	0.082 J	0.084 J	ND (0.046)	ND (0.054)	ND (0.040)	0.53
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0014 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	**77 [B]**	0.52	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0013 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	0.00032 J	22	0.33	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0343	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	0.0043	430	0.62	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	0.091 J
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.00021)	ND (0.00023)	ND (0.00021)	ND (0.00021)	ND (0.00022)	ND (0.00021)	ND (0.00021)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0647	0.197	ND (0.034)	ND (0.035)	0.0787 J	ND (0.039)	0.0173 J	ND (0.018)	ND (0.038)	0.52	0.76	ND (0.019)	0.36	3.6
ANTHRACENE	mg/kg	350[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.101	ND (0.037)	ND (0.034)	ND (0.035)	0.200	ND (0.039)	0.0351 J	0.30	0.50	0.60	0.74	0.15	0.66	2.7
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.551	0.0385	ND (0.034)	ND (0.035)	0.605	ND (0.039)	0.0915	0.12	1.8	0.91	0.12 J	0.073 J	0.089 J	0.76
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.480	0.0298 J	ND (0.034)	ND (0.035)	0.636	ND (0.039)	0.0708	0.088 J	1.2	1.2	0.091 J	0.066 J	0.070 J	0.36
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.659	ND (0.037)	ND (0.034)	ND (0.035)	0.627	ND (0.039)	0.0898	0.069 J	0.55	0.40	0.052 J	0.043 J	0.033 J	0.22
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.317	0.0243 J	ND (0.034)	ND (0.035)	0.306	ND (0.039)	0.0519	0.080 J	0.48	0.89	0.10 J	0.098	0.085 J	0.34
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.266	ND (0.037)	ND (0.034)	ND (0.035)	0.226	ND (0.039)	0.0265 J	0.033 J	0.16 J	0.081 J	ND (0.035)	ND (0.019)	ND (0.018)	0.091 J
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	1.2	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.61	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	0.145	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)
CHRYSENE	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.623	0.0535	ND (0.034)	ND (0.035)	0.825	ND (0.039)	0.124	0.21	3.4	1.9	0.26	0.15	0.15	1.2
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0860	ND (0.037)	ND (0.034)	ND (0.035)	ND (0.18)	ND (0.039)	0.0155 J	0.022 J	0.26	0.20	ND (0.035)	ND (0.019)	ND (0.018)	0.093 J
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.91)	ND (0.20)	ND (0.18)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.91)	ND (0.20)	ND (0.18)	ND (1.6)	ND (3.4)	ND (3.2)	ND (3.2)	ND (1.7)	ND (1.6)	ND (3.2)
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.37	0.0307 J	0.0228 J	ND (0.035)	1.05	ND (0.039)	0.186	0.21	0.43	0.43	0.24	0.071 J	0.18	0.97
FLUORENE	mg/kg	3800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0409	0.259	ND (0.034)	ND (0.035)	ND (0.18)	ND (0.039)	ND (0.036)	1.3	0.48	0.90	1.4	0.30	0.64	7.5
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.321	ND (0.037)	ND (0.034)	ND (0.035)	0.268	ND (0.039)	0.0364	0.039 J	0.21	0.19	0.048 J	0.038 J	0.025 J	0.14 J
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0554 J	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	0.0171 J	51	0.68	0.16 J	0.16 J	0.13	ND (0.018)	20
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0273 J	ND (0.037)	ND (0.034)	ND (0.035)	ND (0.18)	ND (0.039)	ND (0.036)	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.37)	ND (0.37)	ND (0.34)	ND (0.35)	ND (1.8)	ND (0.39)	ND (0.36)	ND (0.91)	ND (1.9)	ND (1.8)	ND (1.8)	ND (0.93)	ND (0.90)	ND (1.8)
PHENANTHRENE	mg/kg	10000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.613	ND (0.037)	0.0161 J	ND (0.035)	0.689	ND (0.039)	0.115	1.9	1.3	2.6	2.4	0.27	ND (0.018)	6.0
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0908	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)
PYRENE	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.13	0.169	0.0180 J	ND (0.035)	1.00	ND (0.039)	0.183	0.43	2.8	3.1	1.2	0.34	0.92	5.1
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.060)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.033)	ND (0.36)	ND (0.35)	ND (0.19)	ND (0.18)	ND (0.35)
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	65	53	97	73	**373 [A]**	157	**415 [A]**	86	**1120 [A]**	**336 [B]**	98	80	145	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.4	17.0	11.8	0.42 J	47.8	25.0	21.2	11.9	10.0	7.91	11.7	6.11	6.20	10.4
LEAD	mg/kg	450[AB]	65	38	289	**988 [B]**	**452 [A]**	144	375	208	**1010 [A]**	402	227	189	140	252	209	7.7	2.7	0.92 J	**657 [A]**	11.3	143	15.2	27.5	11.9	49.6	15.6	2.85	47.2
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	294	25.4	33.6	3.6 J	**764 [A]**	29.3	273	42.4	50.5	20.0	36.7	12.4	6.63	24.4
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**843 [A]**	332	52.4	10.6	**1940 [A]**	45.4	**1050 [A]**	89.6	129	64.5	69.0	27.4	24.0	60.2
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	757	35.7	52.9	4.1 J	1110	58.5	329	50.8	305	102	270	41.7	35.6	544

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-15-MH07-08	AOI5-BH-15-MH07-09	AOI5-BH-15-MH07-10	AOI5-BH-15-MH07-11	AOI5-BH-15-MH07-12	AOI5-BH-15-MH07-13	AOI5-BH-15-MH07-14	AOI5-BH-15-MH07-15	AOI5-BH-15-MH07-16	AOI5-BH-15-MH07-17	AOI5-BH-15-MH07-18	AOI5-BH-15-MH10-11	AOI5-BH-15-MH10-12	AOI5-BH-15-MH10-13	AOI5-BH-15-MH11-01	AOI5-BH-15-MH11-02	AOI5-BH-15-MH11-03	AOI5-BH-15-MH11-04	AOI5-BH-15-MH11-05	AOI5-BH-15-MH11-06	AOI5-BH-15-MH11-07	AOI5-BH-15-MH11-08	AOI5-BH-15-MH11-09	AOI5-BH-15-MH11-10	AOI5-BH-15-MH11-11	AOI5-BH-15-MH11-12	AOI5-BH-15-MH11-13	AOI5-BH-15-MH11-14
Sample Date			16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16
Sample ID			AOI5-BH-15-MH07-08_031616	AOI5-BH-15-MH07-09_031616	AOI5-BH-15-MH07-10_031616	AOI5-BH-15-MH07-11_031616	AOI5-BH-15-MH07-12_031616	AOI5-BH-15-MH07-13_031616	AOI5-BH-15-MH07-14_031616	AOI5-BH-15-MH07-15_031616	AOI5-BH-15-MH07-16_031616	AOI5-BH-15-MH07-17_031616	AOI5-BH-15-MH07-18_031616	AOI5-BH-15-MH10-11_031616	AOI5-BH-15-MH10-12_031616	AOI5-BH-15-MH10-13_031616	AOI5-BH-15-MH11-01_031716	AOI5-BH-15-MH11-02_031716	AOI5-BH-15-MH11-03_031716	AOI5-BH-15-MH11-04_031716	AOI5-BH-15-MH11-05_031716	AOI5-BH-15-MH11-06_031716	AOI5-BH-15-MH11-07_031716	AOI5-BH-15-MH11-08_031716	AOI5-BH-15-MH11-09_031716	AOI5-BH-15-MH11-10_031716	AOI5-BH-15-MH11-11_031716	AOI5-BH-15-MH11-12_031716	AOI5-BH-15-MH11-13_031716	AOI5-BH-15-MH11-14_031716
Sample Depth			4 ft	5 ft	5 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	5 ft	5 ft	5 ft	5 ft	5 ft	1.5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	2 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1641428	1641428	1641428	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1642685	1642685	1642685	1642685	1642685
Laboratory Sample ID	Units	SHS-PA	8289415	8289416	8289417	8290954	8290955	8290956	8290957	8290960	8290959	8290958	8290961	8290964	8290963	8290962	8290966	8290965	8290967	8290968	8290969	8290970	8290971	8290972	8290973	8295787	8295792	8295790	8295789	8295788
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5^{AB}	ND (0.0004)	ND (0.029)	ND (0.021)	ND (0.0005)	ND (0.0005)	ND (0.0006)	ND (0.0004)	ND (0.0005)	ND (0.0004)	ND (0.0004)	ND (0.021)	ND (0.27)	ND (0.29)	ND (0.35)	ND (0.0005)	ND (0.026)	ND (0.0006)	ND (0.0007)	ND (0.022)	ND (0.025)	ND (0.025)	ND (0.024)	ND (0.020)	ND (0.21)	0.027 J	ND (0.024)	ND (0.095)	ND (0.23)
CYCLOHEXANE	mg/kg	6900^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	0.002 J	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	0.15 J	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	0.54 J
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	0.15 J	ND (0.001)	ND (0.001)	0.12 J	ND (0.050)	ND (0.050)	0.059 J	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	0.002 J	ND (0.058)	ND (0.041)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	0.046 J	0.44 J	ND (0.054)	ND (0.049)	ND (0.19)	0.78 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	0.001 J	ND (0.029)	ND (0.021)	ND (0.0005)	ND (0.0005)	ND (0.0006)	ND (0.0004)	ND (0.0005)	ND (0.0004)	ND (0.0004)	ND (0.021)	ND (0.27)	ND (0.29)	ND (0.35)	ND (0.0005)	ND (0.026)	ND (0.0006)	ND (0.0007)	ND (0.022)	ND (0.025)	ND (0.025)	ND (0.024)	ND (0.020)	ND (0.21)	ND (0.027)	ND (0.024)	ND (0.095)	ND (0.23)
HEXANE	mg/kg	5600^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)
NAPHTHALENE	mg/kg	25^{AB}	ND (0.0009)	ND (0.058)	0.051 J	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	0.001 J	0.002 J	ND (0.0008)	ND (0.042)	**40 [A]**	**73 [B]**	**50 [A]**	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	0.053 J	0.19 J	ND (0.050)	ND (0.048)	0.31	0.78 J	0.21 J	0.14 J	0.68 J	6.6
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	0.003 J	ND (0.058)	ND (0.041)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	0.63 J	0.83 J	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	0.23 J	ND (0.050)	0.080 J	0.068 J	0.43 J	ND (0.054)	ND (0.049)	ND (0.19)	0.70 J
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	0.065 J	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)
TOLUENE	mg/kg	100^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	0.004 J	ND (0.001)	ND (0.0008)	ND (0.001)	0.002 J	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	0.73 J	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	0.20 J	0.077 J	0.57 J	0.10 J	0.17 J	0.65 J	ND (0.47)
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.0009)	ND (0.058)	ND (0.041)	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	0.055 J	ND (0.040)	0.45 J	0.059 J	0.058 J	0.27 J	ND (0.47)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	0.005	ND (0.058)	0.36	ND (0.001)	0.019	0.004 J	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	1.2	0.001 J	ND (0.001)	1.1	ND (0.050)	ND (0.050)	0.087 J	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.00023)	ND (0.00024)	ND (0.00020)	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00022)	ND (0.00020)	ND (0.00020)	ND (0.00020)	ND (0.00019)	ND (0.00020)	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00022)	ND (0.00022)	ND (0.00020)	ND (0.00022)	ND (0.00023)	ND (0.00023)	ND (0.00022)	0.00053 J
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700^{AB}	ND (0.0040)	0.023	0.019	0.34 J	0.039 J	ND (0.019)	ND (0.0037)	0.059 J	0.073 J	ND (0.019)	0.25	13	9.8	7.8	ND (0.0033)	0.072 J	0.022	ND (0.036)	0.22	1.2	ND (0.019)	0.96	2.6	1.2	1.1	0.57	2.7	ND (0.0037)
ANTHRACENE	mg/kg	350^{AB}	0.029	0.12	0.017 J	0.45	0.23	0.033 J	ND (0.0037)	0.10	0.046 J	ND (0.019)	0.12	9.0	7.0	5.3	0.0035 J	0.049 J	0.024	0.16 J	0.64	0.69	0.050 J	0.64	0.82	1.5	1.3	1.6	2.5	0.0073 J
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	0.017 J	0.22	0.013 J	2.5	0.62	0.12	0.0041 J	0.51	0.31	ND (0.019)	0.33	0.34 J	0.25 J	0.17 J	0.0050 J	0.018 J	0.032	0.54	3.0	0.26	0.074 J	0.39	0.73	0.40	1.2	5.9	0.62	0.016 J
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	0.012 J	0.14	0.012 J	2.0	0.59	0.19	ND (0.0037)	0.27	0.74	0.050 J	0.28	ND (0.30)	ND (0.17)	ND (0.17)	0.0061 J	ND (0.017)	0.020	0.43	9.9	0.25	0.090 J	0.43	0.77	0.33	0.87	3.5	0.46	0.018 J
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.0071 J	0.073	0.0083 J	0.83	0.34	0.11	ND (0.0037)	0.12	0.29	ND (0.019)	0.14	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	0.0081 J	0.22	4.4	0.13	0.074 J	0.23	0.42	0.17	0.53	2.4	0.25	0.014 J
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	0.0092 J	0.069	0.0087 J	0.99	0.31	0.22	0.017 J	0.10	1.3	0.49	0.11	0.51 J	ND (0.17)	ND (0.17)	0.0072 J	0.024 J	0.0092 J	0.72	2.8	0.29	0.12	0.81	0.89	0.28	0.84	1.7	0.62	0.017 J
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	ND (0.0040)	0.016 J	ND (0.0034)	ND (0.075)	0.086 J	0.029 J	ND (0.0037)	0.049 J	0.070 J	ND (0.019)	0.025	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	ND (0.0033)	0.059 J	1.0	0.031 J	0.036 J	0.095 J	0.15 J	0.037 J	ND (0.040)	0.51	ND (0.037)	0.0040 J
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.020)	ND (0.020)	ND (0.017)	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	0.49	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.080)	ND (0.081)	ND (0.069)	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	1.1 J	ND (0.77)	ND (0.74)	ND (0.075)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.080)	ND (0.081)	ND (0.069)	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	ND (0.80)	ND (0.77)	ND (0.74)	ND (0.075)
CHRYSENE	mg/kg	230^{AB}	0.039	0.40	0.035	4.8	1.5	0.37	0.0091 J	0.89	1.1	ND (0.019)	0.66	0.75 J	0.49 J	0.43 J	0.012 J	0.062 J	0.053	1.1	12	0.59	0.21	0.77	1.9	0.90	2.7	14	1.2	0.030
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.0040)	0.033	ND (0.0034)	0.38 J	0.13 J	0.052 J	ND (0.0037)	0.063 J	0.16 J	ND (0.019)	0.056	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	0.0043 J	0.14 J	1.9	0.043 J	0.039 J	0.15 J	0.19	0.070 J	0.21	0.83	ND (0.037)	0.0054 J
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.080)	ND (0.081)	ND (0.069)	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	ND (0.80)	ND (0.77)	ND (0.74)	ND (0.075)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.020)	0.023 J	ND (0.017)	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.36)	ND (0.36)	ND (0.31)	ND (6.7)	ND (3.4)	ND (1.7)	ND (0.33)	ND (1.6)	ND (3.2)	ND (1.7)	ND (0.33)	ND (0.30)	ND (15)	ND (15)	ND (0.30)	ND (1.5)	ND (0.30)	ND (3.3)	ND (3.2)	ND (1.7)	ND (1.7)	ND (3.3)	ND (3.2)	ND (1.6)	ND (3.6)	ND (3.5)	ND (3.4)	ND (0.34)
FLUORANTHENE	mg/kg	3200^{AB}	0.016 J	0.096	0.014 J	0.55	0.24	0.039 J	ND (0.0037)	0.12	0.12 J	ND (0.019)	0.090	1.9	1.3	0.88	ND (0.0033)	ND (0.017)	0.012 J	0.15 J	0.18 J	0.33	0.074 J	0.42	0.51	0.55	0.61	2.0	0.86	0.0096 J
FLUORENE	mg/kg	3800^{AB}	ND (0.0040)	0.054	0.018	0.36 J	0.11 J	0.019 J	ND (0.0037)	0.072 J	0.048 J	ND (0.019)	0.26	22	19	13	ND (0.0033)	0.055 J	0.026	0.061 J	0.16 J	2.5	0.089 J	1.7	4.6	2.8	2.3	1.3	5.2	ND (0.0037)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	ND (0.0040)	0.024	ND (0.0034)	0.27 J	0.11 J	0.048 J	ND (0.0037)	0.045 J	0.20	ND (0.019)	0.040	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	0.0040 J	0.15 J	1.3	0.12	0.051 J	0.21	0.28	0.092 J	0.25	0.63	0.21	ND (0.0037)
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	ND (0.0040)	0.12	0.0085 J	0.54	0.24	0.042 J	0.0067 J	0.14	0.059 J	ND (0.019)	0.36	42	130	110	0.019	ND (0.017)	0.10	0.23	0.82	0.98	0.081 J	4.5	63	18	7.8	3.9	28	0.0077 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.020)	0.046	ND (0.017)	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	0.023 J	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.020)	0.027 J	ND (0.017)	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.20)	ND (0.20)	ND (0.17)	ND (3.7)	ND (1.9)	ND (0.94)	ND (0.18)	ND (0.90)	ND (1.8)	ND (0.93)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.83)	ND (0.17)	ND (1.8)	ND (1.8)	ND (0.95)	ND (0.93)	ND (1.9)	ND (1.8)	ND (0.91)	ND (2.0)	ND (1.9)	ND (1.9)	ND (0.19)
PHENANTHRENE	mg/kg	10000^{AB}	0.045	0.59	0.036	1.5	1.1	0.18	ND (0.0037)	0.44	0.14 J	ND (0.019)	0.39	33	39	32	0.014 J	0.080 J	0.093	0.53	1.6	4.6	0.061 J	2.8	6.0	4.4	3.8	6.8	9.3	0.019 J
PHENOL	mg/kg	200^{AB}	ND (0.020)	0.046	ND (0.017)	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)
PYRENE	mg/kg	2200^{AB}	0.067	0.51	0.075	4.2	1.6	0.38	0.0069 J	0.79	1.9	0.022 J	0.71	5.1	4.2	2.7	0.011 J	0.11	0.068	0.98	14	2.1	0.37	2.4	4.1	3.0	3.9	11	5.4	0.052
PYRIDINE	mg/kg	12^{AB}	ND (0.080)	ND (0.081)	ND (0.069)	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	ND (0.80)	ND (0.77)	ND (0.74)	ND (0.075)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.040)	ND (0.040)	ND (0.034)	ND (0.033)	ND (0.37)	ND (0.19)	ND (0.037)	ND (0.18)	ND (0.36)	ND (0.19)	ND (0.036)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.17)	ND (0.033)	ND (0.36)	ND (0.36)	ND (0.19)	ND (0.19)	ND (0.37)	ND (0.36)	ND (0.18)	ND (0.033)	ND (0.033)	ND (0.37)	ND (0.037)
Metals																														
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	ND (0.409)	0.543 J	0.611	15.7	2.83	3.26	32.7	2.82	5.59	7.14	15.0	1.55 J	1.67 J	0.455 J	0.741 J	1.49 J	1.17 J	5.57	15.6	16.8	11.8	16.8	7.55	10.3	7.59	7.69	8.60	13.8
LEAD	mg/kg	450^{AB}	ND (2.07)	1.71	1.82	232	15.7	56.6	172	4.99 J	16.0	17.5	31.9	2.68 J	2.59 J	1.56 J	3.58 J	3.43 J	3.24 J	37.8	24.8	30.9	24.9	57.8	22.9	13.0	27.5	33.7	23.1	6.30
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	ND (1.16)	1.82	1.76	94.5	20.7	23.7	**984 [A]**	26.4	16.8	18.0	83.9	3.07 J	4.60	0.865 J	2.20 J	3.81 J	3.19 J	21.3	93.5	18.1	23.5	24.1	14.2	18.8	12.4	13.4	12.7	33.9
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	2.58	3.33	2.02	64.0	4.46	4.54	210	2.66	24.3	34.7	66.0	5.29	2.90	3.76	2.98	7.08	2.95	47.4	57.0	53.2	74.4	63.0	36.2	49.3	41.7	41.4	39.7	56.6
ZINC	mg/kg	12000^{AB}	10.0	4.24	5.20	1350	68.1	283	983	4.83 J	122	81.5	159	4.82 J	6.97 J	4.33 J	5.57 J	6.80 J	5.64 J	134	110	73.6	76.5	113	54.3	50.9	47.7	49.8	41.0	69.8

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-15-MH11-15	AOI5-BH-15-MH11-16	AOI5-BH-15-MH389-01	AOI5-BH-15-MH389-02	AOI5-BH-15-MH389-03	AOI5-BH-15-MH389-04	AOI5-BH-15-MH389-05	AOI5-BH-15-MH389-06	AOI5-BH-15-MH389-07	AOI5-BH-15-MH389-08	AOI5-BH-15-MH389-09	AOI5-BH-15-MH389-10	AOI5-BH-15-MH389-11	AOI5-BH-16-001	AOI5-BH-16-002		AOI5-BH-16-003		AOI5-BH-16-004		AOI5-BH-16-005		AOI5-BH-16-006	
Sample Date			17-Mar-16	17-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16
Sample ID			AOI5-BH15_MH11-15_031716	AOI5-BH15_MH11-16_031716	AOI5-BH15_MH389-01_031816	AOI5-BH15_MH389-02_031816	AOI5-BH15_MH389-03_031816	AOI5-BH15_MH389-04_031816	AOI5-BH15_MH389-05_031816	AOI5-BH15_MH389-06_031816	AOI5-BH15_MH389-07_031816	AOI5-BH15_MH389-08_031816	AOI5-BH15_MH389-09_031816	AOI5-BH15_MH389-10_031816	AOI5-BH15_MH389-11_031816	AOI5-BH-16-001(0-2')	AOI5-BH-16-002(0-2')	AOI5-BH-16-002(3-4')	AOI5-BH-16-003(0-2')	AOI5-BH-16-003(3-4')	AOI5-BH-16-004(0-2')	AOI5-BH-16-004(5-6')	AOI5-BH-16-005(0-2')	AOI5-BH-16-005(3-4')	AOI5-BH-16-006(0-2')	AOI5-BH-16-006(3-4')
Sample Depth			2 ft	2 ft	5 ft	5 ft	5 ft	2 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	0 - 2 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	5 - 6 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1642685	1642685	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102
Laboratory Sample ID	Units	SHS-PA	8295791	8295793	8295773	8295775	8295776	8295777	8295778	8295779	8295780	8295781	8295782	8295783	8295784	8297814	8297815	8297816	8297817	8297818	8297810	8297811	8297812	8297813	8297808	8297809
Volatile Organic Compounds																										
BENZENE	mg/kg	0.5^{AB}	0.0005 J	ND (0.020)	0.029 J	0.017	0.063 J	ND (0.030)	ND (0.036)	ND (0.038)	ND (0.0005)	ND (0.12)	ND (0.36)	0.002 J	ND (0.031)	***140*** ^{A}	ND (0.025)	0.19 J	R	ND (0.028)	0.0009 J	***7.2*** ^{B}	0.005 J	0.004 J	0.0006 J	0.30 J
CYCLOHEXANE	mg/kg	6900^{AB}	ND (0.0009)	0.070 J	0.92	0.029	15	4.3	ND (0.071)	0.71	0.001 J	ND (0.23)	ND (0.72)	0.005 J	0.42	3.2	0.38	ND (0.26)	R	1.3	ND (0.001)	0.059 J	0.006 J	0.003 J	ND (0.0009)	0.10 J
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	R	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.0009)	ND (0.040)	ND (0.056)	ND (0.001)	ND (0.056)	ND (0.060)	ND (0.071)	ND (0.076)	ND (0.001)	ND (0.23)	ND (0.001)	ND (0.001)	ND (0.061)	ND (0.23)	ND (0.050)	ND (0.26)	R	ND (0.055)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.0009)	ND (0.040)	ND (0.056)	0.002 J	0.23 J	0.69	ND (0.071)	ND (0.076)	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.15 J	20	ND (0.050)	0.37 J	0.14 J-	0.30	ND (0.001)	0.43	0.002 J	ND (0.001)	ND (0.0009)	0.62
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	ND (0.0009)	0.19 J	0.51	ND (0.001)	0.48	0.88	ND (0.071)	0.28 J	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.21 J	0.57 J	1.4	23	R	0.53	ND (0.001)	ND (0.059)	0.002 J	0.002 J	ND (0.0009)	0.064 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.0005)	ND (0.020)	ND (0.028)	ND (0.0006)	ND (0.028)	ND (0.030)	ND (0.036)	ND (0.038)	ND (0.0005)	ND (0.12)	ND (0.36)	ND (0.0006)	ND (0.031)	ND (0.12)	ND (0.025)	ND (0.13)	R	ND (0.028)	ND (0.0005)	ND (0.029)	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.031)
HEXANE	mg/kg	5600^{AB}	0.002 J	ND (0.040)	0.24 J	0.020	0.87	0.12 J	ND (0.071)	0.67	ND (0.001)	0.68 J	2.4 J	0.002 J	ND (0.061)	42	0.14 J	ND (0.26)	R	ND (0.055)	ND (0.001)	ND (0.059)	0.003 J	ND (0.001)	ND (0.0009)	ND (0.063)
NAPHTHALENE	mg/kg	25^{AB}	ND (0.0009)	0.15 J	0.45	ND (0.001)	3.1	1.7	ND (0.071)	0.57	ND (0.001)	17	3.2 J	0.002 J	1.1	0.38 J	ND (0.050)	ND (0.26)	0.26 J-	0.064 J	ND (0.001)	0.11 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.11 J
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	ND (0.0009)	0.30	0.75	ND (0.001)	0.75	0.80	ND (0.071)	0.21 J	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.32	ND (0.23)	0.33	13	R	0.13 J	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	ND (0.0009)	0.053 J	0.35	ND (0.001)	0.46	0.32	ND (0.071)	0.16 J	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.090 J	ND (0.23)	0.060 J	1.4	R	ND (0.055)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)
TOLUENE	mg/kg	100^{AB}	ND (0.0009)	ND (0.040)	ND (0.056)	ND (0.001)	ND (0.056)	ND (0.060)	ND (0.071)	ND (0.076)	ND (0.001)	ND (0.23)	ND (0.72)	0.002 J	ND (0.061)	***130*** ^{A}	ND (0.050)	0.34 J	R	ND (0.055)	ND (0.001)	0.23 J	ND (0.001)	ND (0.001)	0.002 J	ND (0.063)
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	ND (0.0009)	0.045 J	ND (0.056)	ND (0.001)	1.3	2.8	ND (0.071)	0.17 J	ND (0.001)	0.59 J	ND (0.72)	0.003 J	3.1	16	ND (0.050)	ND (0.26)	0.18 J-	ND (0.055)	ND (0.001)	0.23 J	0.002 J	ND (0.001)	ND (0.0009)	0.11 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.0009)	ND (0.040)	ND (0.056)	ND (0.001)	1.3	1.7	ND (0.071)	ND (0.076)	ND (0.001)	0.34 J	ND (0.72)	ND (0.001)	1.8	4.2	ND (0.050)	ND (0.26)	0.092 J-	ND (0.055)	ND (0.001)	0.074 J	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	ND (0.0009)	ND (0.040)	ND (0.056)	0.003 J	0.53	0.71	ND (0.071)	0.27 J	ND (0.001)	ND (0.23)	ND (0.72)	0.002 J	0.64	120	ND (0.050)	0.59 J	1.1 J-	ND (0.055)	ND (0.001)	1.8	0.007	ND (0.001)	0.008	3.7
Volatile Organic Compounds (SW8011)																										
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.00022)	ND (0.00021)	ND (0.00023)	ND (0.00023)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00023)	ND (0.00023)	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																										
ACENAPHTHENE	mg/kg	4700^{AB}	ND (0.019)	2.2	ND (0.038)	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	3.1	ND (0.0040)	ND (0.041)	ND (0.041)	ND (0.0039)	ND (0.0041)	0.0082 J	0.15	0.95	0.22	0.021	ND (0.019)	ND (0.0041)	ND (0.020)	ND (0.0041)	ND (0.0035)	0.030 J
ANTHRACENE	mg/kg	350^{AB}	0.048 J	2.2	2.3	ND (0.0039)	ND (0.041)	0.28	ND (0.040)	3.4	0.0052 J	0.21	4.6	0.067	0.15	ND (0.0040)	0.17	0.49	0.32	0.024	ND (0.019)	ND (0.0041)	0.050 J	0.0044 J	ND (0.0035)	0.15
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	0.12	3.5	0.53	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	0.68	0.011 J	0.67	1.5	0.037	0.019 J	ND (0.0040)	0.17	0.17 J	0.55	0.020	0.031 J	ND (0.0041)	0.054 J	0.025	0.0062 J	0.20
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	0.11	2.7	0.22	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	0.29	0.016 J	0.48	1.3	0.036	ND (0.0041)	0.0068 J	0.21	0.17 J	0.43	0.039	0.039 J	ND (0.0041)	0.047 J	0.027	0.0082 J	0.25
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.070 J	1.1	0.18 J	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	0.21	0.015 J	0.80	0.57	0.024	ND (0.0041)	0.0073 J	0.22	0.19 J	0.53	0.034	0.050 J	ND (0.0041)	0.084 J	0.041	0.020	0.20
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	0.18	1.5	0.22	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	0.28	0.022	0.32	2.1	0.070	0.0053 J	0.0087 J	0.18	0.22	0.31	0.046	0.038 J	ND (0.0041)	0.043 J	0.017 J	0.011 J	0.17
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	0.030 J	0.28	0.082 J	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	0.050 J	0.0088 J	0.27	0.17 J	ND (0.0039)	ND (0.0041)	ND (0.0040)	0.10	0.078 J	0.25	0.015 J	0.021 J	ND (0.0041)	0.043 J	0.018 J	0.0077 J	0.11
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	0.39 J	ND (0.21)	0.039	ND (0.020)	0.045	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	0.65 J	ND (0.76)	1.3 J	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	ND (0.39)	ND (0.76)	ND (0.77)	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)
CHRYSENE	mg/kg	230^{AB}	0.29	7.2	0.93	ND (0.0039)	0.32	ND (0.040)	0.31	1.1	0.017 J	0.75	2.5	0.072	0.034	0.0053 J	0.26	0.20	0.59	0.033	0.047 J	ND (0.0041)	0.094 J	0.031	0.014 J	0.32
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.019)	0.45	ND (0.038)	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	ND (0.040)	0.014 J	0.083 J	ND (0.041)	ND (0.0039)	ND (0.0041)	ND (0.0040)	0.048 J	0.041 J	0.058 J	0.0049 J	ND (0.019)	ND (0.0041)	ND (0.020)	0.0047 J	0.0037 J	0.042 J
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	ND (0.39)	ND (0.76)	ND (0.77)	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	0.50	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (1.7)	ND (3.3)	ND (3.4)	ND (0.35)	ND (3.7)	ND (3.6)	ND (3.6)	ND (3.6)	ND (0.36)	ND (3.7)	ND (3.7)	ND (0.35)	ND (0.37)	ND (0.36)	ND (1.8)	ND (3.4) J	ND (3.5) J	ND (0.34)	ND (1.7)	ND (0.37)	ND (1.8)	ND (0.37)	ND (0.32)	ND (1.8)
FLUORANTHENE	mg/kg	3200^{AB}	0.040 J	1.1	0.97	0.0072 J	ND (0.041)	ND (0.040)	ND (0.040)	1.1	0.020 J	0.65	1.9	0.053	0.032	0.012 J	0.35	0.67	1.6	0.080	0.081 J	ND (0.0041)	0.24	0.038	0.016 J	0.29
FLUORENE	mg/kg	3800^{AB}	ND (0.019)	3.2	4.0	ND (0.0039)	2.1	0.88	1.3	5.9	0.0070 J	0.097 J	5.2	0.057	0.27	0.042	0.47	1.5	0.49	0.046	ND (0.019)	ND (0.0041)	0.020 J	ND (0.0041)	ND (0.0035)	0.093 J
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	0.061 J	0.40	0.094 J	ND (0.0039)	ND (0.041)	ND (0.040)	ND (0.040)	0.15 J	0.012 J	0.23	0.53	0.023	ND (0.0041)	0.0052 J	0.088 J	0.11 J	0.26	0.022	0.025 J	ND (0.0041)	0.031 J	0.014 J	0.0069 J	0.090 J
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	ND (0.019)	1.7	9.0	ND (0.0039)	11	3.3	2.7	1.6	0.0080 J	2.5	48	0.36	0.93	0.22	0.36	0.79	1.6	0.13	ND (0.019)	0.038	ND (0.020)	0.0043 J	0.0054 J	0.081 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	0.69	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	0.69	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.95)	ND (1.8)	ND (1.9)	ND (0.20)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (2.1)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.98)	ND (1.9)	ND (1.9)	ND (0.19)	ND (0.95)	ND (0.20)	ND (0.99)	ND (0.21)	ND (0.18)	ND (1.0)
PHENANTHRENE	mg/kg	10000^{AB}	0.088 J	11	7.9	ND (0.0039)	3.2	1.5	2.4	12	0.019 J	0.67	14	0.21	0.57	0.020 J	0.67	2.8	2.4	0.12	0.059 J	0.0071 J	0.094 J	0.015 J	0.013 J	0.52
PHENOL	mg/kg	200^{AB}	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	1.7	ND (0.098)	ND (0.19)	0.49	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)
PYRENE	mg/kg	2200^{AB}	0.21	8.4	4.6	0.015 J	0.44	0.50	0.33	4.7	0.022	1.4	13	0.29	0.18	0.021	0.47	1.2	1.2	0.16	0.095 J	ND (0.0041)	0.21	0.040	0.015 J	1.3
PYRIDINE	mg/kg	12^{AB}	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	ND (0.39)	ND (0.76)	ND (0.77)	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.19)	ND (0.36)	ND (0.033)	ND (0.039)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.040)	ND (0.033)	ND (0.033)	ND (0.039)	ND (0.041)	ND (0.040)	ND (0.20)	ND (0.033)	ND (0.033)	ND (0.038)	ND (0.19)	ND (0.041)	ND (0.20)	ND (0.041)	ND (0.035)	ND (0.20)
Metals																										
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.61	2.67	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	141	103	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0450)	0.233 J	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71.4 J	52.8 J	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	8.50	3.11	6.58	5.14	5.03	6.33	4.64	7.50	6.77	15.8	6.15	7.66	6.83	6.81	10.5	11.9	4.96	7.44	6.85	4.85	7.16	6.68	12.0	5.00
LEAD	mg/kg	450^{AB}	26.7	11.4	14.1	5.97	9.60	9.52	10.1	50.8	69.9	74.5	42.6	14.7	8.04	15.8	169	75.0	172	11.2	29.9	12.9	53.7	10.6	2.52	60.2
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.308	0.255	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	30.7	7.23	14.0	8.55	13.4	13.3	10.7	14.9	12.5	129	17.8	13.3	14.2	16.7	27.5	30.1	18.3	15.1	16.6	18.5	13.8	14.1	41.0	13.9
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (3.86) J	ND (3.23) J	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.65)	ND (0.139)	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	51.7	20.3	39.7	17.0	47.4	38.2	29.7	37.3	34.5	45.2	41.4	38.3	40.6	37.9	56.3	46.9	19.5	31.0	43.8	50.7	35.7	43.4	58.7	35.7
ZINC	mg/kg	12000^{AB}	109	37.1	40.1	22.9	37.5	36.2	33.7	53.0	37.0	140	328	38.5	34.7	53.8	227	137	442	46.5	75.0	37.2	56.2	43.9	77.1	50.1

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-007		AOI5-BH-16-008		AOI5-BH-16-009		AOI5-BH-16-010		AOI5-BH-16-011		AOI5-BH-16-012		AOI5-BH-16-013		AOI5-BH-16-014		AOI5-BH-16-015		AOI5-BH-16-016		AOI5-BH-16-017		AOI5-BH-16-018	AOI5-BH-16-023		AOI5-BH-16-024	AOI5-BH-16-025	AOI5-BH
Sample Date			22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16
Sample ID			AOI5-BH-16-007(0-2')	AOI5-BH-16-007(3-4')	AOI5-BH-16-008(0-2')	AOI5-BH-16-008(3-4')	AOI5-BH-16-009(0-2')	AOI5-BH-16-009(3-4')	AOI5-BH-16-010(0-2')	AOI5-BH-16-010(3-4')	AOI5-BH-16-011(0-2')	AOI5-BH-16-011(3-4')	AOI5-BH-16-012(0-2')	AOI5-BH-16-012(2-3')	AOI5-BH-16-013(0-2')	AOI5-BH-16-013(4-5')	AOI5-BH-16-014(0-2')	AOI5-BH-16-014(2-3')	AOI5-BH-16-015(0-2')	AOI5-BH-16-015(3-4')	AOI5-BH-16-016(0-2')	AOI5-BH-16-016(2-3')	AOI5-BH-16-017(0-2')	AOI5-BH-16-017(3-4')	AOI5-BH-16-018(0-1')	AOI5-BH-16-023(0-2)	AOI5-BH-16-023(2-3)	AOI5-BH-16-024(0-2)	AOI5-BH-16-025(0-2)	AOI5-BH-16-026(0-2)
Sample Depth			0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 1 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1643102	1643102	1643102	1643102	1643102	1643102	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1645141	1645141	1645141	1645141	
Laboratory Sample ID	Units	SHS-PA	8297819	8297820	8297821	8297822	8297823	8297824	8299863	8299864	8299865	8299866	8299867	8299868	8299869	8299870	8299873	8299874	8299875	8299876	8299871	8299872	8299877	8299878	8299879	8308178	8308179	8308175	8308174	8308172
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5^{AB}	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.024)	0.005 J	0.031 J-	ND (0.0005)	ND (0.23)	ND (0.0005)	ND (0.023)	ND (0.0005)	ND (0.0005)	ND (0.029)	0.001 J	ND (0.0005)	ND (0.37)	ND (0.0006)	***4.5*** ^{B}	0.047 J	ND (0.073)	0.003 J	0.001 J	ND (0.0007)	0.012	0.20 J	***0.53 J*** ^{A}	***1.5*** ^{A}	0.067 J
CYCLOHEXANE	mg/kg	6900^{AB}	ND (0.0009)	0.006	ND (0.0009)	ND (0.048)	0.002 J	0.26 J-	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	0.031	120	ND (0.73)	ND (0.001)	4.3	0.096 J	3.1	ND (0.001)	0.022	ND (0.001)	0.001 J	0.25 J	0.98	2.4	0.39
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0001)	ND (0.002)	ND (0.0001) J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	ND (0.001)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.071)	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.066)	ND (0.18)	ND (0.14)	ND (0.064)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	ND (1.8)	0.95 J	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	18	ND (0.73)	ND (0.001)	ND (0.071)	0.062 J	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 J	0.21 J	0.82 J	3.8	ND (0.064)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	0.30 J-	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	0.001 J	5.9 J	2.6 J	ND (0.001)	ND (0.071)	0.080 J	2.5	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.11 J	4.3	5.6	0.51
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.024)	ND (0.0008)	ND (0.027) J	ND (0.88)	ND (0.23)	ND (0.0005)	ND (0.023)	0.002 J	0.001 J	ND (0.029)	ND (0.0005)	ND (0.60)	ND (0.37)	ND (0.0006)	ND (0.036)	ND (0.029)	ND (0.073)	ND (0.0006)	0.001 J	ND (0.0007)	0.0009 J	ND (0.033)	ND (0.091)	ND (0.072)	ND (0.032)
HEXANE	mg/kg	5600^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	8.9	ND (0.058)	0.25 J	ND (0.001)	ND (0.001)	ND (0.001)	0.004 J	0.076 J	0.64 J	2.9	0.084 J
NAPHTHALENE	mg/kg	25^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	7.3 J	0.94 J	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	0.51	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.006	1.4	0.81 J	3.6	0.22 J
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.42	ND (0.002)	0.16 J-	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	0.71 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.19 J	3.4	5.6	0.43
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.066)	0.73 J	1.2	0.13 J
TOLUENE	mg/kg	100^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	0.56	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.008	0.25 J	0.94	1.4	ND (0.064)
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	7.1 J	0.51 J	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	5.1 J	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	0.29 J	ND (0.001)	ND (0.001)	ND (0.001)	0.007	1.3	0.71 J	1.8	0.12 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J	2.9 J	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 J	0.48	0.23 J	0.36 J	ND (0.064)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	0.071 J-	ND (1.8)	2.4	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	5.7 J	ND (0.73)	ND (0.001)	0.44	0.063 J	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.014	1.6	2.4	10	0.15 J
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700^{AB}	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.058	ND (0.0039)	ND (0.0040) J	ND (0.018)	ND (0.0039)	ND (0.0040)	0.51	ND (0.0040)	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.37	0.13	ND (0.0037)	ND (0.019)	0.017 J	ND (0.062)	0.048 J	0.012 J	ND (0.019)	0.12 J	0.62	10	5.8	1.0
ANTHRACENE	mg/kg	350^{AB}	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.049	0.0051 J	0.068 J-	ND (0.018)	0.0049 J	0.0054 J	0.30	ND (0.0040)	0.0059 J	0.020 J	ND (0.0040)	1.2	0.40	0.0064 J	0.37	0.048	0.82	0.33	0.070	0.13	0.23	0.90	4.6	2.8	1.2
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	ND (0.0040)	ND (0.0041)	0.0059 J	0.025	0.010 J	0.026 J-	ND (0.018)	0.0040 J	0.010 J	0.083 J	ND (0.0040)	0.0091 J	0.023	ND (0.0040)	1.3	0.89	ND (0.0037)	0.93	0.12	0.21 J	1.0	0.21	0.062 J	0.31	1.4	1.6	1.2	1.1
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	ND (0.0040)	ND (0.0041)	0.0085 J	0.029	0.023	0.025 J-	ND (0.018)	ND (0.0039)	0.020 J	0.078 J	ND (0.0040)	0.011 J	0.020	ND (0.0040)	0.95	0.59	ND (0.0037)	0.63	0.12	0.082 J	1.0	0.20	0.067 J	0.37	1.1	0.91	0.73	1.3
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.0049 J	ND (0.0041)	0.010 J	0.024	0.024	0.022 J-	ND (0.018)	0.0059 J	0.015 J	0.070 J	ND (0.0040)	0.011 J	0.022	ND (0.0040)	1.2	0.96	ND (0.0037)	1.1	0.20	0.12 J	1.3	0.31	0.080 J	0.35	0.89	1.4	0.81	0.69
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	ND (0.0040)	ND (0.0041)	0.0076 J	0.037	0.046	0.030 J-	ND (0.018)	0.0061 J	0.028	0.081 J	0.0068 J	0.015 J	0.048	ND (0.0040)	0.56	0.45	ND (0.0037)	0.71	0.16	0.12 J	0.86	0.21	0.098	0.43	0.73	0.79	1.2	1.7
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	ND (0.0040)	ND (0.0041)	0.0044 J	0.0075 J	0.011 J	0.0086 J-	ND (0.018)	ND (0.0039)	0.0081 J	0.025 J	ND (0.0040)	ND (0.0038)	0.018 J	ND (0.0040)	0.46	0.39	ND (0.0037)	0.49	0.084	ND (0.062)	0.63	0.13	0.026 J	0.10 J	0.24	0.40 J	0.19	0.19
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J	0.15 J	0.024 J	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	0.078	ND (0.096)	ND (0.018)	0.17 J	0.020 J	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	0.35 J	1.0 J	0.87	0.75
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	0.13 J	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	0.97 J	ND (2.2)	ND (0.40)	ND (0.37)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	ND (0.076)	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	ND (0.83)	ND (2.2)	ND (0.40)	ND (0.37)
CHRYSENE	mg/kg	230^{AB}	ND (0.0040)	ND (0.0041)	0.0069 J	0.054	0.016 J	0.045 J-	ND (0.018)	0.0060 J	0.020 J	0.17	ND (0.0040)	0.0083 J	0.030	ND (0.0040)	1.2	1.2	ND (0.0037)	1.3	0.16	0.38	1.2	0.25	0.20	0.55	2.9	2.6	1.9	1.7
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.0068 J	0.0044 J	0.0049 J-	ND (0.018)	ND (0.0039)	0.0086 J	0.025 J	ND (0.0040)	ND (0.0038)	0.0068 J	ND (0.0040)	0.18	0.12	ND (0.0037)	0.19	0.045	ND (0.062)	0.23	0.054	0.038 J	0.097 J	0.29	0.29 J	0.28	0.31
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	ND (0.076)	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	ND (0.83)	ND (2.2)	ND (0.40)	ND (0.37)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J	ND (0.091)	ND (0.019)	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.36)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.36) J	ND (1.6)	ND (0.35)	ND (0.36)	ND (1.7)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.36)	ND (0.34)	ND (1.7)	ND (0.33)	ND (1.7)	ND (0.37)	ND (5.6)	ND (1.7)	ND (0.36)	ND (1.7)	ND (3.3)	ND (3.7)	ND (9.7)	ND (1.8)	ND (1.7)
FLUORANTHENE	mg/kg	3200^{AB}	0.0054 J	0.0056 J	0.021	0.040	0.024	0.059 J-	0.021 J	ND (0.0039)	0.014 J	0.16	ND (0.0040)	0.010 J	0.046	ND (0.0040)	2.7	2.0	0.016 J	2.6	0.20	0.47	2.1	0.37	0.096	0.51	1.3	7.0	2.0	1.4
FLUORENE	mg/kg	3800^{AB}	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.21	0.0049 J	0.38 J-	0.024 J	0.011 J	0.0043 J	0.84	ND (0.0040)	0.0039 J	0.0079 J	ND (0.0040)	0.78	0.43	ND (0.0037)	0.36	0.043	0.94	0.074 J	0.025	ND (0.019)	0.12 J	1.2	12	9.4	1.4
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	ND (0.0040)	ND (0.0041)	0.0057 J	0.013 J	0.020	0.019 J-	ND (0.018)	0.0041 J	0.0097 J	0.039 J	ND (0.0040)	0.0077 J	0.016 J	ND (0.0040)	0.50	0.28	ND (0.0037)	0.48	0.11	ND (0.062)	0.74	0.15	0.048 J	0.23	0.27	0.40 J	0.50	0.60
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	ND (0.0040)	0.0043 J	ND (0.0039)	0.058	0.056	1.8 J-	7.9	0.76	0.014 J	0.15	0.0076 J	ND (0.0038)	0.027	ND (0.0040)	0.89	3.7	ND (0.0037)	0.73	0.53	20	0.099	0.033	0.078 J	0.40	7.9	13	69	7.2
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J	ND (0.091)	ND (0.019)	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J	ND (0.091)	ND (0.019)	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.91)	ND (0.19)	ND (0.20)	ND (0.94)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.96)	ND (0.18)	ND (0.96)	ND (0.20)	ND (3.1)	ND (0.94)	ND (0.20)	ND (0.94)	ND (1.8)	ND (2.1)	ND (5.4)	ND (1.0)	ND (0.93)
PHENANTHRENE	mg/kg	10000^{AB}	ND (0.0040)	0.0068 J	0.015 J	0.36	0.011 J	0.26 J-	0.026 J	0.0084 J	0.016 J	1.7	ND (0.0040)	0.0087 J	0.044	ND (0.0040)	4.1	1.6	0.011 J	1.7	0.19	1.6	0.87	0.14	0.044 J	0.59	4.7	24	19	6.9
PHENOL	mg/kg	200^{AB}	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J	ND (0.091)	0.13	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)
PYRENE	mg/kg	2200^{AB}	0.0071 J	0.0097 J	0.031	0.15	0.049	0.19 J-	0.038 J	0.014 J	0.038	0.65	0.0086 J	0.035	0.060	ND (0.0040)	2.5	1.8	0.014 J	2.2	0.20	1.0	1.7	0.37	0.44	0.89	3.5	8.7	6.2	5.8
PYRIDINE	mg/kg	12^{AB}	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	ND (0.076)	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	ND (0.83)	ND (2.2)	ND (0.40)	ND (0.37)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.040)	ND (0.041)	ND (0.039)	ND (0.039)	ND (0.039)	ND (0.040) J	ND (0.18)	ND (0.039)	ND (0.040)	ND (0.19)	ND (0.040)	ND (0.038)	ND (0.039)	ND (0.040)	ND (0.038)	ND (0.19)	ND (0.037)	ND (0.19)	ND (0.041)	ND (0.033)	ND (0.19)	ND (0.040)	ND (0.19)	ND (0.37)	ND (0.033)	ND (0.033)	ND (0.20)	ND (0.19)
Metals																														
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	3.74	1.63 J	-	-	12.6	ND (0.662)	-	-	-	-	-	-	-	-	-	-	3.45	4.43	8.69	1.62 J	9.42	6.82
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	169	108	-	-	73.5	85.6	-	-	-	-	-	-	-	-	-	-	132	147	126	456	97.5	191
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	1.02	0.614	-	-	ND (0.224)	0.517 J	-	-	-	-	-	-	-	-	-	-	0.506	0.154 J	0.336 J	1.29	0.717	ND (0.0371)
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	28.7	21.4	-	-	38.9	11.7	-	-	-	-	-	-	-	-	-	-	35.2	30.4	49.4	16.3	18.3	35.9
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	8.21	7.15	6.52	6.38	8.95	9.29	35.8	14.2	18.5	7.02	6.96	8.47	9.31	9.81	9.07	7.83	6.79	9.86	9.16	10.8	10.5	8.08	8.09	7.77	7.94	4.34	10.7	10.1
LEAD	mg/kg	450^{AB}	12.5	10.7	13.7	20.9	16.0	11.1	31.3	14.9	11.7	39.4	14.8	6.27	26.9	9.09	85.8	34.0	14.1	37.4	46.9	44.7	72.6	40.8	35.4	63.9	161	61.5	99.6	110
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	0.835	0.522	-	-	0.0583 J	0.0205 J	-	-	-	-	-	-	-	-	-	-	0.0411 J	0.514	1.28	0.391	0.502	2.11
NICKEL	mg/kg	650^{AB}	20.0	16.6	17.7	16.2	20.5	19.5	21.7	14.1	47.5	17.4	13.1	9.44	16.6	16.4	20.9	16.5	16.9	23.2	15.6	28.4	22.7	18.2	18.3	19.7	22.2	14.4	19.0	26.9
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	ND (0.724)	ND (0.917)	-	-	ND (3.84)	ND (0.943)	-	-	-	-	-	-	-	-	-	-	ND (0.646)	1.08 J	ND (0.864)	ND (4.31)	2.36	1.90
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	0.429 J	ND (0.197)	-	-	ND (0.823)	ND (0.202)	-	-	-	-	-	-	-	-	-	-	ND (0.139)	0.789	1.61	1.75	1.75	1.39
VANADIUM	mg/kg	220^{A} 820^{B}	37.1	44.2	34.3	28.9	39.0	29.8	27.8	29.1	74.7	42.4	43.9	33.6	35.6	42.8	48.7	41.8	42.7	33.2	44.9	74.5	45.3	45.5	45.8	36.2	38.1	86.5	30.2	41.9
ZINC	mg/kg	12000^{AB}	52.0	44.0	50.9	71.5	71.6	51.7	119	40.8	134	127	31.1	37.5	61.9	43.0	1190	95.4	33.5	108	134	135	154	138	108	116	223	243	162	246

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			I-16-026	AOI5-BH-16-027		AOI5-BH-16-028		AOI5-BH-16-029	AOI5-BH-16-030		AOI5-BH-16-031		AOI5-BH-16-032		AOI5-BH-16-033	AOI5-BH-16-034		AOI5-BH-16-035		AOI5-BH-16-036		AOI5-BH-16-037		AOI5-BH-16-038		AOI5-BH-16-039	
Sample Date			29-Mar-16	29-Mar-16	29-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16
Sample ID			AOI5-BH-16-026(2-3)	AOI5-BH-16-027(0-2)	AOI5-BH-16-027(2-3)	AOI5-BH-16-028(0-2')	AOI5-BH-16-028(3-4')	AOI5-BH-16-029(0-1')	AOI5-BH-16-030(0-2')	AOI5-BH-16-030(2-3')	AOI5-BH-16-031(0-2')	AOI5-BH-16-031(3-4')	AOI5-BH-16-032(0-2')	AOI5-BH-16-032(4-5')	AOI5-BH-16-033(0-2')	AOI5-BH-16-034(0-2')	AOI5-BH-16-034(2-3')	AOI5-BH-16-035(0-2)	AOI5-BH-16-035(3-4)	AOI5-BH-16-036(0-2)	AOI5-BH-16-036(2-3)	AOI5-BH-16-037(0-2)	AOI5-BH-16-037(2-3)	AOI5-BH-16-038(0-2)	AOI5-BH-16-038(3-4)	AOI5-BH-16-039(0-2)	AOI5-BH-16-039(2-3)
Sample Depth			2 - 3 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 1 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1645141	1645141	1645141	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024
Laboratory Sample ID	Units	SHS-PA	8308173	8308170	8308171	8305985	8305986	8305987	8305988	8305989	8305983	8305984	8305981	8305982	8305980	8305978	8305979	8302364	8302365	8302358	8302359	8302360	8302361	8302362	8302363	8302370	8302371
Volatile Organic Compounds																											
BENZENE	mg/kg	0.5[AB]	ND (0.034)	0.049 J	ND (0.039)	0.12 J	0.17 J	ND (0.026)	0.038 J	***0.72*** [B]	0.007	0.003 J	ND (0.0005)	ND (0.0005)	0.005	ND (0.029)	ND (0.027)	0.039 J	***0.52 J*** [B]	0.007	ND (0.064)	ND (0.035)	ND (0.036)	ND (0.028)	0.070 J	0.064 J	ND (0.045)
CYCLOHEXANE	mg/kg	6900[AB]	0.59	1.5	1.7	0.41	0.69	0.13 J	0.17 J	0.80	0.052	0.068	ND (0.001)	ND (0.001)	0.003 J	ND (0.058)	ND (0.054)	ND (0.064)	1.1	1.3 J+	ND (0.13)	ND (0.070)	ND (0.073)	0.11 J	ND (0.059)	ND (0.057)	1.4
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.068)	ND (0.063)	ND (0.078)	ND (0.074)	ND (0.081)	ND (0.052)	ND (0.052)	ND (0.058)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.058)	ND (0.054)	ND (0.064)	ND (0.19)	ND (0.0009)	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.089)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.068)	ND (0.063)	ND (0.078)	ND (0.074)	ND (0.081)	0.10 J	ND (0.052)	0.11 J	0.002 J	ND (0.001)	ND (0.001)	ND (0.001)	0.009	ND (0.058)	ND (0.054)	ND (0.064)	0.29 J	0.004 J	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	0.063 J	ND (0.057)	ND (0.089)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	0.18 J	0.28 J	0.20 J	0.12 J	0.21 J	0.066 J	ND (0.052)	0.23 J	0.003 J	0.007	ND (0.001)	ND (0.001)	0.002 J	0.25 J	ND (0.054)	0.78	6.7	0.043	1.1	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	0.34 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	0.036 J	ND (0.031)	ND (0.039)	ND (0.037)	ND (0.041)	ND (0.026)	ND (0.026)	0.047 J	ND (0.0005)	0.001 J	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.029)	ND (0.027)	ND (0.032)	ND (0.094)	0.0005 J	ND (0.064)	ND (0.035)	ND (0.036)	ND (0.028)	ND (0.029)	ND (0.028)	ND (0.045)
HEXANE	mg/kg	5600[AB]	ND (0.068)	0.64	0.84	ND (0.074)	ND (0.081)	0.073 J	0.16 J	0.69	0.020	0.004 J	ND (0.001)	ND (0.001)	0.006	ND (0.058)	ND (0.054)	ND (0.064) J	ND (0.19)	0.034	ND (0.13)	ND (0.070)	ND (0.073)	0.28 J	ND (0.059) J	ND (0.057)	0.24 J
NAPHTHALENE	mg/kg	25[AB]	0.23 J	0.091 J	0.17 J	0.33 J	0.24 J	0.53	0.16 J	0.36	0.004 J	ND (0.001)	ND (0.001)	ND (0.001)	0.014	0.15 J	ND (0.054)	ND (0.064)	0.73 J	0.025 J+	0.28 J	ND (0.070)	ND (0.073)	ND (0.057)	0.093 J	0.48	0.092 J
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	0.14 J	0.23 J	0.14 J	0.24 J	0.38 J	0.096 J	ND (0.052)	0.27 J	0.004 J	0.018	ND (0.001)	ND (0.001)	0.002 J	0.31	0.080 J	0.73	4.7	0.041 J+	0.87	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	0.28 J
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.068)	0.20 J	0.13 J	0.19 J	0.23 J	ND (0.052)	ND (0.052)	0.21 J	0.005	0.013	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.058)	ND (0.054)	0.086 J	0.43 J	0.006 J+	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	0.091 J
TOLUENE	mg/kg	100[AB]	ND (0.068)	ND (0.063)	ND (0.078)	ND (0.074)	ND (0.081)	0.16 J	ND (0.052)	0.16 J	0.004 J	0.005 J	ND (0.001)	ND (0.001)	0.005	0.095 J	ND (0.054)	ND (0.064)	ND (0.19)	0.007	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.089)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.068)	0.11 J	0.12 J	0.33 J	0.12 J	0.52	0.12 J	0.99	0.014	0.018	ND (0.001)	ND (0.001)	0.038	0.11 J	ND (0.054)	ND (0.064)	0.20 J	0.027 J+	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	0.075 J	0.099 J	0.11 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.068)	ND (0.063)	ND (0.078)	0.14 J	ND (0.081)	0.20 J	ND (0.052)	0.21 J	0.005	0.006	ND (0.001)	ND (0.001)	0.010	ND (0.058)	ND (0.054)	ND (0.064)	ND (0.19)	0.018 J+	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.089)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	0.090 J	0.19 J	0.35 J	0.19 J	0.091 J	0.58	0.092 J	0.53	0.017	0.020	ND (0.001)	ND (0.001)	0.026	0.14 J	ND (0.054)	0.10 J	0.51 J	0.032	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	0.16 J	0.085 J	ND (0.089)
Volatile Organic Compounds (SW8011)																											
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																											
ACENAPHTHENE	mg/kg	4700[AB]	1.3	0.088	1.0 J	8.9	9.7	0.99	0.27	1.4	0.24	ND (0.20)	ND (0.018)	ND (0.0039)	0.21	ND (0.18)	ND (0.019)	ND (0.037)	0.90 J	ND (0.17)	1.0 J	1.2	0.27	ND (0.18)	0.61 J	ND (0.19)	0.19
ANTHRACENE	mg/kg	350[AB]	1.7	0.24	2.6	2.3	9.0	1.1	0.56	2.2	0.67	0.70 J	ND (0.018)	0.0047 J	0.36	ND (0.18)	0.057 J	0.058 J	0.95 J	ND (0.17)	1.0 J	1.8	0.30	0.20 J	1.0	0.31 J	0.19
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	2.1	0.25	4.3	3.7	7.1	1.5	0.84	2.5	1.1	0.89 J	0.038 J	0.011 J	0.58	ND (0.18)	0.13	0.11 J	1.0 J	0.31 J	0.72 J	2.3	0.25	0.63 J	1.0	0.44 J	0.12 J
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	2.5	0.17	4.0	3.3	6.4	1.2	1.0	2.3	1.0	0.88 J	0.080 J	0.021	0.71	0.47 J	0.14	0.16 J	0.69 J	0.24 J	0.52 J	1.9	0.17	0.60 J	1.0	0.43 J+	0.12 J
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	1.9	0.13	3.5	2.4	4.1	0.88	1.2	1.6	0.87	1.4	0.073 J	0.020 J	0.62	0.43 J	0.12	0.20	0.82 J	0.30 J	0.58 J	2.2	0.17	0.90 J	1.3	0.43 J	0.083 J
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	2.3	0.24	6.2	3.8	8.1	0.87	0.98	2.7	1.3	2.1	0.079 J	0.037	0.72	0.63 J	0.20	0.24	0.57 J	0.34 J	0.41 J	1.5	0.15	0.54 J	0.90 J	0.61 J	0.11 J
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	0.38 J	0.041	0.93 J	0.71 J	0.80 J	0.22	0.39	0.44 J	0.26	0.46 J	0.024 J	0.0089 J	0.17 J	ND (0.18)	ND (0.019)	0.073 J	0.46 J	ND (0.17)	0.25 J	1.1	0.10 J	0.40 J	0.57 J	0.30 J-	ND (0.025)
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.98)	0.11	2.3	1.8 J	5.0	0.22	0.29	1.6	0.65	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)
CHRYSENE	mg/kg	230[AB]	4.1	0.40	5.2	5.0	11	2.6	1.2	3.8	1.7	1.6	0.088 J	0.025	1.5	0.73 J	0.43	0.18 J	1.4	0.34 J	1.2	3.4	0.42	0.74 J	1.6	0.76 J	0.25
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	1.2	0.041	0.82 J	0.88 J	1.6 J	0.24	0.29	0.61	0.24	0.52 J	0.025 J	0.011 J	0.11 J	ND (0.18)	0.049 J	ND (0.037)	ND (0.22)	ND (0.17)	ND (0.21)	0.39 J	0.038 J	ND (0.18)	0.27 J	ND (0.19)	0.026 J
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (18)	ND (0.35)	ND (18)	ND (19)	ND (0.30)	ND (1.8)	ND (1.5)	ND (8.6)	ND (1.6)	ND (18)	ND (1.6)	ND (0.36)	ND (3.4)	ND (16)	ND (1.7)	ND (3.3)	ND (20)	ND (15)	ND (19)	ND (19)	ND (2.1)	ND (16)	ND (17)	R	ND (2.2)
FLUORANTHENE	mg/kg	3200[AB]	1.8	0.29	5.5	4.3	8.3	1.4	1.1	2.8	1.2	1.8	0.019 J	0.026	0.75	ND (0.18)	0.062 J	0.14 J	2.2	0.38 J	1.7	3.7	0.43	1.1	2.7	0.67 J	0.16
FLUORENE	mg/kg	3800[AB]	2.2	0.23	1.9	4.7	17	1.3	0.57	2.3	0.57	0.62 J	ND (0.018)	ND (0.0039)	0.23	ND (0.18)	0.049 J	0.048 J	1.5	ND (0.17)	2.0	2.2	0.046 J	ND (0.18)	0.43 J	0.26 J	0.45
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	1.3	0.084	1.9	1.3	2.7	0.39	0.62	0.93	0.47	0.66 J	0.023 J	0.017 J	0.27	ND (0.18)	0.049 J	0.13 J	0.45 J	0.27 J	ND (0.21)	0.92 J	0.087 J	0.42 J	0.67 J	0.24 J	0.046 J
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	13	1.1	22	22	74	6.6	3.1	33	5.7	2.1	ND (0.018)	0.023	0.75	1.0	0.88	0.14 J	6.8	0.99	2.9	1.4	0.19	ND (0.18)	0.38 J	0.47 J+	0.16
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (0.17)	ND (0.20)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.98)	ND (0.86)	ND (4.8)	ND (0.91)	ND (0.17)	ND (0.89)	ND (0.20)	ND (1.9)	ND (0.17)	ND (0.94)	ND (1.9)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (1.2)	ND (0.17)	ND (0.17)	R	ND (1.2)
PHENANTHRENE	mg/kg	10000[AB]	10	1.4	18	15	56	5.1	2.4	16	4.5	3.6	0.021 J	0.023	0.71	0.59 J	0.46	0.12 J	4.7	0.37 J	2.6	5.7	0.082 J	0.57 J	1.4	0.94 J+	0.89
PHENOL	mg/kg	200[AB]	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)
PYRENE	mg/kg	2200[AB]	7.1	0.80	16	15	32	3.6	2.8	12	4.0	3.0	0.051 J	0.024	1.5	0.40 J	0.37	0.29	3.7	0.55 J	3.5	6.9	1.1	1.1	3.3	1.2 J+	0.52
PYRIDINE	mg/kg	12[AB]	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)
QUINOLINE	mg/kg	0.37[AB]	ND (0.033)	ND (0.039)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.20)	ND (0.17)	ND (0.033)	ND (0.18)	ND (0.033)	ND (0.18)	ND (0.039)	ND (0.37)	ND (0.033)	ND (0.19)	ND (0.37)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.23)	ND (0.033)	ND (0.033)	R	ND (0.25)
Metals																											
ARSENIC	mg/kg	29[AB]	11.8	7.65	5.84	22.4	21.4	5.03	5.28	12.7	9.12	16.7	1.58 J	3.98 J	9.70	5.00	1.13 J	6.70	24.0	2.13	21.8	28.6	12.2	6.27	***48.7*** [B]	7.08	5.00 J
BARIUM	mg/kg	8200[AB]	273	66.1	66.1	119	175	247	110	182	143	98.9	252	116	180	69.8	162	236	419	250	215	431	367	135	1200	119	102
CADMIUM	mg/kg	6.1[A] 38[B]	1.09	ND (0.0450)	ND (0.0509)	2.60	1.66	1.73	1.20	1.92	1.74	1.66	1.50	1.43	1.89	2.09	1.37	2.31	11.1	1.27	1.95	***7.64*** [A]	1.45	0.854	9.50	0.632	1.24 J
CHROMIUM	mg/kg	190s1[AB]	34.1	20.7	15.1	18.9	35.0	77.4	45.3	26.7	37.5	18.3	54.9	33.6	44.6	19.8	29.9	66.3 J+	34.3 J+	59.6 J+	135 J+	37.4 J+	22.4 J+	35.4 J+	99.6 J+	47.4	60.5 J+
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	6.80	8.64	4.31	8.83	9.57	11.3	6.70	7.32	8.02	10.1	13.9	8.79	14.6	8.06	8.41	14.2	14.1	11.1	22.5	25.9	8.88	7.35	26.2	8.36 J	12.8
LEAD	mg/kg	450[AB]	144	36.8	112	213	***857*** [B]	111	53.7	193	131	133	8.76	14.1	139	39.0	14.4	291	***1430*** [B]	230	395	***1270*** [A]	***792*** [B]	111	***3980*** [B]	117 J	38.0
MERCURY	mg/kg	10[AB]	1.17	0.615	0.177	2.79	3.32	0.690	1.79	0.202	0.605	0.631	0.0136 J	0.0546 J	1.03	0.102	0.0697 J	1.18 J-	0.628 J-	1.29 J-	0.623	0.265 J-	0.230 J-	0.684 J-	2.01 J-	1.60 J-	0.194 J-
NICKEL	mg/kg	650[AB]	23.4	16.4	10.0	29.9	46.2	32.8	16.2	15.8	21.4	22.5	38.7	19.4	43.1	20.4	19.4	34.4	14.6	26.6	17.8	24.8	11.1	24.3	16.0	31.6	27.9
SELENIUM	mg/kg	26[AB]	ND (3.63)	1.16 J	ND (0.872)	4.62	3.38	2.52	1.69 J	2.35	2.97	2.50	2.21	2.26	2.41	2.04	2.69	ND (0.914)	ND (4.82)	ND (0.827)	ND (0.927)	ND (1.07)	ND (0.888)	ND (0.829)	ND (7.46)	1.66 J	ND (4.70)
SILVER	mg/kg	84[AB]	1.97	1.90	1.37	ND (1.01)	ND (0.949)	ND (0.206)	ND (0.823)	ND (0.807)	ND (0.797)	ND (0.861)	ND (0.813)	ND (0.729)	ND (0.840)	ND (0.769)	ND (0.737)	5.88 J+	4.57 J+	5.08 J+	6.14 J+	26.9 J+	15.4 J+	1.14 J+	14.1 J+	1.56	ND (1.01) J
VANADIUM	mg/kg	220[A] 820[B]	29.2	30.5	19.4	35.8	36.5	55.4	31.6	37.0	48.9	30.4	59.0	43.0	53.5	34.0	38.7	54.7	29.0	51.5	49.1	45.5	23.1	40.0	40.2	40.9	63.3
ZINC	mg/kg	12000[AB]	290	83.4	34.1	293	285	162	88.6	422	163	200	65.6	49.8	168	167	103	407	1190	287	1050	1930	321	172	1470	200 J	89.0

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-040		AOI5-BH-16-041		AOI5-BH-16-042		AOI5-BH-16-043		AOI5-BH-16-044		AOI5-BH-16-045		AOI5-BH-16-046		AOI5-BH-16-047		AOI5-BH-16-048		AOI5-BH-16-049		AOI5-BH-16-050		AOI5-BH-16-051		AOI5-BH-16-052	AOI5-BH-16-053		AOI5-BH
Sample Date			24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	28-Mar-16	28-Mar-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	8-Jun-16	8-Jun-16	9-Jun-16	9-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16
Sample ID			AOI5-BH-16-040(0-2)	AOI5-BH-16-040(2-3)	AOI5-BH-16-041(0-2)	AOI5-BH-16-041(6-7)	AOI5-BH-16-042(0-2)	AOI5-BH-16-042(5-6)	AOI5-BH-16-043(0-2)	AOI5-BH-16-043(3-4)	AOI5-BH-16-044(0-2')	AOI5-BH-16-044(8-9')	AOI5-BH-16-045-0-2	AOI5-BH-16-045-4-6	AOI5-BH-16-046-0-2	AOI5-BH-16-046-2-4	AOI5-BH-16-047-0-2	AOI5-BH-16-047-6-8	AOI5-BH-16-048-0-2	AOI5-BH-16-048-6-8	AOI5-BH-16-049-0-2	AOI5-BH-16-049-3-4	AOI5-BH-16-050-1-2	AOI5-BH-16-050-2-4	AOI5-BH-16-051-0-2	AOI5-BH-16-051-4-5	AOI5-BH-16-052-0-1	AOI5-BH-16-053-0-2	AOI5-BH-16-053-4-5	AOI5-BH-16-054-0-2
Sample Depth			0 - 2 ft	2 - 3 ft	0 - 2 ft	6 - 7 ft	0 - 2 ft	5 - 6 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	8 - 9 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	3 - 4 ft	1 - 2 ft	2 - 4 ft	0 - 2 ft	4 - 5 ft	0 - 1 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644685	1644685	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227
Laboratory Sample ID	Units	SHS-PA	8302372	8302373	8302368	8302369	8302366	8302367	8302374	8302375	8305976	8305977	8417775	8417776	8417771	8417772	8417769	8417770	8417773	8417774	8417760	8417761	8417762	8417763	8417758	8417759	8417766	8417767	8417768	8417764
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	0.012	0.18	0.007 J	ND (0.081)	0.012	ND (0.032) J	0.021	ND (0.028)	0.003 J	0.11 J	0.002 J	0.48 J	ND (0.47)	0.003 J	ND (0.030)	ND (0.043)	ND (0.0006)	ND (0.12)	ND (0.0005)	ND (0.031)	***2.2 J[A]***	ND (0.29)	0.21 J	***0.61 J[B]***	ND (0.12)	ND (0.027)	ND (0.24)	***63[A]***
CYCLOHEXANE	mg/kg	6900[AB]	0.001 J	0.003 J	0.24	1.6	ND (0.001)	ND (0.064) J	0.004 J	0.12 J	0.001 J	1.7	ND (0.001)	7.6	ND (0.94)	0.011	0.11 J	0.22 J	ND (0.001)	3.7	ND (0.0009)	ND (0.061)	14	14	0.33 J	13	0.50 J	0.31	ND (0.49)	34
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001) J	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.16)	ND (0.001)	ND (0.064) J	ND (0.001)	ND (0.056)	ND (0.0009)	ND (0.12)	ND (0.001)	ND (0.24)	ND (0.001)	ND (0.0009)	ND (0.061)	ND (0.085)	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	ND (0.001)	ND (0.001)	ND (0.31)	ND (0.001)	ND (0.25)	ND (0.054)	ND (0.49)	ND (0.001)
ETHYLBENZENE	mg/kg	70[AB]	0.005 J	0.006 J+	0.004 J+	0.22 J	ND (0.001) J	ND (0.064) J	0.008 J+	ND (0.056)	0.001 J	0.15 J	ND (0.001)	0.61 J	0.97 J	ND (0.0009)	0.16 J	0.12 J	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	2.6	3.8	0.39 J	ND (0.054)	ND (0.49)	***90[A]***
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.001)	ND (0.002) J	0.013 J+	0.48 J	ND (0.001) J	0.098 J-	0.001 J+	0.16 J	ND (0.0009)	0.80	0.002 J	1.1 J	ND (0.94)	0.009	0.095 J	0.15 J	ND (0.001)	3.4	ND (0.0009)	3.9	ND (0.61)	0.84 J	0.42 J	14	0.36 J	3.0	7.6	11
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.0006)	ND (0.0008)	ND (0.001)	ND (0.081)	ND (0.0006)	ND (0.032) J	ND (0.0006)	ND (0.028)	ND (0.0004)	ND (0.058)	ND (0.0005)	ND (0.12)	ND (0.47)	ND (0.0005)	0.33	0.19 J	ND (0.0006)	ND (0.12)	ND (0.0005)	ND (0.031)	ND (0.30)	ND (0.29)	ND (0.16)	ND (0.28)	ND (0.12)	ND (0.027)	ND (0.24)	ND (0.26)
HEXANE	mg/kg	5600[AB]	0.004 J	0.007 J	0.23	0.99	ND (0.001)	ND (0.064) J	0.007	ND (0.056)	0.002 J	ND (0.12)	ND (0.001)	3.0	ND (0.94)	0.004 J	ND (0.061)	0.12 J	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	0.82 J	ND (0.57)	ND (0.31)	7.6	0.37 J	0.060 J	ND (0.49)	86
NAPHTHALENE	mg/kg	25[AB]	0.008 J+	0.004 J+	0.027 J+	17	0.004 J+	0.12 J-	0.01 J+	0.080 J	0.001 J	0.90	ND (0.001)	0.52 J	5.8	ND (0.0009)	0.22 J	0.50	ND (0.001)	0.35 J	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	18	4.8	9.0	0.25 J	0.69 J	***47[A]***
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.001) J	ND (0.002) J	0.005 J+	0.33 J	ND (0.001) J	0.16 J-	ND (0.001) J	0.23 J	ND (0.0009)	0.42 J	0.004 J	1.1 J	ND (0.94)	0.014	0.21 J	0.14 J	ND (0.001)	3.3	ND (0.0009)	4.5	0.86 J	0.87 J	0.61 J	11	0.56 J	2.9	7.5	6.8
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.001) J	ND (0.002) J	ND (0.002) J	0.32 J	ND (0.001) J	ND (0.064) J	ND (0.001) J	ND (0.056)	ND (0.0009)	ND (0.12)	0.002 J	0.26 J	ND (0.94)	0.002 J	0.079 J	ND (0.085)	ND (0.001)	0.89 J	ND (0.0009)	0.49	ND (0.61)	ND (0.57)	ND (0.31)	1.3 J	ND (0.25)	0.29	0.88 J	0.63 J
TOLUENE	mg/kg	100[AB]	0.012	0.36	0.018	ND (0.16)	0.023	ND (0.064) J	0.036	ND (0.056)	0.002 J	ND (0.12)	0.002 J	ND (0.24)	ND (0.94)	ND (0.0009)	0.092 J	0.089 J	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	0.43 J	0.73 J	ND (0.25)	ND (0.054)	ND (0.49)	6.1
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	0.011 J+	ND (0.002) J	0.062 J+	3.6	0.004 J+	0.081 J-	ND (0.001) J	ND (0.056)	0.001 J	0.89	0.002 J	1.6	5.0	0.002 J	1.1	0.68	ND (0.001)	ND (0.24)	ND (0.0009)	0.13 J	ND (0.61)	ND (0.57)	13	***37[B]***	2.4	0.22 J	ND (0.49)	***160[A]***
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	0.007 J+	0.002 J+	0.020 J+	1.5	0.001 J+	ND (0.064) J	0.01 J+	ND (0.056)	ND (0.0009)	0.45 J	ND (0.001)	0.45 J	1.6 J	0.002 J	0.082 J	0.27 J	ND (0.001)	ND (0.24)	ND (0.0009)	0.062 J	ND (0.61)	ND (0.57)	3.4	12	0.95 J	0.064 J	1.5 J	64
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	0.013	0.090 J+	0.16 J+	2.0	0.009 J+	0.078 J-	0.036 J+	ND (0.056)	0.003 J	0.44 J	ND (0.001)	0.73 J	5.7	0.003 J	0.45	0.40 J	ND (0.001)	ND (0.24)	ND (0.0009)	0.074 J	ND (0.61)	ND (0.57)	16	12	0.43 J	0.10 J	ND (0.49)	330
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	ND (0.18)	ND (0.23)	0.29 J	17	ND (0.19)	1.2	ND (0.22)	3.1	0.079 J	2.7	ND (0.037)	1.2	1.6	3.7	1.4	40	ND (0.0038)	3.5	ND (0.0039)	ND (0.0042)	ND (0.093)	ND (0.096)	ND (0.0045)	14	0.68	ND (0.0038)	ND (0.0038)	5.0
ANTHRACENE	mg/kg	350[AB]	ND (0.18)	ND (0.23)	0.70 J	31	0.36 J	1.7	ND (0.22)	1.9	0.092	2.1	0.10 J	1.5	2.0	3.7	2.8	17	ND (0.0038)	2.8	ND (0.0039)	0.038	1.3	3.2	0.051	9.0	0.89	0.20	0.077	3.6
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	0.63 J	ND (0.23)	0.74 J	24	0.45 J	0.89 J	0.32 J	1.0	0.13	2.3	0.048 J	0.12 J	2.3	4.9	3.3	6.5	ND (0.0038)	0.26	ND (0.0039)	0.017 J	1.7	3.1	0.076	8.1	0.99	0.84	0.015 J	1.8
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.59 J	ND (0.23)	0.78 J	13	0.51 J	0.76 J	0.32 J	0.96	0.079 J	2.5	ND (0.037)	0.042 J	1.3	2.8	2.0	2.5	ND (0.0038)	0.065 J	ND (0.0039)	0.011 J	1.4	1.7	0.055	6.0	0.63	0.47	0.010 J	1.0
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.75 J	ND (0.23)	0.51 J	8.2	0.28 J	0.53 J	0.35 J	0.68 J	0.099	1.7	ND (0.037)	0.049 J	1.5	2.2	2.2	3.4	ND (0.0038)	0.085 J	ND (0.0039)	0.0093 J	0.67	0.73	0.022 J	2.8	0.70	0.20	0.0065 J	0.52
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.50 J	0.33 J	2.5	15	1.2	0.78 J	0.72 J	1.1	0.16	3.9	0.19 J	0.051 J	1.1	1.7	1.9	1.1 J	ND (0.0038)	ND (0.041)	ND (0.0039)	0.0090 J	1.3	1.0	0.051	3.2	0.78	0.31	0.0078 J	0.60
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	0.29 J	ND (0.23)	0.27 J	1.9	ND (0.19)	0.29 J	ND (0.22)	0.22 J	0.034 J	0.30 J	ND (0.037)	ND (0.040)	0.28 J	0.52 J	0.44 J	0.97 J	ND (0.0038)	ND (0.041)	ND (0.0039)	ND (0.0042)	ND (0.093)	0.29 J	0.0056 J	0.59	ND (0.10)	0.042	0.0064 J	0.045 J
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.93)	ND (1.1)	ND (1.2)	17	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)	ND (0.091)	0.91 J	ND (0.19)	ND (0.20)	ND (0.99)	1.7 J	ND (0.51)	1.2 J	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	2.8
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	17	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	ND (3.6)	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)
CHRYSENE	mg/kg	230[AB]	0.78 J	ND (0.23)	0.96 J	34	0.75 J	1.7	0.53 J	2.0	0.21	3.9	0.062 J	0.24	5.0	8.1	7.4	16	ND (0.0038)	0.48	ND (0.0039)	0.039	3.2	5.2	0.12	18	2.1	1.0	0.046	3.2
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	ND (0.18)	ND (0.23)	ND (0.24)	2.3	ND (0.19)	0.22 J	ND (0.22)	ND (0.18)	ND (0.018)	0.33 J	ND (0.037)	ND (0.040)	0.43 J	0.46 J	0.67	0.53 J	ND (0.0038)	ND (0.041)	ND (0.0039)	ND (0.0042)	0.20 J	0.32 J	ND (0.0045)	1.3	0.17 J	0.062	ND (0.0038)	0.20
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	ND (3.6)	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.98)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (17)	ND (20)	ND (22)	ND (18)	ND (17)	ND (19)	ND (20)	ND (16)	ND (1.6)	ND (12)	ND (3.3)	ND (3.6)	ND (18)	ND (18)	ND (9.2)	ND (21)	ND (0.35)	ND (3.7)	ND (0.35)	ND (0.38)	ND (8.4)	ND (8.7)	ND (0.40)	ND (8.7)	ND (9.4)	ND (0.34)	ND (0.34)	ND (1.8)
FLUORANTHENE	mg/kg	3200[AB]	0.93 J	ND (0.23)	0.59 J	17	0.34 J	1.2	0.65 J	1.4	0.11	2.1	0.039 J	0.31	2.5	3.1	3.1	24	ND (0.0038)	0.73	ND (0.0039)	0.015 J	0.84	1.8	0.034	5.9	1.0	0.19	0.018 J	1.0
FLUORENE	mg/kg	3800[AB]	ND (0.18)	ND (0.23)	0.48 J	36	0.28 J	1.7	ND (0.22)	4.7	0.12	7.2	ND (0.037)	4.1	2.7	8.5	3.7	50	ND (0.0038)	7.2	ND (0.0039)	0.071	2.4	6.6	0.11	26	1.1	0.33	0.25	7.8
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	0.29 J	ND (0.23)	0.53 J	4.1	0.34 J	0.31 J	ND (0.22)	0.30 J	0.054 J	0.85	0.038 J	ND (0.040)	0.55 J	0.68 J	0.75	0.45 J	ND (0.0038)	ND (0.041)	ND (0.0039)	ND (0.0042)	0.41 J	0.40 J	0.013 J	0.82	0.31 J	0.083	ND (0.0038)	0.17
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	0.25 J	0.39 J	3.3	190	2.2	2.3	0.57 J	0.41 J	0.23	53	0.13 J	47	14	54	3.5	34	ND (0.0038)	55	ND (0.0039)	0.57	2.2	25	0.14	280	0.80	2.0	0.023	190
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.98)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.98)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.91)	ND (0.17)	ND (1.9)	ND (2.0)	ND (0.17)	ND (0.17)	ND (5.1)	ND (0.17)	ND (0.19)	ND (2.1)	ND (0.20)	ND (0.21)	ND (4.6)	ND (4.8)	ND (0.22)	ND (4.8)	ND (5.2)	ND (0.19)	ND (0.19)	ND (0.99)
PHENANTHRENE	mg/kg	10000[AB]	0.46 J	0.23 J	2.4	140	1.6	1.9	0.63 J	2.1	0.45	20	0.073 J	6.3	10	24	12	95	ND (0.0038)	15	ND (0.0039)	0.088	6.7	16	0.23	83	3.8	1.2	0.37	25
PHENOL	mg/kg	200[AB]	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	1.7 J	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	0.56 J	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)
PYRENE	mg/kg	2200[AB]	1.1	0.26 J	2.1	90	1.4	4.8	0.98 J	4.4	0.44	7.4	0.11 J	1.1	5.1	9.7	6.6	21	ND (0.0038)	2.0	ND (0.0039)	0.047	4.3	6.0	0.15	24	2.9	0.95	0.073	5.3
PYRIDINE	mg/kg	12[AB]	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	ND (3.6)	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)
QUINOLINE	mg/kg	0.37[AB]	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.18)	ND (0.033)	ND (0.37)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.038)	ND (0.033)	ND (0.039)	ND (0.043)	ND (0.033)	ND (0.033)	ND (0.045)	ND (0.033)	ND (0.033)	ND (0.038)	ND (0.038)	ND (0.20)
Metals																														
ARSENIC	mg/kg	29[AB]	ND (2.80)	9.81 J	19.4	11.9	10.2	13.0	13.5	7.00 J	5.65 J	17.8	5.24	4.37	20.1	13.8	22.1	***34.7[B]***	6.41	6.31	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	278	103	330	152	84.5	142	255	105	117	224	110	69.3	100	116	95.1	94.8	59.8	65.0	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	1.32 J	2.30 J	2.70	1.58	0.887	1.07	2.62	2.44	4.26	6.60	ND (0.0377)	ND (0.0506)	ND (0.0559)	0.171 J	ND (0.0404)	0.220 J	ND (0.0523)	ND (0.0486)	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	79.2 J+	93.6 J+	177 J+	34.6 J+	49.6 J+	56.3 J+	75.0 J+	77.6 J+	***445[A]***	78.2	48.9	21.0	63.1	101	36.9	37.4	29.0	32.3	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	11.0	7.99	16.5	7.52	7.46	9.14	11.8	7.12	13.3	21.8	7.23	7.11	5.54	6.57	5.52	7.02	7.10	8.29	9.43	9.17	7.00	7.88	12.4	6.11	11.8	4.95	3.06	7.34
LEAD	mg/kg	450[AB]	70.5	231	***734[A]***	424	205	239	367	191	52.0	***917[B]***	24.0	13.3	178	189	175	241	2.36	0.543 J	2.88	8.14	17.7	1.54	5.39	4.98	110	3.71	1.65	10.7
MERCURY	mg/kg	10[AB]	1.42 J-	4.34 J-	3.83 J-	0.357 J-	1.54 J-	1.90 J-	2.09 J-	1.37 J-	0.134	8.34	0.244	0.122	0.986	0.999	1.87	3.26	0.0125 J	0.0280 J	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	38.1	29.7	48.5	16.7	17.9	22.9	33.4	20.3	61.9	34.9	17.1	12.8	18.0	23.1	13.5	16.9	12.9	14.1	16.8	12.4	17.8	12.6	16.8	14.8	49.2	11.4	5.72	14.4
SELENIUM	mg/kg	26[AB]	ND (3.99)	ND (4.44)	ND (1.08)	ND (0.953)	ND (0.905)	ND (1.04)	ND (1.05)	3.35 J	5.61 J	8.13	ND (0.693)	ND (0.930)	ND (1.03)	1.18 J	0.977 J	ND (1.05)	ND (0.961)	0.973 J	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	ND (0.856) J	ND (0.952) J	9.79 J+	3.72 J+	1.49 J+	2.93 J+	0.327 J+	ND (0.713) J	ND (1.54)	1.44	0.598	ND (0.186)	0.271 J	ND (0.186)	0.528	ND (0.211)	ND (0.192)	0.581	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	64.4	84.0	97.9	41.2	40.9	48.6	66.3	52.9	93.3	66.1	45.6	29.1	56.0	53.2	34.3	44.7	42.7	44.6	45.7	27.5	29.5	17.5	23.8	23.8	113	19.3	11.4	26.7
ZINC	mg/kg	12000[AB]	129	230	1010	169	205	189	330	341	133	620	68.0	39.0	1590	504	137	196	34.0	33.5	41.8	36.0	51.9	34.9	49.3	43.8	284	31.6	15.3	41.1

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			I-16-054	AOI5-BH-16-055	AOI5-BH-16-056		AOI5-BH-16-057		AOI5-BH-16-058		AOI5-BH-16-059		AOI5-BH-16-060		AOI5-BH-16-061		AOI5-BH-16-062		AOI5-BH-16-063		AOI5-BH-16-064		AOI5-BH-16-065		AOI5-BH-16-066		AOI5-BH-16-067		AOI5-BH-16-068	
Sample Date			8-Jun-16	9-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	15-Jun-16	16-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16
Sample ID			AOI5-BH-16-054-2-4	AOI5-BH-16-055-0-2	AOI5-BH-16-056-0-2	AOI5-BH-16-056-2-4	AOI5-BH-16-057-0-2	AOI5-BH-16-057-7-8	AOI5-BH-16-058-0-2	AOI5-BH-16-058-3-4	AOI5-BH-16-059-0-2	AOI5-BH-16-059-8-10	AOI5-BH-16-060-0-2	AOI5-BH-16-060-8-10	AOI5-BH-16-061-0-2	AOI5-BH-16-061-10-11	AOI5-BH-16-062-0-2	AOI5-BH-16-062-7-8	AOI5-BH-16-063-0-2	AOI5-BH-16-063-6-8	AOI5-BH-16-064-0-2	AOI5-BH-16-064-8-10	AOI5-BH-16-065-1-2	AOI5-BH-16-065-5-6	AOI5-BH-16-066-0-2	AOI5-BH-16-066-6-8	AOI5-BH-16-067-0-2	AOI5-BH-16-067-8-10	AOI5-BH-16-068-0-2	AOI5-BH-16-068-6-8
Sample Depth			2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	7 - 8 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	10 - 11 ft	0 - 2 ft	7 - 8 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	8 - 10 ft	1 - 2 ft	5 - 6 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	6 - 8 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1670227	1670227	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1673474	1673474	1669184	1669184	1669184	1669184	1669184	1669184
Laboratory Sample ID	Units	SHS-PA	8417765	8417777	8413806	8413807	8413804	8413805	8413802	8413803	8413800	8413801	8413798	8413799	8413796	8413797	8413790	8413791	8413794	8413795	8413792	8413793	8432616	8432617	8413788	8413789	8413784	8413785	8413786	8413787
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5^{AB}	ND (0.0005)	0.23 J	0.30 J	ND (0.29)	ND (0.0006)	ND (0.0006)	0.0007 J	ND (0.0006)	ND (0.0005)	ND (0.0006)	0.002 J	0.19 J	ND (0.0006)	0.13	0.070 J	0.26 J	ND (0.029)	0.095 J	ND (0.0006)	0.38 J	0.002 J	0.37	ND (0.031)	ND (0.035)	ND (0.11)	ND (0.030)	0.50	0.063 J
CYCLOHEXANE	mg/kg	6900^{AB}	ND (0.001)	4.2	5.6	0.75 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.026	0.021	5.4	ND (0.001)	0.027	0.25 J	11	5.4	1.3	ND (0.001)	26	ND (0.001)	0.20 J	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	ND (0.055)	ND (0.060)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.001)	ND (0.28)	ND (0.31)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.21)	ND (0.001)	ND (0.001)	ND (0.070)	ND (0.14)	ND (0.058)	ND (0.065)	ND (0.001)	ND (0.22)	ND (0.001)	ND (0.065)	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	ND (0.055)	ND (0.060)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.001)	ND (0.28)	5.9	0.69 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	2.6	ND (0.001)	0.001 J	ND (0.070)	0.61 J	0.42	0.52	ND (0.001)	8.3	ND (0.001)	0.12 J	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	0.64	ND (0.060)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	ND (0.001)	0.61 J	5.5	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J	ND (0.001)	ND (0.001)	ND (0.001)	0.89 J	ND (0.001)	0.005 J	2.1	2.1	0.55	0.18 J	ND (0.001)	2.1	ND (0.001)	ND (0.065)	0.10 J	0.14 J	ND (0.22)	0.31	0.12 J	0.079 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	0.008	ND (0.14)	ND (0.15)	ND (0.29)	ND (0.0006)	ND (0.0006)	ND (0.0005)	ND (0.0006)	ND (0.0005)	ND (0.0006)	ND (0.0005)	ND (0.10)	0.001 J	0.002 J	ND (0.035)	ND (0.068)	ND (0.029)	ND (0.033)	ND (0.0006)	ND (0.11)	ND (0.0005)	0.039 J	ND (0.031)	ND (0.035)	ND (0.11)	ND (0.030)	ND (0.027)	ND (0.030)
HEXANE	mg/kg	5600^{AB}	ND (0.001)	0.71 J	0.98 J	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	0.002 J	ND (0.001)	0.025	0.008	12	ND (0.001)	ND (0.001)	0.096 J	ND (0.14)	8.0	1.4	ND (0.001)	26	0.003 J	0.47	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	ND (0.055)	ND (0.060)
NAPHTHALENE	mg/kg	25^{AB}	ND (0.001)	0.35 J	17	6.0	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	2.0	ND (0.001)	0.011	0.74	5.6	0.16 J	0.36	ND (0.001)	5.7	ND (0.001)	0.37	0.20 J	0.088 J	2.7	0.33	1.2	0.52
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	ND (0.001)	0.64 J	5.2	0.58 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.47 J	ND (0.001)	0.001 J	1.9	1.7	0.38	0.13 J	ND (0.001)	0.61 J	ND (0.001)	ND (0.065)	0.73	0.87	1.3	1.2	0.45	0.34
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	ND (0.001)	ND (0.28)	1.6	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.40 J	ND (0.001)	0.002 J	0.38	0.36 J	0.11 J	ND (0.065)	ND (0.001)	0.29 J	ND (0.001)	ND (0.065)	0.084 J	0.087 J	0.30 J	0.10 J	ND (0.055)	ND (0.060)
TOLUENE	mg/kg	100^{AB}	ND (0.001)	ND (0.28)	0.83 J	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.21)	ND (0.001)	0.003 J	ND (0.070)	ND (0.14)	ND (0.058)	0.25 J	ND (0.001)	4.0	ND (0.001)	0.38	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	0.15 J	1.1
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	ND (0.001)	0.70 J	59^{A}	6.6	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	7.4	ND (0.001)	ND (0.001)	0.16 J	21	1.8	1.5	ND (0.001)	19	ND (0.001)	0.19 J	ND (0.062)	ND (0.070)	4.2	0.23 J	2.7	0.42
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.001)	ND (0.28)	42	3.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	3.7	ND (0.001)	ND (0.001)	ND (0.070)	2.9	0.92	0.77	ND (0.001)	8.1	ND (0.001)	0.080 J	ND (0.062)	ND (0.070)	1.4	0.071 J	0.63	0.12 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	ND (0.001)	0.45 J	36	4.3	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	5.2	ND (0.001)	0.004 J	0.35 J	1.4	0.37	2.7	ND (0.001)	20	ND (0.001)	0.84	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	3.8	0.26 J
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700^{AB}	ND (0.0038)	6.0	6.5	6.0	0.0091 J	ND (0.0038)	ND (0.0039)	ND (0.0040)	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	ND (0.0040)	ND (0.0041)	ND (0.0041)	ND (0.0039)	ND (0.0041)	ND (0.0039)	ND (0.036)	0.20	ND (0.0038)	ND (0.0042)	ND (0.0037)	ND (0.0039)	ND (0.0038)	ND (0.0041)
ANTHRACENE	mg/kg	350^{AB}	0.0059 J	4.3	6.2	11	0.013 J	ND (0.0038)	ND (0.0039)	ND (0.0040)	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	ND (0.0040)	0.18	0.021 J	0.018 J	ND (0.0041)	0.014 J	0.063 J	0.62	ND (0.0038)	ND (0.0042)	0.024	ND (0.0039)	0.0069 J	ND (0.0041)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	0.0052 J	1.1	4.2	29	0.036	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.0052 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.075	0.31	0.026	0.0090 J	ND (0.0041)	0.0071 J	0.10 J	0.59	ND (0.0038)	ND (0.0042)	0.35	ND (0.0039)	ND (0.0038)	ND (0.0041)
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	0.0047 J	0.93 J	3.8	24	0.031	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.0058 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.041	0.22	0.022	0.0083 J	ND (0.0041)	ND (0.0039)	0.095 J	0.98	ND (0.0038)	ND (0.0042)	0.37	ND (0.0039)	0.0044 J	ND (0.0041)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.0041 J	0.63 J	4.2	17	0.047	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.0090 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.036	0.18	0.021	0.0098 J	ND (0.0041)	ND (0.0039)	0.11 J	0.79	0.0047 J	0.0045 J	0.73	ND (0.0039)	0.0073 J	ND (0.0041)
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	0.0055 J	1.0	1.9	9.8	0.040	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.012 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.069	0.26	0.060	0.0069 J	ND (0.0041)	ND (0.0039)	0.16 J	1.1	0.0076 J	0.0063 J	0.29	ND (0.0039)	0.0076 J	ND (0.0041)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	ND (0.0038)	0.24 J	0.70	2.7	0.020	ND (0.0038)	ND (0.0039)	ND (0.0040)	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.0090 J	0.064	0.0063 J	ND (0.0039)	ND (0.0041)	ND (0.0039)	0.057 J	0.22	ND (0.0038)	ND (0.0042)	0.33	ND (0.0039)	ND (0.0038)	ND (0.0041)
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.019)	ND (0.99)	2.7	3.9	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	0.065	ND (0.019)	ND (0.020)	ND (0.020)	1.4	ND (0.020)	0.035 J	ND (0.020)	0.14	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	1.5	ND (0.019)	0.26	ND (0.021)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	0.084 J	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	ND (0.082)	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)
CHRYSENE	mg/kg	230^{AB}	0.0093 J	2.7	11	56	0.049	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.011 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.31	0.60	0.072	0.036	ND (0.0041)	0.0085 J	0.12 J	0.90	ND (0.0038)	0.0045 J	0.37	ND (0.0039)	0.0064 J	ND (0.0041)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.0038)	ND (0.20)	0.67	2.9	0.0084 J	ND (0.0038)	ND (0.0039)	ND (0.0040)	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.020 J	0.048	0.0086 J	ND (0.0039)	ND (0.0041)	ND (0.0039)	0.043 J	0.63	ND (0.0038)	ND (0.0042)	0.083	ND (0.0039)	ND (0.0038)	ND (0.0041)
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	ND (0.082)	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.021)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.35)	ND (18)	ND (9.2)	ND (20)	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.34)	ND (0.35)	ND (0.36)	ND (0.36)	ND (0.37)	ND (0.37)	ND (0.35)	ND (0.37)	ND (0.35)	ND (3.3)	ND (1.7)	ND (0.34)	ND (0.38)	ND (0.33)	ND (0.35)	ND (0.34)	ND (0.37)
FLUORANTHENE	mg/kg	3200^{AB}	0.0073 J	1.4	6.5	22	0.059	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.0063 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.049	0.22	0.013 J	ND (0.0039)	ND (0.0041)	0.0049 J	0.13 J	0.81	0.011 J	0.011 J	0.47	ND (0.0039)	0.014 J	ND (0.0041)
FLUORENE	mg/kg	3800^{AB}	0.0059 J	8.6	12	10	0.030	ND (0.0038)	ND (0.0039)	ND (0.0040)	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.94	0.70	0.046	0.049	ND (0.0041)	0.023	ND (0.036)	0.38	ND (0.0038)	0.030	0.10	0.027	0.056	0.013 J
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	ND (0.0038)	0.28 J	0.72	3.4	0.022	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.0048 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.017 J	0.11	0.017 J	0.012 J	ND (0.0041)	ND (0.0039)	0.064 J	0.67	0.0039 J	ND (0.0042)	0.26	ND (0.0039)	0.0041 J	ND (0.0041)
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	0.045	54	140	58	0.054	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.0077 J	ND (0.0039)	ND (0.0038)	0.97	ND (0.0038)	ND (0.0040)	4.5	17	0.043	0.25	ND (0.0041)	3.2	0.39	2.3	0.24	0.13	13	2.5	5.2	0.42
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.021)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.021)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.19)	ND (0.17)	ND (5.1)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)	ND (1.8)	ND (0.96)	ND (0.19)	ND (0.21)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.21)
PHENANTHRENE	mg/kg	10000^{AB}	0.020	20	30	84	0.055	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.010 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	2.1	1.7	0.13	0.14	ND (0.0041)	0.075	0.18 J	0.74	0.0080 J	0.020 J	0.12	0.0099 J	0.082	0.013 J
PHENOL	mg/kg	200^{AB}	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	0.026 J	0.027 J	ND (0.021)
PYRENE	mg/kg	2200^{AB}	0.012 J	6.0	16	69	0.069	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.011 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.18	0.99	0.080	0.021	ND (0.0041)	0.025	0.19	2.1	0.017 J	0.013 J	0.39	ND (0.0039)	0.014 J	ND (0.0041)
PYRIDINE	mg/kg	12^{AB}	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	ND (0.082)	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.038)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.040)	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.041)	ND (0.039)	ND (0.041)	ND (0.039)	ND (0.36)	ND (0.19)	ND (0.038)	ND (0.042)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.041)
Metals																														
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.55	1.20 J	18.1	4.82	2.96	2.29
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.2	39.4	111	50.6	61.5	55.5
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0434)	ND (0.0423)	ND (0.0423)	ND (0.0491)	ND (0.0452)	ND (0.0405)
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.4	15.3	33.3	21.9	20.0	18.6
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	6.30	6.89	6.33	3.83	6.39	0.716	6.98	8.82	7.02	6.20	4.46	6.67	7.95	4.24	14.5	6.10	8.16	4.97	5.94	7.96	6.91	9.57	5.68	4.51	9.40	6.22	7.76	4.21
LEAD	mg/kg	450^{AB}	10.4	102	104	202	42.4	1.10 J	9.46	11.5	16.3	11.6	14.7	8.97	13.6	6.98	13.3	33.9	21.1	15.5	12.2	11.1	72.1	70.8	11.1	6.04	40.5	8.95	17.0	7.90
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0301 J	ND (0.0123)	0.165	0.0125 J	0.126	0.0331 J
NICKEL	mg/kg	650^{AB}	12.8	18.3	12.7	9.51	10.2	1.30	14.0	20.3	12.6	12.9	12.7	13.2	18.4	10.1	36.3	12.2	23.9	14.1	11.6	16.3	20.6	23.4	14.0	12.4	18.0	10.6	12.8	13.7
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.920 J	1.09 J	2.14	2.29	1.47 J	0.940 J
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.223 J	ND (0.155)	1.65	1.37	0.597	0.170 J
VANADIUM	mg/kg	220^{A} 820^{B}	43.7	43.4	26.9	10.5	37.9	6.78	20.2	30.6	45.3	32.9	57.0	22.0	31.9	15.5	58.5	38.3	51.4	39.7	36.4	26.8	33.0	30.6	27.5	17.8	38.9	22.0	28.1	18.4
ZINC	mg/kg	12000^{AB}	35.4	139	107	29.6	44.7	6.16	39.0	49.8	37.6	40.3	32.8	34.5	41.9	27.4	92.7	53.8	88.6	70.9	34.9	39.3	207	113	47.2	28.6	97.3	32.6	44.3	39.5

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-069		AOI5-BH-16-070		AOI5-BH-16-071		AOI5-BH-16-072		AOI5-BH-16-073		AOI5-BH-16-074		AOI5-BH-16-075		AOI5-BH-16-076		AOI5-BH-16-077		AOI5-BH-16-078		AOI5-BH-16-079		AOI5-BH-16-080	
Sample Date			10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16
Sample ID			AOI5-BH-16-069-0-2	AOI5-BH-16-069-8-10	AOI5-BH-16-070-0-2	AOI5-BH-16-070-2-4	AOI5-BH-16-071-0-2	AOI5-BH-16-071-2-4	AOI5-BH-16-072-0-2	AOI5-BH-16-072-2-3	AOI5-BH-16-073-0-2	AOI5-BH-16-073-2-3	AOI5-BH-16-074-0-2	AOI5-BH-16-074-6-8	AOI5-BH-16-075-0-2	AOI5-BH-16-075-4-5	AOI5-BH-16-076-0-2	AOI5-BH-16-076-2-3	AOI5-BH-16-077-0-2	AOI5-BH-16-077-2-4	AOI5-BH-16-078-0-2	AOI5-BH-16-078-2-3	AOI5-BH-16-079-0-2	AOI5-BH-16-079-4-6	AOI5-BH-16-080-0-2	AOI5-BH-16-080-2-3
Sample Depth			0 - 2 ft	8 - 10 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	2 - 3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670227	1670227	1670227	1670227	1670817	1670817	1670227	1670227	1670227	1670227
Laboratory Sample ID	Units	SHS-PA	8420676	8420677	8420666	8420667	8420674	8420675	8420664	8420665	8420670	8420671	8420668	8420669	8420672	8420673	8417784	8417785	8417782	8417783	8420662	8420663	8417778	8417779	8417780	8417781
Volatile Organic Compounds																										
BENZENE	mg/kg	0.5[AB]	0.19 J	ND (0.12)	ND (0.028)	ND (0.030)	0.37	***0.94***[B]	ND (0.036)	0.007	0.19 J	0.21 J	***0.55***[A]	0.39	0.44 J	***4.0***[B]	ND (0.026)	0.040 J	0.093 J	0.045 J	ND (0.022)	0.43	***1.3***[A]	***0.90***[B]	0.002 J	***1.6***[B]
CYCLOHEXANE	mg/kg	6900[AB]	0.088 J	ND (0.24)	0.78	0.51	0.78	1.8	0.37	0.004 J	1.1	0.13 J	0.12 J	0.092 J	3.9	2.7	ND (0.052)	0.19 J	ND (0.060)	ND (0.052)	ND (0.044)	1.3	1.8	0.14 J	0.002 J	0.84
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.067)	ND (0.24)	ND (0.055)	ND (0.059)	ND (0.062)	ND (0.10)	ND (0.071)	ND (0.001)	ND (0.078)	ND (0.088)	ND (0.078)	ND (0.058)	ND (0.37)	ND (0.094)	ND (0.052)	ND (0.057)	ND (0.060)	ND (0.052)	ND (0.044)	ND (0.058)	ND (0.075)	ND (0.056)	ND (0.0009)	ND (0.10)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.067)	ND (0.24)	ND (0.055)	ND (0.059)	0.37	3.0	ND (0.071)	ND (0.001)	0.13 J	0.16 J	0.091 J	0.12 J	5.0	3.5	ND (0.052)	0.088 J	0.22 J	ND (0.052)	ND (0.044)	3.1	4.2	ND (0.056)	0.002 J	0.21 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.067)	ND (0.24)	0.14 J	0.085 J	0.30 J	1.7	0.13 J	ND (0.001)	0.23 J	ND (0.088)	ND (0.078)	ND (0.058)	1.9	1.1	ND (0.052)	0.10 J	ND (0.060)	ND (0.052)	ND (0.044)	0.47	0.74	0.13 J	ND (0.0009)	0.19 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.034)	ND (0.12)	ND (0.028)	ND (0.030)	ND (0.031)	0.10 J	ND (0.036)	ND (0.0005)	ND (0.039)	ND (0.044)	ND (0.039)	ND (0.029)	ND (0.19)	ND (0.047)	ND (0.026)	ND (0.028)	ND (0.030)	ND (0.026)	ND (0.022)	ND (0.029)	ND (0.037)	ND (0.028)	ND (0.0005)	ND (0.051)
HEXANE	mg/kg	5600[AB]	ND (0.067)	ND (0.24)	0.089 J	ND (0.059)	0.16 J	0.38 J	0.26 J	0.001 J	0.68	0.11 J	0.12 J	0.12 J	1.3 J	3.8	ND (0.052)	0.22 J	0.12 J	0.14 J	ND (0.044)	1.1	2.0	0.11 J	0.002 J	1.3
NAPHTHALENE	mg/kg	25[AB]	0.11 J	ND (0.24)	ND (0.055)	ND (0.059)	1.5	23	0.35 J	ND (0.001)	0.11 J	1.4	0.58	0.62	***35***[A]	8.9	0.15 J	0.33	0.52	0.18 J	ND (0.044)	0.86	9.7	0.52	0.005	2.0
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.067)	ND (0.24)	0.23 J	0.13 J	0.46	1.8	0.25 J	ND (0.001)	0.22 J	ND (0.088)	ND (0.078)	ND (0.058)	1.8 J	1.1	ND (0.052)	0.12 J	0.13 J	ND (0.052)	ND (0.044)	0.27 J	0.56	0.10 J	0.002 J	ND (0.10)
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.067)	ND (0.24)	0.059 J	ND (0.059)	0.28 J	0.56	0.085 J	ND (0.001)	ND (0.078)	ND (0.088)	ND (0.078)	ND (0.058)	0.42 J	ND (0.094)	ND (0.052)	ND (0.057)	ND (0.060)	ND (0.052)	ND (0.044)	ND (0.058)	0.13 J	ND (0.056)	ND (0.0009)	ND (0.10)
TOLUENE	mg/kg	100[AB]	0.083 J	ND (0.24)	ND (0.055)	ND (0.059)	0.067 J	ND (0.10)	ND (0.071)	0.01	ND (0.078)	ND (0.088)	0.16 J	0.17 J	ND (0.37)	0.24 J	ND (0.052)	ND (0.057)	ND (0.060)	ND (0.052)	ND (0.044)	0.18 J	4.3	ND (0.056)	0.002 J	0.40 J
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	0.14 J	ND (0.24)	0.059 J	ND (0.059)	4.0	20	0.12 J	ND (0.001)	0.30 J	0.20 J	0.30 J	0.47	2.5	16	0.17 J	0.91	0.19 J	0.28	ND (0.044)	6.0	9.1	0.17 J	0.033	2.2
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.067)	ND (0.24)	ND (0.055)	ND (0.059)	2.4	2.3	ND (0.071)	ND (0.001)	ND (0.078)	ND (0.088)	0.15 J	0.16 J	1.4 J	6.5	0.076 J	0.30	ND (0.060)	0.082 J	ND (0.044)	1.6	3.5	0.12 J	0.018	0.39 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	0.25 J	ND (0.24)	0.071 J	ND (0.059)	1.2	3.5	0.12 J	0.002 J	0.34 J	0.39 J	0.37 J	0.57	1.3 J	7.0	0.15 J	0.34	0.20 J	0.17 J	ND (0.044)	18	18	0.13 J	0.006	2.1
Volatile Organic Compounds (SW8011)																										
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																										
ACENAPHTHENE	mg/kg	4700[AB]	0.089 J	ND (0.043)	0.61	0.12 J	1.2	6.3	0.24 J	0.33	0.74 J	3.2	0.84 J	0.43 J	1.8	0.50	0.19 J	12	0.55 J	0.28 J	ND (0.18)	1.4	1.9	2.7	0.28 J	1.1 J
ANTHRACENE	mg/kg	350[AB]	0.26	0.17 J	1.0	0.27	1.8	4.6	0.62	0.53	0.84 J	6.7	1.3	0.68	2.6	0.53	0.31 J	11	0.62 J	0.30 J	ND (0.18)	1.6	3.1	2.2	0.47 J	1.7
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	0.42	0.13 J	0.90	0.44	2.0	14	0.88	0.68	1.4	7.7	1.4	0.38 J	2.8	0.29	0.35 J	4.6	0.92 J	0.42 J	ND (0.18)	0.91 J	4.5	0.61	2.9	0.69 J
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.51	0.12 J	0.67	0.49	2.1	26	0.92	0.62	0.94 J	6.3	1.3	0.37 J	3.0	0.28	0.24 J	2.5	0.71 J	0.32 J	ND (0.18)	0.73 J	4.0	0.37	1.7	0.48 J
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.60	0.088 J	0.98	0.64	1.6	11	1.1	0.77	1.4	7.8	1.2	0.57	2.1	0.16 J	0.29 J	1.2	0.68 J	0.31 J	0.37 J	0.89 J	4.2	0.16	0.85 J	0.32 J
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.54	0.12 J	0.61	0.66	2.0	28	1.5	0.62	0.93 J	4.7	1.5	0.47 J	3.1	0.41	0.32 J	1.4	0.75 J	0.62 J	0.40 J	0.67 J	2.8	0.20	1.3	0.62 J
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	0.17 J	0.045 J	0.28 J	0.16 J	0.45 J	ND (0.47)	0.28 J	0.20 J	0.44 J	2.6	0.30 J	0.13 J	0.59 J	0.057 J	ND (0.19)	0.33 J	0.21 J	ND (0.18)	ND (0.18)	0.35 J	2.0	0.025 J	0.27 J	ND (0.25)
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.20)	ND (0.22)	ND (0.39)	ND (0.20)	ND (0.96)	2.9 J	ND (0.42)	ND (0.21)	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	11	1.2	ND (0.95)	2.6	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	3.1	1.2	ND (0.90)	ND (1.3)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)
CHRYSENE	mg/kg	230[AB]	0.59	0.27	1.9	0.60	3.4	27	1.1	0.94	2.1	7.6	2.8	0.98	4.0	0.61	0.57 J	7.2	1.7	0.73 J	0.76 J	1.9	7.2	1.1	3.9	1.2 J
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	0.14 J	ND (0.043)	0.15 J	0.13 J	0.31 J	4.2	0.21 J	0.097 J	0.33 J	1.2	0.47 J	0.21 J	0.59 J	ND (0.045)	ND (0.19)	0.54 J	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.19)	0.74 J	0.050 J	0.32 J	ND (0.25)
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.20)	ND (0.22)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	0.51	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (3.7)	ND (3.9)	ND (7.0)	ND (3.6)	ND (17)	ND (0.30)	ND (7.5)	ND (3.7)	ND (19)	ND (20)	ND (19)	ND (9.2)	ND (21)	ND (4.1)	ND (17)	ND (17)	ND (17)	ND (16)	ND (16)	ND (17)	ND (18)	ND (1.8)	ND (16)	ND (23)
FLUORANTHENE	mg/kg	3200[AB]	0.63	0.23	2.1	0.78	2.2	5.7	1.2	0.86	2.1	15	1.8	0.81	2.5	0.36	0.37 J	4.2	1.2	0.48 J	0.53 J	1.5	3.8	0.66	0.68 J	0.98 J
FLUORENE	mg/kg	3800[AB]	0.13 J	0.20 J	1.7	0.30	2.5	15	0.37 J	0.48	2.3	3.7	2.4	1.9	4.1	1.6	0.47 J	18	1.1	0.53 J	0.33 J	2.3	6.2	4.8	0.43 J	2.6
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	0.34	0.063 J	0.36 J	0.31	0.66 J	4.7	0.61	0.27	0.36 J	3.5	0.43 J	0.21 J	1.2 J	0.066 J	0.23 J	0.57 J	0.37 J	ND (0.18)	0.20 J	0.47 J	1.9	0.047 J	0.57 J	ND (0.25)
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	0.34	0.21 J	0.65	0.33	9.9	180	1.1	0.63	7.3	3.0	5.1	4.9	160	18	ND (0.19)	84	1.7	0.69 J	ND (0.18)	10	35	74	0.37 J	2.5
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	ND (0.20)	ND (0.22)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	ND (0.23)	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	ND (0.20)	ND (0.22)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	ND (0.23)	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (2.0)	ND (2.2)	ND (3.9)	ND (2.0)	ND (0.17)	ND (0.17)	ND (4.2)	ND (2.1)	ND (0.17)	ND (0.17)	ND (0.17)	ND (5.1)	ND (0.17)	ND (2.3)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (1.0)	ND (0.17)	ND (0.17)
PHENANTHRENE	mg/kg	10000[AB]	0.63	0.23	3.1	0.27	7.3	54	1.7	0.64	5.4	7.5	6.1	4.4	9.4	4.8	1.2	44	2.9	1.4	0.58 J	6.2	17	13	1.9	4.7
PHENOL	mg/kg	200[AB]	ND (0.20)	ND (0.22)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	ND (0.23)	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)
PYRENE	mg/kg	2200[AB]	0.94	0.55	3.5	1.2	4.9	29	2.0	1.6	3.7	13	5.0	2.3	6.3	1.2	0.94 J	17	3.4	1.5	1.3	3.1	10	2.3	3.4	2.2
PYRIDINE	mg/kg	12[AB]	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)
QUINOLINE	mg/kg	0.37[AB]	ND (0.033)	***0.74 J***[B]	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.20)	ND (0.033)	ND (0.033)
Metals																										
ARSENIC	mg/kg	29[AB]	7.54	23.4	10.1	8.00	12.4	5.54	13.4	12.5	12.5	12.9	9.21	9.42	***35.5***[A]	13.3	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	238	72.3	110	152	111	96.4	173	111	117	222	120	123	491	213	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	0.106 J	0.539	0.193 J	ND (0.0462)	0.560	1.12	0.352 J	0.616	0.685	3.80	0.721	0.304 J	5.72	1.27	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	40.7	43.0	32.6	52.1	41.3	52.6	65.1	43.0	47.5	51.6	17.6	35.9	66.0	38.0	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	11.4	8.07	7.76	9.29	7.39	9.36	9.42	7.67	8.61	11.6	5.31	8.89	21.2	14.9	10.4	5.84	16.8	8.52	4.14	7.51	10.4	3.48	9.04	17.1
LEAD	mg/kg	450[AB]	122	69.4	211	131	211	71.0	257	213	130	388	79.2	105	***2120***[A]	320	45.2	38.9	113	48.9	55.7	104	298	7.65	47.2	***721***[B]
MERCURY	mg/kg	10[AB]	0.982	0.0566 J	0.493	0.542	0.954	0.825	1.70	1.54	3.40	3.41	1.63	0.684	2.97	0.614	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	30.2	15.3	15.0	20.5	18.5	17.8	39.4	21.6	42.6	41.9	9.42	17.3	24.2	13.8	33.9	12.0	29.2	27.0	89.0	25.1	20.5	8.99	28.4	***1800***[B]
SELENIUM	mg/kg	26[AB]	1.72 J	1.42 J	1.13 J	1.54 J	1.73 J	1.51 J	1.98 J	1.44 J	1.91 J	1.72 J	1.49 J	2.28	2.94	1.14 J	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	2.54	0.451 J	1.54	2.77	0.805	0.586 J	3.14	1.75	1.51	9.24	1.15	2.27	9.20	3.13	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	64.9	50.8	44.9	57.3	54.3	58.5	136	46.4	***307***[A]	181	29.2	52.1	60.3	41.7	69.1	40.5	60.4	50.1	187	43.0	50.1	12.5	43.7	41.8
ZINC	mg/kg	12000[AB]	187	49.7	82.5	119	112	91.5	343	265	146	1530	93.8	208	1250	214	156	38.8	177	169	423	172	199	24.1	274	360

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-081		AOI5-BH-16-082	AOI5-BH-16-083	AOI5-BH-16-084	AOI5-BH-16-085	AOI5-BH-16-086	AOI5-BH-17-01	AOI5-BH-17-02	AOI5-BH-17-03	AOI5-BH-17-04	AOI5-BH-17-010	AOI5-BH-17-011	AOI5-BH-17-012	AOI5-BH-17-013	MH 455-1	MH 455-2	MH 455-3	MH 455-4	MH 455-5	MH 455-6	MH 455-7	MH 455-8	MH 455-9	MH 455-10	MH 455-1A		MH 4
Sample Date			17-Jun-16	17-Jun-16	9-Dec-16	9-Dec-16	9-Dec-16	9-Dec-16	9-Dec-16	22-Mar-17	22-Mar-17	22-Mar-17	22-Mar-17	20-Apr-17	20-Apr-17	20-Apr-17	20-Apr-17	18-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	19-Sep-13	19-Sep-13	20-Sep-13
Sample ID			AOI5-BH-16-081-0-2	AOI5-BH-16-081-4-5	AOI5-BH-16-082-0-2	AOI5-BH-16-083-0-2	AOI5-BH-16-084-0-2	AOI5-BH-16-085-0-2	AOI5-BH-16-086-0-2	AOI5-BH-17-01	AOI5-BH-17-02	AOI5-BH-17-03	AOI5-BH-17-04	AOI5-BH-17-010-1.0-2.0	AOI5-BH-17-011-1.0-2.0	AOI5-BH-17-012-1.0-2.0	AOI5-BH-17-013-1.0	MH 455-1 (4.5-5.0)	MH 455-2 (2.5-3.0)	MH 455-3 (3.0-3.5)	MH 455-4 (3.0-3.5)	MH 455-5 (2.5-3.0)	MH 455-6 (3.0-3.5)	MH 455-7 (3.0-3.5)	MH 455-8 (5.0-5.5)	MH 455-9 (5.0-5.5)	MH 455-10 (0.25-0.50)	MH435-1A(2.5-3.0)	MH455-1A(0.0-2.0)	MH455-2A(0.0-2.0)
Sample Depth			0 - 2 ft	4 - 5 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	1 - 2 ft	1 - 2 ft	1 - 2 ft	1 ft	4 - 4.5 ft	2.5 - 3 ft	3 - 3.5 ft	3 - 3.5 ft	2.5 - 3 ft	3 - 3.5 ft	3 - 3.5 ft	5 - 5.5 ft	5 - 5.5 ft	0.25 - 0.5 ft	2.5 - 3 ft	0 - 2 ft	0 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	1673474	1673474	1743927	1743927	1743927	1743927	1743927	1780229	1780229	1780229	1780229	1791580	1791580	1791580	1791580	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB48100	JB48100	JB48100
Laboratory Sample ID	Units	SHS-PA	8432628	8432629	8742416	8742417	8742418	8742419	8742420	8898244	8898245	8898246	8898247	8950313	8950314	8950315	8950316	JB31800-11	JB31800-12	JB31800-13	JB31800-14	JB31800-15	JB31800-16	JB31800-17	JB31800-18	JB31800-19	JB31800-20	JB48100-2	JB48100-1	JB48100-3
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	ND (0.039)	0.36 J	-	-	-	-	-	-	-	-	-	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.0006)	0.0354 J	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	0.408	**0.634[B]**	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)
CYCLOHEXANE	mg/kg	6900[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.001)	ND (0.001)	-	-	-	-	-	-	-	-	-	-	-	-	-	*ND (0.013)*	*ND (0.014)*	*ND (0.017)*	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	*ND (0.014)*	*ND (0.012)*	ND (0.0013)	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	0.00081 J	ND (0.00088)	ND (0.11)	ND (0.098)	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	7.39	ND (0.11)	ND (0.13)	0.0011	ND (0.0011)	ND (0.001)	ND (0.00088)	3.03	2.8	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	4.83	0.104 J	0.35 J	0.0825	ND (0.0056)	ND (0.0052)	0.001 J	0.164 J	0.22 J	ND (0.0067)	ND (0.0049)	ND (0.0047)	ND (0.0059)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.039)	ND (0.056)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.0024	ND (0.11)	ND (0.098)	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)
HEXANE	mg/kg	5600[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)
NAPHTHALENE	mg/kg	25[AB]	0.087 J	1.3	-	-	-	-	-	-	-	-	-	0.003 J	ND (0.001)	ND (0.001)	0.002 J	5.74	ND (0.57)	ND (0.66)	0.0232	0.0004 J	0.00063 J	0.00052 J	1.64	2.28	0.0011 J	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)
TOLUENE	mg/kg	100[AB]	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	1.09	1	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.078)	0.21 J	-	-	-	-	-	-	-	-	-	-	-	-	-	30.5	ND (0.57)	0.0469 J	ND (0.0054)	ND (0.0056)	ND (0.0052)	ND (0.0044)	14.7	5.76	ND (0.0067)	ND (0.0049)	ND (0.0047)	ND (0.0059)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.078)	0.17 J	-	-	-	-	-	-	-	-	-	-	-	-	-	13.1	ND (0.57)	ND (0.66)	ND (0.0054)	ND (0.0056)	ND (0.0052)	ND (0.0044)	6.35	1.96	ND (0.0067)	ND (0.0049)	ND (0.0047)	ND (0.0059)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.078)	0.16 J	-	-	-	-	-	-	-	-	-	-	-	-	-	6.08	ND (0.11)	ND (0.13)	0.0181	ND (0.0011)	ND (0.001)	ND (0.00088)	24.7	12.5	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0030)	ND (0.0030)	ND (0.0029)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	ND (0.19)	0.43 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)
ANTHRACENE	mg/kg	350[AB]	1.3	0.42 J	-	-	-	-	-	-	-	-	-	0.010 J	0.049	0.011 J	0.023	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	ND (0.04)	ND (0.04)	ND (0.037)	ND (0.039)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	0.53 J	0.79 J	-	-	-	-	-	-	-	-	-	0.019	0.095	0.027	0.034	ND (0.037)	ND (0.039)	0.022 J	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.272	ND (0.04)	ND (0.037)	ND (0.039)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.41 J	0.74 J	-	-	-	-	-	-	-	-	-	0.019	0.10	0.030	0.036	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.258	ND (0.04)	ND (0.037)	ND (0.039)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.45 J	0.72 J	-	-	-	-	-	-	-	-	-	0.023	0.12	0.040	0.031	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.453	ND (0.04)	ND (0.037)	ND (0.039)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.35 J	0.63 J	-	-	-	-	-	-	-	-	-	0.022	0.11	0.036	0.043	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.156	ND (0.04)	ND (0.037)	ND (0.039)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	ND (0.19)	ND (0.21)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
CHRYSENE	mg/kg	230[AB]	1.2	1.8	-	-	-	-	-	-	-	-	-	0.039	0.16	0.050	0.081	ND (0.037)	ND (0.039)	0.0374 J	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.578	ND (0.04)	ND (0.037)	ND (0.039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	ND (0.19)	0.26 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.2)	ND (0.19)	ND (0.19)
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (17)	ND (19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.79)	ND (0.75)	ND (0.77)
FLUORANTHENE	mg/kg	3200[AB]	0.90 J	0.61 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)
FLUORENE	mg/kg	3800[AB]	0.81 J	0.58 J	-	-	-	-	-	-	-	-	-	0.007 J	0.047	0.011 J	0.015 J	ND (0.037)	ND (0.039)	0.0537	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	ND (0.04)	ND (0.04)	ND (0.037)	ND (0.039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	ND (0.19)	0.40 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	0.69 J	0.83 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)
4-NITROPHENOL	mg/kg	6[AB]	ND (0.17)	ND (0.17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.4)	ND (0.37)	ND (0.39)
PHENANTHRENE	mg/kg	10000[AB]	1.9	1.8	-	-	-	-	-	-	-	-	-	0.033	0.23	0.054	0.056	ND (0.037)	ND (0.039)	0.109	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.533	ND (0.04)	ND (0.037)	ND (0.039)
PHENOL	mg/kg	200[AB]	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
PYRENE	mg/kg	2200[AB]	2.3	2.5	-	-	-	-	-	-	-	-	-	0.070	0.30	0.080	0.13	ND (0.037)	ND (0.039)	0.0623	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.851	ND (0.04)	ND (0.037)	ND (0.039)
PYRIDINE	mg/kg	12[AB]	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)
QUINOLINE	mg/kg	0.37[AB]	ND (0.033)	ND (0.033)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.2)	ND (0.19)	ND (0.19)
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	49.9	59.8	64.0	58.7	96.4	58.4	***1390[A]***	30	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	49.9	59.8	64	58.1	95	57.2	1390	29.2	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	ND (0.66)	ND (0.69)	ND (0.61)	0.61 J	1.4 J	1.2 J	ND (6.8)	0.81 J	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	7.01	11.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5 J	6.4	9.0
LEAD	mg/kg	450[AB]	31.4	115	-	-	-	-	-	-	-	-	-	-	-	-	-	12.9	13.5	14.2	9.7	13.1	9.5	10.2	11.3	13.6	54.1	6.1	205	235
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	32.9	47.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.0	13.5	64.2
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	65.1	62.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.4	31.0	23.7 J
ZINC	mg/kg	12000[AB]	83.0	632	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.7	75.4	157

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			55-2A	MH 455-3A		MH 455-4A		MH 523-1	MH 523-2	MH 523-3	MH 523-4	MH 523-5	MH 523-6	MH 523-7	MH 523-8	MH 523-9	MH 523-10	MH 523-11	MH 523-12	MH 523-13	MH 523-1A		MH 523-2A		MH 523-3A		MH 523-4A	
Sample Date			20-Sep-13	20-Sep-13	20-Sep-13	20-Sep-13	20-Sep-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	5-Nov-15	5-Nov-15	5-Nov-15	17-Sep-13	17-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13
Sample ID			MH455-2A(2.75-3.25)	MH455-3A(0.0-2.0)	MH455-3A(5.5-6.0)	MH455-4A(0.0-2.0)	MH455-4A(3.5-4.0)	MH 523-1 (4.0-4.5)	MH 523-2 (2.5-3.0)	MH 523-3 (3.0-3.5)	MH 523-4 (2.0-2.5)	MH 523-5 (2.7-3.2)	MH 523-6 (3.0-3.5)	MH 523-7 (1.9-2.4)	MH 523-8 (3.0-3.5)	MH 523-9 (5.0-5.5)	MH 523-10 (0.25-0.50)	MH523-11-5.0-20151105	MH523-12-5.0-20151105	MH523-13-5.0-20151105	MH523-1A(0.0-2.0)	MH523-1A(5.5-6.0)	MH523-2A(0.0-2.0)	MH523-2A(5.0-5.5)	MH523-3A(0.0-2.0)	MH523-3A(5.3-5.8)	MH523-4A(0.0-2.0)	MH523-4A(6.0-6.5)
Sample Depth			2.75 - 3.25 ft	0 - 2 ft	5.5 - 6 ft	0 - 2 ft	3.5 - 4 ft	4 - 4.5 ft	2.5 - 3 ft	3 - 3.5 ft	2 - 2.5 ft	2.7 - 3.2 ft	3 - 3.5 ft	1.9 - 2.4 ft	3 - 3.5 ft	5 - 5.5 ft	0.25 - 0.5 ft	5 ft	5 ft	5 ft	0 - 2 ft	5.5 - 6 ft	0 - 2 ft	5 - 5.5 ft	0 - 2 ft	5.3 - 5.8 ft	0 - 2 ft	6 - 6.5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB48100	JB48100	JB48100	JB48100	JB48100	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JC7897	JC7897	JC7897	JB47773	JB47773	JB47773	JB47773	JB47773	JB47773	JB47773	JB47773
Laboratory Sample ID	Units	SHS-PA	JB48100-4	JB48100-5	JB48100-6	JB48100-7	JB48100-8	JB31800-1	JB31800-2	JB31800-3	JB31800-4	JB31800-5	JB31800-6	JB31800-7	JB31800-8	JB31800-9	JB31800-10	JC7897-1	JC7897-2	JC7897-3	JB47773-1	JB47773-2	JB47773-3	JB47773-4	JB47773-5	JB47773-6	JB47773-7	JB47773-8
Volatile Organic Compounds																												
BENZENE	mg/kg	0.5^{AB}	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	0.0254 J	ND (0.001)	***15.8*** ^{B}	***0.784*** ^{B}	ND (0.11)	***0.504*** ^{B}	0.0044	0.0021	ND (0.0011)	ND (0.00092)	ND (0.001)	0.0035	ND (0.00046)	0.0241 J	ND (0.0010)	0.0010	ND (0.0011)	0.00054 J	0.0621 J	ND (0.11)	ND (0.0012)	0.0252 J
CYCLOHEXANE	mg/kg	6900^{AB}	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.43 J	0.949	-	-	-	-	-	-	-	-	-	-	0.0161	ND (0.0018)	ND (0.23)	ND (0.0052)	0.0560	ND (0.0053)	0.0097	4.68	0.969	ND (0.0062)	0.471 J
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	ND (0.001)	*ND (0.088)*	*ND (0.014)*	*ND (0.014)*	*ND (0.015)*	ND (0.00094)	ND (0.00099)	ND (0.0011)	ND (0.00092)	ND (0.001)	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	ND (0.12)	ND (0.001)	ND (0.093)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.00094)	ND (0.00099)	ND (0.0011)	ND (0.00092)	ND (0.001)	ND (0.00099)	ND (0.00092)	ND (0.12)	ND (0.0010)	ND (0.0010)	ND (0.0011)	ND (0.0011)	ND (0.11)	ND (0.11)	ND (0.0012)	ND (0.12)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.0010)	ND (0.00096)	ND (0.00098)	0.0905 J	0.0742 J	0.00036 J	16.3	0.32	0.0504 J	0.254	0.0011	0.0048	0.00028 J	ND (0.00092)	ND (0.001)	0.0012	ND (0.00092)	ND (0.12)	ND (0.0010)	0.0012	ND (0.0011)	ND (0.0011)	0.0460 J	ND (0.11)	ND (0.0012)	0.106 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.701	0.974	0.0076	4.32	2.17	0.145 J	0.275 J	0.0192	0.0109	0.0063	ND (0.0046)	ND (0.0052)	0.0022	ND (0.0018)	0.0271 J	0.00033 J	0.00053 J	ND (0.0053)	0.00074 J	0.752	3.28	ND (0.0062)	2.21
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	ND (0.12)	ND (0.001)	ND (0.69)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.00094)	ND (0.00099)	ND (0.0011)	ND (0.00092)	ND (0.001)	ND (0.00099)	ND (0.00092)	ND (0.12)	ND (0.0010)	0.0316	ND (0.0011)	ND (0.0011)	ND (0.11)	ND (0.11)	ND (0.0012)	ND (0.12)
HEXANE	mg/kg	5600^{AB}	ND (0.0052)	ND (0.0048)	ND (0.0049)	1.06	2.29	-	-	-	-	-	-	-	-	-	-	0.0425	ND (0.0046)	ND (0.58)	ND (0.0052)	0.0550	ND (0.0053)	0.00084 J	1.05	0.525 J	0.0011 J	0.0631 J
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	0.0028 J	15.5	1.5	0.38 J	0.476 J	3.21	0.0091	ND (0.0054)	0.00049 J	0.00044 J	0.0108	ND (0.0046)	0.834	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.383 J	0.321 J	-	-	-	-	-	-	-	-	-	-	0.0011 J	ND (0.0018)	ND (0.23)	0.00031 J	0.00022 J	ND (0.0053)	0.00064 J	0.426 J	3.49	ND (0.0062)	1.5
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.167 J	0.117 J	-	-	-	-	-	-	-	-	-	-	0.00095 J	ND (0.0018)	ND (0.23)	ND (0.0052)	0.00047 J	ND (0.0053)	0.0039 J	0.939	2.63	ND (0.0062)	1.75
TOLUENE	mg/kg	100^{AB}	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	ND (0.12)	ND (0.001)	5.31	0.156	0.0402 J	0.209	0.0008 J	0.0014	ND (0.0011)	ND (0.00092)	ND (0.001)	0.00089 J	ND (0.00092)	ND (0.12)	ND (0.0010)	0.00075 J	ND (0.0011)	ND (0.0011)	0.0797 J	0.0233 J	ND (0.0012)	0.0412 J
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.0618 J	0.0256 J	0.00097 J	6.85	0.927	0.0819 J	0.554 J	0.0018 J	0.0219	0.001 J	ND (0.0046)	ND (0.0052)	0.00026 J	ND (0.0018)	0.106 J	ND (0.0052)	ND (0.0052)	ND (0.0053)	ND (0.0054)	0.115 J	0.151 J	ND (0.0062)	0.104 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.0052)	ND (0.0048)	ND (0.0049)	ND (0.69)	ND (0.61)	0.00033 J	3.94	0.581	0.0243 J	0.0752 J	ND (0.0047)	0.00088 J	0.00044 J	ND (0.0046)	ND (0.0052)	ND (0.0020)	ND (0.0018)	0.273	ND (0.0052)	ND (0.0052)	ND (0.0053)	ND (0.0054)	ND (0.56)	0.0497 J	ND (0.0062)	ND (0.59)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	ND (0.0010)	ND (0.00096)	ND (0.00098)	0.0809 J	0.0895 J	0.00058 J	10.5	0.864	0.149	1.4	0.0019	0.0058	0.0026	ND (0.00092)	ND (0.001)	0.0014	ND (0.00092)	0.0661 J	ND (0.0010)	0.0029	ND (0.0011)	0.00036 J	0.26	0.128	ND (0.0012)	0.224
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0032)	-	-	-	-	-	-	-	-	-	-	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0032)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0031)
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	4700^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-	-	0.146	0.0738	0.321	0.0267 J	ND (0.064)	ND (0.057)	0.478	0.58	ND (0.061)	ND (0.057)	0.769
ANTHRACENE	mg/kg	350^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.0517	11	0.0941	0.1	0.39	1.01	0.605	0.778	ND (0.039)	0.0487	0.119	0.118	0.155	0.104	ND (0.064)	0.0503 J	0.0272 J	0.955	1.88	0.0648	1.26
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.11	0.785	0.0688	0.106	0.0809	0.12	0.0657	0.334	0.0214 J	0.0572	0.0856	0.127	0.0723 J	0.0431 J	ND (0.064)	0.0945	0.0270 J	1.26	1.14	0.114	0.174
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.102	ND (0.2)	ND (0.039)	0.0667	0.0508	0.0684	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.039)	0.0623 J	0.121	ND (0.079)	0.0414 J	ND (0.064)	0.111	ND (0.061)	0.932	0.701	0.0845	0.0547 J
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.113	ND (0.2)	ND (0.039)	0.0481	0.0566	0.0506	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.039)	0.0677 J	0.108	0.0397 J	0.0264 J	ND (0.064)	0.0968	ND (0.061)	0.935	ND (0.061)	0.0823	0.0471 J
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.14	ND (0.2)	ND (0.039)	0.141	0.0932	0.0814	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.039)	0.0455 J	0.0664	0.0558 J	0.159	ND (0.064)	0.209	0.0265 J	0.685	0.542	0.151	0.0385 J
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-	-	ND (0.082)	0.0367 J	ND (0.079)	ND (0.059)	ND (0.064)	0.0333 J	ND (0.061)	0.247	ND (0.061)	ND (0.057)	ND (0.059)
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	0.0892 J	ND (0.12)	ND (0.13)	0.0469 J	ND (0.12)	ND (0.12)	ND (0.12)	0.0741 J	ND (0.12)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
CHRYSENE	mg/kg	230^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.253	1.18	0.103	0.146	0.137	0.143	0.0969	0.447	0.0283 J	0.0937	0.122	0.135	0.126	0.0562 J	ND (0.064)	0.121	ND (0.061)	2.08	3.05	0.17	0.246
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-	-	ND (0.082)	0.0425	ND (0.079)	ND (0.059)	ND (0.064)	0.0459 J	ND (0.061)	0.24	0.179	ND (0.057)	ND (0.059)
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.21)	-	-	-	-	-	-	-	-	-	-	ND (0.41)	ND (0.18)	ND (0.40)	ND (0.29)	ND (0.32)	ND (0.29)	ND (0.31)	ND (0.29)	ND (0.3)	ND (0.28)	ND (0.3)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.8)	ND (0.78)	ND (0.78)	ND (0.82)	ND (0.83)	-	-	-	-	-	-	-	-	-	-	ND (0.41)	ND (0.18)	ND (0.40)	ND (1.2)	ND (1.3)	ND (1.1)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.1)	ND (1.2)
FLUORANTHENE	mg/kg	3200^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	0.0661	ND (0.041)	-	-	-	-	-	-	-	-	-	-	0.112	0.263	0.0726 J	ND (0.059)	ND (0.064)	0.111	0.107	1.53	ND (0.061)	0.112	0.359
FLUORENE	mg/kg	3800^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.0747	23.6	0.404	0.172	0.867	2.24	1.16	0.94	ND (0.039)	ND (0.039)	0.290	0.0724	0.393	0.0834	ND (0.064)	0.0274 J	0.113	ND (0.059)	ND (0.061)	ND (0.057)	2.37
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-	-	ND (0.082)	0.0271 J	ND (0.079)	0.0293 J	ND (0.064)	0.0948	ND (0.061)	0.425	0.266	0.0552 J	ND (0.059)
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	1.38	0.862	-	-	-	-	-	-	-	-	-	-	2.24	0.0487 J	1.60	0.137	ND (0.13)	0.31	0.0346 J	ND (0.12)	ND (0.12)	0.45	ND (0.12)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	0.371	0.631	-	-	-	-	-	-	-	-	-	-	0.188	0.0418	0.534	0.0816	ND (0.064)	0.124	ND (0.061)	ND (0.059)	ND (0.061)	0.143	ND (0.059)
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.4)	ND (0.39)	ND (0.39)	ND (0.41)	ND (0.41)	-	-	-	-	-	-	-	-	-	-	ND (0.82)	ND (0.37)	ND (0.79)	ND (0.59)	ND (0.64)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.61)	ND (0.57)	ND (0.59)
PHENANTHRENE	mg/kg	10000^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	0.0927	ND (0.041)	0.206	58.5	0.364	0.848	2.08	6.22	3.19	1.86	0.0362 J	0.275	0.504	0.444	0.447	0.0566 J	ND (0.064)	0.321	0.117	2.83	5.84	0.534	4.99
PHENOL	mg/kg	200^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
PYRENE	mg/kg	2200^{AB}	ND (0.04)	ND (0.039)	ND (0.039)	0.0991	ND (0.041)	0.254	9.96	0.152	0.501	0.446	0.969	0.653	3.06	0.0346 J	0.226	0.181	0.288	0.783	0.305	ND (0.064)	0.323	0.0955	2.12	2.95	0.45	1.66
PYRIDINE	mg/kg	12^{AB}	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.21)	-	-	-	-	-	-	-	-	-	-	ND (0.030)	ND (0.18)	ND (0.029)	ND (0.29)	ND (0.32)	ND (0.29)	ND (0.31)	ND (0.29)	ND (0.3)	ND (0.28)	ND (0.3)
Metals																												
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	5.7 J	7.3	6.4	10.9	10.6	-	-	-	-	-	-	-	-	-	-	8.1	7.2	7.3	7.7	8.0	8.3	7.2	8.5	6.7	6.4	6.5
LEAD	mg/kg	450^{AB}	7.7	13.9	12.9	8.1	8.7	42.6	143	39.2	45.6	37.4	20.9	34.5	14.6	15	176	23.1	10.9	14.2	20.8	21.4	56.0	23.2	83.1	13.5	68.1	38.6
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	11.9	16.2	15.8	21.9	21.1	-	-	-	-	-	-	-	-	-	-	13.9	15.1	16.4	14.5	13.3	41.5	13.9	20.3	12.6	17.8	13.5
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	18.9	29.5	30.8	31.7	31.7	-	-	-	-	-	-	-	-	-	-	27.5	44.2	40.7	36.8	23.9	52.0	34.6	34.9	29.8	35.5	29.6
ZINC	mg/kg	12000^{AB}	48.4	60.1	35.2	67.7	60.2	-	-	-	-	-	-	-	-	-	-	38.0	38.5	40.6	43.9	35.4	80.1	49.7	99.5	33.2	54.8	52.2

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH 613-1	MH 613-1C		MH 613-2	MH 613-2C		MH 613-3	MH 613-3C		MH 613-4	MH 613-4C		MH 613-5	MH 613-5C		MH 613-6	MH 613-7	MH 614-1	MH 614-1C		MH 614-2	MH 614-2C		MH 614-3	MH 614-3C		MH 614-4	MH 614-5
Sample Date			4-Dec-13	9-Dec-13	9-Dec-13	4-Dec-13	5-Dec-13	5-Dec-13	4-Dec-13	5-Dec-13	5-Dec-13	4-Dec-13	9-Dec-13	9-Dec-13	4-Dec-13	9-Dec-13	9-Dec-13	4-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	9-Dec-13	9-Dec-13	4-Dec-13	4-Dec-13
Sample ID			MH613-1(3.0)	MH613-1C(1.0)	MH613-1C(3.5)	MH613-2(3.0)	MH613-2C(0.0-2.0)	MH613-2C(2.0-4.0)	MH613-3(3.0)	MH613-3C(0.0-2.0)	MH613-3C(2.0-4.0)	MH613-4(3.0)	MH613-4C(1.0)	MH613-4C(3.5)	MH613-5(3.0)	MH613-5C(1.5)	MH613-5C(3.0)	MH613-6(2.25)	MH613-7(5.0)	MH614-1(3.0)	MH614-1C(0.0-2.0)	MH614-1C(2.0-4.0)	MH614-2(3.0)	MH614-2C(0.0-2.0)	MH614-2C(2.0-4.0)	MH614-3(3.0)	MH614-3C(1.5)	MH614-3C(3.4)	MH614-4(3.0)	MH614-5(3.0)
Sample Depth			3 ft	1 ft	3.5 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	1 ft	3.5 ft	3 ft	1.5 ft	3 ft	2.25 ft	5 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	1.5 ft	3.4 ft	3 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB54736	JB54835	JB54835	JB54736	JB54835	JB54835	JB54736	JB54835	JB54835	JB54736	JB54835	JB54835	JB54736	JB54835	JB54835	JB54736	JB54736	JB54617	JB54835	JB54835	JB54617	JB54835	JB54835	JB54617	JB54835	JB54835	JB54617	JB54617
Laboratory Sample ID	Units	SHS-PA	JB54736-1	JB55122-5	JB55122-6	JB54736-2	JB54991-3	JB54991-4	JB54736-3	JB54991-5	JB54991-6	JB54736-4	JB55122-1	JB55122-2	JB54736-5	JB55122-3	JB55122-4	JB54736-6	JB54736-7	JB54617-1	JB54835-7	JB54835-8	JB54617-2	JB54991-1	JB54991-2	JB54617-3	JB55122-7	JB55122-8	JB54617-4	JB54617-5
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5^{AB}	0.00031 J	ND (0.00098)	0.0331 J	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	***3.21*** ^{A}	***9.13*** ^{B}	***0.763*** ^{B}	ND (0.00087)	ND (0.00095)	0.0227	ND (0.097)	ND (0.11)	ND (0.11)	0.0024	ND (0.097)	***0.833*** ^{A}	0.17	ND (0.0013)	ND (0.0010)	0.00088 J	ND (0.0011)	ND (0.00096)	0.030 J	ND (0.0010)	ND (0.1)
CYCLOHEXANE	mg/kg	6900^{AB}	ND (0.0053)	ND (0.0049)	13.5	ND (0.57)	61.1	8	39.2	215	328	11.1	ND (0.0043)	0.00069 J	0.0067	ND (0.49)	ND (0.56)	ND (0.54)	0.0270	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.0011)	ND (0.00098)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.14)	ND (0.00087)	ND (0.00095)	ND (0.0010)	ND (0.097)	ND (0.11)	ND (0.11)	ND (0.0011)	ND (0.097)	ND (0.12)	ND (0.11)	ND (0.0013)	ND (0.0010)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.0010)	ND (0.1)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.0011)	0.00035 J	0.308	0.112	0.132	0.0408 J	0.0451 J	9.12	26.9	0.0762 J	ND (0.00087)	ND (0.00095)	0.0601	15.5	8.08	5.86	0.0625	***197*** ^{B}	14.8	3.63	0.0260	ND (0.0010)	ND (0.0010)	0.00054 J	0.00038 J	***817*** ^{B}	ND (0.0010)	2.09
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	0.0012 J	ND (0.0049)	0.701	ND (0.57)	0.0989 J	0.314 J	0.0354 J	2.52	5.1	0.459 J	ND (0.0043)	0.00046 J	0.0012 J	0.207 J	0.0735 J	0.254 J	0.0032 J	2.61	0.215 J	0.0829 J	0.0014 J	ND (0.0050)	ND (0.0050)	ND (0.0055)	0.00084 J	12.8	ND (0.0052)	0.108 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.0011)	ND (0.00098)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.1)	0.0430 J	ND (0.14)	ND (0.00087)	ND (0.00095)	ND (0.0010)	ND (0.097)	ND (0.11)	ND (0.11)	0.00059 J	ND (0.097)	ND (0.12)	ND (0.11)	ND (0.0013)	ND (0.0010)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.0010)	ND (0.1)
HEXANE	mg/kg	5600^{AB}	ND (0.0053)	ND (0.0049)	ND (0.5)	ND (0.57)	ND (0.54)	ND (0.59)	ND (0.62)	69.8	92.2	ND (0.71)	ND (0.0043)	ND (0.0048)	0.0021 J	ND (0.49)	ND (0.56)	ND (0.54)	0.0011 J	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	0.0022 J	ND (0.0049)	ND (0.5)	ND (0.57)	0.33 J	ND (0.59)	0.275 J	4.95	6.86	0.388 J	ND (0.0043)	0.00086 J	0.0020 J	ND (0.49)	ND (0.56)	0.3 J	0.0032 J	1.08	-	-	ND (0.0064)	-	-	ND (0.0055)	-	-	ND (0.0052)	ND (0.5)
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	0.0020 J	ND (0.0049)	1.93	0.0448 J	0.156 J	0.123 J	0.153 J	2.31	3.24	0.19 J	ND (0.0043)	0.00071 J	ND (0.0050)	ND (0.49)	ND (0.56)	ND (0.54)	0.0043 J	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	0.00086 J	ND (0.0049)	0.332 J	ND (0.57)	0.0305 J	0.0409 J	0.0640 J	ND (0.52)	ND (0.5)	0.0389 J	ND (0.0043)	0.00095 J	ND (0.0050)	ND (0.49)	ND (0.56)	ND (0.54)	0.0015 J	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100^{AB}	0.00065 J	ND (0.00098)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	0.101	0.0975 J	ND (0.14)	ND (0.00087)	ND (0.00095)	0.00024 J	4.21	7.66	0.975	1.17	12	***247*** ^{A}	35	0.0051	0.00024 J	0.00044 J	0.00049 J	ND (0.00096)	6.18	ND (0.0010)	1.76
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	0.00054 J	ND (0.0049)	ND (0.5)	0.0420 J	4.79	0.113 J	0.0422 J	***37.4*** ^{A}	***51*** ^{B}	0.818	ND (0.0043)	ND (0.0048)	0.010	0.328 J	0.123 J	1.85	0.00093 J	2.68	0.203 J	0.164 J	0.00063 J	ND (0.0050)	ND (0.0050)	ND (0.0055)	ND (0.0048)	12.2	ND (0.0052)	0.134 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.0053)	ND (0.0049)	ND (0.5)	ND (0.57)	1.71	0.0455 J	ND (0.62)	16.8	19.6	ND (0.71)	ND (0.0043)	ND (0.0048)	0.0037 J	0.152 J	0.0273 J	0.52 J	0.00074 J	1.93	0.126 J	0.0809 J	ND (0.0064)	ND (0.0050)	ND (0.0050)	ND (0.0055)	ND (0.0048)	8.23	ND (0.0052)	0.0990 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	0.0019	0.0011	1.42	2.59	1.26	ND (0.12)	0.0832 J	67	86.4	0.0350 J	ND (0.00087)	ND (0.00095)	0.502	263	93.3	58.6	0.571	***2050*** ^{B}	126	30.7	0.314	0.00034 J	0.00027 J	0.0097	0.0024	***13400 AB*** ^{B}	0.0012	19.3
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0029)	ND (0.0029)	ND (0.0033)	ND (0.0029)	ND (0.0031)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0029)	ND (0.0029)	ND (0.0031)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	ND (0.037)	0.0334 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0239 J	0.0349 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0197 J	0.0219 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0289 J	0.0281 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0237 J	0.0225 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	0.196	0.316	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	0.0549 J	ND (0.079)	0.0514 J	0.0608 J	ND (0.089)	ND (0.076)	0.0480 J	ND (0.08)	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	0.0823 J	ND (0.076)	ND (0.077)	ND (0.08)	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0273 J	0.030 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.19)	ND (0.22)	ND (0.19)	ND (0.19)	ND (0.2)	0.535	0.186 J	ND (0.2)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.76)	ND (0.74)	ND (0.73)	ND (0.75)	ND (0.8)	ND (0.78)	ND (0.79)	ND (0.72)	ND (0.76)	ND (0.89)	ND (0.76)	ND (0.77)	ND (0.8)	ND (0.74)	ND (0.76)	ND (0.78)	ND (1.2)	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	0.0281 J	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0441	0.106	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	0.0399	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	ND (0.037)	0.0261 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	0.0222 J	ND (0.037)	ND (0.039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0163 J	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	ND (0.076)	ND (0.074)	0.0423 J	ND (0.075)	ND (0.08)	0.0584 J	0.0473 J	3.18	5.93	0.0575 J	ND (0.076)	ND (0.077)	ND (0.08)	ND (0.074)	ND (0.076)	0.0310 J	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)	0.0732 J	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)	0.0626 J	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	0.0187 J	ND (0.036)	3.16	0.0239 J	ND (0.038)	ND (0.039)	ND (0.04)	ND (0.037)	ND (0.038)	0.0188 J	ND (0.12)	0.0601	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	0.279	ND (0.037)	ND (0.039)
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.38)	ND (0.37)	ND (0.36)	ND (0.38)	ND (0.4)	ND (0.39)	ND (0.4)	ND (0.36)	ND (0.38)	ND (0.44)	ND (0.38)	ND (0.39)	ND (0.4)	ND (0.37)	ND (0.38)	ND (0.39)	ND (1.2)	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	0.0252 J	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0322 J	0.121	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)
PHENOL	mg/kg	200^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200^{AB}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	0.0228 J	ND (0.04)	0.0183 J	0.0325 J	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)	0.0374	0.112	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	0.0159 J	ND (0.037)	ND (0.039)
PYRIDINE	mg/kg	12^{AB}	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37^{AB}	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.19)	ND (0.22)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.2)	-	-	-	-	-	-	-	-	-	-	-	-
Metals																														
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	4.6 J	4.3 J	5.2 J	8.1	13.4	11.0	8.1	10.1	8.9	6.9	8.5	8.7	3.4 J	8.1	7.2	9.2	6.8	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450^{AB}	7.9	11.6	8.7	7.4	8.9	7.1	7.9	20.7	31.8	11.3	28.5	73.4	7.1	15.1	18.8	17.2	7.5	7.2	4.2	6.4	6.6	13.5	8.4	10.7	31.7	30.1	10.1	12.2
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	13.4	14.5	10.1	11.6	17.9	12.6	14.8	18.2	17.1	11.1	17.8	22.0	8.9	15.1	14.4	15.8	14.0	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	27.1	28.9	32.0	23.3	24.6	28.0	29.7	30.4	29.7	30.3	34.2	26.8	25.4	33.0	31.2	31.6	29.7	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000^{AB}	39.3	44.9	36.5	31.1	49.8	36.5	39.6	183	312	37.1	252	1130	30.4	51.9	61.7	79.4	38.0	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH 614-6	MH 614-7	MH 615-1	MH 615-1C		MH 615-2	MH 615-2C		MH 615-3	MH 615-3C		MH 615-4
Sample Date			4-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	9-Dec-13	9-Dec-13	3-Dec-13
Sample ID			MH614-6(2.0)	MH614-7(5.0)	MH615-1(3.0)	MH615-1C(0.0-2.0)	MH615-1C(2.0-4.0)	MH615-2(3.0)	MH615-2C(0.0-2.0)	MH615-2C(2.0-4.0)	MH615-3(3.0)	MH615-3C(1.0)	MH615-3C(3.5)	MH615-4(3.0)
Sample Depth			2 ft	5 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	1 ft	3.5 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB54617	JB54617	JB54616	JB54835	JB54835	JB54616	JB54835	JB54835	JB54616	JB54835	JB54835	JB54616
Laboratory Sample ID	Units	SHS-PA	JB54617-6	JB54617-7	JB54616-1	JB54835-1	JB54835-2	JB54616-2	JB54835-3	JB54835-4	JB54616-3	JB55122-9	JB55122-10	JB54616-4
Volatile Organic Compounds														
BENZENE	mg/kg	0.5^{AB}	ND (0.11)	0.00036 J	***90.5*** ^{B}	0.0117	0.00029 J	0.030	***61.7*** ^{A}	***10.3*** ^{B}	0.49	***15.4*** ^{A}	***43.8*** ^{B}	0.030
CYCLOHEXANE	mg/kg	6900^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.11)	ND (0.00099)	ND (0.11)	ND (0.00097)	ND (0.00087)	ND (0.00087)	ND (0.17)	ND (0.12)	ND (0.0010)	ND (0.00095)	ND (0.11)	ND (0.00095)
ETHYLBENZENE	mg/kg	70^{AB}	***590*** ^{A}	0.0021	***332*** ^{B}	0.0029	0.00037 J	2.11	8.54	0.208	22.4	0.0093	0.911	0.187
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	19	ND (0.0049)	2.97	ND (0.0048)	ND (0.0043)	0.0038 J	0.817 J	0.0458 J	0.0899	0.00093 J	0.422 J	0.0222
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.11)	ND (0.00099)	ND (0.11)	ND (0.00097)	ND (0.00087)	ND (0.00087)	ND (0.55)	ND (0.12)	ND (0.0010)	ND (0.00095)	ND (0.11)	ND (0.00095)
HEXANE	mg/kg	5600^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	2.03	ND (0.0049)	ND (0.55)	-	-	ND (0.0043)	-	-	ND (0.0052)	-	-	0.0053
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100^{AB}	9.68	0.0560	***11300 AP*** ^{B}	0.0542	0.0068	8.65	75.1	3.8	72.9	0.15	0.48	1.11
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	***73.9*** ^{A}	ND (0.0049)	2.66	0.00028 J	ND (0.0043)	0.0038 J	18.5	0.449 J	0.0244	0.0932	ND (0.53)	0.0023 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	32.3 J	ND (0.0049)	2.07	ND (0.0048)	ND (0.0043)	0.0031 J	5.92	0.162 J	0.0082	0.0516	ND (0.53)	0.0016 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	***9450 AP*** ^{A}	0.0179	***2670*** ^{B}	0.0251	0.0028	16.6	59.2	1.51	210	4.21	0.456	0.982
Volatile Organic Compounds (SW8011)														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0029)	ND (0.0029)	ND (0.0028)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.0031)
Semi-Volatile Organic Compounds														
ACENAPHTHENE	mg/kg	4700^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350^{AB}	ND (0.037)	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	0.0234 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	0.0228 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	0.0209 J	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.0279 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	0.0448	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	0.0266 J	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230^{AB}	0.0229 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	0.0301 J	ND (0.038)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800^{AB}	0.0222 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 22000^{B}	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	0.583	ND (0.035)	0.0209 J	ND (0.037)	ND (0.038)	ND (0.039)	0.132	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
4-NITROPHENOL	mg/kg	6^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000^{AB}	0.0393	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	0.0264 J	0.0192 J	ND (0.04)	ND (0.12)	0.0765 J	ND (0.038)
PHENOL	mg/kg	200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200^{AB}	0.0930	ND (0.035)	ND (0.04)	0.0166 J	0.0244 J	ND (0.039)	0.0304 J	ND (0.039)	ND (0.04)	ND (0.12)	0.0372 J	ND (0.038)
PYRIDINE	mg/kg	12^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
Metals														
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450^{AB}	16.5	5.4	9.4	19.1	21.3	7.6	14.2	7.2	6.6	30.1	12.5	7.0
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH 615-4C		MH 615-5	MH 615-6	MH 615-7	MH 813-1	MH 813-2	MH 813-3	MH 813-4	MH10-1	MH10-2	MH10-3	MH10-4	MH10-5	MH10-6	MH10-7	MH10-8	MH10-9	MH10-10	MH10-1A		MH10-1B		MH10-1C	MH10-1D	MH10-2A		MH10-3A
Sample Date			5-Dec-13	5-Dec-13	3-Dec-13	3-Dec-13	5-Dec-13	25-Oct-13	25-Oct-13	25-Oct-13	25-Oct-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	18-Sep-13	19-Sep-13	9-Apr-15	9-Apr-15	5-Nov-15	5-Nov-15	18-Sep-13	19-Sep-13	19-Sep-13
Sample ID			MH615-4C(0.0-2.0)	MH615-4C(2.0-4.0)	MH615-5(3.0)	MH615-6(2.25)	MH615-7(5.0)	MH813-1 (3.0-3.5)	MH813-2 (1.5-2.0)	MH813-3 (1.75-2.25)	MH813-4 (3.0-3.5)	MH10-1 (5.0-5.5)	MH10-2 (0.5-1.0)	MH10-3 (3.0-3.5)	MH10-4 (1.0-1.5)	MH10-5 (0.5-1.0)	MH10-6 (1.5-1.8)	MH10-7 (1.5-2.0)	MH10-8 (1.0-1.5)	MH10-9 (0.5-1.0)	MH10-10 (0.0-0.5)	MH10-1A(0.0-2.0)	MH10-1A(3.5-4.0)	MH10-1B(1.0-1.5)	MH10-1B(2.0-2.5)	MH10-1C-1-20151105	MH10-1D-1-20151105	MH10-2A(0.0-2.0)	MH10-2A(4.75-5.25)	MH10-3A(0.0-2.0)
Sample Depth			0 - 2 ft	2 - 4 ft	3 ft	2.25 ft	5 ft	3 - 3.5 ft	1.5 - 2 ft	1.75 - 2.25 ft	3 - 3.5 ft	5 - 5.5 ft	0.5 - 1 ft	3 - 3.5 ft	1 - 1.5 ft	0.5 - 1 ft	1.5 - 1.8 ft	1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	0 - 0.5 ft	0 - 2 ft	3.5 - 4 ft	1 - 1.5 ft	2 - 2.5 ft	1 ft	1 ft	0 - 2 ft	4.75 - 5.25 ft	0 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB54835	JB54835	JB54616	JB54616	JB54616	JB51293	JB51293	JB51293	JB51293	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB47862	JB47862	JB92019	JB92019	JC7895	JC7895	JB47862	JB47862	JB47862
Laboratory Sample ID	Units	SHS-PA	JB54835-5	JB54835-6	JB54616-5	JB54616-6	JB54616-7	JB51293-5	JB51293-6	JB51293-7	JB51293-8	JB33904-1	JB33904-2	JB33904-3	JB33904-4	JB33904-5	JB33904-6	JB33904-7	JB33904-8	JB33904-9	JB33904-10	JB47862-1	JB47862-2	JB92019-1	JB92019-2	JC7895-1	JC7895-2	JB47862-3	JB47862-4	JB47862-5
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	0.0119	0.0422	0.114 J	ND (0.00092)	0.357	ND (0.00093)	ND (0.00098)	0.0028	ND (0.0009)	ND (0.120)	0.00026 J	ND (0.130)	ND (0.094)	0.00067 J	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	**5.86 [A]**	**1.49 [B]**	ND (0.050)	ND (0.053)	ND (0.057)	0.0014	0.00050 J	**3.66 [B]**	ND (0.120)
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0790	18.9	-	-	ND (0.23)	0.0060	0.0021 J	43.1	0.310 J
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	*ND (0.015)*	ND (0.00089)	*ND (0.017)*	*ND (0.012)*	ND (0.00081)	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.00085)	ND (0.00089)	ND (0.12)	ND (0.00092)	ND (0.1)	-	-	-	-	ND (0.120)	ND (0.00089)	ND (0.130)	ND (0.094)	ND (0.00081)	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	ND (0.0010)	ND (0.120)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0014)	ND (0.0011)	ND (0.130)	ND (0.120)
ETHYLBENZENE	mg/kg	70[AB]	0.0020	0.0064	0.0369 J	ND (0.00092)	**123 [B]**	ND (0.00093)	ND (0.00098)	0.0030	ND (0.0009)	0.0353 J	0.00076 J	0.0357 J	0.370	0.00042 J	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	0.0112	**366 [B]**	0.0362 J	0.0304 J	ND (0.11)	0.0029	ND (0.0011)	17.5	0.0438 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	0.00021 J	0.00025 J	0.0900 J	ND (0.0046)	2.67	-	-	-	-	0.502 J	0.00070 J	1.95	2.54	0.0031 J	0.0031 J	0.0035 J	ND (0.0042)	ND (0.0045)	ND (0.0047)	0.00040 J	19.6	0.535	0.365	0.0439 J	0.00045 J	ND (0.0055)	14.5	2.02
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.00085)	ND (0.00089)	ND (0.12)	ND (0.00092)	ND (0.1)	-	-	-	-	ND (0.120)	ND (0.00089)	ND (0.130)	ND (0.094)	ND (0.00081)	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	ND (0.0010)	ND (0.120)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0014)	ND (0.0011)	ND (0.130)	ND (0.120)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0214	16.5	-	-	ND (0.57)	0.0020 J	ND (0.0055)	4.46	ND (0.590)
NAPHTHALENE	mg/kg	25[AB]	-	-	ND (0.58)	ND (0.0046)	0.587	-	-	-	-	ND (0.600)	ND (0.0045)	0.776	1.01	0.0119	ND (0.0046)	ND (0.0046)	ND (0.0042)	ND (0.0045)	ND (0.0047)	-	-	-	-	0.927	0.0077	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0051)	4.20	-	-	0.142 J	0.00042 J	ND (0.0055)	11.4	1.92
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0051)	0.482 J	-	-	ND (0.23)	ND (0.0028)	ND (0.0055)	2.38	0.381 J
TOLUENE	mg/kg	100[AB]	0.0172	0.0984	0.324	0.0029	**292 [B]**	ND (0.00093)	ND (0.00098)	0.0011	ND (0.0009)	ND (0.120)	0.0013	ND (0.130)	ND (0.094)	0.00034 J	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	0.0267	1.08	ND (0.10)	ND (0.11)	ND (0.11)	0.0012 J	0.00036 J	2.43	ND (0.120)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	0.0032 J	0.0037 J	ND (0.58)	ND (0.0046)	1.68	-	-	-	-	0.125 J	0.0041 J	0.114 J	2.35	0.0689	0.0117	0.00058 J	ND (0.0042)	ND (0.0045)	ND (0.0047)	ND (0.0051)	**77.2 [B]**	0.316	0.190 J	0.0626 J	0.0168	0.0018 J	**167 [B]**	ND (0.590)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	0.0011 J	0.0013 J	ND (0.58)	ND (0.0046)	1.38	-	-	-	-	ND (0.600)	0.0022 J	ND (0.660)	2.91	0.0228	0.00072 J	ND (0.0046)	ND (0.0042)	ND (0.0045)	ND (0.0047)	ND (0.0051)	25.8 J	0.0701 J	0.0351 J	0.0285 J	0.0109	0.0015 J	80.8	ND (0.590)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	0.0133	0.0508	0.148	0.0014	**1210 [B]**	0.00071 J	ND (0.00098)	0.0026	ND (0.0009)	0.110 J	0.0040	0.114 J	0.110	0.0030	0.0010	0.00061 J	ND (0.00084)	ND (0.00089)	ND (0.00095)	0.0232	**1070 [B]**	0.132	0.0999 J	ND (0.11)	0.0253	0.0013	60.6	ND (0.120)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0029)	ND (0.0029)	ND (0.0031)	ND (0.0029)	ND (0.0028)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0029)	ND (0.0032)	ND (0.0027)	ND (0.0028)	ND (0.0029)	ND (0.0027)	ND (0.0032)	ND (0.0030)	ND (0.0028)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	0.0199 J	ND (0.032)	0.0537	ND (0.037)	-	-	-	-	-	-	-	-	-	-	ND (0.190)	1.14	-	-	3.85	3.36	0.172	3.16	1.74
ANTHRACENE	mg/kg	350[AB]	ND (0.034)	ND (0.037)	ND (0.038)	ND (0.037)	0.0255 J	0.0238 J	ND (0.032)	0.0434	0.0154 J	2.78	0.0933	2.59	0.513	3.91	1.90	0.561	ND (0.038)	0.0541	ND (0.037)	ND (0.190)	0.662	5.10	7.59	2.41	2.45	0.0713	3.47	0.924
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.034)	0.0185 J	ND (0.038)	0.0197 J	ND (0.037)	0.0383 J	ND (0.032)	0.0659	0.0441	1.03	0.246	0.112 J	0.698	5.38	2.71	0.257	0.0208 J	0.0577	ND (0.037)	1.89	0.414	3.33	5.90	1.62	2.14	0.0672	1.51	1.03
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	ND (0.034)	0.0183 J	ND (0.038)	0.0248 J	0.0525	0.0524	ND (0.032)	0.0599	0.0434	0.848	0.184	ND (0.160)	0.635	4.46	2.32	0.204	0.0538	0.0662	ND (0.037)	1.48	0.246	3.68	5.37	1.98	1.36	0.0525	0.652	1.13
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	ND (0.034)	0.0204 J	ND (0.038)	0.0232 J	0.0345 J	0.0348 J	ND (0.032)	0.0743	0.0489	0.315	0.139	ND (0.160)	ND (0.350)	1.42	0.785	0.0766	0.0281 J	0.0310 J	ND (0.037)	0.883	0.130 J	1.28	1.86	0.825	0.569	0.0264 J	0.727	0.345
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	ND (0.034)	0.0199 J	ND (0.038)	0.0349 J	0.0967	-	-	-	-	0.360	0.115	ND (0.160)	0.533	1.14	0.912	0.136	0.0837	0.0530	0.0333 J	2.34	0.219	2.55	2.94	1.52	0.652	0.0587	0.874	1.09
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	ND (0.039)	ND (0.032)	0.0280 J	0.0180 J	-	-	-	-	-	-	-	-	-	-	0.205	ND (0.210)	-	-	0.115 J	0.121 J	ND (0.042)	ND (0.200)	0.319
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	0.440	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	2.12	ND (0.084)	0.709	0.244
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)
CHRYSENE	mg/kg	230[AB]	ND (0.034)	0.0162 J	ND (0.038)	0.0181 J	ND (0.037)	0.0471	ND (0.032)	0.0779	0.0411	1.60	0.425	0.238	1.14	12.6	6.13	0.448	0.0633	0.144	ND (0.037)	0.634	0.847	7.32	11.6	3.40	4.19	0.163	3.99	2.62
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.190)	ND (0.210)	-	-	0.393	ND (0.16)	ND (0.042)	0.142 J	0.324
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.930)	ND (1.10)	-	-	ND (0.63)	ND (0.82)	ND (0.210)	ND (1.00)	ND (0.170)
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (3.70)	ND (4.30)	-	-	ND (0.63)	ND (0.82)	ND (0.840)	ND (4.00)	ND (0.690)
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	0.0590	ND (0.032)	0.161	0.0775	-	-	-	-	-	-	-	-	-	-	0.303	0.256	-	-	1.09	1.24	0.0659	2.00	ND (0.034)
FLUORENE	mg/kg	3800[AB]	ND (0.034)	ND (0.037)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.039)	ND (0.032)	0.0711	ND (0.037)	8.52	0.121	6.83	2.03	10.0	4.71	2.19	ND (0.038)	0.144	ND (0.037)	ND (0.190)	1.72	12.6	19.0	5.67	3.98	0.183	19.6	4.31
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	0.0374 J	ND (0.032)	0.0362	0.0205 J	-	-	-	-	-	-	-	-	-	-	0.386	ND (0.210)	-	-	0.354	ND (0.16)	ND (0.042)	0.305	0.256
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	32.8	-	-	24.2	3.61	0.407	216	20.7
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.034)	ND (0.037)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.039)	ND (0.032)	0.0380	ND (0.037)	-	-	-	-	-	-	-	-	-	-	ND (0.190)	12.5	ND (0.11)	ND (0.21)	ND (0.13)	ND (0.16)	ND (0.042)	**47.8 [B]**	ND (0.034)
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.90)	ND (2.10)	-	-	ND (1.3)	ND (1.6)	ND (0.420)	ND (2.00)	ND (0.340)
PHENANTHRENE	mg/kg	10000[AB]	ND (0.034)	0.0183 J	ND (0.038)	ND (0.037)	0.111	0.0420	ND (0.032)	0.19	0.0344 J	23.30	0.265	12.9	5.70	29.1	16.7	3.51	0.0251 J	0.368	0.0184 J	ND (0.190)	5.40	34.5	54.7	16.5	11.8	0.593	51.0	10.8
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)
PYRENE	mg/kg	2200[AB]	0.0174 J	0.0688	ND (0.038)	0.0375	0.339	0.0828	ND (0.032)	0.114	0.0613	3.05	0.517	1.44	2.58	12.3	11.9	1.03	0.105	0.269	0.0192 J	2.66	1.33	16.1	17.2	6.64	5.98	0.314	9.75	5.55
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.180)	ND (0.200)	-	-	ND (0.046)	ND (0.060)	ND (0.210)	ND (0.190)	ND (0.170)
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	24.5	-	-	5.7	5.0 J	14.3	5.1 J	11.2
LEAD	mg/kg	450[AB]	27.7	25.8	10.3	24.4	12.4	-	-	-	-	4.3 J	28.0	1.3 J	13.5	266	30.3	18	21.1	6.7	20.4	46.7	24.5	25.4	5.7	70.4	55.7	17.8	38.9	53.6
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.4	41.5	-	-	24.0	21.0	47.6	15.0	106
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.7	65.4	-	-	27.7	15.5	64.1	41.9	184
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78.3	153	-	-	60.9	365	74.5	46.7	591

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH10-4A		MH11 SS-01	MH11 SS-02	MH11 SS-03	MH11 SS-04	MH11 SS-05	MH11 SS-06	MH11 SS-07	MH11 SS-08	MH11 SS-09	MH11 SS-10	MH11 SS-11	MH11 SS-12	MH386-1	MH386-2	MH386-3	MH386-4	MH386-5	MH386-6	MH386-7	MH386-8		MH386-9	
Sample Date			19-Sep-13	19-Sep-13	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	26-Oct-15	26-Oct-15	26-Oct-15	26-Oct-15	26-Oct-15	27-Oct-15	27-Oct-15	27-Oct-15	5-Feb-16	27-Oct-15	5-Feb-16
Sample ID			MH10-4A(0.0-2.0)	MH10-4A(5.5-6.0)	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	SS-07	SS-08	SS-09	SS-10	SS-11	SS-12	MH386-1-20151026(3')	MH386-2-20151026(3')	MH386-3-20151026(3')	MH386-4-20151026(3')	MH386-5-20151026(3')	MH386-6-20151027(3')	MH386-7-20151027(3')	MH386-8-20151027(5')	MH386-8-2'	MH386-9-20151027(5')	MH386-9-1'
Sample Depth			0 - 2 ft	5.5 - 6 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	5 ft	2 ft	5 ft	1 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	ACCUTEST	LL
Laboratory Work Order		A B	JB47862	JB47862	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	JC7097	JC7097	JC7097	JC7097	JC7097	JC7291	JC7291	JC7291	1629807	JC7291	1629807
Laboratory Sample ID	Units	SHS-PA	JB47862-6	JB47862-7	6246993	6246994	6246995	6246996	6246997	6246998	6246999	6247000	6247001	6247002	6247003	6247004	JC7097-1	JC7097-2	JC7097-3	JC7097-4	JC7097-5	JC7291-1	JC7291-2	JC7291-3	8235350	JC7291-4	8235351
Volatile Organic Compounds																											
BENZENE	mg/kg	0.5[AB]	ND (0.00098)	0.0777 J	ND (0.0005)	0.001 J	ND (0.026)	0.002 J	ND (0.0004)	ND (0.0005)	ND (0.0005)	ND (0.023)	0.210 J	0.002 J	ND (0.001)	ND (0.0004)	0.0806	0.0015	0.0133	0.00061	0.0345 J	ND (0.059)	ND (0.060)	0.308	0.24	***0.596*** [B]	0.45
CYCLOHEXANE	mg/kg	6900[AB]	0.00059 J	0.697	-	-	-	-	-	-	-	-	-	-	-	-	0.116	0.0022	0.0064	ND (0.0019)	0.324	0.172 J	6.80	ND (0.23)	0.49	0.0074	1.5
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	ND (0.0009)	ND (0.0009)	ND (0.001)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.003)	ND (0.0008)	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.00098)	ND (0.120)	ND (0.0009)	ND (0.0009)	ND (0.052)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.046)	ND (0.046)	ND (0.002)	ND (0.003)	ND (0.0008)	ND (0.0010)	ND (0.0010)	ND (0.00082)	ND (0.00095)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.044)	ND (0.00092)	ND (0.038)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.00098)	0.183	ND (0.0009)	ND (0.0009)	ND (0.052)	0.001 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.260	1.1	ND (0.002)	ND (0.003)	ND (0.0008)	0.0511	0.00029 J	0.0071	ND (0.00095)	ND (0.11)	0.0568 J	0.211	ND (0.11)	0.21 J	0.0107	ND (0.038)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.0049)	0.335 J	ND (0.0009)	ND (0.0009)	ND (0.052)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.046)	0.100 J	ND (0.002)	ND (0.003)	ND (0.0008)	0.0077	0.0010 J	0.0017	ND (0.0019)	ND (0.22)	1.99	0.271	ND (0.23)	0.10 J	0.00068 J	0.077 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.00098)	ND (0.120)	ND (0.0005)	ND (0.0005)	ND (0.026)	ND (0.0005)	0.002 J	ND (0.0005)	0.0007 J	ND (0.023)	ND (0.023)	ND (0.0009)	ND (0.001)	ND (0.0004)	0.0092	0.0261	0.0010	0.0021	ND (0.11)	ND (0.12)	ND (0.12)	0.177	0.89	0.0999	0.12 J
HEXANE	mg/kg	5600[AB]	0.00090 J	0.453 J	-	-	-	-	-	-	-	-	-	-	-	-	0.139	ND (0.0052)	0.0035 J	ND (0.0047)	0.223 J	ND (0.59)	8.09	ND (0.57)	0.52	0.0062	0.098 J
NAPHTHALENE	mg/kg	25[AB]	-	-	0.008	ND (0.0009)	0.097 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.006	1.2	4.9	0.002 J	ND (0.003)	ND (0.0008)	0.0025 J	0.00052 J	0.0015 J	ND (0.0047)	1.47	0.214 J	0.697	0.459 J	19	0.0207	0.80
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.0049)	0.270 J	-	-	-	-	-	-	-	-	-	-	-	-	0.0010 J	0.0010 J	0.00043 J	ND (0.0019)	ND (0.22)	2.33	0.186 J	0.0235 J	0.099 J	0.00038 J	0.050 J
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.0049)	ND (0.610)	-	-	-	-	-	-	-	-	-	-	-	-	0.00056 J	ND (0.0021)	ND (0.0016)	ND (0.0019)	ND (0.22)	0.212 J	0.0679 J	ND (0.23)	0.047 J	0.00019 J	ND (0.038)
TOLUENE	mg/kg	100[AB]	ND (0.00098)	0.0325 J	ND (0.0009)	ND (0.0009)	ND (0.052)	0.003 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.320	1.6	0.005 J	ND (0.003)	ND (0.0008)	0.0200	0.00024 J	0.00040 J	ND (0.00095)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	0.13 J	0.0067	ND (0.038)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.0049)	2.05	0.003 J	ND (0.0009)	ND (0.052)	0.001 J	ND (0.0009)	ND (0.0009)	0.005	3.2	6.7	0.004 J	0.005 J	0.004 J	0.0143	ND (0.0021)	0.0025	ND (0.0019)	0.139 J	0.0468 J	0.987	0.481	1.7	0.0184	0.32
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.0049)	0.547 J	0.009	ND (0.0009)	ND (0.052)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.002 J	1.0	1.8	ND (0.002)	0.006 J	0.003 J	0.0059	ND (0.0021)	0.0012 J	ND (0.0019)	0.0669 J	ND (0.24)	0.464	0.244	0.60	0.0082	0.10 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.00098)	0.323	ND (0.0009)	ND (0.0009)	ND (0.052)	0.002 J	ND (0.0009)	ND (0.0009)	0.001 J	2.4	7.9	0.002 J	ND (0.003)	0.002 J	0.131	0.0011	0.0111	ND (0.00095)	ND (0.11)	0.0320 J	0.161	0.175	1.2	0.0321	0.19 J
Volatile Organic Compounds (SW8011)																											
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0028)	ND (0.0031)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0029)	ND (0.0030)	ND (0.0028)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.00024)	ND (0.0030)	ND (0.00022)
Semi-Volatile Organic Compounds																											
ACENAPHTHENE	mg/kg	4700[AB]	ND (0.034)	2.92	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	0.204	0.0536	0.290	1.4	0.227	0.25
ANTHRACENE	mg/kg	350[AB]	ND (0.034)	1.32	0.480	ND (0.0038)	1.3	0.0063 J	0.0078 J	0.010 J	0.028 J	2.0	2.2	ND (2.1)	0.140	0.013 J	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	0.424	ND (0.040)	ND (0.041)	ND (0.040)	1.4	ND (0.040)	0.19
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.034)	0.138	1.8	0.0054 J	ND (0.240)	0.023	0.013	0.056	0.053	5.6	6.3	4.7	0.560	0.049	0.0409 J	ND (0.082)	0.0418 J	ND (0.040)	0.0690 J	0.0574	ND (0.041)	0.0397 J	0.19 J	0.0384 J	0.085
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.0164 J	0.0870	1.3	0.036	0.110	0.052	0.021	0.092	0.060	3.7	4.3	***17 AX*** [A]	0.520	0.040	0.0444 J	ND (0.082)	ND (0.066)	ND (0.040)	0.0432 J	0.0383 J	ND (0.041)	0.0241 J	0.074 J	0.0234 J	0.047
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.0186 J	0.0338 J	1.5	0.0090	0.110	0.026	0.012	0.110	0.069	4.4	5.0	21	0.580	0.046	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	0.0503	ND (0.041)	0.0160 J	0.13 J	ND (0.040)	0.034
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.0748	0.0819	1.9	0.160	0.260	0.290	0.096	ND (0.180)	0.110 J	ND (4.6)	ND (5.7)	ND (24)	0.560	0.027 J	0.0628 J	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	0.0246 J	ND (0.041)	ND (0.040)	0.069 J	ND (0.040)	0.037
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	ND (0.034)	0.0321 J	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	ND (0.040)	ND (0.041)	ND (0.040)	0.11 J	ND (0.040)	0.014 J
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	0.703	0.0451 J	0.181	0.0464 J	5.3	0.0257 J	0.18
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)
CHRYSENE	mg/kg	230[AB]	0.0228 J	0.287	8.7	ND (0.017)	1.2	ND (0.120)	ND (0.044)	ND (0.420)	0.340	25	28	66	3.1	0.240	0.0693	ND (0.082)	0.0789	ND (0.040)	0.0874 J	0.199	0.0198 J	0.0712	0.32	0.0678	0.19
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	ND (0.034)	ND (0.041)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	ND (0.040)	ND (0.041)	ND (0.040)	ND (0.040)	ND (0.040)	0.013 J
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.170)	ND (0.210)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.34)	ND (0.41)	ND (0.33)	ND (0.20)	ND (0.53)	0.417	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.019)
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (0.680)	ND (0.820)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.34)	ND (0.41)	ND (0.33)	ND (0.20)	ND (0.53)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.6)	ND (0.20)	ND (0.35)
FLUORANTHENE	mg/kg	3200[AB]	0.0297 J	0.355	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	0.128	0.0922	0.0253 J	0.0448	0.35	0.0427	0.090
FLUORENE	mg/kg	3800[AB]	ND (0.034)	5.11	0.084 J	ND (0.019)	4.1	ND (0.018)	ND (0.019)	ND (0.017)	ND (0.076)	1.3	1.2	ND (5.7)	0.077 J	ND (0.035)	ND (0.069)	0.138	0.112	ND (0.040)	0.616	0.892	0.157	0.509	2.6	0.404	0.46
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	ND (0.034)	0.0214 J	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	ND (0.040)	ND (0.041)	ND (0.040)	0.051 J	ND (0.040)	0.017 J
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	ND (0.068)	69.9	-	-	-	-	-	-	-	-	-	-	-	-	0.254	0.0878 J	0.206	ND (0.080)	2.60	1.00	2.59	1.67	50	1.26	0.29
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5800[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.20)	ND (0.080)	ND (0.019)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	5800[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.20)	ND (0.080)	ND (0.019)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	5800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.034)	ND (0.041)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (0.340)	ND (0.410)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.69)	ND (0.82)	ND (0.66)	ND (0.40)	ND (1.1)	ND (0.40)	ND (0.41)	ND (0.40)	ND (2.0)	ND (0.40)	ND (0.19)
PHENANTHRENE	mg/kg	10000[AB]	ND (0.034)	10.0	1.3	ND (0.011)	7.7	0.036	0.029 J	0.026 J	0.057 J	7.0	8.0	ND (3.4)	0.220	ND (0.021)	0.0794	0.147	0.203	ND (0.040)	2.11	1.72	0.358	0.676	6.1	0.695	0.68
PHENOL	mg/kg	200[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.20)	ND (0.080)	ND (0.019)
PYRENE	mg/kg	2200[AB]	0.0316 J	2.08	ND (3.2)	ND (0.019)	ND (13)	ND (0.018)	0.040 J	ND (0.082)	0.130 J	14	15	16 J	0.430	0.070 J	0.405	0.0535 J	0.170	ND (0.040)	0.797	0.245	0.107	0.187	2.3	0.167	0.63
PYRIDINE	mg/kg	12[AB]	ND (0.068)	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)
QUINOLINE	mg/kg	0.37[AB]	ND (0.170)	ND (0.210)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.34)	ND (0.030)	ND (0.33)	ND (0.20)	ND (0.039)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.033)	ND (0.20)	ND (0.039)
Metals																											
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190≤1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	9.8	10.2	-	-	-	-	-	-	-	-	-	-	-	-	6.7	6.1 J	8.4	6.7	12.6	7.3	4.5 J	4.7 J	6.93	6.5	5.98
LEAD	mg/kg	450[AB]	54.9	17.0	3.27	44.6	56.3	21.6	14.7	9.10	12.0	19.8	43.3	94.0	0.680 J	1.89	27.2	12.4	18.9	9.0	9.6	22.4	11.0	10.5	15.2	15.1	15.3
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	106	16.0	-	-	-	-	-	-	-	-	-	-	-	-	13.6	15.5	17.7	13.4	14.0	14.3	12.7	14.1	11.9	18.3	13.1
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	173	57.1	-	-	-	-	-	-	-	-	-	-	-	-	34.6	48.7	33.1	38.4	42.4	35.9	40.5	30.8	43.7	35.4	17.5
ZINC	mg/kg	12000[AB]	279	54.4	-	-	-	-	-	-	-	-	-	-	-	-	41.1	35.7	41.8	33.4	37.2	63.7	30.6	31.7	46.8	39.2	43.5

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH386-10		MH386-11	MH386-12	MH386-13	MH386-14	MH389-12	MH389-13	MH389-14	MH389-15	MH389-16	MH389-17	MH389-18	MH389-19	MH389-20	MH389-21	MH389-22	MH454-1	MH454-6	MH454-7	MH454-2	MH454-3	MH454-4	MH454-5	MH454-8	MH454-9	MH454-10	MH455-11
Sample Date			27-Oct-15	27-Oct-15	27-Oct-15	27-Oct-15	27-Oct-15	27-Oct-15	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16
Sample ID			MH386-10-20151027(2')	MH386-10-20151027(5')	MH386-11-20151027(2')	MH386-12-20151027(2')	MH386-13-20151027(2')	MH386-14-20151027(2')	MH389-12	MH389-13	MH389-14	MH389-15	MH389-16	MH389-17	MH389-18	MH389-19	MH389-20	MH389-21	MH389-22	MH454-1(5)	MH454-6(3)	MH454-7(2)	MH454-2(3)	MH454-3(3)	MH454-4(3)	MH454-5(3)	MH454-8(2)	MH454-9(3)	MH454-10(3)	MH455-11(5)
Sample Depth			2 ft	5 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	1.5 ft	1.5 ft	1.5 ft	1.5 ft	5 ft	3 ft	2 ft	3 ft	3 ft	3 ft	3 ft	2 ft	3 ft	3 ft	5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	JC7291	JC7291	JC7291	JC7291	JC7291	JC7291	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956
Laboratory Sample ID	Units	SHS-PA	JC7291-5	JC7291-6	JC7291-7	JC7291-8	JC7291-9	JC7291-10	8572703	8572704	8572705	8572706	8572707	8572708	8572709	8572710	8572711	8572712	8572713	8425765	8425764	8425759	8425760	8425761	8425762	8425763	8425758	8425757	8425756	8425755
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5^{AB}	0.0928	0.0164	ND (0.055)	ND (0.00052)	ND (0.00049)	ND (0.057)	0.003 J	0.0006 J	0.001 J	0.002 J	ND (0.0007)	0.0005 J	0.0007 J	ND (0.029)	ND (0.0006)	ND (0.0006)	0.0006 J	ND (0.0005)	0.003 J	0.086 J	ND (0.0005)	ND (0.0004)	ND (0.0006)	ND (0.0005)	ND (0.0005)	0.021	0.001 J	0.0007 J
CYCLOHEXANE	mg/kg	6900^{AB}	0.0841	0.0021	0.234	ND (0.0021)	ND (0.0020)	ND (0.23)	0.004 J	ND (0.001)	ND (0.001)	0.002 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	0.003 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.00094)	ND (0.00093)	ND (0.11)	ND (0.0010)	ND (0.00098)	ND (0.11)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
ETHYLBENZENE	mg/kg	70^{AB}	0.0150	0.0020	ND (0.11)	ND (0.0010)	ND (0.00098)	ND (0.11)	0.002 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.002 J	0.073 J	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	0.0096	0.00044 J	0.0509 J	ND (0.0021)	ND (0.0020)	ND (0.23)	0.002 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.45	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	0.001 J	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	0.158	0.320	ND (0.11)	0.0070	ND (0.00098)	ND (0.11)	ND (0.0007)	ND (0.0005)	ND (0.0006)	ND (0.0007)	ND (0.0007)	ND (0.0005)	ND (0.0005)	ND (0.029)	ND (0.0006)	ND (0.0006)	ND (0.0005)	ND (0.0005)	0.0005 J	ND (0.028)	ND (0.0004)	ND (0.0004)	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.0006)	ND (0.0005)	0.003 J
HEXANE	mg/kg	5600^{AB}	0.0276	0.0018 J	ND (0.55)	ND (0.0052)	ND (0.0049)	ND (0.57)	0.004 J	ND (0.001)	ND (0.001)	0.001 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J	0.41	0.21	0.002 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.001 J	ND (0.001)	ND (0.0009)
NAPHTHALENE	mg/kg	25^{AB}	0.0041 J	0.0029 J	0.0393 J	ND (0.0052)	ND (0.0049)	0.0473 J	0.006 J	0.003 J	0.002 J	0.022	ND (0.001)	ND (0.0009)	ND (0.001)	0.078 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	0.0022	0.00019 J	0.0227 J	ND (0.0021)	ND (0.0020)	ND (0.23)	0.006 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.15 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	0.001 J	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	0.0010 J	ND (0.0019)	ND (0.22)	ND (0.0021)	ND (0.0020)	ND (0.23)	0.003 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.063 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
TOLUENE	mg/kg	100^{AB}	0.0072	0.00041 J	ND (0.11)	ND (0.0010)	ND (0.00098)	ND (0.11)	0.003 J	ND (0.001)	0.001 J	0.002 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	0.094 J	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	0.0090	0.0028	ND (0.22)	ND (0.0021)	ND (0.0020)	ND (0.23)	0.002 J	ND (0.001)	ND (0.001)	0.003 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J	0.17 J	0.014	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	0.0050	0.0011 J	ND (0.22)	ND (0.0021)	ND (0.0020)	ND (0.23)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0009 J	ND (0.056)	0.006	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	0.0461	0.0028	ND (0.11)	ND (0.0010)	ND (0.00098)	ND (0.11)	0.003 J	ND (0.001)	ND (0.001)	0.002 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J	0.16 J	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0022)	ND (0.0010)	ND (0.0011)	ND (0.0021)	ND (0.00021)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00022)	ND (0.00022)	ND (0.00024)	ND (0.00021)	ND (0.00024)	ND (0.00024)	ND (0.00020)	ND (0.00022)	ND (0.00020)	ND (0.00026)	ND (0.00023)	ND (0.00026)	ND (0.00024)	ND (0.00023)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700^{AB}	0.147	ND (0.038)	0.154	0.0573	ND (0.039)	0.0406	ND (0.037)	0.090 J	0.095 J	2.7	0.016 J	ND (0.035)	0.0039 J	0.16 J	ND (0.0036)	0.019 J	ND (0.039)	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
ANTHRACENE	mg/kg	350^{AB}	0.183	ND (0.038)	0.180	ND (0.037)	ND (0.039)	0.104	0.20	0.21	0.30	3.4	0.064	0.080 J	0.013 J	0.29	ND (0.0036)	0.062	0.053 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	0.0453	ND (0.038)	0.0866	0.0188 J	ND (0.039)	0.0416	0.25	0.10 J	0.36	1.3	0.14	0.074 J	0.017 J	0.25	ND (0.0036)	0.14	0.10 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	0.0289 J	ND (0.038)	0.0216 J	ND (0.037)	ND (0.039)	0.0254 J	0.22	0.13 J	0.21	0.40	0.11	0.063 J	0.021	0.12 J	ND (0.0036)	0.11	0.098 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.0313 J	ND (0.038)	0.0425	ND (0.037)	ND (0.039)	0.0290 J	0.15 J	0.084 J	0.25	0.29	0.16	0.048 J	0.022	0.12 J	ND (0.0036)	0.14	0.12 J	0.0063 J	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	0.0274 J	ND (0.038)	0.0167 J	ND (0.037)	ND (0.039)	0.0275 J	0.73	0.091 J	0.20	0.27	0.12	0.077 J	0.030	0.17 J	0.0041 J	0.087	0.15 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	ND (0.037)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.039)	ND (0.038)	0.069 J	0.039 J	0.088 J	0.13 J	0.077	ND (0.035)	0.012 J	ND (0.038)	ND (0.0036)	0.075	0.064 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
1,1'-BIPHENYL	mg/kg	190^{AB}	0.359	ND (0.075)	ND (0.081)	0.0150 J	ND (0.079)	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	0.40	0.053	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	ND (0.020)	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	ND (0.020)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)
CHRYSENE	mg/kg	230^{AB}	0.125	ND (0.038)	0.204	0.0525	ND (0.039)	0.0891	0.42	0.19	0.44	1.6	0.18	0.075 J	0.030	0.35	ND (0.0036)	0.13	0.13 J	0.0055 J	ND (0.0040)	ND (0.0041)	ND (0.0035)	0.0039 J	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.037)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.035)	0.18 J	0.026	ND (0.035)	ND (0.0035)	ND (0.038)	ND (0.0036)	0.023	ND (0.039)	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.19)	ND (0.19)	0.130 J	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	0.047	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	0.050
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.20)	ND (0.19)	ND (3.3)	ND (3.3)	ND (3.2)	ND (3.1)	ND (0.31)	ND (3.2)	ND (0.32)	ND (3.4)	ND (0.33)	ND (0.33)	ND (3.6)	ND (0.32)	ND (0.36)	ND (0.37)	ND (0.31)	ND (0.33)	ND (0.31)	ND (0.39)	ND (0.35)	ND (0.38)	ND (0.37)	ND (0.35)
FLUORANTHENE	mg/kg	3200^{AB}	0.0982	ND (0.038)	0.0860	0.0178 J	ND (0.039)	0.0741	0.17 J	0.14 J	0.40	1.7	0.22	0.051 J	0.027	0.23	0.0038 J	0.30	0.19 J	0.0059 J	ND (0.0040)	ND (0.0041)	0.0044 J	0.0039 J	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
FLUORENE	mg/kg	3800^{AB}	0.235	ND (0.038)	0.435	0.208	ND (0.039)	0.154	0.33	0.25	0.37	5.5	0.039	0.071 J	0.0083 J	0.16 J	ND (0.0036)	0.023	ND (0.039)	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	ND (0.037)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.039)	ND (0.038)	0.14 J	ND (0.036)	0.088 J	0.13 J	0.074	ND (0.035)	0.015 J	0.077 J	ND (0.0036)	0.069	0.070 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	0.0745 J	ND (0.075)	0.588	0.262	ND (0.079)	0.0346 J	1.2	0.36	0.65	2.2	0.37	0.71	0.13	1.4	0.0071 J	0.028	0.30	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	0.024
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	0.068	0.026 J	ND (0.017)	ND (0.019)	ND (0.017)	0.028 J	ND (0.020)	ND (0.021)	ND (0.021)	0.024 J
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	0.037 J	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	0.022 J
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.37)	ND (0.38)	ND (0.40)	ND (0.37)	ND (0.39)	ND (0.38)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.7)	ND (0.17)	ND (1.8)	ND (0.18)	ND (1.9)	ND (0.18)	ND (0.18)	ND (2.0)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.22)	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.20)
PHENANTHRENE	mg/kg	10000^{AB}	0.452	ND (0.038)	1.03	0.205	ND (0.039)	0.0713	1.1	0.92	1.6	2.3	0.29	0.34	0.077	0.63	0.0036 J	0.29	0.24	0.0057 J	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
PHENOL	mg/kg	200^{AB}	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	ND (0.020)	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	ND (0.020)
PYRENE	mg/kg	2200^{AB}	0.543	ND (0.038)	0.359	0.0751	ND (0.039)	0.276	0.82	0.67	1.2	5.0	0.33	0.22	0.074	1.1	0.0051 J	0.27	0.30	0.017 J	ND (0.0040)	ND (0.0041)	0.011 J	0.012 J	ND (0.0034)	0.0063 J	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)
PYRIDINE	mg/kg	12^{AB}	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.035)	ND (0.35)	ND (0.036)	ND (0.033)	ND (0.036)	ND (0.037)	ND (0.033)	ND (0.035)	ND (0.040)	ND (0.041)	ND (0.035)	ND (0.037)	ND (0.034)	ND (0.044)	ND (0.039)	ND (0.043)	ND (0.042)	ND (0.039)
Metals																														
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	13.3	6.1	8.5	5.5 J	11.2	6.7	8.82	25.4	7.81	8.14	7.21	7.03	5.77	6.58	8.37	6.57	7.83	8.81	7.82	7.31	11.5	8.34	3.96	7.11	0.0905 J	0.232 J	0.316 J	4.23
LEAD	mg/kg	450^{AB}	34.4	9.4	53.7	8.5	9.8	17.9	76.8	17.7	20.9	12.8	17.3	18.3	17.5	13.5	2.83	15.9	34.4	6.38	12.5	12.6	2.23	3.30	2.07	8.66	1.87	2.19	2.73	9.74
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	14.2	15.4	17.3	14.8	17.2	14.3	18.2	50.2	16.1	14.7	16.3	15.0	11.5	13.2	18.9	12.8	24.4	22.1	16.9	20.1	14.6	20.7	8.21	10.9	0.624 J	0.872 J	1.26	8.88
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	36.4	34.0	42.4	39.4	38.1	40.0	43.5	41.9	40.0	40.4	48.3	42.2	45.7	37.8	49.9	40.1	52.9	52.5	36.8	38.7	62.6	51.5	27.1	18.0	2.51	2.69	4.26	23.4
ZINC	mg/kg	12000^{AB}	48.6	31.1	53.0	40.3	38.9	42.5	175	44.9	57.4	55.1	63.9	78.4	73.6	47.6	54.6	51.0	88.8	73.6	44.0	52.3	96.7	70.5	51.3	39.8	2.90	4.60	5.76	21.9

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH592-1	MH592-2	MH592-3	MH592-4	MH592-5	MH592-6	MH592-7	MH592-8	MH592-9	MH592-10	MH592-11	MH592-12	MH592-13	MH593-1	MH593-2	MH593-3	MH593-4	MH593-5	MH593-6	MH593-7	MH593-8	MH593-9	MH593-10	MH593-11	MH593-12	MH593-13
Sample Date			22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	24-Jun-15	24-Jun-15	24-Jun-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15
Sample ID			MH592-1(3.0)	MH592-2(3.0)	MH592-3(3.0)	MH592-4(3.0)	MH592-5(3.0)	MH592-6(3.0)	MH592-7(2.0)	MH592-8(3.0)	MH592-9(2.0)	MH592-10(2.0)	MH592-11(5.0)	MH592-12(5.0)	MH592-13(5.0)	MH593-1(2.0)	MH593-2(2.0)	MH593-3(3.0)	MH593-4(3.0)	MH593-5(3.0)	MH593-6(3.0)	MH593-7(3.0)	MH593-8(3.0)	MH593-9(3.0)	MH593-10(3.0)	MH593-11(3.0)	MH593-12(3.0)	MH593-13(2.0)
Sample Depth			3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	3 ft	2 ft	2 ft	5 ft	5 ft	5 ft	2 ft	2 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB97779	JB97779	JB97779	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023
Laboratory Sample ID	Units	SHS-PA	JB93023-15	JB93023-16	JB93023-17	JB93023-18	JB93023-19	JB93023-20	JB93023-21	JB93023-22	JB93023-23	JB93023-24	JB97779-1	JB97779-2	JB97779-3	JB93023-1	JB93023-2	JB93023-3	JB93023-4	JB93023-5	JB93023-6	JB93023-7	JB93023-8	JB93023-9	JB93023-10	JB93023-11	JB93023-12	JB93023-13
Volatile Organic Compounds																												
BENZENE	mg/kg	0.5^{AB}	ND (0.00054)	ND (0.055)	ND (0.00051)	ND (0.00050)	ND (0.00047)	ND (0.00047)	ND (0.066)	ND (0.00036)	ND (0.00051)	ND (0.00053)	ND (0.00050)	ND (0.00047)	ND (0.00058)	ND (0.069)	0.0077	0.0317 J	ND (0.00048)	0.0070	ND (0.058)	ND (0.00058)	ND (0.064)	ND (0.00052)	0.149	ND (0.00057)	0.0549 J	ND (0.050)
CYCLOHEXANE	mg/kg	6900^{AB}	ND (0.0021)	ND (0.22)	ND (0.0020)	ND (0.0020)	ND (0.0019)	ND (0.0019)	ND (0.27)	ND (0.0014)	0.00044 J	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	0.010	0.251 J	ND (0.0019)	0.113	0.173 J	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	1.21	ND (0.20)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	ND (0.0012)	ND (0.13)	ND (0.00096)	ND (0.0041)	ND (0.12)	ND (0.0012)	ND (0.13)	ND (0.0010)	ND (0.15)	ND (0.0011)	ND (0.11)	ND (0.099)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	0.00087 J	0.0426 J	ND (0.00096)	0.0026 J	0.0586 J	ND (0.0012)	ND (0.13)	ND (0.0010)	0.194	ND (0.0011)	0.147	ND (0.099)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	ND (0.0021)	ND (0.22)	ND (0.0020)	ND (0.0020)	ND (0.0019)	ND (0.0019)	0.0365 J	ND (0.0014)	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	0.00032 J	0.0482 J	ND (0.0019)	0.0041 J	0.0232 J	ND (0.0023)	ND (0.26)	ND (0.0021)	0.0453 J	ND (0.0023)	0.186 J	ND (0.20)
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	ND (0.0012)	ND (0.13)	ND (0.00096)	ND (0.0041)	ND (0.12)	ND (0.0012)	ND (0.13)	ND (0.0010)	ND (0.15)	ND (0.0011)	ND (0.11)	ND (0.099)
HEXANE	mg/kg	5600^{AB}	ND (0.0054)	ND (0.55)	ND (0.0051)	ND (0.0050)	ND (0.0047)	0.00043 J	ND (0.66)	ND (0.0036)	ND (0.0051)	ND (0.0053)	ND (0.0050)	ND (0.0047)	ND (0.0058)	ND (0.69)	0.0075	0.109 J	ND (0.0048)	0.161	0.125 J	ND (0.0058)	ND (0.64)	ND (0.0052)	0.0924 J	ND (0.0057)	0.155 J	ND (0.50)
NAPHTHALENE	mg/kg	25^{AB}	ND (0.0054)	0.0683 J	ND (0.0051)	ND (0.0050)	ND (0.0047)	ND (0.0047)	0.209 J	ND (0.0036)	ND (0.0051)	ND (0.0053)	0.00049 J	0.00023 J	ND (0.0058)	0.0700 J	ND (0.0060)	0.342 J	ND (0.0048)	0.0023 J	1.23	ND (0.0058)	0.0612 J	0.0014 J	0.0970 J	ND (0.0057)	5.51	0.103 J
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	0.00027 J	ND (0.22)	ND (0.0020)	0.0017 J	ND (0.0019)	ND (0.0019)	0.0619 J	0.00041 J	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	ND (0.0024)	0.0306 J	ND (0.0019)	0.0017 J	0.0246 J	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	0.242	ND (0.20)
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	0.00033 J	ND (0.22)	ND (0.0020)	0.0014 J	ND (0.0019)	ND (0.0019)	ND (0.27)	0.00025 J	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	ND (0.0024)	ND (0.27)	ND (0.0019)	ND (0.0083)	ND (0.23)	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	0.0571 J	ND (0.20)
TOLUENE	mg/kg	100^{AB}	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	0.00067 J	0.0518 J	ND (0.00096)	ND (0.0041)	0.0669 J	ND (0.0012)	ND (0.13)	ND (0.0010)	0.0414 J	ND (0.0011)	0.0730 J	ND (0.099)
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	ND (0.0021)	ND (0.22)	ND (0.0020)	0.00044 J	ND (0.0019)	ND (0.0019)	0.0694 J	ND (0.0014)	ND (0.0020)	ND (0.0021)	0.00023 J	ND (0.0019)	ND (0.0023)	0.0445 J	ND (0.0024)	0.126 J	ND (0.0019)	ND (0.0083)	0.773	ND (0.0023)	ND (0.26)	ND (0.0021)	0.0488 J	ND (0.0023)	2.76	ND (0.20)
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.0021)	ND (0.22)	ND (0.0020)	0.00049 J	ND (0.0019)	ND (0.0019)	0.0459 J	ND (0.0014)	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	ND (0.0024)	0.0535 J	ND (0.0019)	ND (0.0083)	0.258	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	0.748	ND (0.20)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	ND (0.0011)	0.0419 J	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	0.00029 J	ND (0.0012)	ND (0.14)	0.00050 J	0.228	ND (0.00096)	0.0031 J	0.500	ND (0.0012)	ND (0.13)	ND (0.0010)	0.222	ND (0.0011)	0.640	ND (0.099)
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.0029)	ND (0.0029)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0028)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.0030)
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	4700^{AB}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0425	ND (0.038)	0.932	ND (0.036)	ND (0.040)	6.48	ND (0.041)	ND (0.041)	0.0224 J	0.103	ND (0.042)	7.04	0.0788 J
ANTHRACENE	mg/kg	350^{AB}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0588	ND (0.038)	ND (0.39)	ND (0.036)	ND (0.040)	19.0	ND (0.041)	ND (0.041)	0.0408	0.243	ND (0.042)	ND (0.31)	0.241
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	0.0193 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.141	ND (0.038)	4.14	ND (0.036)	ND (0.040)	29.0	ND (0.041)	0.0266 J	0.0936	8.16	ND (0.042)	6.52	0.932
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	0.0244 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.150	ND (0.038)	6.47	ND (0.036)	ND (0.040)	***63.5*** ^{B}	ND (0.041)	ND (0.041)	0.135	13.9	ND (0.042)	5.84	0.909
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	0.0191 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0694	ND (0.038)	2.22	ND (0.036)	ND (0.040)	25.5	ND (0.041)	ND (0.041)	0.104	8.01	ND (0.042)	1.98	0.349
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	0.0334 J	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	0.0297 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.128	ND (0.038)	4.66	0.115	ND (0.040)	32.1	0.0347 J	ND (0.041)	0.131	7.85	ND (0.042)	4.83	0.742
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.038)	ND (0.038)	ND (0.39)	ND (0.036)	ND (0.040)	ND (0.39)	ND (0.041)	ND (0.041)	0.0260 J	2.34	ND (0.042)	0.320	0.0692 J
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	0.0196 J	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	0.567 J	ND (0.081)	ND (0.082)	0.0218 J	0.0313 J	ND (0.083)	ND (0.62)	ND (0.16)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	0.187	ND (0.074)	0.0516 J	ND (0.62)	ND (0.16)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	0.0365 J	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)
CHRYSENE	mg/kg	230^{AB}	0.0267 J	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	0.0673	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.448	ND (0.038)	11.9	ND (0.036)	0.0317 J	153	0.0325 J	0.0295 J	0.132	8.42	ND (0.042)	15.4	2.81
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.038)	ND (0.038)	ND (0.39)	ND (0.036)	ND (0.040)	ND (0.39)	ND (0.041)	ND (0.041)	0.0930	3.25	ND (0.042)	ND (0.31)	0.193
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.20)	ND (0.17)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (2.0)	ND (0.18)	ND (0.20)	ND (1.9)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.21)	ND (1.6)	ND (0.41)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (0.20)	ND (0.17)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (2.0)	ND (0.18)	ND (0.20)	ND (1.9)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.21)	ND (1.6)	ND (0.41)
FLUORANTHENE	mg/kg	3200^{AB}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0710	ND (0.038)	2.29	ND (0.036)	ND (0.040)	36.1	ND (0.041)	ND (0.041)	0.0596	0.859	ND (0.042)	3.32	0.309
FLUORENE	mg/kg	3800^{AB}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0857	ND (0.038)	1.02	ND (0.036)	0.0138 J	20.3	ND (0.041)	0.0378 J	0.0399 J	0.134	ND (0.042)	10.3	0.151
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.038)	ND (0.038)	1.14	ND (0.036)	ND (0.040)	7.28	ND (0.041)	ND (0.041)	0.105	4.50	ND (0.042)	ND (0.31)	0.187
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	0.138	ND (0.076)	0.785	ND (0.072)	ND (0.080)	25.0	ND (0.081)	ND (0.082)	0.238	0.291	ND (0.083)	51.6	0.150 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.39)	ND (0.35)	ND (0.41)	ND (0.37)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.36)	ND (0.36)	ND (0.40)	ND (0.38)	ND (0.40)	ND (0.38)	ND (0.38)	ND (3.9)	ND (0.36)	ND (0.40)	ND (3.9)	ND (0.41)	ND (0.41)	ND (0.40)	ND (0.37)	ND (0.42)	ND (3.1)	ND (0.81)
PHENANTHRENE	mg/kg	10000^{AB}	ND (0.039)	0.0238 J	ND (0.041)	0.0254 J	ND (0.041)	ND (0.041)	ND (0.041)	0.0795	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.385	ND (0.038)	3.04	ND (0.036)	ND (0.040)	240	ND (0.041)	ND (0.041)	0.172	0.484	ND (0.042)	28.3	0.241
PHENOL	mg/kg	200^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)
PYRENE	mg/kg	2200^{AB}	0.0702	ND (0.035)	ND (0.041)	0.0237 J	ND (0.041)	0.0164 J	ND (0.041)	0.190	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.435	ND (0.038)	26.5	ND (0.036)	0.0496	302	0.0392 J	0.0710	0.165	4.10	ND (0.042)	22.2	2.44
PYRIDINE	mg/kg	12^{AB}	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)
QUINOLINE	mg/kg	0.37^{AB}	ND (0.20)	ND (0.17)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	*ND (0.37)*	ND (0.18)	ND (0.20)	ND (0.36)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.21)	ND (0.29)	ND (0.077)
Metals																												
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	8.0	14.4	ND (6.4)	ND (6.3)	ND (6.2)	7.7	ND (5.9)	ND (6.2)	ND (6.1)	ND (5.9)	9.0	8.7	6.6	14.3	7.8	7.5	9.6	7.8	8.5	8.7	ND (6.2)	11.5	7.3	12.0	8.2	10.8
LEAD	mg/kg	450^{AB}	13.7	3.7	11.9	13.4	8.9	23.0	10.2	12.1	12.2	10.8	9.0	9.6	8.7	82.2	10.6	35.6	41.5	13.9	31.8	15.8	12.7	32.4	118	24.3	65.4	25.4
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	19.1	45.9	12.2	15.2	12.0	19.3	13.1	13.2	12.9	12.2	19.2	16.0	13.1	77.0	14.5	13.9	22.5	16.3	14.3	14.4	12.9	18.9	18.2	27.4	18.7	22.1
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	36.7	53.7	39.4	56.0	38.5	58.6	41.4	47.3	44.7	42.8	32.3	32.1	32.1	53.7	44.9	35.1	40.1	42.3	35.2	43.3	36.9	34.2	40.4	22.8	47.6	50.6
ZINC	mg/kg	12000^{AB}	54.5	139	33.1	39.9	52.2	73.2	45.3	38.1	43.5	39.6	36.0	41.4	39.6	212	35.3	67.4	159	46.9	57.0	96.6	35.7	55.7	132	49.6	84.2	60.1

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH593-14	MH593-15	MH593-16	MH593-17	MH593-1C		MH593-2C		MH595-1	MH595-2	MH595-3	MH595-4	MH595-5	MH595-6	MH595-7	MH595-8	MH595-9	MH595-10	MH595-11	MH597-1	MH597-2	MH597-3	MH597-4	MH597-5	MH597-6	MH597-7	MH597-8	MH597-9
Sample Date			22-Apr-15	24-Jun-15	24-Jun-15	24-Jun-15	24-Jun-15	24-Jun-15	24-Jun-15	24-Jun-15	14-Mar-13	14-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	14-Mar-13	14-Mar-13	15-Mar-13	22-Jul-15	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13
Sample ID			MH593-14(2.0)	MH593-15(5.0)	MH593-16(5.0)	MH593-17(5.0)	MH593-1C(1.5)	MH593-1C(12.0)	MH593-2C(1.5)	MH593-2C(3.0)	MH595-1 (5.0-5.5)	MH595-2 (5.0-5.5)	MH595-3 (3.0-3.5)	MH595-4 (3.0-3.5)	MH595-5 (3.0-3.5)	MH595-6 (3.0-3.5)	MH595-7 (3.0-3.5)	MH595-8 (3.0-3.5)	MH595-9 (5.0-5.5)	MH595-10 (0.25-0.50)	MH595-11(5-5.5)-07222015	MH597-1 (2.0-2.5)	MH597-2 (2.0-2.5)	MH597-3 (5.0-5.5)	MH597-4 (3.0-3.5)	MH597-5 (3.0-3.5)	MH597-6 (3.0-3.5)	MH597-7 (3.0-3.5)	MH597-8 (3.0-3.5)	MH597-9 (3.0-3.5)
Sample Depth			2 ft	5 ft	5 ft	5 ft	1.5 ft	12 ft	1.5 ft	3 ft	5 - 5.5 ft	5 - 5.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	5 - 5.5 ft	0.25 - 0.5 ft	5 - 5.5 ft	2 - 2.5 ft	2 - 2.5 ft	5 - 5.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB93023	JB97779	JB97779	JB97779	JB97779	JB97779	JB97779	JB97779	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB99715	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485
Laboratory Sample ID	Units	SHS-PA	JB93023-14	JB97779-4	JB97779-5	JB97779-6	JB97779-7	JB97779-8	JB97779-9	JB97779-10	JB31485-11	JB31485-12	JB31485-13	JB31485-14	JB31485-15	JB31485-16	JB31485-17	JB31485-18	JB31485-19	JB31485-20	JB99715-1	JB31485-21	JB31485-22	JB31485-23	JB31485-24	JB31485-25	JB31485-26	JB31485-27	JB31485-28	JB31485-29
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	0.00068	ND (0.00047)	0.00033 J	ND (0.00062)	ND (0.00047)	ND (0.00048)	ND (0.00047)	0.0044	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	0.0341 J	ND (0.0011)	ND (0.00052)	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)
CYCLOHEXANE	mg/kg	6900[AB]	ND (0.0022)	ND (0.0019)	ND (0.0020)	ND (0.0025)	ND (0.0019)	ND (0.0019)	ND (0.0019)	0.0023	-	-	-	-	-	-	-	-	-	-	0.0048	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	ND (0.016)	ND (0.00097)	ND (0.014)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.015)	ND (0.015)	ND (0.015)	ND (0.0011)	-	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)	ND (0.00093)	ND (0.00097)	ND (0.00094)	ND (0.0010)	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	ND (0.0010)	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)	ND (0.00093)	ND (0.00097)	0.00029 J	0.0346	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	ND (0.0010)	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.0022)	ND (0.0019)	ND (0.0020)	ND (0.0025)	ND (0.0019)	ND (0.0019)	ND (0.0019)	0.0038	ND (0.63)	0.0002 J	0.0803 J	ND (0.005)	ND (0.0054)	ND (0.005)	1.82	0.048 J	0.231 J	ND (0.0056)	0.00025 J	ND (0.0062)	ND (0.0051)	0.00061 J	0.00021 J	0.113 J	0.0278 J	0.424 J	4.4	0.0013 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)	ND (0.00093)	ND (0.00097)	ND (0.00094)	ND (0.0010)	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	ND (0.0010)	ND (0.0012)	ND (0.001)	0.00041 J	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)
HEXANE	mg/kg	5600[AB]	ND (0.0056)	ND (0.0047)	0.0073	ND (0.0062)	ND (0.0047)	ND (0.0048)	ND (0.0047)	0.0031 J	-	-	-	-	-	-	-	-	-	-	0.0025 J	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.0056)	0.00034 J	0.0014 J	0.0144	0.00032 J	ND (0.0048)	0.0241	2.79	ND (0.63)	ND (0.0049)	ND (0.56)	ND (0.005)	ND (0.0054)	ND (0.005)	ND (0.57)	ND (0.59)	ND (0.57)	ND (0.0056)	0.0018 J	ND (0.0062)	ND (0.0051)	ND (0.0061)	ND (0.0045)	ND (0.51)	ND (0.51)	ND (0.52)	0.452 J	ND (0.005)
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.0022)	ND (0.0019)	0.00095 J	ND (0.0025)	ND (0.0019)	ND (0.0019)	0.00023 J	0.0058	-	-	-	-	-	-	-	-	-	-	ND (0.0021)	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.0022)	ND (0.0019)	ND (0.0020)	ND (0.0025)	ND (0.0019)	ND (0.0019)	ND (0.0019)	0.0011 J	-	-	-	-	-	-	-	-	-	-	ND (0.0021)	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)	ND (0.00093)	ND (0.00097)	ND (0.00094)	0.00057 J	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	0.0773 J	ND (0.0011)	0.00034 J	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.0022)	ND (0.0019)	0.0010 J	0.0010 J	ND (0.0019)	ND (0.0019)	0.0147	2.56	ND (0.63)	ND (0.0049)	0.036 J	ND (0.005)	ND (0.0054)	ND (0.005)	ND (0.57)	ND (0.59)	ND (0.57)	ND (0.0056)	0.0023	ND (0.0062)	ND (0.0051)	ND (0.0061)	ND (0.0045)	ND (0.51)	ND (0.51)	ND (0.52)	0.103 J	ND (0.005)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.0022)	ND (0.0019)	0.00037 J	0.00057 J	ND (0.0019)	ND (0.0019)	0.0029	0.131	ND (0.63)	ND (0.0049)	ND (0.56)	ND (0.005)	ND (0.0054)	ND (0.005)	ND (0.57)	ND (0.59)	ND (0.57)	ND (0.0056)	0.00078 J	ND (0.0062)	ND (0.0051)	ND (0.0061)	ND (0.0045)	ND (0.51)	ND (0.51)	ND (0.52)	0.0664 J	ND (0.005)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.0011)	0.00060 J	0.00086 J	ND (0.0012)	ND (0.00093)	ND (0.00097)	0.0020	0.110	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	0.0022	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0029)	-	-	-	-	-	-	-	-	-	-	ND (0.00026)	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	ND (0.037)	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.040)	0.0557	1.56	-	-	-	-	-	-	-	-	-	-	0.0617	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350[AB]	0.0451	ND (0.039)	0.0382 J	ND (0.038)	ND (0.038)	ND (0.040)	0.0460	3.64	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	0.0280 J	0.183	0.0822 J	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	0.186	0.0166 J	0.0225 J	ND (0.038)	ND (0.038)	ND (0.040)	0.0758	9.40	ND (0.13)	ND (0.13)	0.056 J	ND (0.12)	ND (0.12)	ND (0.12)	0.244 J	ND (0.12)	0.24	ND (0.61)	ND (0.041)	0.496	0.503	ND (0.12)	ND (0.11)	ND (0.12)	0.274	ND (0.12)	0.276	ND (0.12)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.455	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.040)	0.181	7.76	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	ND (0.041)	0.41	0.441	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.377	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.040)	0.0639	2.41	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	ND (0.041)	0.274	0.273	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.664	ND (0.039)	ND (0.039)	ND (0.038)	0.0945	ND (0.040)	0.249	4.04	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	ND (0.041)	0.364	1.04	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	0.0760	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)	0.373	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190[AB]	0.0205 J	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	ND (0.078)	1.00	-	-	-	-	-	-	-	-	-	-	0.0178 J	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	0.0426 J	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230[AB]	0.268	0.0207 J	0.0445	ND (0.038)	ND (0.038)	ND (0.040)	0.227	19.4	ND (0.13)	ND (0.13)	0.14	ND (0.12)	ND (0.12)	ND (0.12)	0.601	ND (0.12)	0.241	ND (0.61)	ND (0.041)	0.65	0.491	ND (0.12)	ND (0.11)	ND (0.12)	0.121	ND (0.12)	0.164	ND (0.12)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	0.382	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.040)	0.0310 J	0.873	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	ND (0.20)	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	ND (0.20)	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200[AB]	0.0902	ND (0.039)	0.0251 J	ND (0.038)	ND (0.038)	ND (0.040)	0.0358 J	5.57	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800[AB]	0.0160 J	ND (0.039)	0.0751	ND (0.038)	ND (0.038)	ND (0.040)	0.124	6.58	0.127 J	ND (0.13)	0.375	ND (0.12)	ND (0.12)	ND (0.12)	1.6	ND (0.12)	0.176	ND (0.61)	0.0718	0.079 J	0.0801 J	ND (0.12)	ND (0.11)	0.227	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	0.373	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.040)	0.0600	1.10	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	0.135	ND (0.079)	ND (0.078)	0.0225 J	ND (0.075)	ND (0.080)	0.480	18.9	-	-	-	-	-	-	-	-	-	-	0.421	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (0.37)	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.38)	ND (0.40)	ND (0.39)	ND (0.39)	-	-	-	-	-	-	-	-	-	-	ND (0.41)	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000[AB]	0.138	ND (0.039)	0.145	ND (0.038)	ND (0.038)	ND (0.040)	0.289	52.8	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	3.94	ND (0.12)	0.849	ND (0.61)	0.234	0.634	0.371	ND (0.12)	0.0615 J	0.631	ND (0.12)	0.194	0.31	0.084 J
PHENOL	mg/kg	200[AB]	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200[AB]	0.173	0.0307 J	0.0688	ND (0.038)	ND (0.038)	ND (0.040)	0.455	37.4	ND (0.13)	ND (0.13)	0.401	ND (0.12)	ND (0.12)	ND (0.12)	1.24	ND (0.12)	0.0967 J	ND (0.61)	0.0297 J	0.344	0.165	ND (0.12)	ND (0.11)	0.0884 J	0.0705 J	ND (0.12)	ND (0.12)	ND (0.12)
PYRIDINE	mg/kg	12[AB]	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	ND (0.20)	-	-	-	-	-	-	-	-	-
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	6.7	6.7	10.7	6.7	8.9	18.2	8.3	7.4	-	-	-	-	-	-	-	-	-	-	ND (6.1)	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450[AB]	41.8	11.2	10.1	9.6	9.2	11.9	10.9	35.4	9.7	10	42.9	8.5	7.9	7.6	9.8	8	8.7	42.2	9.0	34.5	103	11.9	7.9	8.5	8.7	9.1	11.1	15.4
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	13.2	13.7	15.5	13.7	12.9	20.0	13.9	14.1	-	-	-	-	-	-	-	-	-	-	12.6	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	32.0	37.8	37.0	38.1	31.7	31.4	38.3	43.6	-	-	-	-	-	-	-	-	-	-	37.7	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000[AB]	49.0	42.3	39.2	36.2	36.2	52.6	37.0	84.6	-	-	-	-	-	-	-	-	-	-	31.3	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH597-10	MH597-11	MH597-12	MH597-13	MH-616-1	MH-616-2	MH-616-3	MH-616-4	MH-616-5	MH-616-6	MH-616-7	MH-617-1	MH-617-2	MH-617-3	MH-617-4	MH-617-5		MH-617-6	MH-617-7	MH-617-8			MH-617-9		MH-617-10		MH-617-618-1	MH-618-1
Sample Date			15-Mar-13	27-Oct-15	27-Oct-15	27-Oct-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	27-Jan-16	24-Jul-15	23-Jul-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	27-Jan-16	24-Jul-15
Sample ID			MH597-10 (0.25-0.50)	MH597-11-20151027	MH597-12-20151027	MH597-13-20151027	MH-616-1-3	MH-616-2-3	MH-616-3-3	MH-616-4-3	MH-616-5-3	MH-616-6-5	MH-616-7-2	MH-617-1-3	MH-617-2-3	MH-617-3-3	MH-617-4-3	MH-617-5-3	MH-617-5-1	MH-617-6-5	MH-617-7-2	MH617-8(0-2')	MH617-8(0-2')	MH617-8(7-8')	MH617-9(0-2')	MH617-9(5-6')	MH617-10(0-2')	MH617-10(5-6')	MH-617-618-1-1	MH-618-1-3
Sample Depth			0.25 - 0.5 ft	5 ft	5 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	5 ft	2 ft	3 ft	3 ft	3 ft	3 ft	3 ft	1 ft	5 ft	2 ft	0 - 2 ft	0 - 2 ft	7 - 8 ft	0 - 2 ft	5 - 6 ft	0 - 2 ft	5 - 6 ft	1 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACTD	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	ACCUTEST
Laboratory Work Order		A B	JB31485	JC7290	JC7290	JC7290	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	1626778	JB99970	JB99969	JC9204	JC9204	JC9204	JC9204	JC9204	JC9204	JC9204	1626778	JB99970
Laboratory Sample ID	Units	SHS-PA	JB31485-30	JC7290-1	JC7290-2	JC7290-3	JB99969-20	JB99969-21	JB99969-22	JB99969-23	JB99969-25	JB99969-24	JB99969-19	JB99969-17	JB99969-16	JB99969-15	JB99969-13	JB99969-14	8221783	JB99970-1	JB99969-18	JC9204-5	JC9204-5R	JC9204-6	JC9204-7	JC9204-8	JC9204-9	JC9204-10	8221784	JB99970-3
Volatile Organic Compounds																															
BENZENE	mg/kg	0.5[AB]	ND (0.00097)	ND (0.00053)	ND (0.00050)	ND (0.00045)	0.0301	0.0353	ND (0.052)	0.0290 J	0.0409 J	0.0347	***2.61*** [A]	***4.33*** [B]	0.0469	***1.03*** [B]	0.331 J	***3660*** [B]	ND (0.0005)	0.00050 J	0.0389	ND (0.00063)	-	0.00096	ND (0.00046)	ND (0.00044)	ND (0.00052)	0.00032 J	***22*** [A]	***14.1*** [B]
CYCLOHEXANE	mg/kg	6900[AB]	-	ND (0.0021)	ND (0.0020)	ND (0.0018)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.00097)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0009)	-	-	-	-	-	-	-	-	-	ND (0.001)	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	ND (0.0011)	ND (0.0010)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0011)	ND (0.11)	ND (0.10)	ND (0.00089)	ND (0.00085)	ND (0.00088)	ND (0.11) J	ND (0.0009)	ND (0.0011)	ND (0.0011)	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	0.00080 J	ND (0.0010)	ND (0.10)	0.389	ND (0.11)	ND (0.0011)	1.48	ND (0.10)	ND (0.00089)	ND (0.00085)	ND (0.00088)	34.0	ND (0.0009)	ND (0.0011)	0.00025 J	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.0048)	ND (0.0021)	ND (0.0020)	ND (0.0018)	ND (0.0022)	0.00029 J	ND (0.21)	0.0687 J	ND (0.23)	ND (0.0022)	ND (0.21)	ND (0.21)	ND (0.0018)	0.0013 J	ND (0.0018)	0.143 J-	ND (0.0009)	ND (0.0022)	0.00062 J	ND (0.0025)	-	ND (0.0024)	ND (0.0019)	ND (0.0018)	ND (0.0021)	ND (0.0021)	ND (0.045)	ND (0.24)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	ND (0.0011)	ND (0.0010)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0011)	ND (0.11)	ND (0.10)	ND (0.00089)	ND (0.00085)	ND (0.00088)	ND (0.11) J	ND (0.0005)	ND (0.0011)	ND (0.0011)	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.022)	ND (0.12)
HEXANE	mg/kg	5600[AB]	-	ND (0.0053)	ND (0.0050)	ND (0.0045)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.0048)	0.0025 J	0.0015 J	0.0022 J	ND (0.0054)	0.0023 J	ND (0.52)	ND (0.55)	ND (0.57)	ND (0.0056)	ND (0.54)	ND (0.51)	ND (0.0045)	ND (0.0042)	0.00093 J	ND (0.53) J	ND (0.0009)	ND (0.0055)	ND (0.0055)	ND (0.0063)	-	ND (0.0061)	ND (0.0046)	ND (0.0044)	ND (0.0052)	ND (0.0052)	ND (0.045)	ND (0.59)
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	ND (0.0021)	ND (0.0020)	ND (0.0018)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	ND (0.0021)	ND (0.0020)	ND (0.0018)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	0.156	0.0393	ND (0.10)	1.00	ND (0.11)	0.0019	***411*** [A]	0.0251 J	0.0012	0.0069	0.0030	***16600*** [B]	ND (0.0009)	ND (0.0011)	0.0083	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.0048)	ND (0.0021)	ND (0.0020)	ND (0.0018)	ND (0.0022)	0.00080 J	ND (0.21)	0.532	ND (0.23)	ND (0.0022)	0.386	ND (0.21)	ND (0.0018)	ND (0.0017)	0.00031 J	1.44 J-	ND (0.0009)	ND (0.0022)	ND (0.0022)	ND (0.0025)	-	ND (0.0024)	ND (0.0019)	ND (0.0018)	ND (0.0021)	ND (0.0021)	ND (0.045)	ND (0.24)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.0048)	ND (0.0021)	ND (0.0020)	ND (0.0018)	ND (0.0022)	0.00033 J	ND (0.21)	0.167 J	ND (0.23)	ND (0.0022)	0.149 J	ND (0.21)	ND (0.0018)	ND (0.0017)	0.00032 J	0.463 J-	ND (0.0009)	ND (0.0022)	ND (0.0022)	ND (0.0025)	-	ND (0.0024)	ND (0.0019)	ND (0.0018)	ND (0.0021)	ND (0.0021)	ND (0.045)	ND (0.24)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	0.0277	0.0075	ND (0.10)	4.66	ND (0.11)	ND (0.0011)	27.4	ND (0.10)	ND (0.00089)	ND (0.00085)	0.00032 J	108	ND (0.0009)	ND (0.0011)	0.0011	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.00025)	ND (0.00026)	ND (0.00026)	ND (0.00024)	ND (0.00026)	ND (0.00026)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00021)	ND (0.00022)	ND (0.00024)	ND (0.00023)	ND (0.00028)	ND (0.00025)	ND (0.0029)	-	ND (0.0029)	ND (0.0028)	ND (0.0029)	ND (0.0028)	ND (0.0031)	ND (0.00023)	ND (0.00024)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	4700[AB]	-	ND (0.038)	0.0573	ND (0.040)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350[AB]	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.0561	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	ND (0.004)	ND (0.044)	ND (0.040)	-	ND (0.039)	ND (0.039)	ND (0.038)	0.0238 J	ND (0.036)	ND (0.040)	ND (0.004)	ND (0.037)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035) J	ND (0.038) J	0.009 J	ND (0.044)	ND (0.040)	-	ND (0.039)	ND (0.039)	0.0369 J	0.0832	ND (0.036)	ND (0.040)	0.008 J	ND (0.037)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	0.013 J	ND (0.044)	ND (0.040)	-	ND (0.039)	ND (0.039)	0.0590	0.148	ND (0.036)	ND (0.040)	0.006 J	ND (0.037)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	0.012 J	ND (0.044)	ND (0.040)	-	ND (0.039)	ND (0.039)	0.0512	0.106	ND (0.036)	ND (0.040)	0.01 J	ND (0.037)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	0.012 J	ND (0.044)	ND (0.040)	-	ND (0.039)	ND (0.039)	0.0695	0.147	0.0215 J	ND (0.040)	0.010 J	ND (0.037)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	ND (0.038)	ND (0.038)	ND (0.040)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230[AB]	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035) J	ND (0.038) J	0.018 J	ND (0.044)	ND (0.040)	-	ND (0.039)	ND (0.039)	0.0420	0.115	ND (0.036)	ND (0.040)	0.009 J	ND (0.037)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	ND (0.038)	ND (0.038)	ND (0.040)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	ND (0.19)	ND (0.19)	ND (0.20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23[AB]	-	ND (0.19)	ND (0.19)	ND (0.20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200[AB]	-	ND (0.038)	ND (0.038)	ND (0.040)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800[AB]	ND (0.12)	0.0383	0.0977	0.0430	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.111	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	ND (0.004)	ND (0.044)	0.0951	-	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.040)	ND (0.004)	ND (0.037)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	ND (0.038)	ND (0.038)	ND (0.040)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	0.159	0.322	0.146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.039)	ND (0.039)	0.0178 J	0.0392	ND (0.036)	ND (0.040)	-	-
4-NITROPHENOL	mg/kg	6[AB]	-	ND (0.38)	ND (0.38)	ND (0.40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000[AB]	ND (0.12)	0.133	0.310	0.129	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.303	ND (0.038)	ND (0.035)	ND (0.035)	0.0513	ND (0.004)	ND (0.044)	0.0292 J	-	ND (0.039)	ND (0.039)	0.0341 J	0.0614	ND (0.036)	ND (0.040)	0.005 J	ND (0.037)
PHENOL	mg/kg	200[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200[AB]	ND (0.12)	0.0174 J	0.0519	0.0202 J	ND (0.039)	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.0499	ND (0.038)	ND (0.035)	ND (0.035) J	ND (0.038) J	ND (0.004)	ND (0.044)	ND (0.040)	-	ND (0.039)	ND (0.039)	0.0437	0.139	0.0166 J	ND (0.040)	0.01 J	ND (0.037)
PYRIDINE	mg/kg	12[AB]	-	ND (0.076)	ND (0.076)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	-	ND (0.19)	ND (0.19)	ND (0.20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																															
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	4.0 J	9.0	8.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450[AB]	13.8	6.8	7.9	9.0	8.3	8.3	10.7	70.4	6.3	6.0	***670*** [A]	38.3	27.5	28.7	113	21.3	53.3	4.9	170	5.6	-	6.0	44.4	15.3	63.0	6.0	78.4	3.9
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	9.1	14.0	16.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	28.7	38.6	27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000[AB]	-	22.6	34.8	40.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH-618-2		MH-618-3	MH-618-4	MH-618-5	MH-618-6	MH-618-7	MH-618-8		MH-618-9		MH-618-10	MH-618-11	MH-619-1	MH-619-2	MH-619-3	MH-619-4	MH-619-5	MH-619-6	MH-619-7	MH634-1	MH634-2	MH634-3	MH634-4	MH634-5	MH634-6	MH634-7	MH634-8
Sample Date			23-Jul-15	27-Jan-16	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	27-Jan-16	27-Jan-16	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	24-Jul-15	23-Jul-15	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16
Sample ID			MH-618-2-3	MH-618-2-1	MH-618-3-3	MH-618-4-3	MH-618-5-3	MH-618-6-5	MH-618-7-2	MH618-8(0-2')	MH618-8(3-4')	MH618-9(0-2')	MH618-9(3-4')	MH-618-10-1	MH-618-11-1	MH-619-1-3	MH-619-2-3	MH-619-3-3	MH-619-4-3	MH-619-5-3	MH-619-6-5	MH-619-7-2	MH634-1(5)	MH634-2(3)	MH634-3(3)	MH634-4(3)	MH634-5(3)	MH634-6(3)	MH634-7(2)	MH634-8(2)
Sample Depth			3 ft	1 ft	3 ft	3 ft	3 ft	5 ft	2 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	1 ft	1 ft	3 ft	3 ft	3 ft	3 ft	3 ft	5 ft	2 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	JB99969	1626778	JB99969	JB99969	JB99969	JB99969	JB99969	JC9204	JC9204	JC9204	JC9204	1626778	1626778	JB99969	JB99969	JB99969	JB99969	JB99969	JB99970	JB99969	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955
Laboratory Sample ID	Units	SHS-PA	JB99969-10	8221785	JB99969-12	JB99969-8	JB99969-7	JB99969-11	JB99969-9	JC9204-1	JC9204-2	JC9204-3	JC9204-4	8221786	8221787	JB99969-6	JB99969-5	JB99969-4	JB99969-2	JB99969-1	JB99970-2	JB99969-3	8425738	8425742	8425741	8425740	8425739	8425743	8425744	8425745
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	***860*** [B]	***3200*** [A]	0.417	***2.83 J*** [B]	***1.32*** [B]	***62.3*** [B]	***4380*** [A]	0.0010	0.00084	ND (0.00047)	ND (0.00050)	0.0007 J	ND (0.0005)	0.134	0.436 J	0.0664	***1.26*** [B]	0.300	0.0015	0.145	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.012	ND (0.0005)	ND (0.0005)
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	0.009	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.0009)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	ND (0.001)	-	-	-	-	-	-	-	-	-	ND (0.0009)	ND (0.0009)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.40)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.0010)	ND (0.096)	ND (0.0010)	ND (0.0011)	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	ND (0.00093)	ND (0.0010)	ND (0.0011)	ND (0.00097)	ND (0.0012)	ND (0.00090)	ND (0.00095)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.0009)
ETHYLBENZENE	mg/kg	70[AB]	ND (3.0)	ND (1.1)	ND (0.0011)	ND (0.0011)	0.0033	ND (0.0010)	0.141	0.00065 J	0.0019	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	0.00051 J	ND (0.0010)	ND (0.0011)	ND (0.00097)	ND (0.0012)	ND (0.00090)	ND (0.00095)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.058	ND (0.001)	ND (0.0009)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (5.9)	ND (1.1)	ND (0.0021)	ND (0.0022)	0.00039 J	ND (0.0020)	ND (0.19)	ND (0.0020)	0.0175	ND (0.0019)	ND (0.0020)	ND (0.0009)	ND (0.0009)	ND (0.0019)	ND (0.0020)	ND (0.0021)	ND (0.0019)	ND (0.0024)	ND (0.0018)	ND (0.0019)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.060	ND (0.001)	ND (0.0009)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.45)	ND (0.56)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.0010)	ND (0.096)	ND (0.0010)	ND (0.0011)	ND (0.00094)	ND (0.0010)	ND (0.0005)	ND (0.0005)	ND (0.00093)	ND (0.0010)	ND (0.0011)	ND (0.00097)	ND (0.0012)	ND (0.00090)	ND (0.00095)	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.063	ND (0.001)	ND (0.0009)
NAPHTHALENE	mg/kg	25[AB]	ND (15)	10	ND (0.0053)	ND (0.0055)	ND (0.0055)	ND (0.0051)	ND (0.48)	0.00062 J	0.0097	ND (0.0047)	ND (0.0050)	ND (0.0009)	ND (0.0009)	ND (0.0047)	ND (0.0050)	ND (0.0054)	0.00055 J	ND (0.0059)	ND (0.0045)	ND (0.0048)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.007	ND (0.001)	ND (0.0009)
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.020	ND (0.001)	ND (0.0009)
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.0009)
TOLUENE	mg/kg	100[AB]	1.81 J	4.7 J	0.0448	0.0209	0.0185	0.0508	73.4	0.0134	0.00064 J	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	0.0062	0.0122	0.0055	0.0015	0.0010 J	0.0019	0.0010	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 J	ND (0.001)	ND (0.0009)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (5.9)	20	ND (0.0021)	ND (0.0022)	0.0035	ND (0.0020)	0.124 J	0.0028	0.0154	ND (0.0019)	ND (0.0020)	ND (0.0009)	ND (0.0009)	0.00031 J	ND (0.0020)	ND (0.0021)	ND (0.0019)	ND (0.0024)	ND (0.0018)	ND (0.0019)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.014	ND (0.001)	ND (0.0009)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (5.9)	7.2	ND (0.0021)	ND (0.0022)	0.00045 J	ND (0.0020)	0.0409 J	0.0019 J	0.0011 J	ND (0.0019)	ND (0.0020)	ND (0.0009)	ND (0.0009)	0.00033 J	ND (0.0020)	ND (0.0021)	ND (0.0019)	ND (0.0024)	ND (0.0018)	ND (0.0019)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.16	ND (0.001)	ND (0.0009)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (3.0)	ND (1.1)	ND (0.0011)	ND (0.0011)	0.0243	0.00050 J	0.891	0.0111	0.0087	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	0.0030	ND (0.0010)	ND (0.0011)	ND (0.00097)	0.0017	ND (0.00090)	ND (0.00095)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.01	ND (0.001)	ND (0.0009)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.00026)	ND (0.00024)	ND (0.00026)	ND (0.00026)	ND (0.00024)	ND (0.00025)	ND (0.00024)	ND (0.0027)	ND (0.0028)	ND (0.0027)	ND (0.0031)	ND (0.00024)	ND (0.00023)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00025)	ND (0.00026)	ND (0.00023)	ND (0.00025)	ND (0.00021)	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00021)	ND (0.00023)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
ANTHRACENE	mg/kg	350[AB]	ND (0.041)	ND (0.004)	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	ND (0.037)	0.0326 J	ND (0.036)	ND (0.036)	ND (0.039)	ND (0.004)	ND (0.004)	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.041)	0.0523	ND (0.039)	0.0052 J	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.041)	0.012 J	ND (0.040)	ND (0.041)	0.0195 J	ND (0.040)	ND (0.037)	0.105	ND (0.036)	ND (0.036)	ND (0.039)	0.005 J	0.005 J	ND (0.037)	ND (0.038)	0.0240 J	ND (0.040)	ND (0.041)	0.0795	ND (0.039)	ND (0.0035)	ND (0.0036)	0.0052 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	ND (0.041)	0.009 J	ND (0.040)	ND (0.041)	0.0161 J	ND (0.040)	ND (0.037)	0.103	ND (0.036)	ND (0.036)	ND (0.039)	0.007 J	0.009 J	ND (0.037)	ND (0.038)	0.0202 J	ND (0.040)	ND (0.041)	0.0564	ND (0.039)	ND (0.0035)	ND (0.0036)	0.0054 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	0.0042 J
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	ND (0.041)	0.040	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	ND (0.037)	0.194	ND (0.036)	ND (0.036)	ND (0.039)	0.01 J	0.011 J	ND (0.037)	ND (0.038)	0.0283 J	ND (0.040)	ND (0.041)	0.0758	ND (0.039)	ND (0.0035)	ND (0.0036)	0.0058 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	0.0044 J
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	ND (0.041)	0.019 J	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	0.0179 J	0.199	ND (0.036)	ND (0.036)	ND (0.039)	0.013 J	0.015 J	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.041)	0.0278 J	ND (0.039)	0.0047 J	0.0045 J	0.0056 J	0.0035 J	ND (0.0037)	ND (0.0040)	ND (0.0035)	0.0058 J
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)
CHRYSENE	mg/kg	230[AB]	ND (0.041)	0.020 J	ND (0.040)	ND (0.041)	0.0171 J	ND (0.040)	ND (0.037)	0.152	ND (0.036)	ND (0.036)	ND (0.039)	0.008 J	0.007 J	ND (0.037)	ND (0.038)	0.0267 J	ND (0.040)	ND (0.041)	0.0778	ND (0.039)	0.0047 J	ND (0.0036)	0.0077 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.31)	ND (0.32)	ND (0.31)	ND (0.32)	ND (0.34)	ND (0.36)	ND (0.32)	ND (0.35)
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0035)	ND (0.0036)	0.0078 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
FLUORENE	mg/kg	3800[AB]	ND (0.041)	0.052	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.035)	0.0794	ND (0.036)	ND (0.039)	ND (0.004)	ND (0.004)	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.041)	0.104	ND (0.039)	0.0035 J	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0036 J	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	0.0843	0.123	ND (0.036)	ND (0.039)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.19)
PHENANTHRENE	mg/kg	10000[AB]	ND (0.041)	0.035	ND (0.040)	ND (0.041)	0.0953	ND (0.040)	0.0805	0.261	0.0348 J	ND (0.036)	ND (0.039)	ND (0.004)	0.005 J	ND (0.037)	ND (0.038)	ND (0.038)	0.0571	ND (0.041)	0.444	ND (0.039)	0.027	ND (0.0036)	0.0053 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)
PYRENE	mg/kg	2200[AB]	ND (0.041)	0.015 J	ND (0.040)	ND (0.041)	0.0516	ND (0.040)	0.100	0.302	0.0155 J	ND (0.036)	ND (0.039)	ND (0.004)	0.019 J	ND (0.037)	ND (0.038)	0.0184 J	0.0174 J	ND (0.041)	0.148	ND (0.039)	0.0096 J	0.0041 J	0.013 J	0.0036 J	ND (0.0037)	0.0044 J	ND (0.0035)	ND (0.0039)
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.035)	ND (0.036)	ND (0.035)	ND (0.035)	ND (0.037)	ND (0.040)	ND (0.035)	ND (0.039)
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.2	6.99	17.2	12.5	8.02	8.06	6.97	5.33
LEAD	mg/kg	450[AB]	8.7	13.2	9.0	6.9	3.5	5.4	16.0	***838*** [A]	5.9	15.7	2.0	20.7	14.7	15.6	11.1	54.6	18.8	9.2	15.7	11.5	3.77	11.6	ND (5.03)	3.96	3.21	13.7	2.22	12.1
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.1	17.9	59.9	32.5	21.7	18.5	17.4	15.4
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57.1	41.8	74.0	62.6	58.6	38.1	41.6	31.4
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72.5	57.9	101	91.6	62.3	50.1	58.5	41.3

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH635-1	MH635-2	MH635-3	MH635-4	MH635-5	MH635-6	MH635-7	MH635-8	MH635-9	MH635-10		MH635-11	MH635-12	MH8-1	MH8-2	MH8-3	MH8-4		MH8-5		MH8-6	MH8-7	MH8-8	MH8-9
Sample Date			13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	29-Jul-16	29-Jul-16	29-Jul-16	29-Jul-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	15-Jun-16	29-Mar-16	1-Sep-16	29-Mar-16	29-Mar-16	29-Mar-16	30-Mar-16
Sample ID			MH635-1(5)	MH635-2(3)	MH635-3(3)	MH635-4(3)	MH635-5(3)	MH635-6(3)	MH635-7(2)	MH635-8(2)	MH635-9(2)	MH635-10-2	MH635-10-3	MH635-11-2	MH635-12-2	MH8-1-20160329(3')	MH8-2-20160329(3')	MH8-3-20160329(3')	MH8-4-20160329(3')	MH08-4(2)	MH8-5-20160329(3')	MH08-5(1.0-1.5)	MH8-6-20160329(3')	MH8-7-20160329(3')	MH8-8-20160329(2')	MH8-9-20160330(2')
Sample Depth			5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	2 ft	2 ft	3 ft	2 ft	2 ft	3 ft	3 ft	3 ft	3 ft	2 ft	3 ft	1 - 1.5 ft	3 ft	3 ft	2 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1688932	1688932	1688932	1688932	1645616	1645616	1645616	1645616	1672903	1645616	1702739	1645616	1645616	1645616	1645616
Laboratory Sample ID	Units	SHS-PA	8425746	8425748	8425749	8425750	8425751	8425747	8425752	8425753	8425754	8501255	8501256	8501257	8501258	8310251	8310252	8310253	8310254	8429744	8310255	8563647	8310256	8310257	8310258	8310259
Volatile Organic Compounds																										
BENZENE	mg/kg	0.5[AB]	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.053 J	0.0009 J	ND (0.13)	0.070 J	ND (0.0005)	0.27 J	***11*** [B]	***26*** [B]	***36*** [B]	***81*** [B]	***55*** [A]	***56*** [B]	***45*** [A]	***16*** [B]	***18*** [B]	***58*** [A]	0.14 J
CYCLOHEXANE	mg/kg	6900[AB]	ND (0.001)	0.011	ND (0.0009)	0.015	0.053	0.001 J	0.002 J	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	4.7	19	22	48	8.6 J	31	7.6	12	15	76	23
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	-	ND (0.001)	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	ND (0.21)	ND (0.001)	ND (0.22)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.30)	ND (0.21)	ND (0.001)	ND (0.001)	ND (0.10)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.074 J	0.003 J	ND (0.25)	0.60	ND (0.001)	0.48 J	***240*** [B]	***520*** [B]	***650*** [B]	***1600*** [B]	***880*** [A]	***1400*** [B]	***110*** [A]	***320*** [B]	***840*** [B]	***3100*** [A]	0.32 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	0.14 J	ND (0.001)	0.26 J	6.0	15	16	34	16 J	35	6.0	6.7	17	67	0.50 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.021)	ND (0.0004)	ND (0.13)	ND (0.051)	ND (0.0005)	ND (0.10)	ND (0.11)	ND (0.28)	ND (0.11)	ND (0.59)	ND (0.0005)	ND (0.57)	ND (0.15)	0.12 J	ND (0.63)	ND (0.62)	ND (0.052)
HEXANE	mg/kg	5600[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	0.16 J	ND (0.001)	2.3	5.5	33	41	120	19 J	40	11	27	38	140	1.9
NAPHTHALENE	mg/kg	25[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.091 J	0.001 J	ND (0.25)	0.54	ND (0.001)	0.96 J	19	***49*** [B]	***32*** [B]	***82*** [B]	***54*** [A]	***84*** [B]	19	14	***32*** [B]	***100*** [A]	ND (0.10)
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	0.20 J	ND (0.001)	0.46 J	2.8	7.5	4.5	9.8	4.6 J	11	2.2	1.9	5.9 J	15	ND (0.10)
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	0.29 J	0.79 J	0.50 J	ND (1.2)	ND (4.4)	1.2 J	0.42 J	0.21 J	ND (1.3)	1.8 J	ND (0.10)
TOLUENE	mg/kg	100[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	9.2	10	76	58	33	***150*** [B]	2.3	78	94	***220*** [A]	ND (0.10)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.55	0.009	ND (0.25)	7.7	ND (0.001)	8.4	***55*** [B]	***140*** [B]	***110*** [B]	***240*** [B]	***120*** [A]	***250*** [B]	***68*** [A]	***42*** [B]	***100*** [B]	***330*** [A]	0.89
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.22	0.003 J	ND (0.25)	3.3	ND (0.001)	3.7	21	49	34	86	43	89	22	16	43	120	0.18 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.43	0.005	ND (0.25)	1.2	ND (0.001)	0.49 J	***1200*** [B]	***2400*** [B]	***3500*** [B]	***8500*** [B]	***4800*** [A]	***7500*** [B]	530	***1600*** [B]	***4400*** [B]	***14000*** [A]	3.1
Volatile Organic Compounds (SW8011)																										
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00022)	ND (0.00024)	ND (0.00023)	ND (0.00023)	ND (0.00023)	ND (0.00021)	ND (0.0023)	-	-	-	-	ND (0.00022)	-	ND (0.00020)	-	-	-	-
Semi-Volatile Organic Compounds																										
ACENAPHTHENE	mg/kg	4700[AB]	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	1.7	ND (0.0039)	ND (0.040)	0.092 J	ND (0.0036)	ND (0.038)	2.3	4.2	2.8	7.1	4.5	9.6	ND (0.086)	1.8	1.7	7.4	2.0
ANTHRACENE	mg/kg	350[AB]	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	5.1	ND (0.0039)	0.049 J	0.079 J	ND (0.0036)	0.11 J	0.89	1.7	1.1	3.0	2.2	3.9	ND (0.086)	0.88	0.97	3.3	2.3
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0069 J	ND (0.0037)	15	ND (0.0039)	0.076 J	0.070 J	ND (0.0036)	0.14 J	0.18 J	0.26	0.40	1.4	0.91	1.3	ND (0.086)	0.28 J	0.78	2.2	9.3
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	ND (0.0035)	0.0048 J	ND (0.0035)	0.0036 J	0.0036 J	0.0073 J	ND (0.0037)	12	ND (0.0039)	0.10 J	0.12 J	ND (0.0036)	0.18 J	0.10 J	0.15 J	0.36 J	0.67 J	0.46	0.59 J	0.19 J	0.14 J	1.6	1.4	8.6
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	ND (0.0035)	0.0059 J	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0094 J	ND (0.0037)	4.9	ND (0.0039)	0.066 J	0.067 J	ND (0.0036)	0.075 J	0.076 J	0.099 J	0.19 J	0.51 J	0.21	0.45 J	0.20 J	0.10 J	0.80	0.66	5.1
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	ND (0.0035)	0.0086 J	ND (0.0035)	0.0072 J	0.0055 J	0.0084 J	0.0077 J	11	ND (0.0039)	0.34	0.33	0.0078 J	0.41	0.075 J	0.087 J	0.22 J	0.42 J	0.26	0.39 J	0.70	0.10 J	0.91	0.66	7.0
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0037 J	ND (0.0037)	1.2	ND (0.0039)	ND (0.040)	0.042 J	ND (0.0036)	ND (0.038)	0.040 J	0.046 J	0.11 J	ND (0.19)	0.088 J	ND (0.19)	ND (0.086)	ND (0.078)	0.096 J	0.15 J	0.62 J
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	0.72 J	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	2.1	3.4	2.5	5.9	3.2	8.6	ND (0.43)	1.8	1.8	6.8	ND (1.8)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)
CHRYSENE	mg/kg	230[AB]	ND (0.0035)	0.0045 J	ND (0.0035)	0.0048 J	0.0036 J	0.0087 J	ND (0.0037)	23	ND (0.0039)	0.20 J	0.17 J	ND (0.0036)	0.25	0.33	0.61	0.72	2.5	1.4	2.4	ND (0.086)	0.48	2.5	3.5	19
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	ND (0.0035)	0.0038 J	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	2.9	ND (0.0039)	0.052 J	0.050 J	ND (0.0036)	0.063 J	ND (0.039)	ND (0.038)	0.080 J	ND (0.19)	0.086 J	ND (0.19)	ND (0.086)	ND (0.078)	0.32	0.30 J	1.2 J
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.50)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	ND (0.19)	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.33)	ND (9.0)	ND (0.35)	ND (3.6)	ND (3.6)	ND (0.32)	ND (3.5)	ND (3.6)	ND (3.4)	ND (6.9)	ND (17)	ND (3.4)	ND (17)	ND (7.8)	ND (7.1)	ND (3.5)	ND (8.6)	ND (0.30)
FLUORANTHENE	mg/kg	3200[AB]	ND (0.0035)	0.0044 J	ND (0.0035)	0.0041 J	ND (0.0035)	0.011 J	ND (0.0037)	3.1	ND (0.0039)	0.053 J	0.077 J	ND (0.0036)	0.11 J	0.21	0.38	0.34 J	0.92 J	0.68	1.2	ND (0.086)	0.25 J	0.35	1.3	2.5
FLUORENE	mg/kg	3800[AB]	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	3.4	0.0048 J	0.075 J	0.31	ND (0.0036)	0.29	4.1	7.3	4.6	11	7.8	15	ND (0.086)	3.3	3.3	12	2.1
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	ND (0.0035)	0.0052 J	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.10)	ND (0.0039)	0.073 J	0.081 J	ND (0.0036)	0.090 J	ND (0.039)	ND (0.038)	0.087 J	ND (0.19)	0.13 J	ND (0.19)	0.21 J	ND (0.078)	0.28	0.26 J	2.0
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	12	0.0060 J	ND (0.040)	2.2	ND (0.0036)	2.4	74	140	85	220	150	320	0.24 J	64	63	260	6.6
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.50)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	ND (0.19)	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	1.6	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	ND (0.19)	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (5.0)	ND (0.20)	ND (2.0)	ND (2.0)	ND (0.18)	ND (1.9)	ND (2.0)	ND (1.9)	ND (3.8)	ND (0.17)	ND (1.9)	ND (0.17)	ND (4.3)	ND (3.9)	ND (1.9)	ND (4.8)	ND (0.17)
PHENANTHRENE	mg/kg	10000[AB]	ND (0.0035)	0.0054 J	ND (0.0035)	0.0070 J	ND (0.0035)	0.0098 J	ND (0.0037)	32	0.012 J	0.10 J	0.74	ND (0.0036)	0.56	10	18	12	28	20	37	ND (0.086)	7.9	8.4	33	7.9
PHENOL	mg/kg	200[AB]	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	0.59 J	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	0.35 J	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)
PYRENE	mg/kg	2200[AB]	0.0053 J	0.0075 J	ND (0.0035)	0.0096 J	0.0049 J	0.014 J	0.0088 J	30	0.0046 J	0.31	0.45	0.0038 J	0.44	1.0	1.8	1.6	4.6	3.3	4.8	ND (0.086)	0.98	3.3	6.1	19
PYRIDINE	mg/kg	12[AB]	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)
QUINOLINE	mg/kg	0.37[AB]	ND (0.035)	ND (0.035)	ND (0.035)	ND (0.036)	ND (0.035)	ND (0.035)	ND (0.037)	ND (0.033)	ND (0.039)	ND (0.033)	ND (0.033)	ND (0.036)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)
Metals																										
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190≤1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	7.49	11.5	8.05	7.89	8.30	9.49	9.25	7.75	6.43	7.22	4.68	7.78	7.12	6.54	5.06	7.55	6.51	4.43	6.12	4.28	5.78	4.95	7.16	6.76
LEAD	mg/kg	450[AB]	3.63	ND (3.72)	3.66	4.56	3.18	4.37	5.97	39.4	13.9	43.6	35.1	ND (0.422)	61.6	10.1	11.5	15.2	26.2	7.70	12.2	38.9	14.2	7.14	8.66	92.1
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	20.0	27.8	22.9	20.1	22.1	28.4	27.4	16.2	16.4	16.4	9.58	19.7	16.2	15.5	9.78	12.5	12.4	8.90	14.5	13.1	11.1	10.9	12.8	19.2
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	45.3	58.3	49.6	44.3	48.7	56.1	57.8	38.3	39.5	37.0	22.7	47.1	41.1	29.3	15.4	23.8	20.7	12.9	23.2	42.2	18.2	24.0	25.1	65.4
ZINC	mg/kg	12000[AB]	65.2	108	66.9	83.6	100	71.7	90.8	65.2	43.9	79.6	53.4	64.4	83.3	40.3	23.7	35.6	40.2	23.8	40.9	62.2	27.6	30.4	32.8	85.1

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH8-10	MH8-11	MH8-12	MH8-13	MH8-14	MH8-15	MH8-16	MH8-17		MH8-18	MH8-19	MH8-20		MH8-21	MH8-22	MH8-23		MH8-24	MH8-25		MH8-26		MH8-27		MH8-28	MH8-29	MH8-30	MH8-31
Sample Date			30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	14-Jun-16	14-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	1-Sep-16	1-Sep-16	1-Sep-16	1-Sep-16	1-Sep-16	1-Sep-16	14-Oct-16	14-Oct-16
Sample ID			MH8-10-20160330(2')	MH8-11-20160330(2')	MH8-12-20160330(2')	MH8-13-20160330(2')	MH8-14-20160330(2')	MH8-15-20160330(2')	MH8-16-20160330(2')	MH8-17-20160330(0-1')	MH8-17-20160330(2-3')	MH08-18(2)	MH08-19(2)	MH08-20(2)	MH08-20(5)	MH08-21(2)	MH08-22(2)	MH08-23(2)	MH08-23(5)	MH08-24(2)	MH08-25(2)	MH08-25(3)	MH08-26(1.5-2.0)	MH08-26(3)	MH08-27(0.5-1.0)	MH08-27(3)	MH08-28(1.5-2.0)	MH08-29(1.5-2.0)	MH8-30(1.5-2.0)	MH8-31(1.5-2.0)
Sample Depth			2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	0 - 1 ft	2 - 3 ft	2 ft	2 ft	2 ft	5 ft	2 ft	2 ft	2 ft	5 ft	2 ft	2 ft	3 ft	1.5 - 2 ft	3 ft	0.5 - 1 ft	3 ft	1.5 - 2 ft	1.5 - 2 ft	1.5 - 2 ft	1.5 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1702739	1702739	1702739	1702739	1702739	1702739	1720858	1720858
Laboratory Sample ID	Units	SHS-PA	8310260	8310261	8310262	8310263	8310264	8310265	8310266	8310267	8310268	8429750	8429749	8429746	8429747	8429748	8429741	8429739	8429740	8429745	8429742	8429743	8563648	8563649	8563650	8563651	8563652	8563653	8642787	8642788
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	ND (0.11)	***1.4*** [A]	0.065 J	***0.57 J*** [A]	***7.1*** [A]	0.34 J	***120*** [A]	ND (0.0005)	***18*** [B]	0.23 J	0.23 J	0.097 J	ND (0.026)	ND (0.0005)	***1.5 J*** [A]	ND (0.026)	ND (0.099)	***17*** [A]	***98*** [A]	***27*** [B]	***16*** [A]	***30*** [B]	0.28	0.002 J	***1.5*** [A]	***24*** [A]	***0.77 J*** [A]	***0.62 J*** [A]
CYCLOHEXANE	mg/kg	6900[AB]	1.4	5.4	1.2	13	16	ND (0.66)	82	ND (2.5)	9.3	0.29 J	1.3	0.29	ND (0.051)	ND (0.001)	3.9 J	1.2	0.56 J	8.5 J	37	11	16	23	0.75	0.001 J	0.74	30	45	ND (0.24)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.22)	ND (0.098)	ND (0.10)	ND (0.21)	ND (0.22)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.20)	ND (0.067)	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	ND (0.001)	ND (0.053)	ND (0.20)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.49)	ND (0.001)	ND (0.050)	ND (0.001)	ND (0.12)	ND (0.25)	ND (0.20)	ND (0.24)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.22)	70	2.7	***100*** [A]	0.81 J	ND (0.66)	***3700*** [A]	***360*** [A]	***480*** [B]	0.25 J	1.4	0.24 J	ND (0.051)	ND (0.001)	***470*** [A]	ND (0.053)	ND (0.20)	***610*** [A]	***1700*** [A]	***560*** [B]	***310*** [A]	***830*** [B]	11	0.021	2.3	***190*** [A]	ND (0.20)	3.6
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.22)	3.6	5.1	15	15	ND (0.66)	59	10 J	9.1	0.098 J	1.8	ND (0.047)	ND (0.051)	ND (0.001)	15	0.33	2.1	13	39	13	8.0	18	0.33	ND (0.001)	0.24 J	7.6	3.5	21
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.11)	ND (0.049)	ND (0.051)	ND (0.10)	ND (0.11)	ND (0.33)	ND (0.34)	ND (1.2)	ND (0.099)	ND (0.034)	ND (0.12)	ND (0.024)	ND (0.026)	ND (0.0005)	ND (0.54)	ND (0.026)	ND (0.099)	ND (0.92)	ND (0.0005)	ND (1.0)	ND (0.24)	ND (0.31)	ND (0.025)	ND (0.0005)	ND (0.059)	ND (0.12)	ND (0.10)	ND (0.12)
HEXANE	mg/kg	5600[AB]	0.46 J	3.0	ND (0.10)	8.4	0.83 J	ND (0.66)	170	ND (2.5)	13	0.34 J	0.58 J	0.17 J	ND (0.051)	ND (0.001)	5.2 J	0.47	0.26 J	29	140	39	17	30	1.2	0.004 J	0.62	95	1.4	9.3
NAPHTHALENE	mg/kg	25[AB]	0.64 J	1.9	4.5	12	ND (0.22)	ND (0.66)	***99*** [A]	***51*** [A]	17	0.15 J	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	***27*** [A]	0.12 J	0.63 J	***31*** [A]	***120*** [A]	***35*** [B]	***26*** [A]	***52*** [B]	1.4	ND (0.001)	0.52 J	3.0	ND (0.20)	ND (0.24)
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.22)	1.0	4.1	9.3	12	0.82 J	15	3.7 J	2.0	0.081 J	1.1 J	ND (0.047)	0.088 J	ND (0.001)	5.7	0.070 J	0.77 J	3.8 J	15 J	4.8 J	2.3 J	4.9	0.14 J	ND (0.001)	0.20 J	5.5	1.5	12
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.22)	0.17 J	0.55	1.1	1.5	ND (0.66)	2.0 J	ND (2.5)	ND (0.20)	ND (0.067)	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	ND (1.1)	ND (0.053)	ND (0.20)	ND (1.8)	ND (5.1)	ND (2.0)	ND (0.49)	ND (0.62)	ND (0.050)	ND (0.001)	ND (0.12)	0.94 J	0.36 J	1.3
TOLUENE	mg/kg	100[AB]	ND (0.22)	ND (0.098)	ND (0.10)	3.1	ND (0.22)	ND (0.66)	***500*** [A]	18	10	0.070 J	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	3.5 J	ND (0.053)	ND (0.20)	***120*** [A]	13 J	2.2 J	9.1	25	0.27	0.001 J	ND (0.12)	3.2	0.22 J	1.3
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	0.25 J	1.4	0.73	14	ND (0.22)	ND (0.66)	***580*** [A]	***180*** [A]	***66*** [B]	1.2	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	***80*** [A]	0.23 J	2.0	***89*** [A]	***340*** [A]	***110*** [B]	***81*** [A]	***160*** [B]	5.5	ND (0.001)	5.9	***270*** [A]	0.57 J	0.34 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.22)	ND (0.098)	0.61	4.2	ND (0.22)	ND (0.66)	130	73	11	0.57	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	28	0.13 J	0.77 J	33	120	39	28	58	2.2	0.003 J	0.56 J	22	1.1	3.5
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	0.31 J	7.9	0.28 J	350	0.83 J	ND (0.66)	***20000*** [A]	***3000*** [A]	***1200*** [B]	1.7	18	0.34	ND (0.051)	ND (0.001)	***1500*** [A]	0.55	1.1	***3200*** [A]	***6900*** [A]	***2600*** [B]	***1400*** [A]	***3400*** [B]	72	0.093	0.79	30	2.7	2.6
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	ND (0.00022)	ND (0.00023)	ND (0.00024)	ND (0.00024)	ND (0.00025)	ND (0.00022)	ND (0.00023)	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.0045)	ND (0.0012)	ND (0.0022)	ND (0.0021)	ND (0.0012)	ND (0.0047)	ND (0.00023)	ND (0.00022)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	3.8	13	0.76	1.0	0.33	13	5.5	2.3	3.5	2.4	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	1.1	0.016 J	0.69 J	2.5	4.9	2.5	1.7	2.3	ND (0.037)	ND (0.036)	0.19	1.3	0.65	3.0
ANTHRACENE	mg/kg	350[AB]	5.5	21	1.0	0.80	0.14 J	7.3	2.6	1.9	2.7	1.4	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	0.78	0.016 J	1.0	1.1	2.7	1.2	1.2	1.5	ND (0.037)	ND (0.036)	0.30	0.78	0.57	3.1
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	21	76	2.6	0.69	0.072 J	8.3	1.5	1.7	1.9	0.73	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	1.6	0.045	4.1	0.33	0.92	0.44	2.7	1.6	0.042 J	ND (0.036)	0.37	1.1	0.59	2.4
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	***16*** [A]	***41*** [A]	2.1	0.64	0.072 J	4.9	1.1	1.0	1.1	0.49	ND (0.039)	0.0054 J	0.0094 J	ND (0.0041)	1.9	0.19	4.6	0.25	0.52	0.29	***21*** [A]	3.8	0.099 J	0.085 J	0.22	0.84	0.39	1.2
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	8.3	23	1.1	0.36	0.076 J	2.9	0.57	0.81	0.73	0.20	ND (0.039)	0.0054 J	ND (0.0041)	ND (0.0041)	0.76	0.073	1.8	0.11 J	0.29	0.12 J	3.9	1.3	0.062 J	0.084 J	0.13	0.48	0.21	0.61
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	6.7	17	1.8	0.76	0.068 J	3.2	0.76	1.5	1.2	0.32	0.18 J	0.0046 J	ND (0.0041)	0.0049 J	1.5	0.29	4.7	0.17 J	0.30	0.16 J	25	6.3	2.0	1.8	0.21	2.4	0.70	1.0
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	1.7 J	3.6	0.23 J	0.059 J	ND (0.041)	0.53 J	0.10 J	0.050 J	0.15 J	0.085 J	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	0.26	0.011 J	0.44 J	ND (0.036)	0.077 J	0.045 J	1.5	0.42	ND (0.037)	0.063 J	0.061 J	0.20 J	0.036 J	0.25
1,1'-BIPHENYL	mg/kg	190[AB]	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	4.7	2.2	2.8	2.1	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	0.50	ND (0.020)	ND (0.94)	2.0	3.7	2.0	1.3	1.8	ND (0.19)	ND (0.18)	ND (0.10)	1.5	ND (0.096)	ND (0.19)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	1.8	5.7	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)	ND (0.72)	ND (0.41)	ND (1.6)	0.95 J	ND (0.74)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	ND (0.70)	ND (0.73)	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)	ND (0.72)	ND (0.41)	ND (1.6)	ND (0.38)	ND (0.74)
CHRYSENE	mg/kg	230[AB]	33	110	4.8	1.3	0.18 J	15	3.1	2.9	3.6	1.3	0.051 J	0.0096 J	0.0045 J	0.0079 J	3.5	0.19	9.0	0.75	1.8	0.90	8.4	4.0	0.095 J	0.076 J	0.67	2.1	1.2	3.9
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	2.4	6.8	0.53	0.12 J	ND (0.041)	1.5	0.16 J	0.31	0.15 J	0.11 J	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	0.43	0.053	0.58 J	0.066 J	0.10 J	0.042 J	2.8	0.61	ND (0.037)	ND (0.036)	ND (0.020)	ND (0.079)	ND (0.019)	ND (0.037)
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	ND (0.70)	ND (0.73)	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)	ND (0.72)	ND (0.41)	ND (1.6)	ND (0.38)	ND (0.74)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	2.1	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (0.30)	ND (0.30)	ND (8.8)	ND (3.4)	ND (3.7)	ND (18)	ND (3.6)	ND (3.2)	ND (3.3)	ND (3.4)	ND (3.5)	ND (0.36)	ND (0.37)	ND (0.37)	ND (3.3)	ND (0.36)	ND (17)	ND (3.3)	ND (3.3)	ND (3.4)	ND (3.4)	ND (3.6)	ND (3.4)	ND (3.3)	ND (1.8)	ND (7.1)	ND (1.7)	ND (3.3)
FLUORANTHENE	mg/kg	3200[AB]	4.4	26	1.0	0.39	0.068 J	3.2	0.91	0.89	1.1	0.51	ND (0.039)	0.0060 J	ND (0.0041)	ND (0.0041)	0.60	0.017 J	2.0	0.34	0.80	0.39	0.72	0.74	0.075 J	0.054 J	0.15	0.53	0.29	1.5
FLUORENE	mg/kg	3800[AB]	5.2	21	1.7	2.5	0.60	17	9.4	4.0	5.8	4.8	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	1.8	0.023	1.3	4.8	9.5	4.7	2.9	4.1	ND (0.037)	ND (0.036)	0.31	1.6	1.1	6.2
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 2200[B]	2.1	5.4	0.52	0.15 J	0.054 J	0.93 J	0.20 J	0.42	0.32	0.12 J	ND (0.039)	ND (0.0040)	0.0076 J	ND (0.0041)	0.40	0.050	1.1	0.053 J	0.11 J	0.073 J	4.9	1.1	0.15 J	0.14 J	ND (0.020)	0.57	ND (0.019)	0.29
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	20	110	16	49	18	1.3	220	98	100	96	ND (0.039)	0.014 J	0.011 J	0.0054 J	27	0.074	2.7	99	210	86	56	75	0.18 J	0.053 J	0.51	90	12	62
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5800[AB]	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	0.20 J	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.18)	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	0.32 J	ND (0.19)	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	5800[AB]	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.18)	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	5800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (0.17)	ND (0.17)	ND (4.9)	ND (1.9)	ND (2.0)	ND (0.17)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.21)	ND (1.8)	ND (0.20)	ND (0.17)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.8)	ND (1.0)	ND (3.9)	ND (0.96)	ND (1.9)
PHENANTHRENE	mg/kg	10000[AB]	20	110	8.6	6.9	1.1	47	24	13	18	11	0.059 J	0.011 J	0.0042 J	0.0067 J	5.7	0.026	6.0	11	23	11	8.9	12	0.074 J	0.046 J	0.79	3.3	3.1	19
PHENOL	mg/kg	200[AB]	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	0.33 J	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.18)	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)
PYRENE	mg/kg	2200[AB]	33	130	5.9	1.9	0.24	18	4.6	5.1	5.4	2.1	0.061 J	0.0078 J	ND (0.0041)	0.0057 J	4.4	0.16	13	1.4	3.2	1.5	4.6	3.4	0.085 J	0.070 J	0.77	2.3	1.3	4.3
PYRIDINE	mg/kg	12[AB]	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	ND (0.70)	ND (0.73)	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)	ND (0.72)	ND (0.41)	ND (1.6)	ND (0.38)	ND (0.74)
QUINOLINE	mg/kg	0.37[AB]	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.35)	ND (0.36)	ND (0.033)	ND (0.033)	ND (0.040)	ND (0.041)	ND (0.041)	ND (0.36)	ND (0.040)	ND (0.033)	ND (0.36)	ND (0.36)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.36)	ND (0.20)	ND (0.033)	ND (0.19)	ND (0.37)
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	4.44	7.86	7.09	6.95	6.20	4.73	9.05	3.58	6.54	8.84	10.4	7.68	8.08	8.06	6.62	6.21	6.10	6.45	4.89	5.42	5.46	6.77	6.96	5.64	8.14	5.91	6.63	7.18
LEAD	mg/kg	450[AB]	312	54.1	18.7	7.61	7.24	52.7	6.03	35.2	13.6	10.1	34.6	16.2	2.55	14.7	24.1	27.7	25.5	11.0	7.52	8.28	55.2	64.8	36.0	39.7	12.8	48.3	11.2	14.3
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	21.1	25.2	12.3	11.5	12.2	11.2	17.3	9.35	13.7	16.6	19.4	16.8	14.6	16.4	12.8	12.2	14.2	11.4	7.81	10.1	12.8	13.2	17.4	15.8	14.3	13.9	14.1	12.5
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	112	40.7	29.3	22.2	21.2	27.8	33.1	20.5	36.4	28.8	41.8	41.4	30.0	38.4	27.7	36.6	38.9	20.8	14.3	19.5	37.9	39.3	36.3	32.8	49.3	42.5	30.8	22.8
ZINC	mg/kg	12000[AB]	63.2	353	38.6	47.0	32.4	69.4	38.5	155	39.7	38.3	61.9	52.3	37.5	46.6	57.8	50.8	74.9	27.4	21.0	27.6	67.6	47.2	149	197	49.4	77.1	60.2	27.0

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH-A-1	MH-A-2	MH-A-3	MH-A-4	MH-A-5	MH-A-6	MH-A-7	MH-A-8	MH-A-9	MH-A-10		MH-A-11	MH-A-12		MH-A-13	MH-A-14	MH-A-15	MH-A-16	MHIC_AST_631	MHIC_AST_631_A	MHIC_AST_631_B	MHIC_AST_631_C	MHIC_AST_631_D	MHIC_AST_631_E	MHIC_AST_631_PA	MHIC_AST_631_PB	MHIC_AST_632	MHIC_AST_632_A
Sample Date			18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	1-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	3-Feb-17	2-Feb-17	1-Feb-17	2-Feb-17
Sample ID			MH-A-1(3.0)	MH-A-2(5.0)	MH-A-3(3.0)	MH-A-4(2.0)	MH-A-5(3.0)	MH-A-6(2.0)	MH-A-7(3.0)	MH-A-8(5.0)	MH-A-9(3.0)	MH-A-10(2.0)	MH-A-10(3.0)	MH-A-11(5.0)	MH-A-12(2.0)	MH-A-12(3.0)	MH-A-13(2.0)	MH-A-14(2.0)	MH-A-15(3.0)	MH-A-16(5.0)	MHIC_AST_631_5'	MHIC_AST_631_A-3'	MHIC_AST_631_B-3'	MHIC_AST_631_C-3'	MHIC_AST_631_D-3'	MHIC_AST_631_E-3'	MHIC_AST_631_PA_2'	MHIC_AST_631_PB-2'	MHIC_AST_632_5'	MHIC_AST_632_A-3'
Sample Depth			3 ft	5 ft	3 ft	2 ft	3 ft	2 ft	3 ft	5 ft	3 ft	2 ft	3 ft	5 ft	2 ft	3 ft	2 ft	2 ft	3 ft	5 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	5 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order		A B	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	HS17020102	HS17020135	HS17020135	HS17020135	HS17020135	HS17020135	HS17020197	HS17020135	HS17020102	HS17020135
Laboratory Sample ID	Units	SHS-PA	8797796	8797797	8797798	8797799	8797800	8797801	8797802	8797803	8797804	8797805	8797806	8797807	8797808	8797809	8797810	8797811	8797812	8797813	HS17020102-01	HS17020135-01	HS17020135-02	HS17020135-03	HS17020135-04	HS17020135-05	HS17020197-02	HS17020135-12	HS17020102-02	HS17020135-06
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	ND (0.029)	ND (0.0004)	ND (0.0004)	ND (0.031)	ND (0.029)	ND (0.041)	ND (0.0005)	0.001 J	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0008)	ND (0.028)	0.001 J	ND (0.0006)	ND (0.049)	ND (0.0006)	ND (0.0005)	0.0078	0.0072	0.0038 J	0.095	0.0067	ND (0.0048)	0.0030 J	0.020	0.0013 J	0.0053
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	ND (0.083)	ND (0.001)	0.002 J	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.002)	ND (0.057)	ND (0.0009)	ND (0.001)	ND (0.097)	0.004 J	0.001 J	ND (0.0046)	ND (0.0040)	0.075	ND (0.0044)	0.00072 J	ND (0.0048)	ND (0.0039)	0.00070 J	ND (0.0047)	ND (0.0048)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	ND (0.083)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.002)	ND (0.057)	ND (0.0009)	ND (0.001)	ND (0.097)	ND (0.001)	ND (0.001)	ND (0.0046)	ND (0.0040)	0.0045 J	ND (0.0044)	ND (0.0046)	ND (0.0048)	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.029)	ND (0.0004)	ND (0.0004)	ND (0.031)	ND (0.029)	ND (0.041)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0008)	ND (0.028)	ND (0.0005)	ND (0.0006)	ND (0.049)	ND (0.0006)	ND (0.0005)	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.058)	ND (0.0009)	0.0009 J	ND (0.063)	ND (0.058)	ND (0.083)	ND (0.001)	0.002 J	ND (0.001)	0.001 J	0.003 J	0.006 J	ND (0.057)	ND (0.0009)	0.001 J	ND (0.097)	0.003 J	ND (0.001)	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	0.330 J	ND (0.001)	0.002 J	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.002)	ND (0.057)	0.001 J	ND (0.001)	ND (0.097)	0.007	ND (0.001)	ND (0.0046)	ND (0.0040)	0.015	0.0012 J	0.0013 J	ND (0.0048)	ND (0.0039)	0.0029 J	ND (0.0047)	ND (0.0048)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	0.360 J	ND (0.001)	0.003 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.005 J	ND (0.057)	0.001 J	ND (0.001)	1.200	0.012	ND (0.001)	ND (0.0046)	ND (0.0040)	0.092	ND (0.0044)	0.0020 J	ND (0.0048)	0.00081 J	0.0033 J	ND (0.0047)	ND (0.0048)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	0.170 J	ND (0.001)	0.001 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.002 J	ND (0.057)	ND (0.0009)	ND (0.001)	0.720	0.005 J	ND (0.001)	ND (0.0046)	ND (0.0040)	0.019	ND (0.0044)	ND (0.0046)	ND (0.0048)	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.058)	ND (0.0009)	0.001 J	ND (0.063)	ND (0.058)	0.280 J	0.001 J	0.012	ND (0.001)	0.001 J	0.003 J	0.009	ND (0.057)	0.003 J	ND (0.001)	0.590	0.024	0.006	ND (0.0046)	0.0010 J	0.51	0.0024 J	0.0048	ND (0.0048)	0.0013 J	0.0058	ND (0.0047)	ND (0.0048)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0028 J	0.0012 J	ND (0.0033)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0027 J	ND (0.0033)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0023 J	0.0026 J	ND (0.0033)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0020 J	0.0017 J	ND (0.0033)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0033	ND (0.0033)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.012	ND (0.0033)	ND (0.0033)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0030 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.013	0.0054	ND (0.0033)
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0013 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0069	0.0062	ND (0.0033)
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.99	8.63	3.22	1.33	2.74	3.49	2.77	3.86	5.82	2.10
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MHIC_AST_632_B	MHIC_AST_632_C	MHIC_AST_632_D	MHIC_AST_632_E	MHIC_AST_632_PA	MHIC_AST_632_PB	MHIC-387-1	MHIC-387-2	MHIC-387-3	MHIC-387-4	MHIC-387-5	MHIC-387-6	MHIC-387-7	MHIC-387-8	MHIC-387-9	MHIC-387-10	MHIC-387-11	MHIC-387-12	MHIC-387-13	MHIC-388-1	MHIC-388-2		MHIC-388-3	
Sample Date			2-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	3-Feb-17	2-Feb-17	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15
Sample ID			MHIC_AST_632_B-3'	MHIC_AST_632_C-3'	MHIC_AST_632_D-3'	MHIC_AST_632_E-3'	MHIC_AST_632_PA_2'	MHIC_AST_632_PB-2'	MHIC-387-1(5.0)	MHIC-387-2(5.0)	MHIC-387-3(5.0)	MHIC-387-4(5.0)	MHIC-387-5(3.0)	MHIC-387-6(3.0)	MHIC-387-7(3.0)	MHIC-387-8(3.0)	MHIC-387-9(3.0)	MHIC-387-10(3.0)	MHIC-387-11(3.0)	MHIC-387-12(2.0)	MHIC-387-13(2.0)	MHIC-388-1(3.0)	MHIC-388-2(0.0-2.0)	MHIC-388-2(3.0)	MHIC-388-3(3.0)	MHIC-388-3(3.0)DUP
Sample Depth			3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	5 ft	5 ft	5 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	3 ft	0 - 2 ft	3 ft	3 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	HS17020135	HS17020135	HS17020135	HS17020135	HS17020197	HS17020135	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4270	JC4271	JC4270	JC4270	JC4270
Laboratory Sample ID	Units	SHS-PA	HS17020135-07	HS17020135-08	HS17020135-09	HS17020135-10	HS17020197-01	HS17020135-11	JC4005-3	JC4005-4	JC4005-5	JC4005-6	JC4005-7	JC4005-8	JC4005-9	JC4005-10	JC4005-11	JC4005-12	JC4005-13	JC4005-14	JC4005-15	JC4270-8	JC4271-2	JC4270-9	JC4270-1	JC4270-2
Volatile Organic Compounds																										
BENZENE	mg/kg	0.5[AB]	0.0017 J	0.0086	0.032	0.0055	0.036	0.099	ND (0.00062)	0.0023	ND (0.00048)	ND (0.00055)	ND (0.00062)	ND (0.00051)	ND (0.00053)	ND (0.00048)	ND (0.00053)	ND (0.00060)	0.00018 J	ND (0.00056)	ND (0.00061)	0.0699 J	0.0034	ND (0.073)	ND (0.065)	ND (0.067)
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	0.0030	0.0015 J	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0026	ND (0.0022)	ND (0.0024)	7.77	ND (0.0024)	15.8	ND (0.26)	ND (0.27)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0046)	ND (0.0044)	ND (0.0040)	ND (0.0038)	ND (0.0034)	ND (0.00054)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.0046)	ND (0.0044)	ND (0.0040)	ND (0.0038)	ND (0.0034)	ND (0.0054)	ND (0.0012)	ND (0.0014)	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.15)	ND (0.0012) J	ND (0.15)	ND (0.13)	ND (0.13)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.0046)	ND (0.0044)	0.0037 J	0.0014 J	0.056	0.096	ND (0.0012)	0.0014	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	0.00069 J	ND (0.0011)	ND (0.0012)	1.63	0.0047	3.57	ND (0.13)	ND (0.13)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.0046)	ND (0.0044)	0.00089 J	ND (0.0038)	0.0058	0.0097	ND (0.0025)	0.00031 J	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0047	ND (0.0022)	ND (0.0024)	1.80	ND (0.0024)	3.50	ND (0.26)	ND (0.27)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.0046)	ND (0.0044)	ND (0.0040)	ND (0.0038)	ND (0.0034)	ND (0.0054)	ND (0.0012)	0.00064 J	0.00032 J	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	0.00036 J	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.15)	ND (0.0012)	ND (0.15)	ND (0.13)	ND (0.13)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	0.0010 J	0.00067 J	ND (0.0048)	ND (0.0055)	ND (0.0062)	ND (0.0051)	ND (0.0053)	ND (0.0048)	ND (0.0053)	0.00069 J	0.00096 J	0.00060 J	ND (0.0061)	16.5	0.0011 J	17.4	ND (0.65)	ND (0.67)
NAPHTHALENE	mg/kg	25[AB]	ND (0.0046)	ND (0.0044)	0.00090 J	ND (0.0038)	0.0037	ND (0.0054)	ND (0.0062)	ND (0.0071)	ND (0.0048)	ND (0.0055)	ND (0.0062)	ND (0.0051)	ND (0.0053)	ND (0.0048)	ND (0.0053)	ND (0.0060)	0.00090 J	ND (0.0056)	ND (0.0061)	11.6	0.0062	6.18	ND (0.65)	0.472 J
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0073	ND (0.0022)	ND (0.0024)	0.859	ND (0.0024)	2.87	ND (0.26)	0.0296 J
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0015 J	ND (0.0022)	ND (0.0024)	0.276 J	ND (0.0024)	1.31	ND (0.26)	ND (0.27)
TOLUENE	mg/kg	100[AB]	ND (0.0046)	0.040	0.047	0.0034 J	0.056	0.093	ND (0.0012)	0.00059 J	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.0011)	ND (0.0012)	0.0509 J	0.0038	0.149 J	ND (0.13)	ND (0.13)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.0046)	ND (0.0044)	0.013	0.0027 J	0.32	0.27 E	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0075	ND (0.0022)	ND (0.0024)	4.78	0.00044 J	47.9[B]	ND (0.26)	ND (0.27)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.0046)	ND (0.0044)	0.0016 J	ND (0.0038)	0.049	0.049	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.00079 J	ND (0.0022)	ND (0.0024)	3.08	ND (0.0024)	24.2	ND (0.26)	ND (0.27)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.0046)	0.0023 J	0.029	0.0068	4.7	0.48	ND (0.0012)	ND (0.0014)	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	0.0011 J	ND (0.0011)	ND (0.0012)	0.572	0.0539	22.7	ND (0.13)	0.0479 J
Volatile Organic Compounds (SW8011)																										
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	ND (0.0033)	ND (0.0035)	ND (0.0031)	ND (0.0033)	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0028)	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0028)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0029)	ND (0.0030)
Semi-Volatile Organic Compounds																										
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	-	0.0615	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	1.43	0.0720	1.62	0.0800	ND (0.040)
ANTHRACENE	mg/kg	350[AB]	0.0020 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.150	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	2.29	0.102	2.84	ND (0.038)	ND (0.040)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.162	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	0.0158 J	ND (0.037)	0.310	0.0812	0.395	0.0176 J	ND (0.040)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.109	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0979	0.0491	0.164	ND (0.038)	ND (0.040)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0736	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0592	0.0315 J	0.132	ND (0.038)	ND (0.040)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.154	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0554	0.0316 J	0.101	ND (0.038)	ND (0.040)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	-	ND (0.045)	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.041)	ND (0.038)	ND (0.040)
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	0.210	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0637 J	2.24	0.111	ND (0.081)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	0.218	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0555 J	ND (0.083)	ND (0.077)	ND (0.081)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)
CHRYSENE	mg/kg	230[AB]	ND (0.0033)	ND (0.0033)	0.0062	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.242	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	0.0188 J	ND (0.037)	0.461	0.150	0.703	0.0268 J	ND (0.040)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	0.0276 J	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.041)	ND (0.038)	ND (0.040)
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	0.128 J	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	-	0.158	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	0.0219 J	0.809	0.0672	1.19	ND (0.038)	ND (0.040)
FLUORENE	mg/kg	3800[AB]	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.210	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	0.0467	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	3.07	0.160	2.95	0.310	0.0272 J
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	-	0.0562	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0221 J	0.0206 J	0.0374 J	ND (0.038)	ND (0.040)
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	2.49	0.0221 J	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	0.0739 J	0.128	ND (0.073)	76.4	0.546	35.5	0.114	ND (0.081)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5800[AB]	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0768 J	ND (0.083)	ND (0.077)	ND (0.081)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	1.02	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	0.0510	ND (0.037)	18.4	0.157	5.79	ND (0.038)	ND (0.040)
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	ND (0.45)	ND (0.47)	ND (0.41)	ND (0.42)	ND (0.38)	ND (0.37)	ND (0.39)	ND (0.38)	ND (0.36)	ND (0.38)	ND (0.41)	ND (0.37)	ND (0.37)	ND (0.38)	ND (0.39) J	ND (0.41)	ND (0.38)	ND (0.40)
PHENANTHRENE	mg/kg	10000[AB]	0.0024 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	1.40	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	0.0542	0.0817	0.0215 J	16.3	0.814	11.3	0.310	0.0293 J
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0471 J	ND (0.083)	ND (0.077)	ND (0.081)
PYRENE	mg/kg	2200[AB]	0.0030 J	0.020	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.964	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	0.0157 J	ND (0.038)	0.0265 J	0.0641	0.0340 J	5.97	0.220	8.94	0.0354 J	ND (0.040)
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)
Metals																										
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51.2	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.61)	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.3	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	5.8 J	4.7 J	3.0 J	4.6 J	4.0 J	13.0	6.1	3.6 J	4.1 J	6.2	7.2	6.1	7.9	8.5	6.7	11.9	8.0	7.0
LEAD	mg/kg	450[AB]	2.81	4.35	4.95	5.69	8.42	4.32	22.1	11.5	6.9	7.8	8.8	8.6	11.0	8.1	11.2	11.1	12.5	14.6	20.4	9.1	21.1	9.7	18.2	18.5
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.047	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	13.6	12.2	8.7	9.6	11.0	13.2	12.3	8.7	12.8	17.8	15.1	13.9	15.7	17.7	14.5	17.2	17.5	15.9
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2.4)	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35 J	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	26.9	35.6	20.6	27.9	25.0	29.9	41.0	26.4	38.6	31.9	37.4	33.9	34.5	51.8	36.6	43.1	44.1	39.9
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	44.9	25.7	21.7	23.5	29.8	28.1	37.5	20.1	26.0	32.7	39.3	39.9	50.5	43.8	60.0	40.6	72.8	64.7

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MHIC-388-4		MHIC-388-5	MHIC-388-6	MHIC-388-7	MHIC-388-8	MHIC-388-9	MHIC-388-10	MHIC-388-11	MHIC-388-12	MHIC-388-13	MHIC-388-14	MHIC-388-15	MHIC-388-16	MHIC-388-17	MHIC-388-18	MHIC-388-19	MHIC-388-20	MW-433		MW-434		MW-435		MW-436	
Sample Date			17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	17-Sep-15	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	30-May-13	31-May-13	29-May-13	30-May-13	31-Jul-13	1-Aug-13	13-May-13	14-May-13
Sample ID			MHIC-388-4(0.0-2.0)	MHIC-388-4(3.0)	MHIC-388-5(3.0)	MHIC-388-6(3.0)	MHIC-388-7(3.0)	MHIC-388-8(5.0)	MHIC-388-9(5.0)	MHIC-388-10(5.0)	MHIC-388-11(5.0)	MHIC-388-12(2.0)	MH388-13	MH388-14	MH388-15	MH388-16	MH388-17	MH388-18	MH388-19	MH388-20	AOI-5_MW-433_0-2'_53013	AOI-5_MW-433_8-10'_53113	AOI-5_MW-434_0-2'_52913	AOI-5_MW-434_6-8'_53013	MW-435_0-2'_073113	MW-435_8-10'_080113	AOI-5_MW-436_0-2'_51313	AO15_MW-436_4-6_051413
Sample Depth			0 - 2 ft	3 ft	3 ft	3 ft	3 ft	5 ft	5 ft	5 ft	5 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	4 - 6 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	LANGAN	LANGAN	LANGAN	LANGAN	AQUATERRA	AQUATERRA	LANGAN	LANGAN
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JC4271	JC4270	JC4270	JC4270	JC4270	JC4006	JC4006	JC4006	JC4006	JC4270	1630912	1630912	1630912	1630912	1630912	1630912	1630912	1630912	JB38374	JB38516	JB38251	JB38374	JB43737	JB43871	JB36948	JB37020
Laboratory Sample ID	Units	SHS-PA	JC4271-1	JC4270-3	JC4270-4	JC4270-5	JC4270-6	JC4006-1	JC4006-2	JC4006-3	JC4006-4	JC4270-7	8239896	8239897	8239898	8239899	8239900	8239901	8239902	8239903	JB38374-2	JB38516-1	JB38251-2	JB38374-1	JB43737-2	JB43871-1	JB36948-2	JB37020-1
Volatile Organic Compounds																												
BENZENE	mg/kg	0.5[AB]	ND (0.00086)	ND (0.00050)	0.00085	ND (0.00050)	0.00062	ND (0.00054)	ND (0.00055)	ND (0.00061)	ND (0.00069)	0.00027 J	ND (0.0005)	0.005	ND (0.032)	ND (0.028)	0.075 J	0.0006 J	ND (0.028)	ND (0.027)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	0.729[B]	ND (0.00088)	0.104 J
CYCLOHEXANE	mg/kg	6900[AB]	ND (0.0034)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	0.0072	ND (0.001)	ND (0.001)	0.43	0.12 J	0.61	0.032	0.11 J	0.075 J	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.0017) J	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	ND (0.001)	ND (0.065)	ND (0.055)	ND (0.054)	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	ND (0.076)	ND (0.00088)	ND (0.11)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.0017)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	ND (0.001)	0.12 J	ND (0.055)	0.91	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	3.02	ND (0.00088)	ND (0.11)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.0034)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	ND (0.0026)	ND (0.001)	0.004 J	0.11 J	ND (0.055)	0.19 J	0.005 J	0.065 J	0.15 J	ND (0.0044)	0.00022 J	ND (0.0052)	0.0814 J	ND (0.53)	0.846	ND (0.0044)	0.823
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.0017)	ND (0.0010)	0.00033 J	0.00032 J	0.00082 J	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	0.004 J	0.031	ND (0.032)	ND (0.028)	ND (0.027)	ND (0.0005)	ND (0.028)	ND (0.027)	ND (0.00088)	0.0003 J	ND (0.001)	ND (0.096)	ND (0.11)	ND (0.076)	ND (0.00088)	0.103 J
HEXANE	mg/kg	5600[AB]	0.00072 J	0.0014 J	0.00096 J	0.0013 J	0.0014 J	ND (0.0054)	ND (0.0055)	ND (0.0061)	ND (0.0069)	0.0032 J	ND (0.001)	ND (0.001)	0.24 J	ND (0.055)	0.53	0.003 J	ND (0.055)	ND (0.054)	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.0086)	0.00043 J	ND (0.0051)	ND (0.0050)	ND (0.0062)	ND (0.0054)	ND (0.0055)	ND (0.0061)	ND (0.0069)	0.00035 J	ND (0.001)	ND (0.001)	2.8	0.13 J	0.53	0.002 J	0.14 J	0.23 J	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.0034)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	ND (0.0026)	ND (0.001)	0.002 J	0.14 J	ND (0.055)	0.24 J	0.002 J	ND (0.055)	0.10 J	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.0034)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	ND (0.0026)	ND (0.001)	ND (0.001)	ND (0.065)	ND (0.055)	0.083 J	0.001 J	ND (0.055)	0.069 J	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	ND (0.0017)	ND (0.0010)	0.00040 J	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	0.002 J	ND (0.065)	ND (0.055)	ND (0.054)	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	0.243	ND (0.00088)	0.0909 J
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.0034)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	0.0017 J	ND (0.001)	ND (0.001)	0.46	ND (0.055)	0.82	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.0044)	0.00095 J	ND (0.0052)	ND (0.48)	ND (0.53)	11.8	0.0003 J	ND (0.53)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.0034)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	0.00072 J	ND (0.001)	ND (0.001)	0.13 J	ND (0.055)	0.49	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.0044)	0.00027 J	ND (0.0052)	ND (0.48)	ND (0.53)	4.46	ND (0.0044)	ND (0.53)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.0017)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	ND (0.001)	0.087 J	ND (0.055)	1.7	0.001 J	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	7.70	ND (0.00088)	ND (0.11)
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0028)	ND (0.0026)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.0034)	ND (0.00023)	ND (0.00024)	ND (0.00025)	ND (0.00023)	ND (0.00022)	ND (0.00023)	ND (0.00023)	ND (0.00024)	ND (0.0027)	ND (0.0031)	ND (0.0027)	ND (0.0027)	*ND (0.0057)*	ND (0.0030)	ND (0.0028)	ND (0.0029)
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	4700[AB]	ND (0.037)	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0382 J	ND (0.040)	ND (0.044)	ND (0.0039)	ND (0.0040)	1.4	0.46	0.30	0.35	0.48	0.54	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350[AB]	0.0249 J	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0704	ND (0.040)	ND (0.044)	ND (0.0039)	0.050	3.7	0.86	0.60	0.67	0.85	0.92	ND (0.54)	ND (0.12)	ND (0.55)	0.611	7.93	1.29	ND (0.54)	ND (0.58)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	0.0285 J	ND (0.031)	0.0268 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0731	ND (0.040)	ND (0.044)	ND (0.0039)	0.021	0.44	0.13	0.084	0.14	0.17	0.099	ND (0.54)	ND (0.12)	ND (0.55)	0.129	0.271	1.39	0.242 J	ND (0.58)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.0445	ND (0.031)	0.0315 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0459	ND (0.040)	ND (0.044)	ND (0.0039)	0.028	0.18	0.044	0.038	0.067	0.055	0.035	0.221 J	ND (0.12)	ND (0.55)	0.0474 J	0.494	0.668	ND (0.54)	ND (0.58)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.0497	ND (0.031)	0.0397 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0328 J	ND (0.040)	ND (0.044)	ND (0.0039)	0.021	0.11	0.039	0.041	0.079	0.075	0.034	ND (0.54)	ND (0.12)	ND (0.55)	ND (0.11)	0.388	ND (0.20)	ND (0.54)	ND (0.58)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.0477	ND (0.031)	0.0295 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0221 J	ND (0.040)	ND (0.044)	0.0049 J	0.067	0.12	0.045	0.044	0.079	0.067	0.037	0.384 J	ND (0.12)	0.545 J	0.0601 J	1.60	0.280	0.346 J	ND (0.58)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	0.0151 J	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	ND (0.039)	ND (0.040)	ND (0.044)	ND (0.0039)	0.0066 J	0.033	0.016 J	0.010 J	0.026	0.021	0.010 J	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.074)	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	0.0258 J	ND (0.080)	ND (0.088)	ND (0.020)	0.032 J	1.3	0.25	0.11	0.065	0.065	0.028 J	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	0.0462 J	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	0.0495 J	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (0.074)	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230[AB]	0.0745	ND (0.031)	0.0268 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.141	ND (0.040)	ND (0.044)	0.0059 J	0.10	0.76	0.25	0.16	0.26	0.28	0.16	ND (0.54)	ND (0.12)	ND (0.55)	0.141	0.532	3.80	0.376 J	0.642
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	0.0170 J	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	ND (0.039)	ND (0.040)	ND (0.044)	ND (0.0039)	0.0070 J	0.012 J	0.0049 J	0.0082 J	0.020	0.013 J	0.011 J	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (0.074)	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.19)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.22)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23[AB]	R	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.22)	ND (0.35)	ND (0.36)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.34)	ND (0.36)	ND (0.36)	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200[AB]	0.0413	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0596	ND (0.040)	ND (0.044)	ND (0.0039)	0.025	0.93	0.24	0.18	0.26	0.33	0.24	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800[AB]	ND (0.037)	ND (0.031)	ND (0.040)	0.0786	ND (0.042)	ND (0.040)	ND (0.039)	0.0907	ND (0.040)	ND (0.044)	ND (0.0039)	0.029	3.0	1.3	0.81	0.82	1.2	1.4	ND (0.54)	ND (0.12)	ND (0.55)	3.07	19.3	2.29	ND (0.54)	1.16
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 2200[B]	0.0348 J	ND (0.031)	0.0269 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	ND (0.039)	ND (0.040)	ND (0.044)	ND (0.0039)	0.024	0.049	0.015 J	0.023	0.043	0.045	0.016 J	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	0.0219 J	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	0.228	ND (0.080)	ND (0.088)	ND (0.0039)	0.26	6.8	0.16	3.7	0.34	0.41	6.9	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5800[AB]	ND (0.074)	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	5800[AB]	ND (0.074)	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.037)	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0915	ND (0.040)	ND (0.044)	-	-	-	-	-	-	-	-	ND (0.54)	ND (0.12)	ND (0.55)	ND (0.11)	ND (0.16)	11.0	ND (0.54)	ND (0.58)
4-NITROPHENOL	mg/kg	6[AB]	ND (0.37) J	ND (0.31)	ND (0.40)	ND (0.40)	ND (0.42)	ND (0.40)	ND (0.39)	ND (0.39)	ND (0.40)	ND (0.44)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000[AB]	0.0407	ND (0.031)	ND (0.040)	0.0303 J	0.0357 J	ND (0.040)	ND (0.039)	0.528	ND (0.040)	ND (0.044)	0.0075 J	0.10	4.6	2.8	2.0	1.3	2.0	2.8	0.13 J	ND (0.12)	ND (0.55)	4.9	37.7	7.00	0.854	ND (0.58)
PHENOL	mg/kg	200[AB]	ND (0.074)	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200[AB]	0.0711	ND (0.031)	0.0173 J	ND (0.040)	0.0179 J	ND (0.040)	ND (0.039)	0.178	ND (0.040)	ND (0.044)	0.013 J	0.093	3.8	1.5	0.93	1.2	1.4	1.3	0.21 J	ND (0.12)	ND (0.55)	0.722	4.54	4.69	0.597	0.342 J
PYRIDINE	mg/kg	12[AB]	ND (0.074)	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	ND (0.19)	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.22)	ND (0.039)	ND (0.040)	ND (0.041)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.040)	ND (0.040)	-	-	-	-	-	-	-	-
Metals																												
ARSENIC	mg/kg	29[AB]	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	96.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	0.80 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	**276[A]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	7.8	0.98 J	8.8	8.1	7.1	3.3 J	6.6	6.1 J	6.5	6.5	5.21	6.19	7.93	5.25	6.14	6.09	7.58	6.69	-	-	-	-	-	-	-	-
LEAD	mg/kg	450[AB]	219	0.85 J	9.3	8.4	10.7	3.2	8.1	13.6	9.5	18.8	8.71	15.5	9.20	10.6	15.0	22.3	25.1	22.1	31.6	6	98.8	5.3	3.4 J	59.2	62.2	2.6
MERCURY	mg/kg	10[AB]	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	32.0	2.6 J	18.3	13.9	13.6	13.9	13.1	13.0	14.1	14.8	14.9	14.1	14.2	12.5	14.2	13.6	14.5	13.0	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26[AB]	ND (4.4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	66.8	3.7 J	45.1	35.3	38.5	14.6	34.6	30.7	36.9	42.5	41.0	44.5	37.7	32.9	35.8	34.9	35.4	36.8	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000[AB]	363	14.3	46.5	35.3	35.6	18.4	32.2	45.2	36.2	54.4	43.0	331	39.3	37.1	51.3	42.3	47.5	45.0	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-437		MW-438			MW-439		MW-440		MW-441		MW-442		MW-443		MW-444		MW-445			MW-446		MW-447		MW-448	
Sample Date			10-May-13	13-May-13	9-May-13	10-May-13	29-May-13	8-May-13	8-May-13	8-May-13	8-May-13	15-May-13	15-May-13	29-May-13	29-May-13	9-May-13	10-May-13	30-Jul-13	31-Jul-13	14-May-13	15-May-13	16-May-13	28-May-13	28-May-13	20-May-13	20-May-13	20-May-13	20-May-13
Sample ID			AOI-5_MW-437_0-2'_51013	AOI-5_MW-437_6-8'_51313	AOI5_MW_438_0-2_50913	AOI-5_MW-438_4-6'_51013	AOI-5_MW-438_8-10'_52913	AOI5_MW-439_0-1_50813	AOI5_MW-439_4-5_50813	AOI-5_MW-440_0-2_050813	AOI-5_MW-440_8-10_50813	AOI-5_MW-441_0-2'_51513	AOI-5_MW-441_8-10'_51513	AOI-5_MW-442_0-2'_052913	AOI-5_MW-442_6-8'_052913	AOI5_MW_443_0-1_50913	AOI-5_MW-443_4-'5_51013	MW-444_0-2'_073013	MW-444_4-6'_073113	AO15_MW-445_0-0.5_051413	AOI-5_MW-445_3-3.5'_51513	AOI-5_MW-445_5.0-6.0_051613	AOI-5_MW-446_0-2_52813	AOI-5_MW-446_8-10_52813	AOI-5_MW_447_0-2'_52013	AOI-5_MW_447_8-10'_52013	AOI-5_MW_448_0-1_052013	AOI-5_MW_448_3-4_052013
Sample Depth			0 - 2 ft	6 - 8 ft	0 - 2 ft	4 - 6 ft	8 - 10 ft	0 - 1 ft	4 - 5 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	6 - 8 ft	0 - 1 ft	4 - 5 ft	0 - 2 ft	4 - 6 ft	0 - 0.5 ft	3 - 3.5 ft	5 - 6 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 1 ft	3 - 4 ft
Sampling Company			LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	AQUATERRA	AQUATERRA	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB36832	JB36948	JB36591	JB36832	JB38251	JB36533	JB36533	JB36533	JB36533	JB37147	JB37147	JB38251	JB38251	JB36591	JB36832	JB43618	JB43737	JB37020	JB37147	JB37250	JB38152	JB38152	JB37539	JB37539	JB37539	JB37539
Laboratory Sample ID	Units	SHS-PA	JB36832-1	JB36948-1	JB36591-2	JB36832-2	JB38251-1	JB36533-1	JB36533-2	JB36533-3	JB36533-4	JB37147-2	JB37147-1	JB38251-3	JB38251-4	JB36591-1	JB36832-3	JB43618-1	JB43737-1	JB37020-2	JB37147-4	JB37250-3	JB38152-1	JB38152-2	JB37539-1	JB37539-2	JB37539-3	JB37539-4
Volatile Organic Compounds																												
BENZENE	mg/kg	0.5[AB]	***0.581***[A]	***1.05***[B]	***15.9***[A]	0.00021 J	ND (0.12)	0.225 J	0.0204	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	***8.62***[B]	ND (0.00088)	0.0284 J	ND (0.0012)	ND (0.12)	ND (0.0012)	0.0055	0.0029	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.095)	ND (0.13)	ND (0.32)	ND (0.00096)	ND (0.12)	ND (0.13)	ND (0.001)	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	ND (0.11)	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	ND (0.00097)	ND (0.0012)	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)
ETHYLBENZENE	mg/kg	70[AB]	9.93	0.393	***591***[A]	0.0024	4.36	1.84	0.058	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	11.3	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	0.0057	0.0088	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	5.91	0.563 J	11.8 J	ND (0.0048)	7.29	0.721 J	0.0235	ND (0.0046)	2.53	ND (0.0029)	ND (0.0053)	ND (0.0051)	1.55	ND (0.0044)	0.42 J	ND (0.0060)	0.0456 J	ND (0.0058)	0.0048 J	0.0189	ND (0.0046)	ND (0.0041)	ND (0.005)	ND (0.46)	ND (0.0056)	ND (0.0049)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	0.0348 J	ND (0.13)	ND (0.55)	ND (0.00096)	ND (0.12)	ND (0.93)	0.0046	ND (0.00092)	ND (0.13)	ND (0.00058)	0.0023	ND (0.001)	ND (0.11)	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	ND (0.00097)	0.0029	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	0.242	0.0523 J	13.4	ND (0.00096)	0.0453 J	0.804 J	0.0168	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	8.08	0.00021 J	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	0.00094 J	0.0037	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	1.5	4.1	***96.6***[A]	0.00038 J	1.74	7.46	0.166	ND (0.0046)	ND (0.64)	ND (0.0029)	ND (0.0053)	ND (0.0051)	19.2	ND (0.0044)	ND (0.55)	ND (0.0060)	ND (0.58)	ND (0.0058)	0.0204	0.0152	ND (0.0046)	ND (0.0041)	ND (0.005)	ND (0.46)	ND (0.0056)	ND (0.0049)
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	0.561	0.453 J	32.4	ND (0.0048)	0.536 J	2.75 J	0.0592	ND (0.0046)	ND (0.64)	ND (0.0029)	ND (0.0053)	ND (0.0051)	6.82	ND (0.0044)	ND (0.55)	ND (0.0060)	ND (0.58)	ND (0.0058)	0.0123	0.0068	ND (0.0046)	ND (0.0041)	ND (0.005)	ND (0.46)	ND (0.0056)	ND (0.0049)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	41.4	0.228	***2540***[A]	0.0088	13	5.45	0.124	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	55.1	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	0.0144	0.0193	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0028)	ND (0.0029)	ND (0.0029)	ND (0.003)	ND (0.0031)	ND (0.0027)	ND (0.0031)	ND (0.0029)	ND (0.0034)	ND (0.0027)	ND (0.003)	ND (0.0028)	0.0044	ND (0.0027)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0027)	ND (0.003)	ND (0.003)	ND (0.0029)	ND (0.003)	ND (0.0029)	ND (0.0029)	ND (0.003)	ND (0.0031)
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350[AB]	ND (0.11)	0.766	0.378 J	0.075 J	0.165	1.81	0.491	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.0736 J	ND (0.1)	0.576	ND (0.041)	0.453	ND (0.11)	0.0604 J	0.447	0.0485 J	ND (0.12)	ND (0.58)	0.0732 J	ND (0.59)	ND (0.12)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.11)	0.808	0.438 J	0.0644 J	0.186	0.276 J	0.0838 J	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.0185 J	ND (0.1)	0.143	ND (0.041)	0.0832	ND (0.11)	0.0609 J	0.0582 J	0.361	ND (0.12)	ND (0.58)	0.0508 J	0.253 J	ND (0.12)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	ND (0.11)	0.302 J	0.377 J	ND (0.12)	0.133	0.478 J	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	0.0345 J	ND (0.041)	ND (0.041)	ND (0.11)	0.0409 J	ND (0.12)	0.41	ND (0.12)	ND (0.58)	0.0286 J	0.218 J	ND (0.12)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	ND (0.11)	ND (0.57)	ND (0.57)	ND (0.12)	0.0545 J	ND (0.54)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.041)	ND (0.041)	0.0357 J	0.0478 J	ND (0.12)	0.409	ND (0.12)	ND (0.58)	ND (0.11)	0.184 J	ND (0.12)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	ND (0.11)	ND (0.57)	0.319 J	ND (0.12)	0.128 J	ND (0.54)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.12)	0.0269 J	ND (0.041)	ND (0.11)	0.0638 J	ND (0.12)	0.388	ND (0.12)	ND (0.58)	ND (0.11)	0.273 J	ND (0.12)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230[AB]	ND (0.11)	1.35	0.717	0.0985 J	0.341	0.946	0.194	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.0258 J	ND (0.1)	0.222	ND (0.041)	0.134	ND (0.11)	0.0775 J	0.0713 J	0.489	ND (0.12)	ND (0.58)	0.0923 J	0.261 J	ND (0.12)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800[AB]	ND (0.11)	2.3	1.28	0.261	0.568	11.2	2.57	ND (0.12)	0.183	ND (0.21)	ND (0.12)	ND (0.11)	0.255	ND (0.1)	1.15	ND (0.041)	1.09	ND (0.11)	0.0605 J	0.895	0.0196 J	ND (0.12)	ND (0.58)	0.16	ND (0.59)	ND (0.12)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.11)	3.54	7.28	1.36	0.357	***31.4***[A]	6.62	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	1.33	ND (0.1)	ND (0.12)	ND (0.041)	ND (0.041)	ND (0.11)	0.115 J	0.665	ND (0.11)	ND (0.12)	ND (0.58)	ND (0.11)	ND (0.59)	ND (0.12)
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000[AB]	ND (0.11)	8	3.44	0.753	1.65	12.2	3.89	ND (0.12)	0.236	ND (0.21)	ND (0.12)	ND (0.11)	0.675	ND (0.1)	3.78	ND (0.041)	0.847	0.0401 J	0.191	2.3	0.218	ND (0.12)	ND (0.58)	0.346	0.491 J	ND (0.12)
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200[AB]	ND (0.11)	1.84	0.944	0.175	0.489	1.45	0.598	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.153	ND (0.1)	1.42	ND (0.041)	1.07	0.0491 J	0.236	0.802	0.695	ND (0.12)	ND (0.58)	0.173	0.648	ND (0.12)
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																												
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450[AB]	2.2	7.2	12	7	6.8	53.1	7.2	20.7	10.8	44.2	7	65.6	10.9	1.4	5.9	20.9	10.1	46	28.1	6.7	18.8	5.8	65.4	2.8	117	14.8
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-449		MW-450		MW-451		MW-452		MW-453		MW-454		MW-455		MW-456		MW-457		MW-458		MW-459		MW-460		MW-461	
Sample Date			15-May-13	16-May-13	16-May-13	24-May-13	24-May-13	24-May-13	24-May-13	24-May-13	20-May-13	20-May-13	17-May-13	17-May-13	23-May-13	23-May-13	21-May-13	22-May-13	17-May-13	17-May-13	22-May-13	23-May-13	21-May-13	21-May-13	7-Jun-13	7-Jun-13	11-Jun-13	11-Jun-13
Sample ID			AOI-5_MW-449_2-2'_51513	AOI-5_MW-449_8-10'_51613	AOI-5_MW-450_0-2'_51613	AOI-5_MW-450_2-4'_52413	AOI5_MW-451_0-1_052413	AOI5_MW-451_3-4_052413	AOI5_MW-452_0-1_052413	AOI5_MW-452_7-8_052413	AOI-5_MW_453_0-2_052013	AOI-5_MW_453_3-6_052013	AOI5_MW-454_0-2_51713	AOI5_MW-454_8-10_051713	2 AOI-5_MW-455_1-2'_52313	3 AOI-5_MW-455_10-11_052313	AOI-5_MW-456_1-2_052113	AOI-5_MW-456_5-6'_52213	AOI5_MW-457_0-1_051713	AOI5_MW-457_2-3_051713	AOI-5_MW-458_0-2'_52213	1 AOI-5_MW-458_4-6'_52313	AOI-5_MW-459_0-2'_52113	AOI-5_MW-459_8-10'_52113	AOI-5_MW-460_1-2_060713	AOI-5_MW-460_3-4_060713	AOI5_MW-461_0-2'_061113	AOI5_MW-461_2-4'_061113
Sample Depth			2 - 2 ft	8 - 10 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	3 - 4 ft	0 - 1 ft	7 - 8 ft	0 - 2 ft	3 - 6 ft	0 - 2 ft	8 - 10 ft	1 - 2 ft	10 - 11 ft	1 - 2 ft	5 - 6 ft	0 - 1 ft	2 - 3 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	8 - 10 ft	1 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 4 ft
Sampling Company			LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB37147	JB37250	JB37250	JB37998	JB37998	JB37998	JB37998	JB37998	JB37539	JB37539	JB37361	JB37361	JB37868	JB37868	JB37622	JB37699	JB37361	JB37361	JB37699	JB37868	JB37622	JB37622	JB39111	JB39111	JB39339	JB39339
Laboratory Sample ID	Units	SHS-PA	JB37147-3	JB37250-1	JB37250-2	JB37998-1	JB37998-4	JB37998-5	JB37998-2	JB37998-3	JB37539-5	JB37539-6	JB37361-3	JB37361-4	JB37868-2	JB37868-3	JB37622-3	JB37699-2	JB37361-1	JB37361-2	JB37699-1	JB37868-1	JB37622-1	JB37622-2	JB39111-1	JB39111-2	JB39339-6	JB39339-7
Volatile Organic Compounds																												
BENZENE	mg/kg	0.5[AB]	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	0.397	ND (0.00088)	ND (0.11)	ND (0.001)	0.0323 J	ND (0.0008)	***3.82***[B]	ND (0.001)	0.0349	ND (0.001)	0.0398	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.00087 J	ND (0.00089)	***17.3***[A]	***0.585***[B]	0.00019 J	ND (0.096)
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	ND (0.11)	ND (0.00088)	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	ND (0.11)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	ND (0.0012)	ND (0.00089)	ND (0.14)	ND (0.1)	ND (0.00089) J	ND (0.096)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	2.32	ND (0.00088)	ND (0.11)	ND (0.001)	0.216	ND (0.0008)	6.43	ND (0.001)	0.0283	ND (0.001)	0.0054	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.0211	ND (0.00089)	45.1	5.93	ND (0.00089)	ND (0.096)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.0046)	ND (0.0052)	ND (0.0046)	ND (0.0049)	ND (0.004)	0.843	ND (0.0044)	1.98	ND (0.005)	0.153 J	ND (0.004)	4.9	ND (0.005)	0.0122	ND (0.005)	0.0014 J	ND (0.0048)	0.219 J	ND (0.0047)	ND (0.0054)	0.0327	ND (0.0044)	2.06 J	0.254 J	ND (0.0044)	ND (0.48)
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	ND (0.11)	ND (0.00088)	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	ND (0.11)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	ND (0.0012)	ND (0.00089)	ND (1)	ND (0.1)	ND (0.00089)	ND (0.096)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	0.0326 J	ND (0.00088)	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	ND (0.11)	ND (0.001)	0.0049	ND (0.001)	0.0243	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.0017	ND (0.00089)	67.6	0.299	ND (0.00089)	0.0239 J
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.0046)	ND (0.0052)	ND (0.0046)	ND (0.0049)	ND (0.004)	9.4	ND (0.0044)	ND (0.57)	ND (0.005)	0.104 J	ND (0.004)	19.1	ND (0.005)	0.11	ND (0.005)	0.0085	ND (0.0048)	ND (0.52)	ND (0.0047)	ND (0.0054)	5.97	ND (0.0044)	***106***[A]	11.1	ND (0.0044)	0.261 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.0046)	ND (0.0052)	ND (0.0046)	ND (0.0049)	ND (0.004)	4.75	ND (0.0044)	ND (0.57)	ND (0.005)	ND (0.59)	ND (0.004)	6.3	ND (0.005)	0.0434	ND (0.005)	0.007	ND (0.0048)	ND (0.52)	ND (0.0047)	ND (0.0054)	0.123	ND (0.0044)	34.3	4.39	ND (0.0044)	ND (0.48)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	3.76	ND (0.00088)	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	17.1	ND (0.001)	0.0605	ND (0.001)	0.015	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.0862	ND (0.00089)	273	9.38	ND (0.00089)	0.397
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0028)	ND (0.0032)	ND (0.0029)	ND (0.0031)	ND (0.0028)	ND (0.0031)	ND (0.0029)	ND (0.0032)	ND (0.0031)	ND (0.0031)	ND (0.0027)	ND (0.003)	ND (0.0031)	ND (0.0029)	ND (0.0031)	ND (0.0032)	ND (0.0027)	ND (0.003)	ND (0.0027)	ND (0.0032)	ND (0.0031)	ND (0.0031)	ND (0.0032)	ND (0.0031)	ND (0.0027)	ND (0.0028)
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350[AB]	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	ND (0.56)	ND (0.12)	ND (0.58)	0.164	ND (0.12)	0.18	0.169	1.31	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.11)	0.0578 J	ND (0.55)	ND (0.13)	0.0561 J	ND (0.13)	0.227	ND (0.12)	ND (0.11)	ND (0.11)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.11)	ND (0.13)	ND (0.57)	0.02 J	0.178 J	ND (0.12)	ND (0.58)	0.0259 J	ND (0.12)	0.0571 J	0.226	0.25	ND (0.13)	ND (0.12)	0.0569 J	ND (0.13)	0.0539 J	0.0698 J	ND (0.55)	ND (0.13)	ND (0.12)	ND (0.13)	0.0258 J	ND (0.12)	0.0334 J	ND (0.11)
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	ND (0.11)	ND (0.13)	ND (0.57)	0.0314 J	0.31 J	ND (0.12)	ND (0.58)	ND (0.12)	ND (0.12)	ND (0.12)	0.183	0.103 J	ND (0.13)	ND (0.12)	0.0389 J	ND (0.13)	0.0527 J	0.0385 J	ND (0.55)	ND (0.13)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)	0.0337 J	ND (0.11)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	0.18 J	ND (0.12)	ND (0.58)	ND (0.12)	ND (0.12)	ND (0.12)	0.128	0.0613 J	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.55)	ND (0.13)	ND (0.12)	ND (0.13)	0.0295 J	ND (0.12)	0.0487 J	ND (0.11)
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	ND (0.11)	ND (0.13)	ND (0.57)	0.0471 J	1.18	ND (0.12)	0.0886 J	ND (0.12)	ND (0.12)	ND (0.12)	0.309	0.0948 J	0.035 J	ND (0.12)	0.0586 J	ND (0.13)	0.16	ND (0.12)	ND (0.55)	ND (0.13)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)	0.0392 J	ND (0.11)
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230[AB]	ND (0.11)	ND (0.13)	ND (0.57)	0.0228 J	0.384 J	ND (0.12)	ND (0.58)	0.0414 J	ND (0.12)	0.0781 J	0.274	0.276	ND (0.13)	ND (0.12)	0.0608 J	ND (0.13)	0.0813 J	0.124	ND (0.55)	ND (0.13)	0.0544 J	ND (0.13)	0.0238 J	ND (0.12)	0.0416 J	ND (0.11)
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800[AB]	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	ND (0.56)	0.0801 J	ND (0.58)	ND (0.12)	ND (0.12)	0.345	0.1114	2.5	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.55)	ND (0.13)	0.244	0.15	0.0955 J	ND (0.12)	ND (0.11)	ND (0.11)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	ND (0.56)	0.371	ND (0.58)	ND (0.12)	0.0864 J	0.902	0.934	1.73	ND (0.13)	ND (0.12)	0.0538 J	ND (0.13)	0.133	ND (0.12)	ND (0.55)	ND (0.13)	0.579	ND (0.13)	6.07	1.15	ND (0.11)	ND (0.11)
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000[AB]	ND (0.11)	ND (0.13)	ND (0.57)	0.0166 J	0.159 J	0.237	ND (0.58)	0.702	0.0608 J	0.901	1.14	5.1	0.0221 J	ND (0.12)	0.132	ND (0.13)	0.198	0.41	ND (0.55)	ND (0.13)	0.564	0.508	0.237	0.0428 J	0.0193 J	ND (0.11)
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200[AB]	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	0.224 J	0.0375 J	0.0867 J	0.159	0.0402 J	0.37	1.03	2.76	0.0221 J	ND (0.12)	0.102 J	ND (0.13)	0.202	0.126	ND (0.55)	ND (0.13)	0.0677 J	0.068 J	0.058 J	ND (0.12)	0.0404 J	ND (0.11)
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																												
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190s1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450[AB]	5.8	8.7	115	8.7	68.4	9.6	38.8	5.1	66.7	33.2	88.2	9	32.4	7.3	36.4	7.8	103	8.3	32.7	6.9	15.3	4.6	10.7	7.2	257	2
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-462		MW-464		MW-465		MW-467		MW-468		MW-469		MW-471	
Sample Date			11-Jun-13	11-Jun-13	12-Jun-13	12-Jun-13	11-Jun-13	11-Jun-13	12-Jun-13	12-Jun-13	7-Jun-13	11-Jun-13	7-Jun-13	7-Jun-13	4-Jun-13	5-Jun-13
Sample ID			AOI5_MW-462_1-2_061113	AOI5_MW-462_7-8_061113	AOI-5_MW-464_0-2'_61213	AOI-5_MW-464_2-4'_61213	AOI5_MW-465_1-2_061113	AOI5_MW-465_3-4_061113	AOI5_MW-467_0-1_061213	AOI5_MW-467_9-10_061213	AOI-5_MW-468_0-2'_060713	AOI5_MW-468_8-10'_061113	AOI-5_MW-469_0-2'_060713	AOI-5_MW-469_4-6'_060713	AOI5_MW-471_0-2'_060413	AOI5_MW-471_7-8_060513
Sample Depth			1 - 2 ft	7 - 8 ft	0 - 2 ft	2 - 4 ft	1 - 2 ft	3 - 4 ft	0 - 1 ft	9 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	7 - 8 ft
Sampling Company			LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB39339	JB39339	JB39439	JB39439	JB39339	JB39339	JB39439	JB39439	JB39111	JB39339	JB39111	JB39111	JB38711	JB38870
Laboratory Sample ID	Units	SHS-PA	JB39339-3	JB39339-4	JB39439-1	JB39439-2	JB39339-1	JB39339-2	JB39439-3	JB39439-4	JB39111-3	JB39339-5	JB39111-4	JB39111-5	JB38711-4	JB38870-1
Volatile Organic Compounds																
BENZENE	mg/kg	0.5^{AB}	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)	0.0339 J	***0.654*** ^{B}	ND (0.00082)	ND (0.12)	ND (0.00087)	0.0035	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)
CYCLOHEXANE	mg/kg	6900^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.00089) J	ND (0.00082) J	ND (0.00096)	ND (0.00098)	ND (0.096)	ND (0.48)	ND (0.00082)	ND (0.12)	ND (0.00087)	ND (0.00092) J	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)
ETHYLBENZENE	mg/kg	70^{AB}	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)	1.06	10.7	ND (0.00082)	0.141	0.00037 J	0.0049	ND (0.0015)	0.00019 J	ND (0.00088)	ND (0.0009)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	ND (0.0045)	ND (0.0041)	ND (0.0048)	ND (0.0049)	0.5	3.81	ND (0.0041)	0.39 J	0.0002 J	0.0049	ND (0.0074)	0.00038 J	ND (0.0044)	ND (0.0045)
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.00089)	0.0023	ND (0.00096)	0.0006 J	ND (0.096)	ND (0.48)	ND (0.00082)	ND (0.12)	ND (0.00087)	0.00033 J	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)
HEXANE	mg/kg	5600^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100^{AB}	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)	ND (0.096)	ND (0.48)	ND (0.00082)	ND (0.12)	ND (0.00087)	ND (0.00092)	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	ND (0.0045)	ND (0.0041)	ND (0.0048)	ND (0.0049)	8.11	***52.6*** ^{B}	ND (0.0041)	0.227 J	0.0028 J	0.0402	ND (0.0074)	0.00052 J	ND (0.0044)	ND (0.0045)
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	ND (0.0045)	ND (0.0041)	ND (0.0048)	ND (0.0049)	2.42	15.9	ND (0.0041)	0.198 J	0.00098 J	0.0113	ND (0.0074)	0.0007 J	ND (0.0044)	ND (0.0045)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)	1.87	37.8	ND (0.00082)	ND (0.12)	0.0012	0.0064	ND (0.0015)	0.00051	ND (0.00088)	ND (0.0009)
Volatile Organic Compounds (SW8011)																
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.003)	ND (0.003)	ND (0.0027)	ND (0.0031)	ND (0.003)	ND (0.0029)	ND (0.0028)	ND (0.0033)	ND (0.0028)	ND (0.003)	ND (0.0028)	ND (0.0032)	ND (0.0028)	ND (0.0031)
Semi-Volatile Organic Compounds																
ACENAPHTHENE	mg/kg	4700^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350^{AB}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.0291 J	0.129	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	0.335	ND (0.13)	0.0149 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	0.316	ND (0.13)	0.014 J	ND (0.12)	ND (0.11)	ND (0.13)	0.0127 J	ND (0.13)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	0.292	ND (0.13)	0.0151 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	0.231	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.13)	0.0591 J	ND (0.13)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230^{AB}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	0.34	ND (0.13)	0.0143 J	ND (0.12)	ND (0.11)	ND (0.13)	0.0208 J	ND (0.13)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800^{AB}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.246	0.0182 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 22000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	1.03	18.2	ND (0.11)	2.41	ND (0.11)	0.0214 J	ND (0.11)	1.21	ND (0.11)	ND (0.13)
4-NITROPHENOL	mg/kg	6^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000^{AB}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	0.0242 J	0.215	0.45	0.0213 J	ND (0.11)	ND (0.12)	ND (0.11)	0.0348 J	0.0177 J	ND (0.13)
PHENOL	mg/kg	200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200^{AB}	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.0295 J	0.623	ND (0.13)	0.0168 J	ND (0.12)	ND (0.11)	0.0151 J	0.0272 J	ND (0.13)
PYRIDINE	mg/kg	12^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																
ARSENIC	mg/kg	29^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 38^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$190s1^{AB}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	450^{AB}	13.8	8	18.5	13.2	11.7	8.6	33.9	6.3	80.4	9.4	26.8	6.8	326	5.6
MERCURY	mg/kg	10^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 820^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-472		MW-475		MW-476		MW-478		MW-479		MW-480		MW-481		MW-482			MW-510		MW-554		MW-555		MW-573		MW-574	
Sample Date			4-Jun-13	4-Jun-13	31-May-13	4-Jun-13	31-May-13	4-Jun-13	31-May-13	31-May-13	31-May-13	31-May-13	14-Jun-13	14-Jun-13	13-Jun-13	13-Jun-13	19-Sep-13	19-Sep-13	19-Sep-13	19-Mar-15	19-Mar-15	31-Aug-15	31-Aug-15	31-Aug-15	31-Aug-15	24-Jun-16	24-Jun-16	15-Jun-16	15-Jun-16
Sample ID			AOI5_MW-472_1-2_060413	AOI5_MW-472_7-8_060413	AOI-5_MW-475_0-2'_53113	AOI5_MW-475_2-4'_060413	AOI-5_MW-476_0-2'_053113	AOI5_MW-476_6-7	AOI-5_MW-478_0-2'_053113	AOI-5_MW-478_4-6'_053113	AOI-5_MW-479_0-2'_053113	AOI-5_MW-479_4-6'_053113	AOI-5_MW-480_0-2'_61413	AOI-5_MW-480_2-4'_61413	AOI5_MW-481_0-1_061313	AOI5_MW-481_5-6_061313	MW-482(0-2.0)	MW-482(2.0-4.0)	MW-482(4.0-5.5)	AOI4_MW-510_0-2_03192015	AOI4_MW-510_4-6_03192015	MW-554(0-2)_20150831	MW-554(6-8)_20150831	MW-555(0.5-5)_20150831	MW-555(6-8)_20150831	AOI5-MW-573-1-2	AOI5-MW-573-3-4	AOI5-MW-574-1-2	AOI5-MW-574-5-5.5
Sample Depth			1 - 2 ft	7 - 8 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	6 - 7 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	5 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 5.5 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	6 - 8 ft	0.5 - 5 ft	6 - 8 ft	1 - 2 ft	3 - 4 ft	1 - 2 ft	5 - 5.5 ft
Sampling Company			LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	STANTEC	STANTEC	STANTEC	AQUATERRA	AQUATERRA	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	PACE	PACE	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL
Laboratory Work Order		A B	JB38711	JB38711	JB38516	JB38711	JB38516	JB38711	JB38516	JB38516	JB38516	JB38516	JB39747	JB39747	JB39590	JB39590	JB47863	JB47863	JB47863	30143544	30143544	JC2745	JC2745	JC2745	JC2745	1676548	1676548	1673474	1673474
Laboratory Sample ID	Units	SHS-PA	JB38711-1	JB38711-2	JB38516-2	JB38711-3	JB38516-7	JB38711-5	JB38516-3	JB38516-4	JB38516-5	JB38516-6	JB39747-1	JB39747-2	JB39590-1	JB39590-2	JB47863-1	JB47863-2	JB47863-3	30143544001	30143544002	JC2745-1	JC2745-2	JC2745-3	JC2745-4	8448485	8448486	8432614	8432615
Volatile Organic Compounds																													
BENZENE	mg/kg	0.5[AB]	0.00064 J	0.00049 J	ND (0.0011)	ND (0.001)	ND (0.0012)	0.00014 J	ND (0.00089)	0.0009 J	ND (0.0011)	ND (0.001)	0.0124	***120***[B]	0.00018 J	0.00048 J	ND (0.00081)	ND (0.0011)	ND (0.11)	ND (0.33)	ND (0.25)	ND (0.00075)	***3.87***[B]	0.0016	0.0354 J	0.002 J	0.008 J	***0.77 J***[A]	0.12 J
CYCLOHEXANE	mg/kg	6900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0011 J	ND (0.0053)	ND (0.57)	-	-	ND (0.0030)	0.0149	0.0024	0.670	0.004 J	0.012	3.5	1.4
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*ND (0.17)*	*ND (0.13)*	ND (0.0015)	ND (0.0011)	ND (0.00052)	*ND (0.018)*	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.00083)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	ND (0.16)	ND (0.00082)	ND (0.00085)	ND (0.00081)	ND (0.0011)	ND (0.11)	ND (0.33)	ND (0.25)	ND (0.0015)	ND (0.0011)	ND (0.00052)	ND (0.14)	ND (0.001)	ND (0.002)	ND (0.21)	ND (0.10)
ETHYLBENZENE	mg/kg	70[AB]	ND (0.00083)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.014	***208***[B]	0.00027 J	ND (0.00085)	ND (0.00081)	ND (0.0011)	ND (0.11)	ND (0.33)	0.38	ND (0.0015)	0.0319	0.0016	0.0503 J	ND (0.001)	ND (0.002)	0.68 J	ND (0.10)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	ND (0.0042)	ND (0.0052)	ND (0.0056)	ND (0.0052)	ND (0.0062)	ND (0.0047)	ND (0.0045)	ND (0.0054)	ND (0.0054)	ND (0.005)	0.0007 J	24.8	ND (0.0041)	ND (0.0043)	0.0010 J	0.0159	0.38 J	ND (0.33)	0.37	ND (0.0030)	0.00082 J	0.0016	0.303	ND (0.001)	ND (0.002)	1.9	2.7
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.00083)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	ND (1.2)	ND (0.00082)	0.0068	ND (0.00081)	ND (0.0011)	ND (0.11)	ND (0.33)	ND (0.25)	ND (0.0015)	ND (0.0011)	ND (0.00052)	ND (0.14)	0.0006 J	0.004 J	ND (0.10)	ND (0.050)
HEXANE	mg/kg	5600[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0017 J	0.00045 J	ND (0.57)	-	-	ND (0.71)	4.79	0.323 J	0.469 J	0.003 J	0.002 J	3.2	0.23 J
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.002)	ND (0.21)	ND (0.10)
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0011 J	0.0102	0.273 J	-	-	ND (0.0030)	ND (0.0022)	0.0015	0.146 J	ND (0.001)	0.003 J	1.9	2.8
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00039 J	0.0052 J	0.112 J	-	-	ND (0.0030)	ND (0.0022)	0.00069 J	0.0781 J	ND (0.001)	0.007 J	0.49 J	0.46 J
TOLUENE	mg/kg	100[AB]	0.00041 J	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.00043 J	2.33	ND (0.00082)	ND (0.00085)	ND (0.00081)	ND (0.0011)	ND (0.11)	ND (0.33)	0.14 J	0.00061 J	0.0120	0.00049 J	ND (0.14)	ND (0.001)	0.006 J	ND (0.21)	ND (0.10)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	ND (0.0042)	0.00037 J	ND (0.0056)	ND (0.0052)	ND (0.0062)	ND (0.0047)	ND (0.0045)	ND (0.0054)	ND (0.0054)	ND (0.005)	0.0118	***345***[B]	0.00029 J	ND (0.0043)	ND (0.0041)	ND (0.0053)	ND (0.57)	ND (0.33)	0.62	ND (0.0030)	0.0077	0.0046	0.0304 J	0.001 J	0.004 J	26	0.29 J
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	ND (0.0042)	ND (0.0052)	ND (0.0056)	ND (0.0052)	ND (0.0062)	ND (0.0047)	ND (0.0045)	ND (0.0054)	ND (0.0054)	ND (0.005)	0.0019 J	59.8	ND (0.0041)	ND (0.0043)	ND (0.0041)	ND (0.0053)	ND (0.57)	ND (0.33)	0.30	ND (0.0030)	0.0018 J	0.0038	0.0276 J	ND (0.001)	ND (0.002)	19	0.48 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	0.00032 J	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.0227	318	0.0011	ND (0.00085)	ND (0.00081)	0.00032 J	ND (0.11)	ND (1.0)	1.2	ND (0.0015)	0.0211	0.0038	0.0437 J	0.003 J	0.011	0.44 J	0.26 J
Volatile Organic Compounds (SW8011)																													
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.0028)	ND (0.0032)	ND (0.0028)	ND (0.0029)	ND (0.0028)	ND (0.0032)	ND (0.0031)	ND (0.0032)	ND (0.0033)	ND (0.0032)	ND (0.0028)	ND (0.0041)	ND (0.0028)	ND (0.003)	ND (0.0026)	ND (0.0033)	ND (0.0032)	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																													
ACENAPHTHENE	mg/kg	4700[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.035)	0.0288 J	0.235	-	-	ND (0.033)	ND (0.037)	0.0435	0.265	0.14	ND (0.026)	0.63	0.68
ANTHRACENE	mg/kg	350[AB]	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.0493 J	23.7	ND (0.56)	ND (0.12)	ND (0.035)	ND (0.043)	0.0753	0.0056 J	0.025	0.0637	ND (0.037)	0.0728	0.479	0.21	0.23	0.28	ND (0.037)
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	0.0335 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.194	9.27	ND (0.56)	ND (0.12)	0.0297 J	ND (0.043)	ND (0.04)	0.017	0.026	0.0490	ND (0.037)	0.0546	0.0573 J	0.25	0.25	0.16 J	0.075 J
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.0417 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.19	5.9	0.157 J	ND (0.12)	0.0304 J	ND (0.043)	0.0607	0.015 J	0.068	0.0671	0.0452	0.0617	ND (0.080)	0.67	0.29	0.10 J	ND (0.037)
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.0425 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.157	3.06 J	ND (0.56)	ND (0.12)	0.0284 J	ND (0.043)	0.0188 J	0.034	0.041	ND (0.033)	ND (0.037)	0.0711	ND (0.080)	0.27	0.32	0.13 J	0.083 J
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.214	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.134	4.1	0.262 J	ND (0.12)	0.0420	ND (0.043)	0.0425	0.013 J	0.056	0.295	0.103	0.112	ND (0.080)	0.98	0.32	0.10 J	0.042 J
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0217 J	ND (0.043)	ND (0.04)	-	-	ND (0.033)	ND (0.037)	ND (0.035)	ND (0.080)	0.058 J	0.076 J	0.054 J	ND (0.037)
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	ND (0.067)	ND (0.075)	0.0751	ND (0.16)	0.14 J	ND (0.13)	ND (0.18)	ND (0.19)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	0.0915	ND (0.075)	0.0791	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	0.104	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)
CHRYSENE	mg/kg	230[AB]	0.0559 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.202	18.1	0.194 J	0.017 J	0.0357	ND (0.043)	ND (0.04)	0.023	0.035	0.0877	0.115	0.159	0.0927	0.40	0.48	0.37	0.24
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.035)	ND (0.043)	ND (0.04)	-	-	0.0316 J	ND (0.037)	ND (0.035)	ND (0.080)	0.28	0.15	ND (0.037)	ND (0.037)
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	0.169	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.17)	ND (0.21)	ND (0.2)	-	-	ND (0.17)	0.0834 J	ND (0.17)	ND (0.40)	ND (0.10)	ND (0.13)	5.7	ND (0.19)
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.7)	ND (0.86)	ND (0.8)	-	-	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.40)	ND (1.8)	ND (2.3)	ND (3.3)	ND (3.3)
FLUORANTHENE	mg/kg	3200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0493	ND (0.043)	0.0674	-	-	0.0348	ND (0.037)	0.0667	0.105	0.22	0.26	0.23	0.14 J
FLUORENE	mg/kg	3800[AB]	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.11)	71.6	ND (0.56)	ND (0.12)	0.0199 J	0.0513	0.425	ND (0.016)	0.24	ND (0.033)	ND (0.037)	0.150	0.545	0.19	0.20	1.1	1.4
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0212 J	ND (0.043)	ND (0.04)	-	-	0.0517	0.0398	ND (0.035)	ND (0.080)	0.41	0.19	0.053 J	ND (0.037)
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	0.0476 J	0.232	0.521	ND (0.16)	1.8	0.69	1.4	0.20
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.10)	ND (0.13)	ND (0.18)	0.25 J
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.10)	ND (0.13)	ND (0.18)	ND (0.19)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.132	***358***[B]	ND (0.56)	ND (0.12)	ND (0.035)	ND (0.043)	ND (0.04)	0.029	0.48	0.0198 J	0.123	0.172	ND (0.080)	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.35)	ND (0.43)	ND (0.4)	-	-	ND (0.33)	ND (0.37)	ND (0.35)	ND (0.80)	ND (1.0)	ND (1.3)	ND (1.8)	ND (1.9)
PHENANTHRENE	mg/kg	10000[AB]	0.0406 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.188	155	0.23 J	ND (0.12)	0.0397	0.0624	1.13	0.027	0.27	0.0570	0.154	0.345	1.83	0.81	0.57	1.6	2.0
PHENOL	mg/kg	200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.10)	ND (0.13)	0.23 J	ND (0.19)
PYRENE	mg/kg	2200[AB]	0.0544 J	ND (0.13)	ND (0.11)	ND (0.12)	0.0157 J	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.324	45.4	0.368 J	0.0356 J	0.0620	0.0281 J	0.483	0.074	0.15	0.0912	0.0825	0.173	0.571	0.57	0.57	0.42	0.28
PYRIDINE	mg/kg	12[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)
QUINOLINE	mg/kg	0.37[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.17)	ND (0.21)	ND (0.2)	-	-	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.026)	ND (0.20)	ND (0.26)	ND (0.37)	ND (0.37)
Metals																													
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	190≤1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	8.8	8.3	-	-	14.8	9.4	11.5	9.5	8.44	11.7	7.26	3.86
LEAD	mg/kg	450[AB]	170	4.2	23.7	8.5	6.6	5	11.2	14.5	26.5	9.8	58.6	138	90.1	8.3	22.4	9.5	6.1	23.8	6.9	132	94.7	33.2	11.0	369	92.4	36.5	4.01
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.7	24.4	14.4	-	-	57.0	23.4	36.6	11.2	18.2	24.1	13.4	5.88
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45.4	28.1	30.7	-	-	56.3	55.6	42.4	25.0	38.9	54.1	36.0	16.0
ZINC	mg/kg	12000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2250	183	93.4	32.0	119	112	49.9	14.2

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-575		MW-576		MW-577		MW-578		MW-579		MW-580		MW-581		MW-582		MW-583		SWC-S1		SWC-S2		SWC-S3		SWC-S4	
Sample Date			17-Jun-16	17-Jun-16	16-Jun-16	16-Jun-16	16-Jun-16	16-Jun-16	17-Jun-16	17-Jun-16	17-Jun-16	17-Jun-16	16-Jun-16	16-Jun-16	17-Jun-16	17-Jun-16	16-Jun-16	16-Jun-16	15-Jun-16	15-Jun-16	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02
Sample ID			AOI5-MW-575-0-2	AOI5-MW-575-6.5-7.5	AOI5-MW-576-0-2	AOI5-MW-576-4-5	AOI5-MW-577-1-2	AOI5-MW-577-5-6	AOI5-MW-578-0-2	AOI5-MW-578-4-5	AOI5-MW-579-0-2	AOI5-MW-579-5-6	AOI5-MW-580-1-2	AOI5-MW-580-7-8	AOI5-MW-581-0-2	AOI5-MW-581-5-6	AOI5-MW-582-1-2	AOI5-MW-582-4-5	AOI5-MW-583-1-2	AOI5-MW-583-2-3	SWC-S1A	SWC-S1B	SWC-S2A	SWC-S2B	SWC-S3A	SWC-S3B	SWC-S4A	SWC-S4B
Sample Depth			0 - 2 ft	6.5 - 7.5 ft	0 - 2 ft	4 - 5 ft	1 - 2 ft	5 - 6 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	5 - 6 ft	1 - 2 ft	7 - 8 ft	0 - 2 ft	5 - 6 ft	1 - 2 ft	4 - 5 ft	1 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	WGEL	WGEL	WGEL	WGEL	WGEL	WGEL	WGEL	WGEL
Laboratory Work Order		A B	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	75700702	75700702	75700702	75700702	75700702	75700702	75700702	75700702
Laboratory Sample ID	Units	SHS-PA	8432636	8432637	8432620	8432621	8432622	8432623	8432632	8432633	8432634	8432635	8432626	8432627	8432630	8432631	8432624	8432625	8432618	8432619	288812	288813	288814	288815	288816	288817	288818	288819
Volatile Organic Compounds																												
BENZENE	mg/kg	0.5[AB]	***2.9*** [A]	***67*** [B]	0.003 J	0.39 J	0.14 J	0.076 J	0.001 J	0.009	ND (0.18)	0.046 J	ND (0.12)	ND (0.11)	ND (0.078)	***1.2 J*** [B]	0.28 J	0.19 J	ND (0.22)	ND (0.0005)	-	-	-	-	-	-	-	-
CYCLOHEXANE	mg/kg	6900[AB]	0.80	15	ND (0.001)	0.36 J	0.70	0.15 J	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	ND (0.24)	ND (0.23)	ND (0.16)	15	0.92	1.3	0.64 J	1.5 J	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	ND (0.11)	ND (0.25)	ND (0.001)	ND (0.27)	ND (0.070)	ND (0.066)	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	ND (0.24)	ND (0.23)	ND (0.16)	ND (0.001)	ND (0.089)	ND (0.14)	ND (0.44)	ND (0.001)	-	-	-	-	-	-	-	-
ETHYLBENZENE	mg/kg	70[AB]	1.9	29	ND (0.001)	ND (0.27)	0.19 J	0.26 J	ND (0.001)	ND (0.0009)	2.8	6.3	ND (0.24)	ND (0.23)	ND (0.16)	21	0.49	0.30 J	ND (0.44)	ND (1.0)	-	-	-	-	-	-	-	-
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	0.18 J	3.4	ND (0.001)	ND (0.27)	0.56	0.28 J	ND (0.001)	ND (0.0009)	1.5 J	1.4	0.59 J	0.85 J	0.37 J	11	0.15 J	0.23 J	ND (0.44)	3.3 J	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	ND (0.055)	ND (0.12)	ND (0.0005)	ND (0.13)	ND (0.035)	ND (0.033)	ND (0.0006)	ND (0.0005)	ND (0.18)	ND (0.037)	ND (0.12)	ND (0.11)	ND (0.078)	ND (0.30)	ND (0.044)	ND (0.069)	ND (0.22)	ND (0.52)	-	-	-	-	-	-	-	-
HEXANE	mg/kg	5600[AB]	2.3	25	ND (0.001)	ND (0.27)	0.70	0.12 J	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	ND (0.24)	ND (0.23)	ND (0.16)	1.6 J	0.37 J	0.41 J	0.93 J	ND (1.0)	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	0.52 J	8.4	ND (0.001)	0.75 J	9.8	4.1	ND (0.001)	ND (0.0009)	***50*** [A]	***57*** [B]	5.2	5.9	0.42 J	12	2.8	0.89	1.5 J	ND (1.0)	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	ND (0.11)	1.5	ND (0.001)	ND (0.27)	0.49	0.32 J	ND (0.001)	ND (0.0009)	0.57 J	0.21 J	2.3	4.8	0.79	4.8	0.14 J	0.26 J	0.48 J	7.1	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	ND (0.11)	ND (0.25)	ND (0.001)	ND (0.27)	0.12 J	ND (0.066)	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	0.27 J	0.53 J	0.19 J	0.76 J	ND (0.089)	ND (0.14)	ND (0.44)	8.9	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	0.13 J	44	0.001 J	ND (0.27)	ND (0.070)	ND (0.066)	ND (0.001)	ND (0.0009)	ND (0.37)	0.16 J	ND (0.24)	ND (0.23)	ND (0.16)	8.7	0.16 J	0.33 J	ND (0.44)	ND (1.0)	-	-	-	-	-	-	-	-
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	3.0	***41*** [B]	ND (0.001)	ND (0.27)	7.6	4.3	ND (0.001)	ND (0.0009)	***180*** [A]	***110*** [B]	6.7	ND (0.23)	ND (0.16)	***50*** [B]	1.1	0.58 J	0.81 J	1.4 J	-	-	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	1.1	15	ND (0.001)	ND (0.27)	1.7	1.5	ND (0.001)	ND (0.0009)	41	12	0.80 J	ND (0.23)	ND (0.16)	21	0.70	0.14 J	ND (0.44)	ND (1.0)	-	-	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	13	180	ND (0.001)	ND (0.27)	3.7	2.3	ND (0.001)	0.003 J	20	110	ND (0.24)	ND (0.23)	0.44 J	140	0.59	0.75	0.47 J	1.3 J	-	-	-	-	-	-	-	-
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	4700[AB]	ND (0.0040)	ND (0.0041)	0.069 J	0.99	3.7	0.16	ND (0.0036)	ND (0.0038)	0.23	ND (0.0039)	0.031	0.71	1.1	0.41	1.8 J	2.2	4.9	2.8	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	350[AB]	ND (0.0040)	0.063	0.54	5.3	2.9	0.13	ND (0.0036)	ND (0.0038)	0.34	0.96	0.0038 J	ND (0.043)	0.55	0.26	2.1 J	1.5	2.4	11	-	-	-	-	-	-	-	-
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	ND (0.0040)	0.024	1.5	19	1.5	0.034 J	ND (0.0036)	ND (0.0038)	0.059	0.091	0.012 J	ND (0.043)	0.75	0.27	4.0	1.3	1.4 J	2.5	-	-	-	-	-	-	-	-
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	0.0045 J	0.017 J	1.1	13	1.2	0.046 J	ND (0.0036)	ND (0.0038)	0.097	0.10	0.012 J	ND (0.043)	0.75	0.19	4.0	1.2	1.6 J	1.6 J	-	-	-	-	-	-	-	-
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	0.0061 J	0.013 J	1.4	21	0.98 J	0.033 J	ND (0.0036)	ND (0.0038)	0.12	0.079	0.017 J	ND (0.043)	0.45	0.15	2.0 J	0.79 J	0.86 J	2.0 J	-	-	-	-	-	-	-	-
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	0.0045 J	0.0086 J	0.80	8.9	1.3	0.063 J	ND (0.0036)	ND (0.0038)	0.027	0.051	0.023	ND (0.043)	0.76	0.22	4.1	1.1	1.3 J	1.0 J	-	-	-	-	-	-	-	-
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	ND (0.0040)	0.0049 J	0.64	8.2	0.28 J	ND (0.018)	ND (0.0036)	ND (0.0038)	0.013 J	0.018 J	0.0072 J	ND (0.043)	0.095 J	0.058 J	ND (0.42)	0.30 J	ND (0.42)	0.99 J	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	190[AB]	ND (0.020)	0.26	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	0.97	3.1	0.053	ND (0.22)	ND (0.23)	0.27	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	230[AB]	0.0068 J	0.037	1.4	18	2.9	0.10	ND (0.0036)	ND (0.0038)	0.17	0.13	0.014 J	ND (0.043)	1.9	0.54	6.2	3.2	4.0	5.6	-	-	-	-	-	-	-	-
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	ND (0.0040)	ND (0.0041)	0.25	3.1	0.44 J	ND (0.018)	ND (0.0036)	ND (0.0038)	0.0082 J	0.012 J	ND (0.0037)	ND (0.043)	0.14 J	0.052 J	0.92 J	0.22 J	ND (0.42)	0.61 J	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	9300[AB]	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	ND (0.020)	0.37	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	0.53	ND (0.019)	ND (0.22)	ND (0.23)	ND (0.11)	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	23[AB]	ND (0.36)	ND (0.37)	ND (3.5)	ND (3.4)	ND (19)	ND (1.7)	ND (0.33)	ND (0.34)	ND (0.34)	ND (0.35)	ND (0.33)	ND (3.9)	ND (4.1)	ND (1.9)	ND (0.30)	ND (18)	ND (0.30)	ND (0.30)	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	3200[AB]	0.0082 J	0.049	3.0	33	2.3	0.056 J	ND (0.0036)	ND (0.0038)	0.065	0.12	0.038	0.070 J	0.59	0.28	1.7 J	1.7	2.8	6.3	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	3800[AB]	ND (0.0040)	0.20	0.17 J	2.1	6.3	0.11	ND (0.0036)	ND (0.0038)	2.4	2.1	0.019 J	0.39	2.2	0.86	2.6	4.6	8.8	7.9	-	-	-	-	-	-	-	-
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 2200[B]	ND (0.0040)	0.0057 J	0.69	8.9	0.42 J	0.028 J	ND (0.0036)	ND (0.0038)	0.015 J	0.027	0.016 J	ND (0.043)	0.18 J	0.061 J	1.2 J	0.46 J	0.47 J	0.81 J	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	0.0093 J	9.0	ND (0.039)	0.57	19	0.18	ND (0.0036)	ND (0.0038)	40	120	1.1	51	1.9	18	11	23	8.8	8.3	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	ND (0.020)	ND (0.021)	ND (0.20)	0.28 J	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.22)	0.35 J	ND (0.11)	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	ND (0.020)	ND (0.021)	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.22)	ND (0.23)	ND (0.11)	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	6[AB]	ND (0.20)	ND (0.21)	ND (2.0)	ND (1.9)	ND (0.17)	ND (0.92)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (2.2)	ND (2.3)	ND (1.1)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	10000[AB]	0.0089 J	0.44	1.5	11	15	0.26	ND (0.0036)	ND (0.0038)	1.4	0.92	0.027	0.086 J	5.5	2.0	6.6	8.2	17	13	-	-	-	-	-	-	-	-
PHENOL	mg/kg	200[AB]	ND (0.020)	0.68	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.22)	ND (0.23)	ND (0.11)	ND (2.1)	ND (0.97)	2.4 J	ND (2.0)	-	-	-	-	-	-	-	-
PYRENE	mg/kg	2200[AB]	0.012 J	0.17	2.4	26	8.0	0.20	ND (0.0036)	ND (0.0038)	0.11	0.18	0.050	0.093 J	2.8	0.83	8.7	5.6	5.2	8.5	-	-	-	-	-	-	-	-
PYRIDINE	mg/kg	12[AB]	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	ND (0.040)	ND (0.041)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.18)	ND (0.036)	ND (0.038)	ND (0.038)	ND (0.039)	ND (0.037)	ND (0.033)	ND (0.033)	ND (0.22)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	-	-	-	-	-	-	-	-
Metals																												
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1[A] 38[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.78)	ND (0.71)	ND (3.7)	ND (3.7)	1.321	ND (0.76)	ND (0.65)	ND (3.5)
CHROMIUM	mg/kg	190≤1[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82.4	42.5	50.5	48.9	43.1	53.4	49.3	23.9
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	4.93	10.6	8.66	3.48	10.3	5.65	10.9	7.02	6.82	8.65	10.1	6.85	6.86	77.8	5.38	8.10	3.51	5.37	-	-	-	-	-	-	-	-
LEAD	mg/kg	450[AB]	1.21 J	ND (0.617)	93.3	***646*** [B]	190	23.9	ND (2.26)	5.54 J	32.8	8.60	49.3	1.98	40.0	***15400*** [B]	115	243	204	***788*** [B]	79.3	65.2	150.0	220.0	***460.0*** [A]	240.0	210.0	54.8
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	650[AB]	13.6	27.1	17.1	5.13	30.2	10.7	27.2	12.8	16.6	19.4	15.0	14.9	15.5	22.5	18.9	16.0	9.42	14.4	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220[A] 820[B]	48.3	64.1	42.2	15.2	61.0	25.8	54.9	31.1	36.7	45.5	38.9	25.4	39.2	15.4	39.7	39.3	19.4	26.7	-	-	-	-	-	-	-	-
ZINC	mg/kg	12000[AB]	36.7	59.4	144	257	208	39.2	49.5	29.3	74.0	53.7	55.1	40.5	98.2	4050	95.1	576	69.5	119	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			SWC-S5		TK-7-11-PP-1	TK-7-11-PP-2	TK-7-11-PP-3	TK-7-11-PP-4	TK-7-11-PP-5	TK-7-11-PP-6	TK-7-11-PP-7	TK-7-11-PP-8	TK-7-11-PP-9	TK-7-11-PP-10	TK-7-11-PP-11	TK-7-11-PP-12	TK-7-11-PP-13	TK-7-11-PP-14	TK-7-11-PP-15	TK-7-11-PP-16	TK-7-11-PP-17	TK-7-11-PP-18	TK-7-11-PP-19	TK-7-11-PP-20	AOI7-BH-15-001	AOI7-BH-15-002	AOI7-BH-15-004	AOI7-BH-15-005	AOI7-BH-15-008	AOI7-BH-15-011
Sample Date			18-Jul-02	18-Jul-02	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	26-Aug-15	26-Aug-15	26-Aug-15	26-Aug-15	26-Aug-15	25-Aug-15
Sample ID			SWC-S5A	SWC-S5B	TK-7-11-PP-1-2.0	TK-7-11-PP-2-2.0	TK-7-11-PP-3-2.0	TK-7-11-PP-4-2.0	TK-7-11-PP-5-2.0	TK-7-11-PP-6-2.0	TK-7-11-PP-7-2.0	TK-7-11-PP-8-2.0	TK-7-11-PP-9-2.0	TK-7-11-PP-10-2.0	TK-7-11-PP-11-2.0	TK-7-11-PP-12-2.0	TK-7-11-PP-13-2.0	TK-7-11-PP-14-2.0	TK-7-11-PP-15-2.0	TK-7-11-PP-16-2.0	TK-7-11-PP-17-1.0	TK-7-11-PP-18-0.5	TK-7-11-PP-19-0.5	TK-7-11-PP-20-0.5	AOI7-BH-15-01-9.5-11.5	AOI7-BH-15-02-5-7	AOI7-BH-15-04-9.5-11.5	AOI7-BH-15-05-5-7	AOI7-BH-15-08-8-10	AOI7-BH-15-11-14.5-16.5
Sample Depth			0 - 2 ft	2 - 4 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	1 ft	0.5 ft	0.5 ft	0.5 ft	9.5 - 11.5 ft	5 - 7 ft	9.5 - 11.5 ft	5 - 7 ft	8 - 10 ft	14.5 - 16.5 ft
Sampling Company			SUNOCO	SUNOCO	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	GHD	GHD	GHD	GHD	GHD	GHD
Laboratory			WGEL	WGEL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	75700702	75700702	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1711971	1711971	1711971	1711971	1711971	1711971	1711971	1711971	1588485	1588485	1588485	1588485	1588485	1587655
Laboratory Sample ID	Units	SHS-PA	288820	288821	8596657	8596658	8596659	8596660	8596661	8596662	8596663	8596664	8596665	8596666	8596667	8596668	8604334	8604335	8604336	8604337	8604338	8604339	8604340	8604341	8025986	8025988	8025985	8025987	8025989	8021724
Volatile Organic Compounds																														
BENZENE	mg/kg	0.5[AB]	-	-	0.001 J	ND (0.0006)	ND (0.0006)	**0.52 [A]**	0.001 J	**1.3 [A]**	0.049	0.039	0.11 J	0.001 J	ND (0.0006)	ND (0.032)	ND (0.038)	ND (0.028)	ND (0.029)	ND (0.050)	ND (0.054)	ND (0.041)	ND (0.023)	ND (0.0004)	**3.5 [B]**	**74 [B]**	**280 J [B]**	**100 J [B]**	ND (0.004)	ND (0.49)
CYCLOHEXANE	mg/kg	6900[AB]	-	-	0.007	0.18	0.037	1.8	0.25	0.032	2.2	0.13	0.82	0.005	0.007	ND (0.064)	0.91	0.67	ND (0.057)	0.21 J	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)	3.6	86	51 J	38 J	0.001 J	ND (0.49)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*ND (0.19)*	*ND (1.2)*	*ND (2.6) J*	*ND (1.1)*	ND (0.004)	*ND (0.098)*
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5[AB]	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.056)	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)	ND (0.19)	*ND (1.2)*	*ND (2.6) J*	*ND (1.1)*	ND (0.004)	ND (0.49)
ETHYLBENZENE	mg/kg	70[AB]	-	-	ND (0.001)	ND (0.001)	ND (0.001)	0.36	ND (0.0009)	0.12	2.0	0.079	1.5	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	2.0	0.11 J	ND (0.0008)	19	**230 [B]**	**160 J [B]**	**220 J [B]**	ND (0.004)	ND (0.49)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500[AB]	-	-	ND (0.001)	0.043	0.002 J	0.19	0.006	0.021	1.1	0.019	0.86	0.003 J	ND (0.001)	0.16 J	0.18 J	0.25 J	ND (0.057)	0.39 J	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)	39	65	18 J	24 J	ND (0.004)	0.1 J
METHYL TERTIARY BUTYL ETHER	mg/kg	2[AB]	-	-	ND (0.0007)	ND (0.0006)	ND (0.0006)	ND (0.0007)	ND (0.0004)	ND (0.0006)	0.0009 J	ND (0.0005)	ND (0.028)	ND (0.0004)	0.001 J	ND (0.032)	ND (0.038)	ND (0.028)	ND (0.029)	ND (0.050)	ND (0.054)	ND (0.041)	ND (0.023)	ND (0.0004)	ND (0.97)	ND (0.6)	ND (1.3) J	ND (0.56)	ND (0.004)	ND (0.49)
HEXANE	mg/kg	5600[AB]	-	-	ND (0.001)	0.004 J	0.002 J	0.80	0.11	0.18	0.19	0.080	1.8	0.002 J	0.001 J	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25[AB]	-	-	ND (0.001)	ND (0.001)	0.002 J	16	ND (0.0009)	8.6	17	0.22	**78 [A]**	0.002 J	0.004 J	2.5	ND (0.076)	0.65	0.081 J	ND (0.099)	ND (0.11)	0.48	0.073 J	ND (0.0008)	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800[AB]	-	-	ND (0.001)	0.048	ND (0.001)	0.13	0.002 J	0.021	0.060	0.011	0.60	0.001 J	ND (0.001)	0.18 J	0.20 J	0.20 J	ND (0.057)	0.42 J	0.28 J	ND (0.082)	ND (0.046)	ND (0.0008)	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200[AB]	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.013	ND (0.001)	ND (0.056)	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)	-	-	-	-	-	-
TOLUENE	mg/kg	100[AB]	-	-	ND (0.001)	ND (0.001)	ND (0.001)	0.11	0.006	0.25	0.019	0.004 J	0.065 J	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	0.19 J	ND (0.046)	ND (0.0008)	4	2.2 J	**270 J [B]**	ND (5.6)	ND (0.004)	ND (0.49)
1,2,4-TRIMETHYLBENZENE	mg/kg	35[AB]	-	-	ND (0.001)	ND (0.001)	0.003 J	0.073	0.003 J	5.3	0.035	0.29	11	0.002 J	ND (0.001)	0.10 J	ND (0.076)	ND (0.056)	0.065 J	ND (0.099)	ND (0.11)	0.37 J	ND (0.046)	ND (0.0008)	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	mg/kg	210[AB]	-	-	ND (0.001)	ND (0.001)	0.001 J	0.074	ND (0.0009)	0.26	0.063	0.094	3.1	0.0009 J	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	0.12 J	ND (0.046)	ND (0.0008)	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000[AB]	-	-	ND (0.001)	ND (0.001)	0.005 J	0.20	0.005	0.61	0.027	0.12	4.0	0.003 J	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	16	0.97	ND (0.0008)	24	680	640 J	570	ND (0.004)	ND (0.49)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005[AB]	-	-	ND (0.00024)	ND (0.00025)	ND (0.00024)	ND (0.00025)	ND (0.00024)	ND (0.00024)	ND (0.00022)	ND (0.00023)	ND (0.00022)	ND (0.00020)	ND (0.00021)	ND (0.00022)	ND (0.00023)	ND (0.00023)	ND (0.00023)	ND (0.00023)	ND (0.00022)	ND (0.00024)	ND (0.00022)	ND (0.00021)	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	4700[AB]	-	-	0.79	2.5	0.19	10	5.3	3.7	4.6	7.7	0.80	0.0077 J	0.037 J	0.20	1.4	2.7	ND (0.039)	0.61	0.19	0.61	ND (0.036)	ND (0.035)	6	2.7	52	ND (0.11)	ND (0.022)	0.15
ANTHRACENE	mg/kg	350[AB]	-	-	0.72	1.6	0.11	7.3	6.8	3.8	3.8	3.2	1.4	0.025	0.024 J	0.43	1.0	1.6	0.086 J	0.90	0.52	2.2	0.15 J	0.043 J	10	3	46	0.89	ND (0.022)	0.21
BENZO(A)ANTHRACENE	mg/kg	130[A] 430[B]	-	-	1.3	0.61	0.081 J	9.9	13	11	1.4	0.78	0.093	0.11	0.025 J	0.13	0.26	0.33	0.071 J	0.26	1.2	8.3	0.37	0.79	5.9	1.2	21	0.37	ND (0.022)	0.2
BENZO(A)PYRENE	mg/kg	12[A] 46[B]	-	-	1.1	0.28	0.084 J	7.6	6.8	5.4	0.82	0.70	0.055	0.088	0.059 J	0.080 J	0.13 J	0.20	0.062 J	0.18 J	0.83	6.1	0.57	0.83	2.9	0.5 J	14	0.14	ND (0.022)	0.13
BENZO(B)FLUORANTHENE	mg/kg	76[A] 170[B]	-	-	1.5	0.18	0.083 J	3.8	3.4	2.6	0.44 J	0.40	0.032	0.052	0.047 J	0.053 J	0.094 J	0.12 J	0.059 J	0.14 J	0.43	3.1	0.32	0.54	4	0.65	7.2	0.15	ND (0.022)	0.088
BENZO(G,H,I)PERYLENE	mg/kg	180[AB]	-	-	0.75	0.31	0.22	5.5	2.7	2.5	1.1	0.87	0.055	0.064	0.13	0.094 J	0.087 J	0.18 J	0.28	0.20	0.55	3.2	0.49	0.64	2.8	0.58 J	11	0.23	ND (0.022)	0.18
BENZO(K)FLUORANTHENE	mg/kg	76[A] 610[B]	-	-	0.57	0.065 J	0.022 J	0.71 J	1.1	0.64	0.12 J	0.13 J	0.011 J	0.010 J	ND (0.018)	ND (0.019)	0.068 J	0.045 J	0.049 J	0.073 J	0.093 J	0.60	0.091 J	0.10 J	1.4	0.15 J	2.6	0.086 J	ND (0.022)	0.12
1,1'-BIPHENYL	mg/kg	190[AB]	-	-	ND (0.10)	ND (0.11)	ND (0.10)	2.3	1.1	1.5	4.3	3.5	1.6	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)	6	5.4	74	0.55	ND (0.043)	ND (0.046)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130[AB]	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)	ND (5.3)	ND (6.2)	9.50 J	ND (1.1)	ND (0.22)	ND (0.23)
DI-N-BUTYL PHTHALATE	mg/kg	4900[AB]	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)	ND (5.2)	ND (6.1)	ND (10)	ND (1.1)	ND (0.21)	ND (0.23)
CHRYSENE	mg/kg	230[AB]	-	-	1.4	0.95	0.15	24	22	17	1.9	1.7	0.17	0.25	0.082 J	0.17	0.29	0.44	0.14 J	0.54	1.7	13	1.0	2.1	10	3.4	40	0.92	ND (0.022)	0.47
DIBENZ(A,H)ANTHRACENE	mg/kg	22[A] 270[B]	-	-	0.18	0.088 J	0.11	1.6	1.5	1.3	0.22 J	0.20	0.011 J	0.022	ND (0.018)	ND (0.019)	ND (0.039)	ND (0.039)	ND (0.039)	0.048 J	0.22	1.4	0.15 J	0.29	ND (0.53)	ND (0.62)	ND (1.1)	ND (0.111)	ND (0.022)	0.035
DIETHYL PHTHALATE	mg/kg	9300[AB]	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)	ND (5.2)	ND (6.1)	ND (10)	ND (1.1)	ND (0.21)	ND (0.23)
2,4-DIMETHYLPHENOL	mg/kg	230[AB]	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)	ND (1)	ND (1.2)	99	1.4	ND (0.043)	ND (0.046)
2,4-DINITROPHENOL	mg/kg	23[AB]	-	-	ND (1.9)	ND (1.9)	ND (1.8)	ND (19)	ND (9.2)	ND (9.3)	ND (8.6)	ND (3.5)	ND (0.34)	ND (0.31)	ND (1.7)	ND (1.7)	ND (3.5)	ND (3.5)	ND (3.5)	ND (3.5)	ND (3.3)	ND (7.2)	ND (3.3)	ND (3.2)	ND (9.4)	ND (11)	ND (19)	ND (6.3)	ND (1.3)	ND (1.4)
FLUORANTHENE	mg/kg	3200[AB]	-	-	2.8	0.54	0.086 J	3.6	3.3	2.7	1.5	0.79	0.19	0.033	0.031 J	0.18	0.30	0.41	0.062 J	0.40	0.45	2.2	0.091 J	0.16 J	12	2.1	31	0.55	ND (0.022)	0.47
FLUORENE	mg/kg	3800[AB]	-	-	0.63	5.4	0.21	17	9.8	5.3	13	20	2.3	0.0089 J	0.064 J	0.63	2.4	3.6	0.080 J	1.2	0.30	0.92	ND (0.036)	0.042 J	17	6.7	120	2.1	ND (0.022)	0.26
INDENO(1,2,3-C,D)PYRENE	mg/kg	76[A] 22000[B]	-	-	0.61	0.15	0.13	1.9	1.3	1.0	0.37 J	0.20	0.022	0.027	0.024 J	0.040 J	0.045 J	0.055 J	0.056 J	0.055 J	0.23	1.1	0.21	0.18 J	2.1	0.3 J	3	ND (0.11)	ND (0.022)	0.081
2-METHYLNAPHTHALENE	mg/kg	1900[AB]	-	-	0.57	0.79	0.44	86	43	38	140	120	35	0.0091 J	ND (0.018)	ND (0.019)	11	44	0.044 J	0.10 J	0.42	3.6	0.11 J	0.036 J	130	210	820	18	ND (0.022)	0.14
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862[AB]	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580[AB]	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)	ND (1)	ND (1.2)	ND (2.1)	ND (0.21)	ND (0.043)	ND (0.046)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (1.2)	12	ND (0.21)	ND (0.043)	0.096
NAPHTHALENE	mg/kg	25[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**59 [B]**	**160 [B]**	**390 [B]**	15	ND (0.022)	0.09
4-NITROPHENOL	mg/kg	6[AB]	-	-	ND (1.0)	ND (1.1)	ND (1.0)	ND (0.17)	ND (5.1)	ND (5.1)	ND (4.8)	ND (1.9)	ND (0.19)	ND (0.17)	ND (0.92)	ND (0.94)	2.8 J	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (4.0)	ND (1.8)	ND (1.8)	ND (5.2)	*ND (6.1)*	*ND (10)*	ND (3.2)	ND (0.64)	ND (0.69)
PHENANTHRENE	mg/kg	10000[AB]	-	-	2.5	8.9	0.28	46	38	20	16	26	5.6	0.035	0.21	1.1	4.9	4.0	ND (0.039)	1.9	1.4	9.2	0.32	0.22	52	16	280	4.4	ND (0.022)	0.21
PHENOL	mg/kg	200[AB]	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)	ND (1)	ND (1.2)	ND (2.1)	ND (0.21)	ND (0.043)	0.047
PYRENE	mg/kg	2200[AB]	-	-	2.4	3.2	0.62	25	21	16	7.2	4.3	1.3	0.26	0.14	1.3	1.9	2.7	0.32	2.5	2.8	16	0.79	1.6	28	9.1	84	1.9	0.018 J	0.94
PYRIDINE	mg/kg	12[AB]	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37[AB]	-	-	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.038)	ND (0.035)	ND (0.18)	ND (0.19)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.37)	ND (0.033)	ND (0.36)	ND (0.35)	-	-	-	-	-	-
Metals																														
ARSENIC	mg/kg	29[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**80.9 [B]**	**63.7 [B]**	**61.7 [B]**	**53.5 [B]**	**37.4 J [B]**	**31.2 [B]**
BARIUM	mg/kg	8200[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,360	299	1,410	1,310	1,390	945
CADMIUM	mg/kg	6.1[A] 38[B]	1.88	0.890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.48	**76.8 [B]**	4.55	7.31 J	4.71 J	3.27
CHROMIUM	mg/kg	190s1[AB]	74.0	51.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.74 J	15.4	**349 [B]**	7.24 J	9.16 J	27.0
CHROMIUM, TRIVALENT	mg/kg	190000[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160[AB]	-	-	7.56	8.35	8.82	9.68	6.72	8.34	7.04	6.29	8.59	13.5	7.55	6.94	8.55	6.90	29.5	6.27	12.0	14.4	5.45	13.2	48.6	25.9	33.0	86.3	83.9	16.5
LEAD	mg/kg	450[AB]	**780.0 [A]**	440.0	18.7	13.0	29.4	205	13.7	31.3	12.2	12.3	12.6	5.66	22.8	9.28	11.8	8.74	277	12.5	44.4	29.9	38.1	7.19	**8,890 [B]**	**2,140 [B]**	**1,780 [B]**	**18,700 [B]**	**20,100 [B]**	**2,220 J [B]**
MERCURY	mg/kg	10[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.600	0.612	6.74	0.967	0.230	0.679
NICKEL	mg/kg	650[AB]	-	-	13.6	13.7	14.4	45.4	14.2	33.2	13.6	14.2	15.4	31.7	13.3	13.3	15.6	15.7	192	12.8	20.0	81.9	22.4	32.3	9.69 J	12.3	98.1	17.8 J	23.9 J	15.2
SELENIUM	mg/kg	26[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**75.1 [B]**	11.9	15.9	**133 [B]**	**117 [B]**	ND (13.5)
SILVER	mg/kg	84[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77.1	15.5	19.8	**122 [B]**	**106 [B]**	11.1
VANADIUM	mg/kg	220[A] 820[B]	-	-	44.4	44.9	45.1	57.8	40.9	43.3	47.8	45.5	49.4	58.4	39.9	42.0	48.2	51.8	40.0	43.5	54.5	83.2	99.6	63.2	18.5	16.4	204	22.8	24.4	33.9
ZINC	mg/kg	12000[AB]	-	-	51.1	37.4	61.7	442	36.9	51.2	39.9	36.0	43.5	68.8	43.1	31.8	36.9	32.7	3760	40.4	77.6	230	39.1	177	2,930	1,080	2,660	5,440	3,870	2,160

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI7-BH-16-007		AOI7-BH-16-008		AOI7-BH-16-009		AOI7-BH-16-010		AOI7-BH-16-011		AOI7-BH-16-016		AOI7-BH-16-017		AOI7-BH-16-018		AOI7-BH-16-019	AOI7-BH-16-022
Sample Date			21-Mar-16	21-Mar-16	23-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	23-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	23-Jun-16	23-Jun-16	22-Jun-16	23-Jun-16
Sample ID			AOI7-BH-16-007(0-2')	AOI7-BH-16-007(3-4')	AOI7-BH-16-008-0-2-MM-S	AOI7-BH-16-008-9.5-11.5-MM-S	AOI7-BH-16-009-0-2-MM-S	AOI7-BH-16-009-5-7-MM-S	AOI7-BH-16-010-0-2-MM-S	AOI7-BH-16-010-5-7-MM-S	AOI7-BH-16-011-0-2-MM-S	AOI7-BH-16-011-11-12-MM-S	AOI7-BH-16-016-0-2-MM-S	AOI7-BH-16-016-9-11-MM-S	AOI7-BH-16-017-0-2-MM-S	AOI7-BH-16-017-3-4-MM-S	AOI7-BH-16-018-062316-0-2-MM	AOI7-BH-16-DUP2-062316-0-2-MM	AOI7-BH-16-019-062316-0-2-MM	AOI7-BH-16-022-062316-0-2-MM
Sample Depth			0 - 2 ft	3 - 4 ft	1 - 2 ft	9.5 - 11.5 ft	1 - 2 ft	5 - 7 ft	1 - 2 ft	5 - 7 ft	1 - 2 ft	11 - 12 ft	1 - 2 ft	9 - 11 ft	1 - 2 ft	3 - 4 ft	1 - 2 ft	1 - 2 ft	1 - 2 ft	1 - 2 ft
Sampling Company			STANTEC	STANTEC	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1643428	1643428	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676188	1676188	1676188	1676188
Laboratory Sample ID	Units	SHS-PA	8299474	8299475	8445524	8445525	8445526	8445527	8445518	8445519	8445520	8445521	8445534	8445535	8445536	8445537	8445540	8445550	8445541	8445544
Volatile Organic Compounds																				
BENZENE	mg/kg	0.5^{AB}	0.001 J	ND (0.0005)	0.260	0.290	***0.540 J*** ^{A}	***4.500 J*** ^{B}	0.002 J	0.280 J	0.083 J	-	0.072 J	-	0.049 J	-	0.081 J	0.034 J	ND (0.250)	0.028 J
CYCLOHEXANE	mg/kg	6900^{AB}	0.002 J	0.004 J	0.084 J	-	0.770 J	-	ND (0.004)	-	4.900	-	ND (0.280)	-	0.280 J	-	0.110 J	ND (0.320)	ND (0.250)	ND (0.250)
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	-	ND (0.001)	-	ND (0.004)	-	ND (0.001)	-	ND (0.001)	-	ND (0.001)	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	0.5^{AB}	ND (0.001)	ND (0.001)	ND (0.240)	-	ND (0.001)	-	ND (0.004)	-	ND (0.001)	-	ND (0.280)	-	ND (0.290)	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
ETHYLBENZENE	mg/kg	70^{AB}	0.015	0.006	0.110 J	-	0.280 J	-	ND (0.004)	-	1.100	-	ND (0.280)	-	0.071 J	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
ISOPROPYLBENZENE (CUMENE)	mg/kg	2500^{AB}	0.012	0.006	ND (0.240)	-	11.000	-	ND (0.004)	-	1.900	-	ND (0.280)	-	0.130 J	-	0.130 J	ND (0.320)	ND (0.250)	ND (0.250)
METHYL TERTIARY BUTYL ETHER	mg/kg	2^{AB}	ND (0.0005)	ND (0.0005)	ND (0.240)	-	ND (0.950)	-	ND (0.004)	-	ND (0.710)	-	ND (0.280)	-	ND (0.290)	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
HEXANE	mg/kg	5600^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	2800^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	2200^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	100^{AB}	0.009	0.003 J	0.071 J	-	ND (0.950)	-	0.002 J	-	ND (0.710)	-	ND (0.280)	-	ND (0.290)	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
1,2,4-TRIMETHYLBENZENE	mg/kg	35^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	mg/kg	210^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	1000^{AB}	0.12	0.064	-	3.8	-	97 J	-	ND (0.710)	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (SW8011)																				
1,2-DIBROMOETHANE (EDB)	mg/kg	0.005^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																				
ACENAPHTHENE	mg/kg	4700^{AB}	0.067 J	0.056	0.630	-	0.350 J	-	ND (0.110)	-	0.300	-	0.028 J	-	0.390 J	-	ND (1.100)	ND (0.440)	ND (0.180)	ND (0.200)
ANTHRACENE	mg/kg	350^{AB}	0.17	0.092	0.280	-	0.300 J	-	0.110	-	0.120	-	0.079 J	-	0.360 J	-	0.330 J	0.610	0.081 J	0.140 J
BENZO(A)ANTHRACENE	mg/kg	130^{A} 430^{B}	0.36	0.045	0.370	-	0.270 J	-	0.094 J	-	0.065	-	0.095 J	-	0.270 J	-	0.590 J	0.600	0.100 J	0.530
BENZO(A)PYRENE	mg/kg	12^{A} 46^{B}	0.56	0.034	0.350	-	0.320 J	-	0.120	-	0.031	0.009 J	0.110	-	0.550	-	0.890 J	0.860	0.110 J	0.990
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 170^{B}	0.64	0.050	0.500	-	0.390 J	-	0.150	-	0.054	-	0.110	-	0.380 J	-	1.000 J	0.810	0.100 J	1.100
BENZO(G,H,I)PERYLENE	mg/kg	180^{AB}	1.0	0.033	0.440	-	0.430 J	-	0.630	-	0.022 J	-	0.250	-	0.620	-	0.990 J	1.300	0.330	1.000
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 610^{B}	0.19	0.020 J	0.340	-	0.270 J	-	0.053 J	-	0.025	-	0.052 J	-	ND (0.490)	-	0.430 J	0.360 J	ND (0.180)	0.470
1,1'-BIPHENYL	mg/kg	190^{AB}	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	130^{AB}	ND (0.39)	ND (0.083)	ND (0.900)	-	ND (4.600)	-	ND (1.100)	-	ND (0.220)	-	ND (1.000)	-	ND (4.900)	-	ND (11.000)	ND (4.400)	ND (1.800)	ND (2.000)
DI-N-BUTYL PHTHALATE	mg/kg	4900^{AB}	ND (0.39)	ND (0.083)	ND (0.880)	-	ND (4.500)	-	ND (1.100)	-	ND (0.220)	-	ND (0.980)	-	ND (4.800)	-	ND (11.000)	ND (4.300)	ND (1.800)	ND (1.900)
CHRYSENE	mg/kg	230^{AB}	0.53	0.076	0.460	-	0.420 J	-	0.300	-	0.100	-	0.120	-	0.750	-	0.920 J	0.820	0.200	1.100
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 270^{B}	0.12	0.009 J	0.088 J	-	ND (0.460)	-	0.058 J	-	0.008 J	-	0.035 J	-	0.130 J	-	ND (1.100)	0.270 J	ND (0.180)	0.280
DIETHYL PHTHALATE	mg/kg	9300^{AB}	ND (0.39)	ND (0.083)	ND (0.880)	-	ND (4.500)	-	ND (1.100)	-	ND (0.220)	-	ND (0.980)	-	ND (4.800)	-	ND (11.000)	ND (4.300)	ND (1.800)	ND (1.900)
2,4-DIMETHYLPHENOL	mg/kg	230^{AB}	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
2,4-DINITROPHENOL	mg/kg	23^{AB}	ND (1.8)	ND (0.37)	ND (5.300)	-	ND (0.300)	-	ND (6.400)	-	ND (1.300)	-	ND (5.900)	-	ND (0.300)	-	ND (0.300)	ND (0.300)	ND (11.000)	ND (12.000)
FLUORANTHENE	mg/kg	3200^{AB}	0.61	0.090	1.200	-	0.550	-	0.120	-	0.280	-	0.090 J	-	0.320 J	-	1.300	1.200	0.100 J	0.300
FLUORENE	mg/kg	3800^{AB}	0.091 J	0.097	0.290	-	0.290 J	-	0.110 J	-	0.420	-	0.059 J	-	0.430 J	-	0.240 J	ND (0.440)	0.048 J	0.087 J
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 2200^{B}	0.32	0.021 J	0.300	-	0.220 J	-	0.180	-	0.017 J	-	0.095 J	-	0.360 J	-	0.640 J	0.690	0.100 J	0.670
2-METHYLNAPHTHALENE	mg/kg	1900^{AB}	0.22	0.14	0.170	-	0.480	-	0.300	-	6.200	0.086	0.320	-	0.990	-	0.370 J	0.380 J	0.370	0.330
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	5862^{AB}	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	580^{AB}	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	58^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	25^{AB}	0.077 J	0.093	0.120	-	0.290 J	-	0.190	-	2.400	0.062	0.150	-	0.370 J	-	0.340 J	0.250 J	0.140 J	0.180 J
4-NITROPHENOL	mg/kg	6^{AB}	ND (0.98)	ND (0.21)	ND (2.600)	-	ND (0.170)	-	ND (3.200)	-	ND (0.660)	-	ND (2.900)	-	ND (0.170)	-	ND (0.170)	ND (0.170)	ND (5.300)	ND (5.800)
PHENANTHRENE	mg/kg	10000^{AB}	0.28	0.12	1.200	-	0.630	-	0.220	-	0.730	-	0.220	-	1.200	-	1.200	1.200	0.260	0.370
PHENOL	mg/kg	200^{AB}	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
PYRENE	mg/kg	2200^{AB}	0.74	0.14	1.000	-	0.800	-	0.240	-	0.250	-	0.220	-	1.500	-	1.600	1.500	0.260	1.000
PYRIDINE	mg/kg	12^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	0.37^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																				
ARSENIC	mg/kg	29^{AB}	8.04	3.47	8.19 J	5.96 J	19.0 J	***111 J*** ^{B}	***161 J*** ^{A}	***89.4 J*** ^{B}	***103 J*** ^{A}	16.7 J	26.3 J	18.3 J	12.4 J	16.3 J	10.7	11.3	12.6	9.66
BARIUM	mg/kg	8200^{AB}	59.8	66.7	171 J	-	196 J	-	2.410 J	-	2.220 J	-	205 J	-	233 J	-	118	134	112	126
CADMIUM	mg/kg	6.1^{A} 38^{B}	0.955	0.987	0.723 J	-	1.16 J	-	***7.28 J*** ^{A}	-	ND (0.0490) J	-	0.502 J	-	0.508 J	-	0.783	0.761	0.368 J	0.305 J
CHROMIUM	mg/kg	$190s1^{AB}$	27.4	28.0	49.9	-	60.0	-	17.0	-	ND (1.51)	-	45.2	-	62.3	-	41.9	51.7	96.8	40.6
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	190^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	160^{AB}	8.75	7.45	8.25 J	7.72 J	10.2 J	-	36.8 J	-	72.5 J	-	9.79 J	10.4 J	7.96 J	-	9.73	8.72	7.58	7.06
LEAD	mg/kg	450^{AB}	72.8	85.3	177	256	325	-	***9.600*** ^{A}	***9.000*** ^{B}	***17.700*** ^{A}	***496*** ^{B}	381	***516*** ^{B}	73.7	360	84.2	87.5	99.6	93.9
MERCURY	mg/kg	10^{AB}	0.270	0.378	0.542	-	0.769	-	1.18	-	2.51	-	***54.0*** ^{A}	-	2.25	-	2.58 J	***14.0 J*** ^{A}	2.31	1.31
NICKEL	mg/kg	650^{AB}	17.8	20.1	26.4	-	24.6	-	5.73	-	ND (10.1)	-	21.6	-	27.7	-	28.8	27.2	17.4	19.6
SELENIUM	mg/kg	26^{AB}	ND (0.980)	ND (0.958)	ND (9.31) J	-	ND (10.2) J	-	ND (12.7)	-	ND (20.1) J	-	ND (17.3) J	-	ND (8.68) J	-	1.63 J	ND (2.49)	2.87	3.66
SILVER	mg/kg	84^{AB}	10.6	2.31	0.581	-	1.64	-	39.7	-	ND (5.04)	-	1.03	-	ND (0.434)	-	0.626 J	0.908	0.736	1.08
VANADIUM	mg/kg	220^{A} 820^{B}	29.1	32.7	48.5	-	62.2	-	41.6	-	23.6	-	56.2	-	42.8	-	119	110	40.8	46.8
ZINC	mg/kg	12000^{AB}	90.3	71.1	290	-	316	-	2.220	-	1.290	-	255	-	539	-	219	233	130	121

See notes on last page.

Table 3-2
Soil Analytical Results Summary - Non-Residential Statewide Health Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Notes:

SHS-PA	Pennsylvania Department of Environmental Protection - Statewide Health Standards (SHS)
A	PADEP Non-Residential Statewide Health Standards (0-2 ft bgs) (Unsaturated Soil)
B	PADEP Non-Residential Statewide Health Standards (>2 ft bgs) (Unsaturated Soil)
6.5 [A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
ND (0.50)	Indicates the laboratory method detection limit (if available) was above the applicable standard. The reporting limit is shown if the laboratory method detection limit is not available.
ND (0.03)	Indicates concentration not detected above the laboratory reporting limit (in parentheses) except when the reporting limit is greater than the standard in which case the method detection limit is listed in parentheses.
-	Parameter not analyzed / not available.
s1	Standards for total chromium are not established in soil. These concentrations have been compared the values for hexavalent chromium, which is the strictest of the chromium standards. The exception to this is in the case that hexavalent chromium and trivalent chromium results a
s2	Cresol, m&p (3-Methylphenol & 4-Methylphenol) co-elute and are reported as the summation of the co-eluting compounds. Standards shown are the stricter of the two.
AP	Attainment of remediation standard has been demonstrated via pathway elimination (i.e. engineering controls).
AX	Attainment of remediation standard has been demonstrated via a statistical method (i.e. 75/10x).
E	Indicates compounds whose concentrations exceed the calibration range of the instrument.
J	Indicates an estimated value.
J+	Indicates an estimated value that is biased high.
J-	Indicates an estimated value that is biased low.
R	The data failed the usability assessment (data validation) and are unusable. The analyte may or may not be present in the sample.
mg/kg	milligrams per kilogram
ACCUTEST	Accutest Laboratories
LL	Eurofins Lancaster Laboratories Environmental
PACE	Pace Analytical Services, Inc.
ALS	ALS Global
HCV	Hampton Clark Veritech
WGEL	The Washington Group Environmental Laboratory

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5_BH-15-01		AOI5_BH-15-02		AOI5_BH-15-03		AOI5_BH-15-04		AOI5_BH-15-11		AOI5_BH-15-12		AOI5_BH-15-13		AOI5_BH-15-14		AOI5_URS_PECO_B-2	AOI5_URS_PECO_B-4	AOI5_URS_PECO_B-5	AOI5_URS_PECO_B-6	AOI5_URS_PECO_B-7	AOI5_URS_PECO_B-8		AOI5_URS_PECO_B-9			AOI5-1	
Sample Date			7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	7-Jan-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	22-Oct-14	30-Oct-14	23-Oct-14	24-Oct-14	30-Oct-14	15-Oct-14	29-Oct-14	15-Oct-14	15-Oct-14	28-Oct-14	27-May-86	27-May-86
Sample ID			AOI5_BH-15-01_0-2_01072015	AOI5_BH-15-01_2-4_01072015	AOI5_BH-15-02_0-2_01072015	AOI5_BH-15-02_12-14_01072015	AOI5_BH-15-03_0-2_01072015	AOI5_BH-15-03_4-6_01072015	AOI5_BH-15-04_0-2_01072015	AOI5_BH-15-04_4-6_01072015	AOI5-BH-15-11(0.0-2.0)	AOI5-BH-15-11(11.0-11.5)	AOI5-BH-15-12(0.0-2.0)	AOI5-BH-15-12(11.0-11.5)	AOI5-BH-15-13(0.0-2.0)	AOI5-BH-15-13(8.0-10.0)	AOI5-BH-15-14(0.0-2.0)	AOI5-BH-15-14(11.0-11.5)	AOI5_URS_PECO_B2_12-13_10222014	AOI5_PECO-B4_12-14'_10302014	AOI5_PECO-B5_14-16_10232014	AOI5_PECO-B6_12-14_10242014	AOI5_PECO-B7_12-14'_10302014	B-8 (0-2)	AOI5_PECO-B8_12-14'_10292014	B-9 (0-2)	B-9 (4-6)	AOI5_PECO-B9_12-14'_10282014	1A	1B
Sample Depth			0 - 2 ft	2 - 4 ft	0 - 2 ft	12 - 14 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	11 - 11.5 ft	0 - 2 ft	11 - 11.5 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	11 - 11.5 ft	12 - 13 ft	12 - 14 ft	14 - 16 ft	12 - 14 ft	12 - 14 ft	0 - 2 ft	12 - 14 ft	0 - 2 ft	4 - 6 ft	12 - 14 ft	0 - 2 ft	2 - 4 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	AQUATERRA	AQUATERRA	AQUATERRA	AQUATERRA	AQUATERRA	URS	AQUATERRA	URS	URS	AQUATERRA	ERM	ERM
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	PACE	PACE	PACE	PACE	PACE	HCV	PACE	HCV	HCV	PACE	LL	LL
Laboratory Work Order		A B	JB85833	JB85833	JB85833	JB85833	JB85833	JB85833	JB85833	JB85833	JC4271	JC4271	JC4271	JC4271	JC4271	JC4271	JC4271	JC4271	30133009	30133378	30133009	30133009	30133378	4101608	30133378	4101608	4101608	30133378	19235	19235
Laboratory Sample ID	Units	MSC-PA	JB85833-1	JB85833-2	JB85833-3	JB85833-4	JB85833-5	JB85833-6	JB85833-7	JB85833-8	JC4271-3	JC4271-4	JC4271-5	JC4271-6	JC4271-7	JC4271-8	JC4271-9	JC4271-10	30133009001	30133378004	30133009002	30133009003	30133378003	AC81442-003	30133378002	AC81442-002	AC81442-001	30133378001	UNKNOWN	UNKNOWN
Volatile Organic Compounds																														
BENZENE	mg/kg	290^{A} 330^{B}	0.00083	0.0954	ND (0.00043)	ND (0.052)	0.0079	0.247	10.6	ND (0.29)	ND (0.00074)	0.00024 J	0.0089	0.0437 J	ND (0.00067)	ND (0.21)	ND (0.00067)	0.215	ND (0.0048)	ND (0.0052)	ND (0.0050)	0.034	ND (0.0044)	0.033	ND (0.0056)	0.074	15	0.61	-	-
CYCLOHEXANE	mg/kg	10000^{AB}	0.0099	0.0631 J	ND (0.0017)	0.908	0.0034	ND (0.21)	26.7	51.2	ND (0.0030)	0.00099 J	0.0017 J	0.152 J	ND (0.0027)	0.779 J	ND (0.0027)	0.486	0.013	0.022	0.0049 J	4.4	0.050	0.0099	0.24	0.024	100	36.3	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0029)	ND (0.0031)	ND (0.0030)	ND (0.0032)	ND (0.0026)	ND (0.0025)	ND (0.0033)	ND (0.0022)	ND (1.3)	ND (0.16)	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.0010)	ND (0.12)	ND (0.00085)	ND (0.10)	ND (0.00085)	ND (0.10)	ND (0.59)	ND (0.59)	ND (0.0015) J	ND (0.0011) J	ND (0.0014) J	ND (0.17)	ND (0.0013)	ND (0.41)	ND (0.0013)	ND (0.20)	ND (0.0048)	ND (0.0052)	ND (0.0050)	ND (0.0054)	ND (0.0044)	ND (0.0012)	ND (0.0056)	ND (0.0011)	ND (0.65)	ND (0.27)	-	-
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	0.0195	0.318	ND (0.00085)	ND (0.10)	0.0028	0.120	1.32	0.428 J	ND (0.0015)	ND (0.0011)	0.0106	0.0507 J	ND (0.0013)	ND (0.41)	ND (0.0013)	0.0718 J	ND (0.0048)	0.0036 J	ND (0.0050)	ND (0.0054)	0.0055	0.0037	0.035	0.0059	12	7.7	-	-
ISOPROPYLBENZENE (CUMENE)	mg/kg	1000^{AB}	0.0033 J	0.0569 J	ND (0.0043)	0.0809 J	0.0011 J	0.165 J	3.44	3.78	ND (0.0030)	0.00024 J	ND (0.0027)	0.0664 J	ND (0.0027)	1.69	ND (0.0027)	0.709	ND (0.0048)	ND (0.0052)	ND (0.0050)	0.035	ND (0.0044)	ND (0.0012)	ND (0.0056)	0.0037	3.9	5.2	-	-
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.0010)	ND (0.12)	ND (0.00085)	ND (0.10)	0.00050 J	ND (0.10)	ND (0.59)	ND (0.59)	ND (0.0015)	0.00075 J	0.0013 J	ND (0.17)	ND (0.0013)	ND (0.41)	ND (0.0013)	ND (0.20)	ND (0.0048)	ND (0.0052)	ND (0.0050)	ND (0.0054)	ND (0.0044)	ND (0.0012)	ND (0.0056)	ND (0.0011)	ND (0.65)	ND (0.27)	-	-
HEXANE	mg/kg	1000^{AB}	0.0023 J	0.203 J	ND (0.0043)	0.157 J	ND (0.0043)	ND (0.52)	35.0	ND (2.9)	ND (0.0074)	0.0017 J	0.0014 J	0.186 J	0.00055 J	0.301 J	ND (0.0067) J	0.539 J	0.020	0.053	ND (0.010)	0.38	0.12	-	0.82	-	-	61.4	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	0.00031 J	ND (0.0054)	0.00078 J	0.444 J	0.00066 J	25.1	0.00041 J	5.26	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	1000^{AB}	0.0014 J	0.0588 J	ND (0.0017)	0.210	0.00028 J	0.124 J	2.37	3.18	ND (0.0030)	0.00029 J	ND (0.0027)	0.0778 J	ND (0.0027)	1.25	ND (0.0027)	0.543	ND (0.0048)	ND (0.0052)	ND (0.0050)	0.10	ND (0.0044)	-	0.0020 J	-	-	1.3	-	-
BUTYLBENZENE, TERT-	mg/kg	1000^{AB}	ND (0.0020)	ND (0.25)	ND (0.0017)	ND (0.21)	ND (0.0017)	ND (0.21)	ND (1.2)	0.496 J	ND (0.0030)	0.00033 J	ND (0.0027)	0.0545 J	ND (0.0027)	1.54	ND (0.0027)	0.570	ND (0.0048)	ND (0.0052)	ND (0.0050)	ND (0.0054)	ND (0.0044)	-	ND (0.0056)	-	-	0.67	-	-
TOLUENE	mg/kg	1000^{AB}	0.0022	0.0314 J	ND (0.00085)	ND (0.10)	0.00022 J	0.150	1.06	ND (0.59)	ND (0.0015)	ND (0.0011)	0.0135	ND (0.17)	ND (0.0013)	ND (0.41)	ND (0.0013)	ND (0.20)	0.0032 J	0.0038 J	0.0016 J	0.0078	0.0071	0.023	0.030	0.031	31	8.4	-	-
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	0.0071	1.50	ND (0.0017)	0.0559 J	0.0023	0.131 J	5.58	0.180 J	ND (0.0030)	ND (0.0022)	0.00032 J	0.173 J	ND (0.0027)	0.245 J	ND (0.0027)	0.367 J	ND (0.0048)	0.0061	ND (0.0050)	ND (0.0054)	0.012	-	0.061	-	-	39.1	-	-
1,3,5-TRIMETHYLBENZENE	mg/kg	1000^{AB}	0.0029	0.0705 J	ND (0.0017)	0.0220 J	0.0022	0.0414 J	21.9	ND (1.2)	ND (0.0030)	ND (0.0022)	ND (0.0027)	ND (0.34)	ND (0.0027)	ND (0.83)	ND (0.0027)	0.148 J	ND (0.0048)	0.0028 J	ND (0.0050)	ND (0.0054)	0.0056	-	0.030	-	-	20.7	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.0685	0.301	ND (0.00085)	0.0246 J	0.0014	0.243	7.37	0.145 J	ND (0.0015)	ND (0.0011)	0.0024	0.0846 J	ND (0.0013)	0.262 J	ND (0.0013)	0.0918 J	0.011 J	0.021	ND (0.015)	ND (0.016)	0.035	0.0145	0.20	0.0193	48.3	45.5	-	-
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0030)	ND (0.0032)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0028)	ND (0.0031)	ND (0.0027)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0028)	ND (0.0027)	ND (0.0032)	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	190000^{AB}	0.0204 J	0.0283 J	ND (0.038)	0.248	0.0196 J	0.0452	0.833	ND (0.040)	0.0664	ND (0.039)	ND (0.041)	ND (0.041)	ND (0.041)	1.49	ND (0.036)	0.989	ND (0.0082)	ND (0.0084)	0.060	0.064	ND (0.0074)	ND (0.041)	ND (0.0076)	0.14	ND (0.13)	0.013	-	-
ANTHRACENE	mg/kg	190000^{AB}	0.0182 J	ND (0.042)	ND (0.038)	0.0800	ND (0.034)	0.0156 J	ND (0.067)	0.109	0.288	ND (0.039)	0.0176 J	0.0215 J	0.0424	2.47	0.0192 J	1.56	ND (0.0082)	ND (0.0084)	0.066	0.035	0.0060 J	ND (0.041)	ND (0.0076)	ND (0.12)	ND (0.13)	0.0039 J	-	-
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.0762	0.0425	0.0180 J	0.0791	ND (0.034)	0.0270 J	0.543	0.130	0.529	ND (0.039)	0.0311 J	ND (0.041)	0.0878	0.258	ND (0.036)	0.163	ND (0.0082)	ND (0.0084)	0.030	0.018	0.045	ND (0.041)	ND (0.0076)	0.13	ND (0.13)	ND (0.0091)	-	-
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	0.0612	0.0421	ND (0.038)	0.0589	ND (0.034)	0.0152 J	0.402	0.0875	0.542	ND (0.039)	0.0286 J	ND (0.041)	0.106	0.0849	ND (0.036)	0.0549	ND (0.0082)	ND (0.0084)	0.0029 J	0.0075 J	0.035	0.056	ND (0.0076)	0.14	ND (0.13)	ND (0.0091)	-	-
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.0570	0.0297 J	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.202	0.0274 J	0.659	ND (0.039)	0.0292 J	ND (0.041)	0.132	0.0520	0.0177 J	0.0409 J	ND (0.0082)	ND (0.0084)	0.0060 J	0.0049 J	0.056	0.050	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)	-	-
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.0474	0.0546	ND (0.038)	0.0502	ND (0.034)	ND (0.035)	0.315	0.0767	0.477	ND (0.039)	0.0452	ND (0.041)	0.114	0.0668	0.0301 J	0.0398 J	ND (0.0082)	ND (0.0084)	ND (0.0079)	0.0085	0.023	0.073	ND (0.0076)	0.14	ND (0.13)	ND (0.0091)	-	-
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.0451	0.0239 J	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.157	0.0165 J	0.247	ND (0.039)	ND (0.041)	ND (0.041)	0.0530	ND (0.038)	ND (0.036)	ND (0.042)	ND (0.0082)	ND (0.0084)	0.0058 J	0.0049 J	0.023	ND (0.041)	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	0.0159 J	ND (0.078)	ND (0.081)	0.0654 J	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	0.19	0.19 J	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	0.277	0.0850	0.0552 J	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	0.0707 J	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)	-	-
DI-N-BUTYL PHTHALATE	mg/kg	1000^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.021)	ND (0.38)	ND (0.061)	ND (0.064)	ND (0.45)	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.0946	0.0522	0.0153 J	0.128	0.0175 J	0.0327 J	0.815	0.204	0.531	ND (0.039)	0.0417	ND (0.041)	0.116	0.441	0.0146 J	0.289	ND (0.0082)	ND (0.0084)	0.080	0.043	0.048	0.042	ND (0.0076)	0.26	ND (0.13)	ND (0.0091)	-	-
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.040)	ND (0.042)	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.0761	ND (0.040)	0.109	ND (0.039)	ND (0.041)	ND (0.041)	0.0258 J	ND (0.038)	ND (0.036)	ND (0.042)	ND (0.0082)	ND (0.0084)	ND (0.0079)	ND (0.0084)	0.0093	0.063	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)	-	-
DIETHYL PHTHALATE	mg/kg	1000^{AB}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)	-	-
2,4-DIMETHYLPHENOL	mg/kg	1000^{AB}	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)	ND (0.17)	ND (0.17)	ND (0.34)	ND (0.20)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.21)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.010)	ND (0.38)	ND (0.030)	ND (0.032)	ND (0.45)	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (0.79)	ND (0.84)	ND (0.77)	ND (0.79)	ND (0.68)	ND (0.70)	ND (1.3)	ND (0.79)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.21)	ND (1.0)	ND (1.0)	ND (0.99)	ND (1.0)	ND (0.92)	ND (0.21)	ND (0.95)	ND (0.61)	ND (0.63)	ND (1.1)	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	0.126	0.0536	0.0279 J	0.0390 J	ND (0.034)	0.0240 J	0.427	0.0553	1.15	ND (0.039)	0.0336 J	ND (0.041)	0.182	0.635	ND (0.036)	0.402	ND (0.0082)	ND (0.0084)	0.044	0.018	0.072	ND (0.041)	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.0241 J	ND (0.042)	ND (0.038)	0.506	0.0401	0.0735	1.78	0.567	0.107	ND (0.039)	ND (0.041)	0.0547	ND (0.041)	3.22	0.0200 J	2.21	ND (0.0082)	ND (0.0084)	0.11	0.081	ND (0.0074)	ND (0.041)	ND (0.0076)	0.23	0.25	0.012	-	-
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	0.0338 J	0.0186 J	ND (0.038)	ND (0.040)	ND (0.034)	ND (0.035)	0.110	ND (0.040)	0.420	ND (0.039)	0.0222 J	ND (0.041)	0.0962	0.0292 J	ND (0.036)	0.0222 J	ND (0.0082)	ND (0.0084)	ND (0.0079)	0.0014 J	0.020	0.046	ND (0.0076)	ND (0.12)	ND (0.13)	ND (0.0091)	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	0.0932	0.132	ND (0.077)	ND (0.079)	1.08	ND (0.070)	39.8	ND (0.079)	0.0972	ND (0.078)	0.0469 J	0.0531 J	0.0969	91.5	0.229	37.3	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	0.16	2.7	7.4	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.83)	ND (0.83)	ND (0.79)	ND (0.83)	ND (0.74)	-	ND (0.76)	-	-	ND (0.91)	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.010)	ND (0.38)	ND (0.030)	ND (0.032)	ND (0.45)	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.010)	-	ND (0.030)	ND (0.032)	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.0197 J	0.0385 J	ND (0.038)	ND (0.040)	0.0777	ND (0.035)	4.04	ND (0.040)	0.0457	ND (0.039)	0.0218 J	0.0332 J	0.0511	7.64	0.0324 J	6.45	ND (0.0082)	ND (0.0084)	0.016	0.066	ND (0.0074)	ND (0.010)	0.0039 J	ND (0.030)	0.83	6.9	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.40)	ND (0.42)	ND (0.38)	ND (0.40)	ND (0.34)	ND (0.35)	ND (0.67)	ND (0.40)	ND (0.36) J	ND (0.39) J	ND (0.41) J	ND (0.41) J	ND (0.41) J	ND (0.38) J	ND (0.36) J	ND (0.42) J	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)	-	-
PHENANTHRENE	mg/kg	190000^{AB}	0.105	0.0742	0.0356 J	1.12	0.0953	0.140	4.30	1.25	0.855	ND (0.039)	0.0471	0.148	0.131	12.5	0.0636	6.36	ND (0.0082)	ND (0.0084)	0.11	0.24	0.012	ND (0.041)	ND (0.0076)	0.55	0.53	0.022	-	-
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	0.0683 J	ND (0.075)	ND (0.072)	ND (0.084)	ND (0.41)	ND (0.42)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.041)	ND (0.38)	ND (0.12)	ND (0.13)	ND (0.45)	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	0.169	0.108	0.0291 J	0.463	0.0448	0.0977	2.01	0.429	0.823	ND (0.039)	0.0548	0.0497	0.179	2.68	0.0381	1.78	ND (0.0082)	ND (0.0084)	0.13	0.078	0.065	ND (0.041)	ND (0.0076)	0.45	0.20	0.0073 J	-	-
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.079)	ND (0.084)	ND (0.077)	ND (0.079)	ND (0.068)	ND (0.070)	ND (0.13)	ND (0.079)	ND (0.072)	ND (0.078)	ND (0.081)	ND (0.081)	ND (0.081)	ND (0.075)	ND (0.072)	ND (0.084)	ND (1.0)	ND (1.0)	ND (0.99)	ND (1.0)	ND (0.92)	-	ND (0.95)	-	-	ND (1.1)	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)	ND (0.17)	ND (0.17)	ND (0.34)	ND (0.20)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.18)	ND (0.21)	ND (0.0082)	ND (0.0084)	ND (0.0079)	ND (0.017)	ND (0.0074)	-	ND (0.0076)	-	-	ND (0.046)	-	-
Metals																														
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	5.3	-	4.2	-	-	-	-	-	-	-	-	-	-	20	-	6.9	9.9	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	162	-	152	-	-	-	-	-	-	-	-	-	-	100	-	67	120	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	0.84 J	-	0.41 J	-	-	-	-	-	-	-	-	-	-	ND (0.49)	-	ND (0.49)	ND (0.51)	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	***834*** [A]	-	***511*** [A]	-	-	-	-	-	-	-	-	-	-	57	-	50	54	-	65	53
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	12.0	8.7	7.3	8.7	5.0 J	9.1	5.2 J	9.5	6.7	8.2	6.8	10.5	8.5	11.1	10.1	9.7	5.7	8.5	5.7	10.7	9.6	-	6.8	-	-	7.9	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	90.2	112	46.7	10.5	13.0	11.8	15.7	11.2	287	11.2	50.3	10.8	68.7	7.9	32.6	6.7	7.5	7.3	9.2	10.5	4.9	63	5.5	15	22	13.4	65	38
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	0.18	-	0.15	-	-	-	-	-	-	-	-	-	-	0.93	-	0.12	0.20	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	76.2	23.6	15.3	20.9	12.3	15.8	11.0	17.6	52.8	20.6	30.0	22.5	33.7	12.4	19.6	15.0	8.8	14.6	12.0	15.5	29.6	19	11.7	18	32	14.6	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	1.9 J	-	ND (2.4)	-	-	-	-	-	-	-	-	-	-	ND (2.5)	-	ND (2.4)	ND (2.5)	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	ND (1.1)	-	1.2	-	-	-	-	-	-	-	-	-	-	ND (0.25)	-	ND (0.24)	ND (0.25)	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	123	41.3	38.3	41.2	38.1	43.7	30.4	48.3	119	27.9	69.3	35.8	56.8	27.9	44.8	25.8	14.1	24.4	18.9	20.8	42.3	-	20.1	-	-	25.9	-	-
ZINC	mg/kg	190000^{AB}	1040	214	89.6	44.1	32.3	48.5	39.7	42.5	460	44.8	226	51.8	251	30.0	65.8	35.7	27.0	34.9	32.3	38.8	51.5	81	27.1	51	81	38.3	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-2		AOI5-3		AOI5-4		AOI5-5		AOI5-6		AOI5-7		AOI-5-BH-15-5		AOI-5-BH-15-6		AOI-5-BH-15-7		AOI-5-BH-15-10	AOI5-BH-15-MH07-01	AOI5-BH-15-MH07-02	AOI5-BH-15-MH07-03	AOI5-BH-15-MH07-04	AOI5-BH-15-MH07-05	AOI5-BH-15-MH07-06	AOI5-BH-15-MH07-07	AOI5-BH-15-MH07-08	AOI5-BH-15-MH07-09	AOI5-BH-15-MH07-10
Sample Date			27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	27-May-86	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	24-Jul-15	15-Mar-16	15-Mar-16	15-Mar-16	15-Mar-16	16-Mar-16	15-Mar-16	15-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16
Sample ID			2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	AOI-5-BH-15-5_0-2_20150724	AOI-5-BH-15-5_9-9.5_20150724	AOI-5-BH-15-6_0-2_20150724	AOI-5-BH-15-6_6-7_20150724	AOI-5-BH-15-7_0-2_20150724	AOI-5-BH-15-7_6-8_20150724	AOI-5-BH-15-10_0-2_20150724	AOI5-BH-15-MH07-01_031516	AOI5-BH-15-MH07-02_031516	AOI5-BH-15-MH07-03_031516	AOI5-BH-15-MH07-04_031516	AOI5-BH-15-MH07-05_031616	AOI5-BH-15-MH07-06_031516	AOI5-BH-15-MH07-07_031516	AOI5-BH-15-MH07-08_031616	AOI5-BH-15-MH07-09_031616	AOI5-BH-15-MH07-10_031616
Sample Depth			0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	9 - 9.5 ft	0 - 2 ft	6 - 7 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	3 ft	3 ft	3 ft	3 ft	1 ft	3 ft	3 ft	4 ft	5 ft	5 ft
Sampling Company			ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	ERM	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	19235	JB99970A	JB99970A	JB99970A	JB99970A	JB99970A	JB99970A	JB99970A	1641428	1641428	1641428	1641428	1641428	1641428	1641428	1641428	1641428	1641428
Laboratory Sample ID	**Units**	**MSC-PA**	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	JB99970-8	JB99970-9	JB99970-4	JB99970-5	JB99970-6	JB99970-7	JB99970-10	8289408	8289409	8289410	8289411	8289414	8289412	8289413	8289415	8289416	8289417
Volatile Organic Compounds																															
BENZENE	mg/kg	290^{A} 330^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0030	ND (0.052)	0.00025 J	0.0012	0.00015 J	0.0012	0.0054	28	ND (0.026)	ND (0.023)	ND (0.023)	ND (0.027)	ND (0.020)	0.15 J	ND (0.0004)	ND (0.029)	ND (0.021)
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.0014 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	7.5	2.4	0.75	0.054 J	ND (0.054)	ND (0.040)	ND (0.052)	ND (0.0009)	ND (0.058)	ND (0.041)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0013)	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	ND (0.0013)	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0013)	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	ND (0.0013)	ND (0.19)	ND (0.052)	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)	ND (0.0009)	ND (0.058)	ND (0.041)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0058	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	0.00041 J	71	0.14 J	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)	ND (0.0009)	ND (0.058)	ND (0.041)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.00054 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	4.3	0.73	0.67	0.12 J	ND (0.054)	0.065 J	ND (0.052)	0.002 J	ND (0.058)	ND (0.041)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.00039 J	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	ND (0.0013)	ND (0.095)	ND (0.026)	ND (0.023)	ND (0.023)	ND (0.027)	ND (0.020)	ND (0.026)	0.001 J	ND (0.029)	ND (0.021)
HEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.0016 J	ND (0.52)	0.0010 J	0.0013 J	0.0010 J	0.00096 J	0.0015 J	44	0.45	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	0.21 J	ND (0.0009)	ND (0.058)	ND (0.041)
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	ND (0.052)	0.14 J	0.13 J	0.20 J	ND (0.040)	0.11 J	ND (0.0009)	ND (0.058)	0.051 J
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0026)	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	2.7	0.91	0.69	0.49	0.081 J	0.15 J	0.10 J	0.003 J	ND (0.058)	ND (0.041)
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0026)	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	ND (0.19)	0.23 J	0.12 J	ND (0.046)	ND (0.054)	0.046 J	ND (0.052)	ND (0.0009)	ND (0.058)	ND (0.041)
TOLUENE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.0015	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	0.00031 J	0.00045 J	350	0.082 J	0.084 J	ND (0.046)	ND (0.054)	ND (0.040)	0.53	ND (0.0009)	ND (0.058)	ND (0.041)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0014 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0025)	77	0.52	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)	ND (0.0009)	ND (0.058)	ND (0.041)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.0013 J	ND (0.21)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0019)	0.00032 J	22	0.33	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	ND (0.052)	ND (0.0009)	ND (0.058)	ND (0.041)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0343	ND (0.10)	ND (0.00092)	ND (0.0010)	ND (0.0012)	ND (0.00096)	0.0043	430	0.62	ND (0.046)	ND (0.046)	ND (0.054)	ND (0.040)	0.091 J	0.005	ND (0.058)	0.36
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.00021)	ND (0.00023)	ND (0.00021)	ND (0.00021)	ND (0.00022)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00024)	ND (0.00020)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.0647	0.197	ND (0.034)	ND (0.035)	0.0787 J	ND (0.039)	0.0173 J	ND (0.018)	ND (0.038)	0.52	0.76	ND (0.019)	0.36	3.6	ND (0.0040)	0.023	0.019
ANTHRACENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.101	ND (0.037)	ND (0.034)	ND (0.035)	0.200	ND (0.039)	0.0351 J	0.30	0.50	0.60	0.74	0.15	0.66	2.7	0.029	0.12	0.017 J
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.551	0.0385	ND (0.034)	ND (0.035)	0.605	ND (0.039)	0.0915	0.12	1.8	0.91	0.12 J	0.073 J	0.089 J	0.76	0.017 J	0.22	0.013 J
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.480	0.0298 J	ND (0.034)	ND (0.035)	0.636	ND (0.039)	0.0708	0.088 J	1.2	1.2	0.091 J	0.066 J	0.070 J	0.36	0.012 J	0.14	0.012 J
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.659	ND (0.037)	ND (0.034)	ND (0.035)	0.627	ND (0.039)	0.0898	0.069 J	0.55	0.40	0.052 J	0.043 J	0.033 J	0.22	0.0071 J	0.073	0.0083 J
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.317	0.0243 J	ND (0.034)	ND (0.035)	0.306	ND (0.039)	0.0519	0.080 J	0.48	0.89	0.10 J	0.098	0.085 J	0.34	0.0092 J	0.069	0.0087 J
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.266	ND (0.037)	ND (0.034)	ND (0.035)	0.226	ND (0.039)	0.0265 J	0.033 J	0.16 J	0.081 J	ND (0.035)	ND (0.019)	ND (0.018)	0.091 J	ND (0.0040)	0.016 J	ND (0.0034)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	1.2	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)	ND (0.020)	ND (0.020)	ND (0.017)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	1.61	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	0.145	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)	ND (0.080)	ND (0.081)	ND (0.069)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)	ND (0.080)	ND (0.081)	ND (0.069)
CHRYSENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.623	0.0535	ND (0.034)	ND (0.035)	0.825	ND (0.039)	0.124	0.21	3.4	1.9	0.26	0.15	0.15	1.2	0.039	0.40	0.035
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0860	ND (0.037)	ND (0.034)	ND (0.035)	ND (0.18)	ND (0.039)	0.0155 J	0.022 J	0.26	0.20	ND (0.035)	ND (0.019)	ND (0.018)	0.093 J	ND (0.0040)	0.033	ND (0.0034)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)	ND (0.080)	ND (0.081)	ND (0.069)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.91)	ND (0.20)	ND (0.18)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)	ND (0.020)	0.023 J	ND (0.017)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.91)	ND (0.20)	ND (0.18)	ND (1.6)	ND (3.4)	ND (3.2)	ND (3.2)	ND (1.7)	ND (1.6)	ND (3.2)	ND (0.36)	ND (0.36)	ND (0.31)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	1.37	0.0307 J	0.0228 J	ND (0.035)	1.05	ND (0.039)	0.186	0.21	0.43	0.43	0.24	0.071 J	0.18	0.97	0.016 J	0.096	0.014 J
FLUORENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0409	0.259	ND (0.034)	ND (0.035)	ND (0.18)	ND (0.039)	ND (0.036)	1.3	0.48	0.90	1.4	0.30	0.64	7.5	ND (0.0040)	0.054	0.018
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.321	ND (0.037)	ND (0.034)	ND (0.035)	0.268	ND (0.039)	0.0364	0.039 J	0.21	0.19	0.048 J	0.038 J	0.025 J	0.14 J	ND (0.0040)	0.024	ND (0.0034)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0554 J	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	0.0171 J	51	0.68	0.16 J	0.16 J	0.13	ND (0.018)	20	ND (0.0040)	0.12	0.0085 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)	ND (0.020)	0.046	ND (0.017)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)	ND (0.020)	0.027 J	ND (0.017)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0273 J	ND (0.037)	ND (0.034)	ND (0.035)	ND (0.18)	ND (0.039)	ND (0.036)	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.37)	ND (0.37)	ND (0.34)	ND (0.35)	ND (1.8)	ND (0.39)	ND (0.36)	ND (0.91)	ND (1.9)	ND (1.8)	ND (1.8)	ND (0.93)	ND (0.90)	ND (1.8)	ND (0.20)	ND (0.20)	ND (0.17)
PHENANTHRENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	0.613	ND (0.037)	0.0161 J	ND (0.035)	0.689	ND (0.039)	0.115	1.9	1.3	2.6	2.4	0.27	ND (0.018)	6.0	0.045	0.59	0.036
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	0.0908	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.091)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.093)	ND (0.090)	ND (0.18)	ND (0.020)	0.046	ND (0.017)
PYRENE	mg/kg	96000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	1.13	0.169	0.0180 J	ND (0.035)	1.00	ND (0.039)	0.183	0.43	2.8	3.1	1.2	0.34	0.92	5.1	0.067	0.51	0.075
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.074)	ND (0.074)	ND (0.068)	ND (0.071)	ND (0.37)	ND (0.078)	ND (0.072)	ND (0.36)	ND (0.75)	ND (0.72)	ND (0.71)	ND (0.37)	ND (0.36)	ND (0.71)	ND (0.080)	ND (0.081)	ND (0.069)
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.91)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.36)	ND (0.35)	ND (0.19)	ND (0.18)	ND (0.35)	ND (0.040)	ND (0.040)	ND (0.034)
Metals																															
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	97	73	***373 A***	157	***415 A***	86	***1120 A***	336	98	80	145	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	23.4	17.0	11.8	0.42 J	47.8	25.0	21.2	11.9	10.0	7.91	11.7	6.11	6.20	10.4	ND (0.409)	0.543 J	0.611
LEAD	mg/kg	2240^{A} 190000^{B}	289	988	452	144	375	208	1010	402	227	189	140	252	209	7.7	2.7	0.92 J	657	11.3	143	15.2	27.5	11.9	49.6	15.6	2.85	47.2	ND (2.07)	1.71	1.82
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	294	25.4	33.6	3.6 J	764	29.3	273	42.4	50.5	20.0	36.7	12.4	6.63	24.4	ND (1.16)	1.82	1.76
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	***843 A***	332	52.4	10.6	***1940 A***	45.4	***1050 A***	89.6	129	64.5	69.0	27.4	24.0	60.2	2.58	3.33	2.02
ZINC	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	757	35.7	52.9	4.1 J	1110	58.5	329	50.8	305	102	270	41.7	35.6	544	10.0	4.24	5.20

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-15-MH07-11	AOI5-BH-15-MH07-12	AOI5-BH-15-MH07-13	AOI5-BH-15-MH07-14	AOI5-BH-15-MH07-15	AOI5-BH-15-MH07-16	AOI5-BH-15-MH07-17	AOI5-BH-15-MH07-18	AOI5-BH-15-MH10-11	AOI5-BH-15-MH10-12	AOI5-BH-15-MH10-13	AOI5-BH-15-MH11-01	AOI5-BH-15-MH11-02	AOI5-BH-15-MH11-03	AOI5-BH-15-MH11-04	AOI5-BH-15-MH11-05	AOI5-BH-15-MH11-06	AOI5-BH-15-MH11-07	AOI5-BH-15-MH11-08	AOI5-BH-15-MH11-09	AOI5-BH-15-MH11-10	AOI5-BH-15-MH11-11	AOI5-BH-15-MH11-12	AOI5-BH-15-MH11-13	AOI5-BH-15-MH11-14	AOI5-BH-15-MH11-15	AOI5-BH-15-MH11-16	AOI5-BH-15-MH389-01	AOI5-BH-15-MH389-02
Sample Date			16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	16-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	17-Mar-16	18-Mar-16	18-Mar-16
Sample ID			AOI5-BH-15-MH07-11_031616	AOI5-BH-15-MH07-12_031616	AOI5-BH-15-MH07-13_031616	AOI5-BH-15-MH07-14_031616	AOI5-BH-15-MH07-15_031616	AOI5-BH-15-MH07-16_031616	AOI5-BH-15-MH07-17_031616	AOI5-BH-15-MH07-18_031616	AOI5-BH-15-MH10-11_031616	AOI5-BH-15-MH10-12_031616	AOI5-BH-15-MH10-13_031616	AOI5-BH-15-MH11-01_031716	AOI5-BH-15-MH11-02_031716	AOI5-BH-15-MH11-03_031716	AOI5-BH-15-MH11-04_031716	AOI5-BH-15-MH11-05_031716	AOI5-BH-15-MH11-06_031716	AOI5-BH-15-MH11-07_031716	AOI5-BH-15-MH11-08_031716	AOI5-BH-15-MH11-09_031716	AOI5-BH15_MH11-10_031716	AOI5-BH15_MH11-11_031716	AOI5-BH15_MH11-12_031716	AOI5-BH15_MH11-13_031716	AOI5-BH15_MH11-14_031716	AOI5-BH15_MH11-15_031716	AOI5-BH15_MH11-16_031716	AOI5-BH15_MH389-01_031816	AOI5-BH15_MH389-02_031816
Sample Depth			2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	5 ft	5 ft	5 ft	5 ft	5 ft	1.5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	2 ft	2 ft	2 ft	5 ft	5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1641737	1642685	1642685	1642685	1642685	1642685	1642685	1642685	1642684	1642684
Laboratory Sample ID	Units	MSC-PA	8290954	8290955	8290956	8290957	8290960	8290959	8290958	8290961	8290964	8290963	8290962	8290966	8290965	8290967	8290968	8290969	8290970	8290971	8290972	8290973	8295787	8295792	8295790	8295789	8295788	8295791	8295793	8295775
Volatile Organic Compounds																														
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.0005)	ND (0.0005)	ND (0.0006)	ND (0.0004)	ND (0.0005)	ND (0.0004)	ND (0.0004)	ND (0.021)	ND (0.27)	ND (0.29)	ND (0.35)	ND (0.0005)	ND (0.026)	ND (0.0006)	ND (0.0007)	ND (0.022)	ND (0.025)	ND (0.025)	ND (0.024)	ND (0.020)	ND (0.21)	0.027 J	ND (0.024)	ND (0.095)	ND (0.23)	0.0005 J	ND (0.020)	0.029 J	0.017
CYCLOHEXANE	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	0.002 J	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	0.15 J	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	0.54 J	ND (0.0009)	0.070 J	0.92	0.029
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)	ND (0.0009)	ND (0.040)	ND (0.056)	ND (0.001)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	0.15 J	ND (0.001)	ND (0.001)	0.12 J	ND (0.050)	ND (0.050)	0.059 J	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)	ND (0.0009)	ND (0.040)	ND (0.056)	0.002 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	0.046 J	0.44 J	ND (0.054)	ND (0.049)	ND (0.19)	0.78 J	ND (0.0009)	0.19 J	0.51	ND (0.001)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.0005)	ND (0.0005)	ND (0.0006)	ND (0.0004)	ND (0.0005)	ND (0.0004)	ND (0.0004)	ND (0.021)	ND (0.27)	ND (0.29)	ND (0.35)	ND (0.0005)	ND (0.026)	ND (0.0006)	ND (0.0007)	ND (0.022)	ND (0.025)	ND (0.025)	ND (0.024)	ND (0.020)	ND (0.21)	ND (0.027)	ND (0.024)	ND (0.095)	ND (0.23)	ND (0.0005)	ND (0.020)	ND (0.028)	ND (0.0006)
HEXANE	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)	0.002 J	ND (0.040)	0.24 J	0.020
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	0.001 J	0.002 J	ND (0.0008)	ND (0.042)	40	73	50	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	0.053 J	0.19 J	ND (0.050)	ND (0.048)	0.31	0.78 J	0.21 J	0.14 J	0.68 J	6.6	ND (0.0009)	0.15 J	0.45	ND (0.001)
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	0.63 J	0.83 J	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	0.23 J	ND (0.050)	0.080 J	0.068 J	0.43 J	ND (0.054)	ND (0.049)	ND (0.19)	0.70 J	ND (0.0009)	0.30	0.75	ND (0.001)
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	0.065 J	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)	ND (0.0009)	0.053 J	0.35	ND (0.001)
TOLUENE	mg/kg	10000^{AB}	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	ND (0.048)	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)	ND (0.0009)	ND (0.040)	ND (0.056)	ND (0.001)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	ND (0.001)	0.004 J	ND (0.001)	ND (0.0008)	ND (0.001)	0.002 J	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	0.73 J	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	0.20 J	0.077 J	0.57 J	0.10 J	0.17 J	0.65 J	ND (0.47)	ND (0.0009)	0.045 J	ND (0.056)	ND (0.001)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	ND (0.001)	0.002 J	ND (0.001)	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	ND (0.053)	ND (0.001)	ND (0.001)	ND (0.043)	ND (0.050)	ND (0.050)	0.055 J	ND (0.040)	0.45 J	0.059 J	0.058 J	0.27 J	ND (0.47)	ND (0.0009)	ND (0.040)	ND (0.056)	ND (0.001)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.001)	0.019	0.004 J	ND (0.0008)	ND (0.001)	ND (0.0008)	ND (0.0008)	ND (0.042)	ND (0.54)	ND (0.59)	ND (0.70)	ND (0.001)	1.2	0.001 J	ND (0.001)	1.1	ND (0.050)	ND (0.050)	0.087 J	ND (0.040)	ND (0.43)	ND (0.054)	ND (0.049)	ND (0.19)	ND (0.47)	ND (0.0009)	ND (0.040)	ND (0.056)	0.003 J
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00022)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.0019)	ND (0.00020)	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00022)	ND (0.00022)	ND (0.00020)	ND (0.00022)	ND (0.00023)	ND (0.00023)	ND (0.00022)	0.00053 J	ND (0.00022)	ND (0.00021)	ND (0.00023)	ND (0.00023)
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	190000^{AB}	0.34 J	0.039 J	ND (0.019)	ND (0.0037)	0.059 J	0.073 J	ND (0.019)	0.25	13	9.8	7.8	ND (0.0033)	0.072 J	0.022	ND (0.036)	0.22	1.2	ND (0.019)	0.96	2.6	1.2	1.1	0.57	2.7	ND (0.0037)	ND (0.019)	2.2	ND (0.038)	ND (0.0039)
ANTHRACENE	mg/kg	190000^{AB}	0.45	0.23	0.033 J	ND (0.0037)	0.10	0.046 J	ND (0.019)	0.12	9.0	7.0	5.3	0.0035 J	0.049 J	0.024	0.16 J	0.64	0.69	0.050 J	0.64	0.82	1.5	1.3	1.6	2.5	0.0073 J	0.048 J	2.2	2.3	ND (0.0039)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	2.5	0.62	0.12	0.0041 J	0.51	0.31	ND (0.019)	0.33	0.34 J	0.25 J	0.17 J	0.0050 J	0.018 J	0.032	0.54	3.0	0.26	0.074 J	0.39	0.73	0.40	1.2	5.9	0.62	0.016 J	0.12	3.5	0.53	ND (0.0039)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	2.0	0.59	0.19	ND (0.0037)	0.27	0.74	0.050 J	0.28	ND (0.30)	ND (0.17)	ND (0.17)	0.0061 J	ND (0.017)	0.020	0.43	9.9	0.25	0.090 J	0.43	0.77	0.33	0.87	3.5	0.46	0.018 J	0.11	2.7	0.22	ND (0.0039)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.83	0.34	0.11	ND (0.0037)	0.12	0.29	ND (0.019)	0.14	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	0.0081 J	0.22	4.4	0.13	0.074 J	0.23	0.42	0.17	0.53	2.4	0.25	0.014 J	0.070 J	1.1	0.18 J	ND (0.0039)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.99	0.31	0.22	0.017 J	0.10	1.3	0.49	0.11	0.51 J	ND (0.17)	ND (0.17)	0.0072 J	0.024 J	0.0092 J	0.72	2.8	0.29	0.12	0.81	0.89	0.28	0.84	1.7	0.62	0.017 J	0.18	1.5	0.22	ND (0.0039)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.075)	0.086 J	0.029 J	ND (0.0037)	0.049 J	0.070 J	ND (0.019)	0.025	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	ND (0.0033)	0.059 J	1.0	0.031 J	0.036 J	0.095 J	0.15 J	0.037 J	ND (0.040)	0.51	ND (0.037)	0.0040 J	0.030 J	0.28	0.082 J	ND (0.0039)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	0.49	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	1.1 J	ND (0.77)	ND (0.74)	ND (0.075)	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	ND (0.80)	ND (0.77)	ND (0.74)	ND (0.075)	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)
CHRYSENE	mg/kg	760^{A} 190000^{B}	4.8	1.5	0.37	0.0091 J	0.89	1.1	ND (0.019)	0.66	0.75 J	0.49 J	0.43 J	0.012 J	0.062 J	0.053	1.1	12	0.59	0.21	0.77	1.9	0.90	2.7	14	1.2	0.030	0.29	7.2	0.93	ND (0.0039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	0.38 J	0.13 J	0.052 J	ND (0.0037)	0.063 J	0.16 J	ND (0.019)	0.056	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	0.0043 J	0.14 J	1.9	0.043 J	0.039 J	0.15 J	0.19	0.070 J	0.21	0.83	ND (0.037)	0.0054 J	ND (0.019)	0.45	ND (0.038)	ND (0.0039)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	ND (0.80)	ND (0.77)	ND (0.74)	ND (0.075)	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (6.7)	ND (3.4)	ND (1.7)	ND (0.33)	ND (1.6)	ND (3.2)	ND (1.7)	ND (0.33)	ND (27)	ND (15)	ND (15)	ND (0.30)	ND (1.5)	ND (0.30)	ND (3.3)	ND (3.2)	ND (1.7)	ND (1.7)	ND (3.3)	ND (3.2)	ND (1.6)	ND (3.6)	ND (3.5)	ND (3.4)	ND (0.34)	ND (1.7)	ND (3.3)	ND (3.4)	ND (0.35)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	0.55	0.24	0.039 J	ND (0.0037)	0.12	0.12 J	ND (0.019)	0.090	1.9	1.3	0.88	ND (0.0033)	ND (0.017)	0.012 J	0.15 J	0.18 J	0.33	0.074 J	0.42	0.51	0.55	0.61	2.0	0.86	0.0096 J	0.040 J	1.1	0.97	0.0072 J
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.36 J	0.11 J	0.019 J	ND (0.0037)	0.072 J	0.048 J	ND (0.019)	0.26	22	19	13	ND (0.0033)	0.055 J	0.026	0.061 J	0.16 J	2.5	0.089 J	1.7	4.6	2.8	2.3	1.3	5.2	ND (0.0037)	ND (0.019)	3.2	4.0	ND (0.0039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	0.27 J	0.11 J	0.048 J	ND (0.0037)	0.045 J	0.20	ND (0.019)	0.040	ND (0.30)	ND (0.17)	ND (0.17)	ND (0.0033)	ND (0.017)	0.0040 J	0.15 J	1.3	0.12	0.051 J	0.21	0.28	0.092 J	0.25	0.63	0.21	ND (0.0037)	0.061 J	0.40	0.094 J	ND (0.0039)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	0.54	0.24	0.042 J	0.0067 J	0.14	0.059 J	ND (0.019)	0.36	42	130	110	0.019	ND (0.017)	0.10	0.23	0.82	0.98	0.081 J	4.5	63	18	7.8	3.9	28	0.0077 J	ND (0.019)	1.7	9.0	ND (0.0039)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	0.023 J	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (3.7)	ND (1.9)	ND (0.94)	ND (0.18)	ND (0.90)	ND (1.8)	ND (0.93)	ND (0.18)	ND (15)	ND (8.5)	ND (8.5)	ND (0.17)	ND (0.83)	ND (0.17)	ND (1.8)	ND (1.8)	ND (0.95)	ND (0.93)	ND (1.9)	ND (1.8)	ND (0.91)	ND (2.0)	ND (1.9)	ND (1.9)	ND (0.19)	ND (0.95)	ND (1.8)	ND (1.9)	ND (0.20)
PHENANTHRENE	mg/kg	190000^{AB}	1.5	1.1	0.18	ND (0.0037)	0.44	0.14 J	ND (0.019)	0.39	33	39	32	0.014 J	0.080 J	0.093	0.53	1.6	4.6	0.061 J	2.8	6.0	4.4	3.8	6.8	9.3	0.019 J	0.088 J	11	7.9	ND (0.0039)
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.37)	ND (0.19)	ND (0.094)	ND (0.018)	ND (0.090)	ND (0.18)	ND (0.093)	ND (0.018)	ND (1.5)	ND (0.85)	ND (0.85)	ND (0.017)	ND (0.083)	ND (0.017)	ND (0.18)	ND (0.18)	ND (0.095)	ND (0.093)	ND (0.19)	ND (0.18)	ND (0.091)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.18)	ND (0.19)	ND (0.020)
PYRENE	mg/kg	96000^{A} 190000^{B}	4.2	1.6	0.38	0.0069 J	0.79	1.9	0.022 J	0.71	5.1	4.2	2.7	0.011 J	0.11	0.068	0.98	14	2.1	0.37	2.4	4.1	3.0	3.9	11	5.4	0.052	0.21	8.4	4.6	0.015 J
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (1.5)	ND (0.75)	ND (0.37)	ND (0.073)	ND (0.36)	ND (0.72)	ND (0.37)	ND (0.073)	ND (6.1)	ND (3.4)	ND (3.4)	ND (0.067)	ND (0.33)	ND (0.066)	ND (0.72)	ND (0.72)	ND (0.38)	ND (0.37)	ND (0.74)	ND (0.71)	ND (0.36)	ND (0.80)	ND (0.77)	ND (0.74)	ND (0.075)	ND (0.38)	ND (0.73)	ND (0.77)	ND (0.079)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.75)	ND (0.37)	ND (0.19)	ND (0.037)	ND (0.18)	ND (0.36)	ND (0.19)	ND (0.036)	ND (3.0)	ND (1.7)	ND (1.7)	ND (0.033)	ND (0.17)	ND (0.033)	ND (0.36)	ND (0.36)	ND (0.19)	ND (0.19)	ND (0.37)	ND (0.36)	ND (0.18)	ND (0.40)	ND (0.39)	ND (0.37)	ND (0.037)	ND (0.19)	ND (0.36)	ND (0.38)	ND (0.039)
Metals																														
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	15.7	2.83	3.26	32.7	2.82	5.59	7.14	15.0	1.55 J	1.67 J	0.455 J	0.741 J	1.49 J	1.17 J	5.57	15.6	16.8	11.8	16.8	7.55	10.3	7.59	7.69	8.60	13.8	8.50	3.11	6.58	5.14
LEAD	mg/kg	2240^{A} 190000^{B}	232	15.7	56.6	172	4.99 J	16.0	17.5	31.9	2.68 J	2.59 J	1.56 J	3.58 J	3.43 J	3.24 J	37.8	24.8	30.9	24.9	57.8	22.9	13.0	27.5	33.7	23.1	6.30	26.7	11.4	14.1	5.97
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	94.5	20.7	23.7	984	26.4	16.8	18.0	83.9	3.07 J	4.60	0.865 J	2.20 J	3.81 J	3.19 J	21.3	93.5	18.1	23.5	24.1	14.2	18.8	12.4	13.4	12.7	33.9	30.7	7.23	14.0	8.55
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	64.0	4.46	4.54	210	2.66	24.3	34.7	66.0	5.29	2.90	3.76	2.98	7.08	2.95	47.4	57.0	53.2	74.4	63.0	36.2	49.3	41.7	41.4	39.7	56.6	51.7	20.3	39.7	17.0
ZINC	mg/kg	190000^{AB}	1350	68.1	283	983	4.83 J	122	81.5	159	4.82 J	6.97 J	4.33 J	5.57 J	6.80 J	5.64 J	134	110	73.6	76.5	113	54.3	50.9	47.7	49.8	41.0	69.8	109	37.1	40.1	22.9

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-15-MH389-03	AOI5-BH-15-MH389-04	AOI5-BH-15-MH389-05	AOI5-BH-15-MH389-06	AOI5-BH-15-MH389-07	AOI5-BH-15-MH389-08	AOI5-BH-15-MH389-09	AOI5-BH-15-MH389-10	AOI5-BH-15-MH389-11	AOI5-BH-16-001	AOI5-BH-16-002		AOI5-BH-16-003		AOI5-BH-16-004		AOI5-BH-16-005		AOI5-BH-16-006		AOI5-BH-16-007		AOI5-BH-16-008		AOI5-BH-16-009	
Sample Date			18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	18-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16	22-Mar-16
Sample ID			AOI5-BH15_MH389-03_031816	AOI5-BH15_MH389-04_031816	AOI5-BH15_MH389-05_031816	AOI5-BH15_MH389-06_031816	AOI5-BH15_MH389-07_031816	AOI5-BH15_MH389-08_031816	AOI5-BH15_MH389-09_031816	AOI5-BH15_MH389-10_031816	AOI5-BH15_MH389-11_031816	AOI5-BH-16-001(0-2')	AOI5-BH-16-002(0-2')	AOI5-BH-16-002(3-4')	AOI5-BH-16-003(0-2')	AOI5-BH-16-003(3-4')	AOI5-BH-16-004(0-2')	AOI5-BH-16-004(5-6')	AOI5-BH-16-005(0-2')	AOI5-BH-16-005(3-4')	AOI5-BH-16-006(0-2')	AOI5-BH-16-006(3-4')	AOI5-BH-16-007(0-2')	AOI5-BH-16-007(3-4')	AOI5-BH-16-008(0-2')	AOI5-BH-16-008(3-4')	AOI5-BH-16-009(0-2')	AOI5-BH-16-009(3-4')
Sample Depth			5 ft	2 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	0 - 2 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	5 - 6 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1642684	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102	1643102
Laboratory Sample ID	Units	MSC-PA	8295776	8295777	8295778	8295779	8295780	8295781	8295782	8295783	8295784	8297814	8297815	8297816	8297817	8297818	8297810	8297811	8297812	8297813	8297808	8297809	8297819	8297820	8297821	8297822	8297823	8297824
Volatile Organic Compounds																												
BENZENE	mg/kg	290^{A} 330^{B}	0.063 J	ND (0.030)	ND (0.036)	ND (0.038)	ND (0.0005)	ND (0.12)	ND (0.36)	0.002 J	ND (0.031)	140	ND (0.025)	0.19 J	R	ND (0.028)	0.0009 J	7.2	0.005 J	0.004 J	0.0006 J	0.30 J	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.024)	0.005 J	0.031 J-
CYCLOHEXANE	mg/kg	10000^{AB}	15	4.3	ND (0.071)	0.71	0.001 J	ND (0.23)	ND (0.72)	0.005 J	0.42	3.2	0.38	ND (0.26)	R	1.3	ND (0.001)	0.059 J	0.006 J	0.003 J	ND (0.0009)	0.10 J	ND (0.0009)	0.006	ND (0.0009)	ND (0.048)	0.002 J	0.26 J-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	ND (0.23)	ND (0.050)	ND (0.26)	R	ND (0.055)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.056)	ND (0.060)	ND (0.071)	ND (0.076)	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	ND (0.061)	ND (0.23)	ND (0.050)	ND (0.26)	R	ND (0.055)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	0.23 J	0.69	ND (0.071)	ND (0.076)	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.15 J	20	ND (0.050)	0.37 J	0.14 J-	0.30	ND (0.001)	0.43	0.002 J	ND (0.001)	ND (0.0009)	0.62	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	0.48	0.88	ND (0.071)	0.28 J	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.21 J	0.57 J	1.4	23	R	0.53	ND (0.001)	ND (0.059)	0.002 J	0.002 J	ND (0.0009)	0.064 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	0.30 J-
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.028)	ND (0.030)	ND (0.036)	ND (0.038)	ND (0.0005)	ND (0.12)	ND (0.36)	ND (0.0006)	ND (0.031)	ND (0.12)	ND (0.025)	ND (0.13)	R	ND (0.028)	ND (0.0005)	ND (0.029)	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.031)	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.024)	ND (0.0008)	ND (0.027) J
HEXANE	mg/kg	10000^{AB}	0.87	0.12 J	ND (0.071)	0.67	ND (0.001)	0.68 J	2.4 J	0.002 J	ND (0.061)	42	0.14 J	ND (0.26)	R	ND (0.055)	ND (0.001)	ND (0.059)	0.003 J	ND (0.001)	ND (0.0009)	ND (0.063)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	3.1	1.7	ND (0.071)	0.57	ND (0.001)	17	3.2 J	0.002 J	1.1	0.38 J	ND (0.050)	ND (0.26)	0.26 J-	0.064 J	ND (0.001)	0.11 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.11 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	0.75	0.80	ND (0.071)	0.21 J	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.32	ND (0.23)	0.33	13	R	0.13 J	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.42	ND (0.002)	0.16 J-
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	0.46	0.32	ND (0.071)	0.16 J	ND (0.001)	ND (0.23)	ND (0.72)	ND (0.001)	0.090 J	ND (0.23)	0.060 J	1.4	R	ND (0.055)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
TOLUENE	mg/kg	10000^{AB}	ND (0.056)	ND (0.060)	ND (0.071)	ND (0.076)	ND (0.001)	ND (0.23)	ND (0.72)	0.002 J	ND (0.061)	130	ND (0.050)	0.34 J	R	ND (0.055)	ND (0.001)	0.23 J	ND (0.001)	ND (0.001)	0.002 J	ND (0.063)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	1.3	2.8	ND (0.071)	0.17 J	ND (0.001)	0.59 J	ND (0.72)	0.003 J	3.1	16	ND (0.050)	ND (0.26)	0.18 J-	ND (0.055)	ND (0.001)	0.23 J	0.002 J	ND (0.001)	ND (0.0009)	0.11 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	1.3	1.7	ND (0.071)	ND (0.076)	ND (0.001)	0.34 J	ND (0.72)	ND (0.001)	1.8	4.2	ND (0.050)	ND (0.26)	0.092 J-	ND (0.055)	ND (0.001)	0.074 J	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.063)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	ND (0.054) J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.53	0.71	ND (0.071)	0.27 J	ND (0.001)	ND (0.23)	ND (0.72)	0.002 J	0.64	120	ND (0.050)	0.59 J	1.1 J-	ND (0.055)	ND (0.001)	1.8	0.007	ND (0.001)	0.008	3.7	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.048)	ND (0.002)	0.071 J-
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00023)	ND (0.00023)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	190000^{AB}	ND (0.041)	ND (0.040)	ND (0.040)	3.1	ND (0.0040)	ND (0.041)	ND (0.041)	ND (0.0039)	ND (0.0041)	0.0082 J	0.15	0.95	0.22	0.021	ND (0.019)	ND (0.0041)	ND (0.020)	ND (0.0041)	ND (0.0035)	0.030 J	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.058	ND (0.0039)	ND (0.0040) J
ANTHRACENE	mg/kg	190000^{AB}	ND (0.041)	0.28	ND (0.040)	3.4	0.0052 J	0.21	4.6	0.067	0.15	ND (0.0040)	0.17	0.49	0.32	0.024	ND (0.019)	ND (0.0041)	0.050 J	0.0044 J	ND (0.0035)	0.15	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.049	0.0051 J	0.068 J-
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.041)	ND (0.040)	ND (0.040)	0.68	0.011 J	0.67	1.5	0.037	0.019 J	ND (0.0040)	0.17	0.17 J	0.55	0.020	0.031 J	ND (0.0041)	0.054 J	0.025	0.0062 J	0.20	ND (0.0040)	ND (0.0041)	0.0059 J	0.025	0.010 J	0.026 J-
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.041)	ND (0.040)	ND (0.040)	0.29	0.016 J	0.48	1.3	0.036	ND (0.0041)	0.0068 J	0.21	0.17 J	0.43	0.039	0.039 J	ND (0.0041)	0.047 J	0.027	0.0082 J	0.25	ND (0.0040)	ND (0.0041)	0.0085 J	0.029	0.023	0.025 J-
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.041)	ND (0.040)	ND (0.040)	0.21	0.015 J	0.80	0.57	0.024	ND (0.0041)	0.0073 J	0.22	0.19 J	0.53	0.034	0.050 J	ND (0.0041)	0.084 J	0.041	0.020	0.20	0.0049 J	ND (0.0041)	0.010 J	0.024	0.024	0.022 J-
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.041)	ND (0.040)	ND (0.040)	0.28	0.022	0.32	2.1	0.070	0.0053 J	0.0087 J	0.18	0.22	0.31	0.046	0.038 J	ND (0.0041)	0.043 J	0.017 J	0.011 J	0.17	ND (0.0040)	ND (0.0041)	0.0076 J	0.037	0.046	0.030 J-
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.041)	ND (0.040)	ND (0.040)	0.050 J	0.0088 J	0.27	0.17 J	ND (0.0039)	ND (0.0041)	ND (0.0040)	0.10	0.078 J	0.25	0.015 J	0.021 J	ND (0.0041)	0.043 J	0.018 J	0.0077 J	0.11	ND (0.0040)	ND (0.0041)	0.0044 J	0.0075 J	0.011 J	0.0086 J-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	0.39 J	ND (0.21)	0.039	ND (0.020)	0.045	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	0.65 J	ND (0.76)	1.3 J	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	ND (0.39)	ND (0.76)	ND (0.77)	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.32	ND (0.040)	0.31	1.1	0.017 J	0.75	2.5	0.072	0.034	0.0053 J	0.26	0.20	0.59	0.033	0.047 J	ND (0.0041)	0.094 J	0.031	0.014 J	0.32	ND (0.0040)	ND (0.0041)	0.0069 J	0.054	0.016 J	0.045 J-
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.041)	ND (0.040)	ND (0.040)	ND (0.040)	0.014 J	0.083 J	ND (0.041)	ND (0.0039)	ND (0.0041)	ND (0.0040)	0.048 J	0.041 J	0.058 J	0.0049 J	ND (0.019)	ND (0.0041)	ND (0.020)	0.0047 J	0.0037 J	0.042 J	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.0068 J	0.0044 J	0.0049 J-
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	ND (0.39)	ND (0.76)	ND (0.77)	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	0.50	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (3.7)	ND (3.6)	ND (3.6)	ND (3.6)	ND (0.36)	ND (3.7)	ND (3.7)	ND (0.35)	ND (0.37)	ND (0.36)	ND (1.8)	ND (3.4) J	ND (3.5) J	ND (0.34)	ND (1.7)	ND (0.37)	ND (1.8)	ND (0.37)	ND (0.32)	ND (1.8)	ND (0.36)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.36) J
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	ND (0.041)	ND (0.040)	ND (0.040)	1.1	0.020 J	0.65	1.9	0.053	0.032	0.012 J	0.35	0.67	1.6	0.080	0.081 J	ND (0.0041)	0.24	0.038	0.016 J	0.29	0.0054 J	0.0056 J	0.021	0.040	0.024	0.059 J-
FLUORENE	mg/kg	130000^{A} 190000^{B}	2.1	0.88	1.3	5.9	0.0070 J	0.097 J	5.2	0.057	0.27	0.042	0.47	1.5	0.49	0.046	ND (0.019)	ND (0.0041)	0.020 J	ND (0.0041)	ND (0.0035)	0.093 J	ND (0.0040)	ND (0.0041)	ND (0.0039)	0.21	0.0049 J	0.38 J-
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	ND (0.041)	ND (0.040)	ND (0.040)	0.15 J	0.012 J	0.23	0.53	0.023	ND (0.0041)	0.0052 J	0.088 J	0.11 J	0.26	0.022	0.025 J	ND (0.0041)	0.031 J	0.014 J	0.0069 J	0.090 J	ND (0.0040)	ND (0.0041)	0.0057 J	0.013 J	0.020	0.019 J-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	11	3.3	2.7	1.6	0.0080 J	2.5	48	0.36	0.93	0.22	0.36	0.79	1.6	0.13	ND (0.019)	0.038	ND (0.020)	0.0043 J	0.0054 J	0.081 J	ND (0.0040)	0.0043 J	ND (0.0039)	0.058	0.056	1.8 J-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	0.69	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	0.69	ND (0.098)	ND (0.19)	ND (0.19)	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (2.1)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.98)	ND (1.9)	ND (1.9)	ND (0.19)	ND (0.95)	ND (0.20)	ND (0.99)	ND (0.21)	ND (0.18)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)
PHENANTHRENE	mg/kg	190000^{AB}	3.2	1.5	2.4	12	0.019 J	0.67	14	0.21	0.57	0.020 J	0.67	2.8	2.4	0.12	0.059 J	0.0071 J	0.094 J	0.015 J	0.013 J	0.52	ND (0.0040)	0.0068 J	0.015 J	0.36	0.011 J	0.26 J-
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.020)	ND (0.20)	ND (0.21)	ND (0.019)	ND (0.020)	1.7	ND (0.098)	ND (0.19)	0.49	ND (0.019)	ND (0.095)	ND (0.020)	ND (0.099)	ND (0.021)	ND (0.018)	ND (0.10)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020) J
PYRENE	mg/kg	96000^{A} 190000^{B}	0.44	0.50	0.33	4.7	0.022	1.4	13	0.29	0.18	0.021	0.47	1.2	1.2	0.16	0.095 J	ND (0.0041)	0.21	0.040	0.015 J	1.3	0.0071 J	0.0097 J	0.031	0.15	0.049	0.19 J-
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.82)	ND (0.81)	ND (0.81)	ND (0.80)	ND (0.080)	ND (0.81)	ND (0.82)	ND (0.077)	ND (0.082)	ND (0.079)	ND (0.39)	ND (0.76)	ND (0.77)	ND (0.075)	ND (0.38)	ND (0.081)	ND (0.39)	ND (0.082)	ND (0.070)	ND (0.41)	ND (0.080)	ND (0.082)	ND (0.079)	ND (0.077)	ND (0.079)	ND (0.080) J
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.41)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.040)	ND (0.41)	ND (0.41)	ND (0.039)	ND (0.041)	ND (0.040)	ND (0.20)	ND (0.38)	ND (0.39)	ND (0.038)	ND (0.19)	ND (0.041)	ND (0.20)	ND (0.041)	ND (0.035)	ND (0.20)	ND (0.040)	ND (0.041)	ND (0.039)	ND (0.039)	ND (0.039)	ND (0.040) J
Metals																												
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	4.61	2.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	141	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	ND (0.0450)	0.233 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	71.4J	52.8 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	5.03	6.33	4.64	7.50	6.77	15.8	6.15	7.66	6.83	6.81	10.5	11.9	4.96	7.44	6.85	4.85	7.16	6.68	12.0	5.00	8.21	7.15	6.52	6.38	8.95	9.29
LEAD	mg/kg	2240^{A} 190000^{B}	9.60	9.52	10.1	50.8	69.9	74.5	42.6	14.7	8.04	15.8	169	75.0	172	11.2	29.9	12.9	53.7	10.6	2.52	60.2	12.5	10.7	13.7	20.9	16.0	11.1
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	0.308	0.255	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	13.4	13.3	10.7	14.9	12.5	129	17.8	13.3	14.2	16.7	27.5	30.1	18.3	15.1	16.6	18.5	13.8	14.1	41.0	13.9	20.0	16.6	17.7	16.2	20.5	19.5
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	ND (3.86) J	ND (3.23) J	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	ND (1.65)	ND (0.139)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	47.4	38.2	29.7	37.3	34.5	45.2	41.4	38.3	40.6	37.9	56.3	46.9	19.5	31.0	43.8	50.7	35.7	43.4	58.7	35.7	37.1	44.2	34.3	28.9	39.0	29.8
ZINC	mg/kg	190000^{AB}	37.5	36.2	33.7	53.0	37.0	140	328	38.5	34.7	53.8	227	137	442	46.5	75.0	37.2	56.2	43.9	77.1	50.1	52.0	44.0	50.9	71.5	71.6	51.7

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-010		AOI5-BH-16-011		AOI5-BH-16-012		AOI5-BH-16-013		AOI5-BH-16-014		AOI5-BH-16-015		AOI5-BH-16-016		AOI5-BH-16-017		AOI5-BH-16-018	AOI5-BH-16-023		AOI5-BH-16-024	AOI5-BH-16-025	AOI5-BH-16-026		AOI5-BH-16-027		AOI5-BH-16-028		AOI5-BH-16-029
Sample Date			23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	23-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16
Sample ID			AOI5-BH-16-010(0-2')	AOI5-BH-16-010(3-4')	AOI5-BH-16-011(0-2')	AOI5-BH-16-011(3-4')	AOI5-BH-16-012(0-2')	AOI5-BH-16-012(2-3')	AOI5-BH-16-013(0-2')	AOI5-BH-16-013(4-5')	AOI5-BH-16-014(0-2')	AOI5-BH-16-014(2-3')	AOI5-BH-16-015(0-2')	AOI5-BH-16-015(3-4')	AOI5-BH-16-016(0-2')	AOI5-BH-16-016(2-3')	AOI5-BH-16-017(0-2')	AOI5-BH-16-017(3-4')	AOI5-BH-16-018(0-1')	AOI5-BH-16-023(0-2)	AOI5-BH-16-023(2-3)	AOI5-BH-16-024(0-2)	AOI5-BH-16-025(0-2)	AOI5-BH-16-026(0-2)	AOI5-BH-16-026(2-3)	AOI5-BH-16-027(0-2)	AOI5-BH-16-027(2-3)	AOI5-BH-16-028(0-2')	AOI5-BH-16-028(3-4')	AOI5-BH-16-029(0-1')
Sample Depth			0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 1 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 1 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1643532	1645141	1645141	1645141	1645141	1645141	1645141	1645141	1645141	1644685	1644685	1644685
Laboratory Sample ID	Units	MSC-PA	8299863	8299864	8299865	8299866	8299867	8299868	8299869	8299870	8299873	8299874	8299875	8299876	8299871	8299872	8299877	8299878	8299879	8308178	8308179	8308175	8308174	8308172	8308173	8308170	8308171	8305985	8305986	8305987
Volatile Organic Compounds																														
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.88)	ND (0.23)	ND (0.0005)	ND (0.023)	ND (0.0005)	ND (0.0005)	ND (0.029)	0.001 J	ND (0.60)	ND (0.37)	ND (0.0006)	4.5	0.047 J	ND (0.073)	0.003 J	0.001 J	ND (0.0007)	0.012	0.20 J	0.53 J	1.5	0.067 J	ND (0.034)	0.049 J	ND (0.039)	0.12 J	0.17 J	ND (0.026)
CYCLOHEXANE	mg/kg	10000^{AB}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	0.031	120	ND (0.73)	ND (0.001)	4.3	0.096 J	3.1	ND (0.001)	0.022	ND (0.001)	0.001 J	0.25 J	0.98	2.4	0.39	0.59	1.5	1.7	0.41	0.69	0.13 J
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.066)	ND (0.18)	ND (0.14)	ND (0.064)	ND (0.068)	ND (0.063)	ND (0.078)	ND (0.074)	ND (0.081)	ND (0.052)
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.066)	ND (0.18)	ND (0.14)	ND (0.064)	ND (0.068)	ND (0.063)	ND (0.078)	ND (0.074)	ND (0.081)	ND (0.052)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (1.8)	0.95 J	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	18	ND (0.73)	ND (0.001)	ND (0.071)	0.062 J	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 J	0.21 J	0.82 J	3.8	ND (0.064)	ND (0.068)	ND (0.063)	ND (0.078)	ND (0.074)	ND (0.081)	0.10 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	0.001 J	5.9 J	2.6 J	ND (0.001)	ND (0.071)	0.080 J	2.5	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.11 J	4.3	5.6	0.51	0.18 J	0.28 J	0.20 J	0.12 J	0.21 J	0.066 J
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.88)	ND (0.23)	ND (0.0005)	ND (0.023)	0.002 J	0.001 J	ND (0.029)	ND (0.0005)	ND (0.60)	ND (0.37)	ND (0.0006)	ND (0.036)	ND (0.029)	ND (0.073)	ND (0.0006)	0.001 J	ND (0.0007)	0.0009 J	ND (0.033)	ND (0.091)	ND (0.072)	ND (0.032)	0.036 J	ND (0.031)	ND (0.039)	ND (0.037)	ND (0.041)	ND (0.026)
HEXANE	mg/kg	10000^{AB}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	8.9	ND (0.058)	0.25 J	ND (0.001)	ND (0.001)	ND (0.001)	0.004 J	0.076 J	0.64 J	2.9	0.084 J	ND (0.068)	0.64	0.84	ND (0.074)	ND (0.081)	0.073 J
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	7.3 J	0.94 J	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	0.51	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.006	1.4	0.81 J	3.6	0.22 J	0.23 J	0.091 J	0.17 J	0.33 J	0.24 J	0.53
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	0.71 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.19 J	3.4	5.6	0.43	0.14 J	0.23 J	0.14 J	0.24 J	0.38 J	0.096 J
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.066)	0.73 J	1.2	0.13 J	ND (0.068)	0.20 J	0.13 J	0.19 J	0.23 J	ND (0.052)
TOLUENE	mg/kg	10000^{AB}	ND (1.8)	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	0.56	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.008	0.25 J	0.94	1.4	ND (0.064)	ND (0.068)	ND (0.063)	ND (0.078)	ND (0.074)	ND (0.081)	0.16 J
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	7.1 J	0.51 J	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	5.1 J	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	0.29 J	ND (0.001)	ND (0.001)	ND (0.001)	0.007	1.3	0.71 J	1.8	0.12 J	ND (0.068)	0.11 J	0.12 J	0.33 J	0.12 J	0.52
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	2.9 J	ND (0.46)	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	ND (1.2)	ND (0.73)	ND (0.001)	ND (0.071)	ND (0.058)	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 J	0.48	0.23 J	0.36 J	ND (0.064)	ND (0.068)	ND (0.063)	ND (0.078)	0.14 J	ND (0.081)	0.20 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (1.8)	2.4	ND (0.001)	ND (0.047)	ND (0.001)	ND (0.0009)	ND (0.057)	ND (0.0009)	5.7 J	ND (0.73)	ND (0.001)	0.44	0.063 J	ND (0.15)	ND (0.001)	ND (0.001)	ND (0.001)	0.014	1.6	2.4	10	0.15 J	0.090 J	0.19 J	0.35 J	0.19 J	0.091 J	0.58
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	190000^{AB}	ND (0.018)	ND (0.0039)	ND (0.0040)	0.51	ND (0.0040)	ND (0.0038)	ND (0.0039)	ND (0.0040)	0.37	0.13	ND (0.0037)	ND (0.019)	0.017 J	ND (0.062)	0.048 J	0.012 J	ND (0.019)	0.12 J	0.62	10	5.8	1.0	1.3	0.088	1.0 J	8.9	9.7	0.99
ANTHRACENE	mg/kg	190000^{AB}	ND (0.018)	0.0049 J	0.0054 J	0.30	ND (0.0040)	0.0059 J	0.020 J	ND (0.0040)	1.2	0.40	0.0064 J	0.37	0.048	0.82	0.33	0.070	0.13	0.23	0.90	4.6	2.8	1.2	1.7	0.24	2.6	2.3	9.0	1.1
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.018)	0.0040 J	0.010 J	0.083 J	ND (0.0040)	0.0091 J	0.023	ND (0.0040)	1.3	0.89	ND (0.0037)	0.93	0.12	0.21 J	1.0	0.21	0.062 J	0.31	1.4	1.6	1.2	1.1	2.1	0.25	4.3	3.7	7.1	1.5
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.018)	ND (0.0039)	0.020 J	0.078 J	ND (0.0040)	0.011 J	0.020	ND (0.0040)	0.95	0.59	ND (0.0037)	0.63	0.12	0.082 J	1.0	0.20	0.067 J	0.37	1.1	0.91	0.73	1.3	2.5	0.17	4.0	3.3	6.4	1.2
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.018)	0.0059 J	0.015 J	0.070 J	ND (0.0040)	0.011 J	0.022	ND (0.0040)	1.2	0.96	ND (0.0037)	1.1	0.20	0.12 J	1.3	0.31	0.080 J	0.35	0.89	1.4	0.81	0.69	1.9	0.13	3.5	2.4	4.1	0.88
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.018)	0.0061 J	0.028	0.081 J	0.0068 J	0.015 J	0.048	ND (0.0040)	0.56	0.45	ND (0.0037)	0.71	0.16	0.12 J	0.86	0.21	0.098	0.43	0.73	0.79	1.2	1.7	2.3	0.24	6.2	3.8	8.1	0.87
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.018)	ND (0.0039)	0.0081 J	0.025 J	ND (0.0040)	ND (0.0038)	0.018 J	ND (0.0040)	0.46	0.39	ND (0.0037)	0.49	0.084	ND (0.062)	0.63	0.13	0.026 J	0.10 J	0.24	0.40 J	0.19	0.19	0.38 J	0.041	0.93 J	0.71 J	0.80 J	0.22
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	0.15 J	0.024 J	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	0.078	ND (0.096)	ND (0.018)	0.17 J	0.020 J	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	0.35 J	1.0 J	0.87	0.75	ND (0.98)	0.11	2.3	1.8 J	5.0	0.22
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	0.13 J	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	0.97 J	ND (2.2)	ND (0.40)	ND (0.37)	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	ND (0.076)	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	ND (0.83)	ND (2.2)	ND (0.40)	ND (0.37)	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)
CHRYSENE	mg/kg	760^{A} 190000^{B}	ND (0.018)	0.0060 J	0.020 J	0.17	ND (0.0040)	0.0083 J	0.030	ND (0.0040)	1.2	1.2	ND (0.0037)	1.3	0.16	0.38	1.2	0.25	0.20	0.55	2.9	2.6	1.9	1.7	4.1	0.40	5.2	5.0	11	2.6
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.018)	ND (0.0039)	0.0086 J	0.025 J	ND (0.0040)	ND (0.0038)	0.0068 J	ND (0.0040)	0.18	0.12	ND (0.0037)	0.19	0.045	ND (0.062)	0.23	0.054	0.038 J	0.097 J	0.29	0.29 J	0.28	0.31	1.2	0.041	0.82 J	0.88 J	1.6 J	0.24
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	ND (0.076)	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	ND (0.83)	ND (2.2)	ND (0.40)	ND (0.37)	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.091)	ND (0.019)	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (1.6)	ND (0.35)	ND (0.36)	ND (1.7)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.36)	ND (0.34)	ND (1.7)	ND (0.33)	ND (1.7)	ND (0.37)	ND (5.6)	ND (1.7)	ND (0.36)	ND (1.7)	ND (3.3)	ND (3.7)	ND (9.7)	ND (1.8)	ND (1.7)	ND (18)	ND (0.35)	ND (18)	ND (19)	ND (39)	ND (1.8)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	0.021 J	ND (0.0039)	0.014 J	0.16	ND (0.0040)	0.010 J	0.046	ND (0.0040)	2.7	2.0	0.016 J	2.6	0.20	0.47	2.1	0.37	0.096	0.51	1.3	7.0	2.0	1.4	1.8	0.29	5.5	4.3	8.3	1.4
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.024 J	0.011 J	0.0043 J	0.84	ND (0.0040)	0.0039 J	0.0079 J	ND (0.0040)	0.78	0.43	ND (0.0037)	0.36	0.043	0.94	0.074 J	0.025	ND (0.019)	0.12 J	1.2	12	9.4	1.4	2.2	0.23	1.9	4.7	17	1.3
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	ND (0.018)	0.0041 J	0.0097 J	0.039 J	ND (0.0040)	0.0077 J	0.016 J	ND (0.0040)	0.50	0.28	ND (0.0037)	0.48	0.11	ND (0.062)	0.74	0.15	0.048 J	0.23	0.27	0.40 J	0.50	0.60	1.3	0.084	1.9	1.3	2.7	0.39
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	7.9	0.76	0.014 J	0.15	0.0076 J	ND (0.0038)	0.027	ND (0.0040)	0.89	3.7	ND (0.0037)	0.73	0.53	20	0.099	0.033	0.078 J	0.40	7.9	13	69	7.2	13	1.1	22	22	74	6.6
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.091)	ND (0.019)	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.091)	ND (0.019)	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.91)	ND (0.19)	ND (0.20)	ND (0.94)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.96)	ND (0.18)	ND (0.96)	ND (0.20)	ND (3.1)	ND (0.94)	ND (0.20)	ND (0.94)	ND (1.8)	ND (2.1)	ND (5.4)	ND (1.0)	ND (0.93)	ND (9.8)	ND (0.20)	ND (10)	ND (10)	ND (22)	ND (0.98)
PHENANTHRENE	mg/kg	190000^{AB}	0.026 J	0.0084 J	0.016 J	1.7	ND (0.0040)	0.0087 J	0.044	ND (0.0040)	4.1	1.6	0.011 J	1.7	0.19	1.6	0.87	0.14	0.044 J	0.59	4.7	24	19	6.9	10	1.4	18	15	56	5.1
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.091)	0.13	ND (0.020)	ND (0.094)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.096)	ND (0.018)	ND (0.096)	ND (0.020)	ND (0.31)	ND (0.094)	ND (0.020)	ND (0.094)	ND (0.18)	ND (0.21)	ND (0.54)	ND (0.10)	ND (0.093)	ND (0.98)	ND (0.020)	ND (1.0)	ND (1.0)	ND (2.2)	ND (0.098)
PYRENE	mg/kg	96000^{A} 190000^{B}	0.038 J	0.014 J	0.038	0.65	0.0086 J	0.035	0.060	ND (0.0040)	2.5	1.8	0.014 J	2.2	0.20	1.0	1.7	0.37	0.44	0.89	3.5	8.7	6.2	5.8	7.1	0.80	16	15	32	3.6
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.36)	ND (0.078)	ND (0.080)	ND (0.38)	ND (0.079)	ND (0.077)	ND (0.078)	ND (0.080)	ND (0.076)	ND (0.38)	ND (0.074)	ND (0.38)	ND (0.081)	ND (1.3)	ND (0.38)	ND (0.081)	ND (0.37)	ND (0.74)	ND (0.83)	ND (2.2)	ND (0.40)	ND (0.37)	ND (3.9)	ND (0.078)	ND (4.1)	ND (4.1)	ND (8.7)	ND (0.39)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.18)	ND (0.039)	ND (0.040)	ND (0.19)	ND (0.040)	ND (0.038)	ND (0.039)	ND (0.040)	ND (0.038)	ND (0.19)	ND (0.037)	ND (0.19)	ND (0.041)	ND (0.63)	ND (0.19)	ND (0.040)	ND (0.19)	ND (0.37)	ND (0.41)	ND (1.1)	ND (0.20)	ND (0.19)	ND (2.0)	ND (0.039)	ND (2.0)	ND (2.1)	ND (4.4)	ND (0.20)
Metals																														
ARSENIC	mg/kg	61^{A} 190000^{B}	3.74	1.63 J	-	-	12.6	ND (0.662)	-	-	-	-	-	-	-	-	-	-	3.45	4.43	8.69	1.62 J	9.42	6.82	11.8	7.65	5.84	22.4	21.4	5.03
BARIUM	mg/kg	190000^{AB}	169	108	-	-	73.5	85.6	-	-	-	-	-	-	-	-	-	-	132	147	126	456	97.5	191	273	66.1	66.1	119	175	247
CADMIUM	mg/kg	6.1^{A} 190000^{B}	1.02	0.614	-	-	ND (0.224)	0.517 J	-	-	-	-	-	-	-	-	-	-	0.506	0.154 J	0.336 J	1.29	0.717	ND (0.0371)	1.09	ND (0.0450)	ND (0.0509)	2.60	1.66	1.73
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	28.7	21.4	-	-	38.9	11.7	-	-	-	-	-	-	-	-	-	-	35.2	30.4	49.4	16.3	18.3	35.9	34.1	20.7	15.1	18.9	35.0	77.4
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	35.8	14.2	18.5	7.02	6.96	8.47	9.31	9.81	9.07	7.83	6.79	9.86	9.16	10.8	10.5	8.08	8.09	7.77	7.94	4.34	10.7	10.1	6.80	8.64	4.31	8.83	9.57	11.3
LEAD	mg/kg	2240^{A} 190000^{B}	31.3	14.9	11.7	39.4	14.8	6.27	26.9	9.09	85.8	34.0	14.1	37.4	46.9	44.7	72.6	40.8	35.4	63.9	161	61.5	99.6	110	144	36.8	112	213	857	111
MERCURY	mg/kg	510^{A} 190000^{B}	0.835	0.522	-	-	0.0583 J	0.0205 J	-	-	-	-	-	-	-	-	-	-	0.0411 J	0.514	1.28	0.391	0.502	2.11	1.17	0.615	0.177	2.79	3.32	0.690
NICKEL	mg/kg	64000^{A} 190000^{B}	21.7	14.1	47.5	17.4	13.1	9.44	16.6	16.4	20.9	16.5	16.9	23.2	15.6	28.4	22.7	18.2	18.3	19.7	22.2	14.4	19.0	26.9	23.4	16.4	10.0	29.9	46.2	32.8
SELENIUM	mg/kg	16000^{A} 190000^{B}	ND (0.724)	ND (0.917)	-	-	ND (3.84)	ND (0.943)	-	-	-	-	-	-	-	-	-	-	ND (0.646)	1.08 J	ND (0.864)	ND (4.31)	2.36	1.90	ND (3.63)	1.16 J	ND (0.872)	4.62	3.38	2.52
SILVER	mg/kg	16000^{A} 190000^{B}	0.429 J	ND (0.197)	-	-	ND (0.823)	ND (0.202)	-	-	-	-	-	-	-	-	-	-	ND (0.139)	0.789	1.61	1.75	1.75	1.39	1.97	1.90	1.37	ND (1.01)	ND (0.949)	ND (0.206)
VANADIUM	mg/kg	220^{A} 190000^{B}	27.8	29.1	74.7	42.4	43.9	33.6	35.6	42.8	48.7	41.8	42.7	33.2	44.9	74.5	45.3	45.5	45.8	36.2	38.1	86.5	30.2	41.9	29.2	30.5	19.4	35.8	36.5	55.4
ZINC	mg/kg	190000^{AB}	119	40.8	134	127	31.1	37.5	61.9	43.0	1190	95.4	33.5	108	134	135	154	138	108	116	223	243	162	246	290	83.4	34.1	293	285	162

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-030		AOI5-BH-16-031		AOI5-BH-16-032		AOI5-BH-16-033	AOI5-BH-16-034		AOI5-BH-16-035		AOI5-BH-16-036		AOI5-BH-16-037		AOI5-BH-16-038		AOI5-BH-16-039		AOI5-BH-16-040		AOI5-BH-16-041		AOI5-BH-16-042		AOI5-BH-16-043	
Sample Date			28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	28-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16	24-Mar-16
Sample ID			AOI5-BH-16-030(0-2')	AOI5-BH-16-030(2-3')	AOI5-BH-16-031(0-2')	AOI5-BH-16-031(3-4')	AOI5-BH-16-032(0-2')	AOI5-BH-16-032(4-5')	AOI5-BH-16-033(0-2')	AOI5-BH-16-034(0-2')	AOI5-BH-16-034(2-3')	AOI5-BH-16-035(0-2)	AOI5-BH-16-035(3-4)	AOI5-BH-16-036(0-2)	AOI5-BH-16-036(2-3)	AOI5-BH-16-037(0-2)	AOI5-BH-16-037(2-3)	AOI5-BH-16-038(0-2)	AOI5-BH-16-038(3-4)	AOI5-BH-16-039(0-2)	AOI5-BH-16-039(2-3)	AOI5-BH-16-040(0-2)	AOI5-BH-16-040(2-3)	AOI5-BH-16-041(0-2)	AOI5-BH-16-041(6-7)	AOI5-BH-16-042(0-2)	AOI5-BH-16-042(5-6)	AOI5-BH-16-043(0-2)	AOI5-BH-16-043(3-4)
Sample Depth			0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	6 - 7 ft	0 - 2 ft	5 - 6 ft	0 - 2 ft	3 - 4 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644685	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024	1644024
Laboratory Sample ID	Units	MSC-PA	8305988	8305989	8305983	8305984	8305981	8305982	8305980	8305978	8305979	8302364	8302365	8302358	8302359	8302360	8302361	8302362	8302363	8302370	8302371	8302372	8302373	8302368	8302369	8302366	8302367	8302374	8302375
Volatile Organic Compounds																													
BENZENE	mg/kg	290^{A} 330^{B}	0.038 J	0.72	0.007	0.003 J	ND (0.0005)	ND (0.0005)	0.005	ND (0.029)	ND (0.027)	0.039 J	0.52 J	0.007	ND (0.064)	ND (0.035)	ND (0.036)	ND (0.028)	0.070 J	0.064 J	ND (0.045)	0.012	0.18	0.007 J	ND (0.081)	0.012	ND (0.032) J	0.021	ND (0.028)
CYCLOHEXANE	mg/kg	10000^{AB}	0.17 J	0.80	0.052	0.068	ND (0.001)	ND (0.001)	0.003 J	ND (0.058)	ND (0.054)	ND (0.064)	1.1	1.3 J+	ND (0.13)	ND (0.070)	ND (0.073)	0.11 J	ND (0.059)	ND (0.057)	1.4	0.001 J	0.003 J	0.24	1.6	ND (0.001)	ND (0.064) J	0.004 J	0.12 J
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.052)	ND (0.058)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.058)	ND (0.054)	ND (0.064)	ND (0.19)	ND (0.0009)	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.089)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.16)	ND (0.001)	ND (0.064) J	ND (0.001)	ND (0.056)
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.052)	ND (0.058)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.058)	ND (0.054)	ND (0.064)	ND (0.19)	ND (0.0009)	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.089)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.16)	ND (0.001)	ND (0.064) J	ND (0.001)	ND (0.056)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.052)	0.11 J	0.002 J	ND (0.001)	ND (0.001)	ND (0.001)	0.009	ND (0.058)	ND (0.054)	ND (0.064)	0.29 J	0.004 J	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	0.063 J	ND (0.057)	ND (0.089)	0.005 J	0.006 J+	0.004 J+	0.22 J	ND (0.001) J	ND (0.064) J	0.008 J+	ND (0.056)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	ND (0.052)	0.23 J	0.003 J	0.007	ND (0.001)	ND (0.001)	0.002 J	0.25 J	ND (0.054)	0.78	6.7	0.043	1.1	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	0.34 J	ND (0.001)	ND (0.002) J	0.013 J+	0.48 J	ND (0.001) J	0.098 J-	0.001 J+	0.16 J
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.026)	0.047 J	ND (0.0005)	0.001 J	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.029)	ND (0.027)	ND (0.032)	ND (0.094)	0.0005 J	ND (0.064)	ND (0.035)	ND (0.036)	ND (0.028)	ND (0.029)	ND (0.028)	ND (0.045)	ND (0.0006)	ND (0.0008)	ND (0.001)	ND (0.081)	ND (0.0006)	ND (0.032) J	ND (0.0006)	ND (0.028)
HEXANE	mg/kg	10000^{AB}	0.16 J	0.69	0.020	0.004 J	ND (0.001)	ND (0.001)	0.006	ND (0.058)	ND (0.054)	ND (0.064) J	ND (0.19)	0.034	ND (0.13)	ND (0.070)	ND (0.073)	0.28 J	ND (0.059) J	ND (0.057)	0.24 J	0.004 J	0.007 J	0.23	0.99	ND (0.001)	ND (0.064) J	0.007	ND (0.056)
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.16 J	0.36	0.004 J	ND (0.001)	ND (0.001)	ND (0.001)	0.014	0.15 J	ND (0.054)	ND (0.064)	0.73 J	0.025 J+	0.28 J	ND (0.070)	ND (0.073)	ND (0.057)	0.093 J	0.48	0.092 J	0.008 J+	0.004 J+	0.027 J+	17	0.004 J+	0.12 J-	0.01 J+	0.080 J
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	ND (0.052)	0.27 J	0.004 J	0.018	ND (0.001)	ND (0.001)	0.002 J	0.31	0.080 J	0.73	4.7	0.041 J+	0.87	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	0.28 J	ND (0.001) J	ND (0.002) J	0.005 J+	0.33 J	ND (0.001) J	0.16 J-	ND (0.001) J	0.23 J
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.052)	0.21 J	0.005	0.013	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.058)	ND (0.054)	0.086 J	0.43 J	0.006 J+	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	0.091 J	ND (0.001) J	ND (0.002) J	ND (0.002) J	0.32 J	ND (0.001) J	ND (0.064) J	ND (0.001) J	ND (0.056)
TOLUENE	mg/kg	10000^{AB}	ND (0.052)	0.16 J	0.004 J	0.005 J	ND (0.001)	ND (0.001)	0.005	0.095 J	ND (0.054)	ND (0.064)	ND (0.19)	0.007	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.089)	0.012	0.36	0.018	ND (0.16)	0.023	ND (0.064) J	0.036	ND (0.056)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	0.12 J	0.99	0.014	0.018	ND (0.001)	ND (0.001)	0.038	0.11 J	ND (0.054)	ND (0.064)	0.20 J	0.027 J+	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	0.075 J	0.099 J	0.11 J	0.011 J+	ND (0.002) J	0.062 J+	3.6	0.004 J+	0.081 J-	ND (0.001) J	ND (0.056)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	ND (0.052)	0.21 J	0.005	0.006	ND (0.001)	ND (0.001)	0.010	ND (0.058)	ND (0.054)	ND (0.064)	ND (0.19)	0.018 J+	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	ND (0.059)	ND (0.057)	ND (0.089)	0.007 J+	0.002 J+	0.020 J+	1.5	0.001 J+	ND (0.064) J	0.01 J+	ND (0.056)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.092 J	0.53	0.017	0.020	ND (0.001)	ND (0.001)	0.026	0.14 J	ND (0.054)	0.10 J	0.51 J	0.032	ND (0.13)	ND (0.070)	ND (0.073)	ND (0.057)	0.16 J	0.085 J	ND (0.089)	0.013	0.090 J+	0.16 J+	2.0	0.009 J+	0.078 J-	0.036 J+	ND (0.056)
Volatile Organic Compounds (SW8011)																													
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																													
ACENAPHTHENE	mg/kg	190000^{AB}	0.27	1.4	0.24	ND (0.20)	ND (0.018)	ND (0.0039)	0.21	ND (0.18)	ND (0.019)	ND (0.037)	0.90 J	ND (0.17)	1.0 J	1.2	0.27	ND (0.18)	0.61 J	ND (0.19)	0.19	ND (0.18)	ND (0.23)	0.29 J	17	ND (0.19)	1.2	ND (0.22)	3.1
ANTHRACENE	mg/kg	190000^{AB}	0.56	2.2	0.67	0.70 J	ND (0.018)	0.0047 J	0.36	ND (0.18)	0.057 J	0.058 J	0.95 J	ND (0.17)	1.0 J	1.8	0.30	0.20 J	1.0	0.31 J	0.19	ND (0.18)	ND (0.23)	0.70 J	31	0.36 J	1.7	ND (0.22)	1.9
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.84	2.5	1.1	0.89 J	0.038 J	0.011 J	0.58	ND (0.18)	0.13	0.11 J	1.0 J	0.31 J	0.72 J	2.3	0.25	0.63 J	1.0	0.44 J	0.12 J	0.63 J	ND (0.23)	0.74 J	24	0.45 J	0.89 J	0.32 J	1.0
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	1.0	2.3	1.0	0.88 J	0.080 J	0.021	0.71	0.47 J	0.14	0.16 J	0.69 J	0.24 J	0.52 J	1.9	0.17	0.60 J	1.0	0.43 J+	0.12 J	0.59 J	ND (0.23)	0.78 J	13	0.51 J	0.76 J	0.32 J	0.96
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	1.2	1.6	0.87	1.4	0.073 J	0.020 J	0.62	0.43 J	0.12	0.20	0.82 J	0.30 J	0.58 J	2.2	0.17	0.90 J	1.3	0.43 J	0.083 J	0.75 J	ND (0.23)	0.51 J	8.2	0.28 J	0.53 J	0.35 J	0.68 J
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.98	2.7	1.3	2.1	0.079 J	0.037	0.72	0.63 J	0.20	0.24	0.57 J	0.34 J	0.41 J	1.5	0.15	0.54 J	0.90 J	0.61 J	0.11 J	0.50 J	0.33 J	2.5	15	1.2	0.78 J	0.72 J	1.1
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.39	0.44 J	0.26	0.46 J	0.024 J	0.0089 J	0.17 J	ND (0.18)	ND (0.019)	0.073 J	0.46 J	ND (0.17)	0.25 J	1.1	0.10 J	0.40 J	0.57 J	0.30 J-	ND (0.025)	0.29 J	ND (0.23)	0.27 J	1.9	ND (0.19)	0.29 J	ND (0.22)	0.22 J
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	0.29	1.6	0.65	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)	ND (0.93)	ND (1.1)	ND (1.2)	17	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	17
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	ND (3.6)
CHRYSENE	mg/kg	760^{A} 190000^{B}	1.2	3.8	1.7	1.6	0.088 J	0.025	1.5	0.73 J	0.43	0.18 J	1.4	0.34 J	1.2	3.4	0.42	0.74 J	1.6	0.76 J	0.25	0.78 J	ND (0.23)	0.96 J	34	0.75 J	1.7	0.53 J	2.0
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	0.29	0.61	0.24	0.52 J	0.025 J	0.011 J	0.11 J	ND (0.18)	0.049 J	ND (0.037)	ND (0.22)	ND (0.17)	ND (0.21)	0.39 J	0.038 J	ND (0.18)	0.27 J	ND (0.19)	0.026 J	ND (0.18)	ND (0.23)	ND (0.24)	2.3	ND (0.19)	0.22 J	ND (0.22)	ND (0.18)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	ND (3.6)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (1.5)	ND (8.6)	ND (1.6)	ND (18)	ND (1.6)	ND (0.36)	ND (3.4)	ND (16)	ND (1.7)	ND (3.3)	ND (20)	ND (15)	ND (19)	ND (19)	ND (2.1)	ND (16)	ND (17)	R	ND (2.2)	ND (17)	ND (20)	ND (22)	ND (18)	ND (17)	ND (19)	ND (20)	ND (16)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	1.1	2.8	1.2	1.8	0.019 J	0.026	0.75	ND (0.18)	0.062 J	0.14 J	2.2	0.38 J	1.7	3.7	0.43	1.1	2.7	0.67 J	0.16	0.93 J	ND (0.23)	0.59 J	17	0.34 J	1.2	0.65 J	1.4
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.57	2.3	0.57	0.62 J	ND (0.018)	ND (0.0039)	0.23	ND (0.18)	0.049 J	0.048 J	1.5	ND (0.17)	2.0	2.2	0.046 J	ND (0.18)	0.43 J	0.26 J	0.45	ND (0.18)	ND (0.23)	0.48 J	36	0.28 J	1.7	ND (0.22)	4.7
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	0.62	0.93	0.47	0.66 J	0.023 J	0.017 J	0.27	ND (0.18)	0.049 J	0.13 J	0.45 J	0.27 J	ND (0.21)	0.92 J	0.087 J	0.42 J	0.67 J	0.24 J	0.046 J	0.29 J	ND (0.23)	0.53 J	4.1	0.34 J	0.31 J	ND (0.22)	0.30 J
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	3.1	33	5.7	2.1	ND (0.018)	0.023	0.75	1.0	0.88	0.14 J	6.8	0.99	2.9	1.4	0.19	ND (0.18)	0.38 J	0.47 J+	0.16	0.25 J	0.39 J	3.3	190	2.2	2.3	0.57 J	0.41 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.86)	ND (4.8)	ND (0.91)	ND (10)	ND (0.89)	ND (0.20)	ND (1.9)	ND (8.9)	ND (0.94)	ND (1.9)	ND (11)	ND (8.6)	ND (10)	ND (11)	ND (1.2)	ND (8.9)	ND (9.7)	R	ND (1.2)	ND (9.3)	ND (11)	ND (12)	ND (10)	ND (9.5)	ND (11)	ND (11)	ND (9.0)
PHENANTHRENE	mg/kg	190000^{AB}	2.4	16	4.5	3.6	0.021 J	0.023	0.71	0.59 J	0.46	0.12 J	4.7	0.37 J	2.6	5.7	0.082 J	0.57 J	1.4	0.94 J+	0.89	0.46 J	0.23 J	2.4	140	1.6	1.9	0.63 J	2.1
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.086)	ND (0.48)	ND (0.091)	ND (1.0)	ND (0.089)	ND (0.020)	ND (0.19)	ND (0.89)	ND (0.094)	ND (0.19)	ND (1.1)	ND (0.86)	ND (1.0)	ND (1.1)	ND (0.12)	ND (0.89)	ND (0.97)	ND (0.97)	ND (0.12)	ND (0.93)	ND (1.1)	ND (1.2)	ND (1.0)	ND (0.95)	ND (1.1)	ND (1.1)	ND (0.90)
PYRENE	mg/kg	96000^{A} 190000^{B}	2.8	12	4.0	3.0	0.051 J	0.024	1.5	0.40 J	0.37	0.29	3.7	0.55 J	3.5	6.9	1.1	1.1	3.3	1.2 J+	0.52	1.1	0.26 J	2.1	90	1.4	4.8	0.98 J	4.4
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.34)	ND (1.9)	ND (0.37)	ND (4.0)	ND (0.36)	ND (0.079)	ND (0.75)	ND (3.6)	ND (0.38)	ND (0.74)	ND (4.4)	ND (3.4)	ND (4.1)	ND (4.3)	ND (0.46)	ND (3.6)	ND (3.9)	R	ND (0.50)	ND (3.7)	ND (4.5)	ND (4.8)	ND (4.0)	ND (3.8)	ND (4.3)	ND (4.5)	ND (3.6)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.17)	ND (0.96)	ND (0.18)	ND (2.0)	ND (0.18)	ND (0.039)	ND (0.37)	ND (1.8)	ND (0.19)	ND (0.37)	ND (2.2)	ND (1.7)	ND (2.1)	ND (2.1)	ND (0.23)	ND (1.8)	ND (1.9)	R	ND (0.25)	ND (1.9)	ND (2.3)	ND (2.4)	ND (2.0)	ND (1.9)	ND (2.1)	ND (2.2)	ND (1.8)
Metals																													
ARSENIC	mg/kg	61^{A} 190000^{B}	5.28	12.7	9.12	16.7	1.58 J	3.98 J	9.70	5.00	1.13 J	6.70	24.0	2.13	21.8	28.6	12.2	6.27	48.7	7.08	5.00 J	ND (2.80)	9.81 J	19.4	11.9	10.2	13.0	13.5	7.00 J
BARIUM	mg/kg	190000^{AB}	110	182	143	98.9	252	116	180	69.8	162	236	419	250	215	431	367	135	1200	119	102	278	103	330	152	84.5	142	255	105
CADMIUM	mg/kg	6.1^{A} 190000^{B}	1.20	1.92	1.74	1.66	1.50	1.43	1.89	2.09	1.37	2.31	11.1	1.27	1.95	7.64 [A]	1.45	0.854	9.50	0.632	1.24 J	1.32 J	2.30 J	2.70	1.58	0.887	1.07	2.62	2.44
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	45.3	26.7	37.5	18.3	54.9	33.6	44.6	19.8	29.9	66.3 J+	34.3 J+	59.6 J+	135 J+	37.4 J+	22.4 J+	35.4 J+	99.6 J+	47.4	60.5 J+	79.2 J+	93.6 J+	177 J+	34.6 J+	49.6 J+	56.3 J+	75.0 J+	77.6 J+
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	6.70	7.32	8.02	10.1	13.9	8.79	14.6	8.06	8.41	14.2	14.1	11.1	22.5	25.9	8.88	7.35	26.2	8.36 J	12.8	11.0	7.99	16.5	7.52	7.46	9.14	11.8	7.12
LEAD	mg/kg	2240^{A} 190000^{B}	53.7	193	131	133	8.76	14.1	139	39.0	14.4	291	1430	230	395	1270	792	111	3980	117 J	38.0	70.5	231	734	424	205	239	367	191
MERCURY	mg/kg	510^{A} 190000^{B}	1.79	0.202	0.605	0.631	0.0136 J	0.0546 J	1.03	0.102	0.0697 J	1.18 J-	0.628 J-	1.29 J-	0.623	0.265 J-	0.230 J-	0.684 J-	2.01 J-	1.60 J-	0.194 J-	1.42 J-	4.34 J-	3.83 J-	0.357 J-	1.54 J-	1.90 J-	2.09 J-	1.37 J-
NICKEL	mg/kg	64000^{A} 190000^{B}	16.2	15.8	21.4	22.5	38.7	19.4	43.1	20.4	19.4	34.4	14.6	26.6	17.8	24.8	11.1	24.3	16.0	31.6	27.9	38.1	29.7	48.5	16.7	17.9	22.9	33.4	20.3
SELENIUM	mg/kg	16000^{A} 190000^{B}	1.69 J	2.35	2.97	2.50	2.21	2.26	2.41	2.04	2.69	ND (0.914)	ND (4.82)	ND (0.827)	ND (0.927)	ND (1.07)	ND (0.888)	ND (0.829)	ND (7.46)	1.66 J	ND (4.70)	ND (3.99)	ND (4.44)	ND (1.08)	ND (0.953)	ND (0.905)	ND (1.04)	ND (1.05)	3.35 J
SILVER	mg/kg	16000^{A} 190000^{B}	ND (0.823)	ND (0.807)	ND (0.797)	ND (0.861)	ND (0.813)	ND (0.729)	ND (0.840)	ND (0.769)	ND (0.737)	5.88 J+	4.57 J+	5.08 J+	6.14 J+	26.9 J+	15.4 J+	1.14 J+	14.1 J+	1.56	ND (1.01) J	ND (0.856) J	ND (0.952) J	9.79 J+	3.72 J+	1.49 J+	2.93 J+	0.327 J+	ND (0.713) J
VANADIUM	mg/kg	220^{A} 190000^{B}	31.6	37.0	48.9	30.4	59.0	43.0	53.5	34.0	38.7	54.7	29.0	51.5	49.1	45.5	23.1	40.0	40.2	40.9	63.3	64.4	84.0	97.9	41.2	40.9	48.6	66.3	52.9
ZINC	mg/kg	190000^{AB}	88.6	422	163	200	65.6	49.8	168	167	103	407	1190	287	1050	1930	321	172	1470	200 J	89.0	129	230	1010	169	205	189	330	341

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-044		AOI5-BH-16-045		AOI5-BH-16-046		AOI5-BH-16-047		AOI5-BH-16-048		AOI5-BH-16-049		AOI5-BH-16-050		AOI5-BH-16-051		AOI5-BH-16-052	AOI5-BH-16-053		AOI5-BH-16-054		AOI5-BH-16-055	AOI5-BH-16-056		AOI5-BH-16-057		AOI5-BH-16-058	
Sample Date			28-Mar-16	28-Mar-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	8-Jun-16	8-Jun-16	9-Jun-16	9-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	8-Jun-16	9-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16
Sample ID			AOI5-BH-16-044(0-2')	AOI5-BH-16-044(8-9')	AOI5-BH-16-045-0-2	AOI5-BH-16-045-4-6	AOI5-BH-16-046-0-2	AOI5-BH-16-046-2-4	AOI5-BH-16-047-0-2	AOI5-BH-16-047-6-8	AOI5-BH-16-048-0-2	AOI5-BH-16-048-6-8	AOI5-BH-16-049-0-2	AOI5-BH-16-049-3-4	AOI5-BH-16-050-1-2	AOI5-BH-16-050-2-4	AOI5-BH-16-051-0-2	AOI5-BH-16-051-4-5	AOI5-BH-16-052-0-1	AOI5-BH-16-053-0-2	AOI5-BH-16-053-4-5	AOI5-BH-16-054-0-2	AOI5-BH-16-054-2-4	AOI5-BH-16-055-0-2	AOI5-BH-16-056-0-2	AOI5-BH-16-056-2-4	AOI5-BH-16-057-0-2	AOI5-BH-16-057-7-8	AOI5-BH-16-058-0-2	AOI5-BH-16-058-3-4
Sample Depth			0 - 2 ft	8 - 9 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	3 - 4 ft	1 - 2 ft	2 - 4 ft	0 - 2 ft	4 - 5 ft	0 - 1 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	7 - 8 ft	0 - 2 ft	3 - 4 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1644685	1644685	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1670227	1669184	1669184	1669184	1669184	1669184	1669184
Laboratory Sample ID	Units	MSC-PA	8305976	8305977	8417775	8417776	8417771	8417772	8417769	8417770	8417773	8417774	8417760	8417761	8417762	8417763	8417758	8417759	8417766	8417767	8417768	8417764	8417765	8417777	8413806	8413807	8413804	8413805	8413802	8413803
Volatile Organic Compounds																														
BENZENE	mg/kg	290^{A} 330^{B}	0.003 J	0.11 J	0.002 J	0.48 J	ND (0.47)	0.003 J	ND (0.030)	ND (0.043)	ND (0.0006)	ND (0.12)	ND (0.0005)	ND (0.031)	2.2 J	ND (0.29)	0.21 J	0.61 J	ND (0.12)	ND (0.027)	ND (0.24)	63	ND (0.0005)	0.23 J	0.30 J	ND (0.29)	ND (0.0006)	ND (0.0006)	0.0007 J	ND (0.0006)
CYCLOHEXANE	mg/kg	10000^{AB}	0.001 J	1.7	ND (0.001)	7.6	ND (0.94)	0.011	0.11 J	0.22 J	ND (0.001)	3.7	ND (0.0009)	ND (0.061)	14	14	0.33 J	13	0.50 J	0.31	ND (0.49)	34	ND (0.001)	4.2	5.6	0.75 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0009)	ND (0.12)	ND (0.001)	ND (0.24)	ND (0.94)	ND (0.0009)	ND (0.061)	ND (0.085)	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	ND (0.31)	ND (0.55)	ND (0.25)	ND (0.054)	ND (0.49)	ND (0.53)	ND (0.001)	ND (0.28)	ND (0.31)	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.0009)	ND (0.12)	ND (0.001)	ND (0.24)	ND (0.94)	ND (0.0009)	ND (0.061)	ND (0.085)	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	ND (0.31)	ND (0.55)	ND (0.25)	ND (0.054)	ND (0.49)	ND (0.53)	ND (0.001)	ND (0.28)	ND (0.31)	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	0.001 J	0.15 J	ND (0.001)	0.61 J	0.97 J	ND (0.0009)	0.16 J	0.12 J	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	2.6	3.8	0.39 J	ND (0.054)	ND (0.49)	90	ND (0.001)	ND (0.28)	5.9	0.69 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	ND (0.0009)	0.80	0.002 J	1.1 J	ND (0.94)	0.009	0.095 J	0.15 J	ND (0.001)	3.4	ND (0.0009)	3.9	ND (0.61)	0.84 J	0.42 J	14	0.36 J	3.0	7.6	11	ND (0.001)	0.61 J	5.5	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.0004)	ND (0.058)	ND (0.0005)	ND (0.12)	ND (0.47)	ND (0.0005)	0.33	0.19 J	ND (0.0006)	ND (0.12)	ND (0.0005)	ND (0.031)	ND (0.30)	ND (0.29)	ND (0.16)	ND (0.28)	ND (0.12)	ND (0.027)	ND (0.24)	ND (0.26)	0.008	ND (0.14)	ND (0.15)	ND (0.29)	ND (0.0006)	ND (0.0006)	ND (0.0005)	ND (0.0006)
HEXANE	mg/kg	10000^{AB}	0.002 J	ND (0.12)	ND (0.001)	3.0	ND (0.94)	0.004 J	ND (0.061)	0.12 J	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	0.82 J	ND (0.57)	ND (0.31)	7.6	0.37 J	0.060 J	ND (0.49)	86	ND (0.001)	0.71 J	0.98 J	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	0.002 J
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.001 J	0.90	ND (0.001)	0.52 J	5.8	ND (0.0009)	0.22 J	0.50	ND (0.001)	0.35 J	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	18	4.8	9.0	0.25 J	0.69 J	47	ND (0.001)	0.35 J	17	6.0	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	ND (0.0009)	0.42 J	0.004 J	1.1 J	ND (0.94)	0.014	0.21 J	0.14 J	ND (0.001)	3.3	ND (0.0009)	4.5	0.86 J	0.87 J	0.61 J	11	0.56 J	2.9	7.5	6.8	ND (0.001)	0.64 J	5.2	0.58 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.0009)	ND (0.12)	0.002 J	0.26 J	ND (0.94)	0.002 J	0.079 J	ND (0.085)	ND (0.001)	0.89 J	ND (0.0009)	0.49	ND (0.61)	ND (0.57)	ND (0.31)	1.3 J	ND (0.25)	0.29	0.88 J	0.63 J	ND (0.001)	ND (0.28)	1.6	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
TOLUENE	mg/kg	10000^{AB}	0.002 J	ND (0.12)	0.002 J	ND (0.24)	ND (0.94)	ND (0.0009)	0.092 J	0.089 J	ND (0.001)	ND (0.24)	ND (0.0009)	ND (0.061)	ND (0.61)	ND (0.57)	0.43 J	0.73 J	ND (0.25)	ND (0.054)	ND (0.49)	6.1	ND (0.001)	ND (0.28)	0.83 J	ND (0.58)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	0.001 J	0.89	0.002 J	1.6	5.0	0.002 J	1.1	0.68	ND (0.001)	ND (0.24)	ND (0.0009)	0.13 J	ND (0.61)	ND (0.57)	13	37	2.4	0.22 J	ND (0.49)	160	ND (0.001)	0.70 J	59	6.6	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	ND (0.0009)	0.45 J	ND (0.001)	0.45 J	1.6 J	0.002 J	0.082 J	0.27 J	ND (0.001)	ND (0.24)	ND (0.0009)	0.062 J	ND (0.61)	ND (0.57)	3.4	12	0.95 J	0.064 J	1.5 J	64	ND (0.001)	ND (0.28)	42	3.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.003 J	0.44 J	ND (0.001)	0.73 J	5.7	0.003 J	0.45	0.40 J	ND (0.001)	ND (0.24)	ND (0.0009)	0.074 J	ND (0.61)	ND (0.57)	16	12	0.43 J	0.10 J	ND (0.49)	330	ND (0.001)	0.45 J	36	4.3	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	190000^{AB}	0.079 J	2.7	ND (0.037)	1.2	1.6	3.7	1.4	40	ND (0.0038)	3.5	ND (0.0039)	ND (0.0042)	ND (0.093)	ND (0.096)	ND (0.0045)	14	0.68	ND (0.0038)	ND (0.0038)	5.0	ND (0.0038)	6.0	6.5	6.0	0.0091 J	ND (0.0038)	ND (0.0039)	ND (0.0040)
ANTHRACENE	mg/kg	190000^{AB}	0.092	2.1	0.10 J	1.5	2.0	3.7	2.8	17	ND (0.0038)	2.8	ND (0.0039)	0.038	1.3	3.2	0.051	9.0	0.89	0.20	0.077	3.6	0.0059 J	4.3	6.2	11	0.013 J	ND (0.0038)	ND (0.0039)	ND (0.0040)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.13	2.3	0.048 J	0.12 J	2.3	4.9	3.3	6.5	ND (0.0038)	0.26	ND (0.0039)	0.017 J	1.7	3.1	0.076	8.1	0.99	0.84	0.015 J	1.8	0.0052 J	1.1	4.2	29	0.036	ND (0.0038)	ND (0.0039)	ND (0.0040)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	0.079 J	2.5	ND (0.037)	0.042 J	1.3	2.8	2.0	2.5	ND (0.0038)	0.065 J	ND (0.0039)	0.011 J	1.4	1.7	0.055	6.0	0.63	0.47	0.010 J	1.0	0.0047 J	0.93 J	3.8	24	0.031	ND (0.0038)	ND (0.0039)	ND (0.0040)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.099	1.7	ND (0.037)	0.049 J	1.5	2.2	2.2	3.4	ND (0.0038)	0.085 J	ND (0.0039)	0.0093 J	0.67	0.73	0.022 J	2.8	0.70	0.20	0.0065 J	0.52	0.0041 J	0.63 J	4.2	17	0.047	ND (0.0038)	ND (0.0039)	ND (0.0040)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.16	3.9	0.19 J	0.051 J	1.1	1.7	1.9	1.1 J	ND (0.0038)	ND (0.041)	ND (0.0039)	0.0090 J	1.3	1.0	0.051	3.2	0.78	0.31	0.0078 J	0.60	0.0055 J	1.0	1.9	9.8	0.040	ND (0.0038)	ND (0.0039)	ND (0.0040)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.034 J	0.30 J	ND (0.037)	ND (0.040)	0.28 J	0.52 J	0.44 J	0.97 J	ND (0.0038)	ND (0.041)	ND (0.0039)	ND (0.0042)	ND (0.093)	0.29 J	0.0056 J	0.59	ND (0.10)	0.042	0.0064 J	0.045 J	ND (0.0038)	0.24 J	0.70	2.7	0.020	ND (0.0038)	ND (0.0039)	ND (0.0040)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.091)	0.91 J	ND (0.19)	ND (0.20)	ND (0.99)	1.7 J	ND (0.51)	1.2 J	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	2.8	ND (0.019)	ND (0.99)	2.7	3.9	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.21	3.9	0.062 J	0.24	5.0	8.1	7.4	16	ND (0.0038)	0.48	ND (0.0039)	0.039	3.2	5.2	0.12	18	2.1	1.0	0.046	3.2	0.0093 J	2.7	11	56	0.049	ND (0.0038)	ND (0.0039)	ND (0.0040)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.018)	0.33 J	ND (0.037)	ND (0.040)	0.43 J	0.46 J	0.67	0.53 J	ND (0.0038)	ND (0.041)	ND (0.0039)	ND (0.0042)	0.20 J	0.32 J	ND (0.0045)	1.3	0.17 J	0.062	ND (0.0038)	0.20	ND (0.0038)	ND (0.20)	0.67	2.9	0.0084 J	ND (0.0038)	ND (0.0039)	ND (0.0040)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.98)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (1.6)	ND (12)	ND (3.3)	ND (3.6)	ND (18)	ND (18)	ND (9.2)	ND (21)	ND (0.35)	ND (3.7)	ND (0.35)	ND (0.38)	ND (8.4)	ND (8.7)	ND (0.40)	ND (8.7)	ND (9.4)	ND (0.34)	ND (0.34)	ND (1.8)	ND (0.35)	ND (18)	ND (9.2)	ND (20)	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.36)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	0.11	2.1	0.039 J	0.31	2.5	3.1	3.1	24	ND (0.0038)	0.73	ND (0.0039)	0.015 J	0.84	1.8	0.034	5.9	1.0	0.19	0.018 J	1.0	0.0073 J	1.4	6.5	22	0.059	ND (0.0038)	ND (0.0039)	ND (0.0040)
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.12	7.2	ND (0.037)	4.1	2.7	8.5	3.7	50	ND (0.0038)	7.2	ND (0.0039)	0.071	2.4	6.6	0.11	26	1.1	0.33	0.25	7.8	0.0059 J	8.6	12	10	0.030	ND (0.0038)	ND (0.0039)	ND (0.0040)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	0.054 J	0.85	0.038 J	ND (0.040)	0.55 J	0.68 J	0.75	0.45 J	ND (0.0038)	ND (0.041)	ND (0.0039)	ND (0.0042)	0.41 J	0.40 J	0.013 J	0.82	0.31 J	0.083	ND (0.0038)	0.17	ND (0.0038)	0.28 J	0.72	3.4	0.022	ND (0.0038)	ND (0.0039)	ND (0.0040)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	0.23	53	0.13 J	47	14	54	3.5	34	ND (0.0038)	55	ND (0.0039)	0.57	2.2	25	0.14	280	0.80	2.0	0.023	190	0.045	54	140	58	0.054	ND (0.0038)	ND (0.0039)	ND (0.0040)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.98)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.98)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	ND (0.48)	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.91)	ND (6.9)	ND (1.9)	ND (2.0)	ND (9.9)	ND (9.8)	ND (5.1)	ND (11)	ND (0.19)	ND (2.1)	ND (0.20)	ND (0.21)	ND (4.6)	ND (4.8)	ND (0.22)	ND (4.8)	ND (5.2)	ND (0.19)	ND (0.19)	ND (0.99)	ND (0.19)	ND (9.9)	ND (5.1)	ND (11)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)
PHENANTHRENE	mg/kg	190000^{AB}	0.45	20	0.073 J	6.3	10	24	12	95	ND (0.0038)	15	ND (0.0039)	0.088	6.7	16	0.23	83	3.8	1.2	0.37	25	0.020	20	30	84	0.055	ND (0.0038)	ND (0.0039)	ND (0.0040)
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.091)	ND (0.69)	ND (0.19)	ND (0.20)	ND (0.99)	1.7 J	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.21)	ND (0.020)	ND (0.021)	ND (0.46)	ND (0.48)	ND (0.022)	0.56 J	ND (0.52)	ND (0.019)	ND (0.019)	ND (0.099)	ND (0.019)	ND (0.99)	ND (0.51)	ND (1.1)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)
PYRENE	mg/kg	96000^{A} 190000^{B}	0.44	7.4	0.11 J	1.1	5.1	9.7	6.6	21	ND (0.0038)	2.0	ND (0.0039)	0.047	4.3	6.0	0.15	24	2.9	0.95	0.073	5.3	0.012 J	6.0	16	69	0.069	ND (0.0038)	ND (0.0039)	ND (0.0040)
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.36)	ND (2.8)	ND (0.74)	ND (0.81)	ND (4.0)	ND (3.9)	ND (2.0)	ND (4.6)	ND (0.077)	ND (0.82)	ND (0.078)	ND (0.085)	ND (1.9)	ND (1.9)	ND (0.090)	ND (1.9)	ND (2.1)	ND (0.076)	ND (0.075)	ND (0.40)	ND (0.077)	ND (4.0)	ND (2.0)	ND (4.5)	ND (0.077)	ND (0.077)	ND (0.078)	ND (0.081)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.18)	ND (1.4)	ND (0.37)	ND (0.41)	ND (2.0)	ND (2.0)	ND (1.0)	ND (2.3)	ND (0.038)	ND (0.41)	ND (0.039)	ND (0.043)	ND (0.93)	ND (0.97)	ND (0.045)	ND (0.96)	ND (1.0)	ND (0.038)	ND (0.038)	ND (0.20)	ND (0.038)	ND (2.0)	ND (1.0)	ND (2.2)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.040)
Metals																														
ARSENIC	mg/kg	61^{A} 190000^{B}	5.65 J	17.8	5.24	4.37	20.1	13.8	22.1	34.7	6.41	6.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	117	224	110	69.3	100	116	95.1	94.8	59.8	65.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	4.26	6.60	ND (0.0377)	ND (0.0506)	ND (0.0559)	0.171 J	ND (0.0404)	0.220 J	ND (0.0523)	ND (0.0486)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	***445 A***	78.2	48.9	21.0	63.1	101	36.9	37.4	29.0	32.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	13.3	21.8	7.23	7.11	5.54	6.57	5.52	7.02	7.10	8.29	9.43	9.17	7.00	7.88	12.4	6.11	11.8	4.95	3.06	7.34	6.30	6.89	6.33	3.83	6.39	0.716	6.98	8.82
LEAD	mg/kg	2240^{A} 190000^{B}	52.0	917	24.0	13.3	178	189	175	241	2.36	0.543 J	2.88	8.14	17.7	1.54	5.39	4.98	110	3.71	1.65	10.7	10.4	102	104	202	42.4	1.10 J	9.46	11.5
MERCURY	mg/kg	510^{A} 190000^{B}	0.134	8.34	0.244	0.122	0.986	0.999	1.87	3.26	0.0125 J	0.0280 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	61.9	34.9	17.1	12.8	18.0	23.1	13.5	16.9	12.9	14.1	16.8	12.4	17.8	12.6	16.8	14.8	49.2	11.4	5.72	14.4	12.8	18.3	12.7	9.51	10.2	1.30	14.0	20.3
SELENIUM	mg/kg	16000^{A} 190000^{B}	5.61 J	8.13	ND (0.693)	ND (0.930)	ND (1.03)	1.18 J	0.977 J	ND (1.05)	ND (0.961)	0.973 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	ND (1.54)	1.44	0.598	ND (0.186)	0.271 J	ND (0.186)	0.528	ND (0.211)	ND (0.192)	0.581	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	93.3	66.1	45.6	29.1	56.0	53.2	34.3	44.7	42.7	44.6	45.7	27.5	29.5	17.5	23.8	23.8	113	19.3	11.4	26.7	43.7	43.4	26.9	10.5	37.9	6.78	20.2	30.6
ZINC	mg/kg	190000^{AB}	133	620	68.0	39.0	1590	504	137	196	34.0	33.5	41.8	36.0	51.9	34.9	49.3	43.8	284	31.6	15.3	41.1	35.4	139	107	29.6	44.7	6.16	39.0	49.8

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-059		AOI5-BH-16-060		AOI5-BH-16-061		AOI5-BH-16-062		AOI5-BH-16-063		AOI5-BH-16-064		AOI5-BH-16-065		AOI5-BH-16-066		AOI5-BH-16-067		AOI5-BH-16-068		AOI5-BH-16-069		AOI5-BH-16-070		AOI5-BH-16-071		AOI5-BH-16-072	
Sample Date			7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	7-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	15-Jun-16	16-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	6-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16
Sample ID			AOI5-BH-16-059-0-2	AOI5-BH-16-059-8-10	AOI5-BH-16-060-0-2	AOI5-BH-16-060-8-10	AOI5-BH-16-061-0-2	AOI5-BH-16-061-10-11	AOI5-BH-16-062-0-2	AOI5-BH-16-062-7-8	AOI5-BH-16-063-0-2	AOI5-BH-16-063-6-8	AOI5-BH-16-064-0-2	AOI5-BH-16-064-8-10	AOI5-BH-16-065-1-2	AOI5-BH-16-065-5-6	AOI5-BH-16-066-0-2	AOI5-BH-16-066-6-8	AOI5-BH-16-067-0-2	AOI5-BH-16-067-8-10	AOI5-BH-16-068-0-2	AOI5-BH-16-068-6-8	AOI5-BH-16-069-0-2	AOI5-BH-16-069-8-10	AOI5-BH-16-070-0-2	AOI5-BH-16-070-2-4	AOI5-BH-16-071-0-2	AOI5-BH-16-071-2-4	AOI5-BH-16-072-0-2	AOI5-BH-16-072-2-3
Sample Depth			0 - 2 ft	8 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	10 - 11 ft	0 - 2 ft	7 - 8 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	8 - 10 ft	1 - 2 ft	5 - 6 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1669184	1673474	1673474	1669184	1669184	1669184	1669184	1669184	1669184	1670817	1670817	1670817	1670817	1670817	1670817	1670817	1670817
Laboratory Sample ID	Units	MSC-PA	8413800	8413801	8413798	8413799	8413796	8413797	8413790	8413791	8413794	8413795	8413792	8413793	8432616	8432617	8413788	8413789	8413784	8413785	8413786	8413787	8420676	8420677	8420666	8420667	8420674	8420675	8420664	8420665
Volatile Organic Compounds																														
BENZENE	mg/kg	290^ 330[B]	ND (0.0005)	ND (0.0006)	0.002 J	0.19 J	ND (0.0006)	0.13	0.070 J	0.26 J	ND (0.029)	0.095 J	ND (0.0006)	0.38 J	0.002 J	0.37	ND (0.031)	ND (0.035)	ND (0.11)	ND (0.030)	0.50	0.063 J	0.19 J	ND (0.12)	ND (0.028)	ND (0.030)	0.37	0.94	ND (0.036)	0.007
CYCLOHEXANE	mg/kg	10000^[AB]	ND (0.001)	0.026	0.021	5.4	ND (0.001)	0.027	0.25 J	11	5.4	1.3	ND (0.001)	26	ND (0.001)	0.20 J	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	ND (0.055)	ND (0.060)	0.088 J	ND (0.24)	0.78	0.51	0.78	1.8	0.37	0.004 J
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.21)	ND (0.001)	ND (0.001)	ND (0.070)	ND (0.14)	ND (0.058)	ND (0.065)	ND (0.001)	ND (0.022)	ND (0.001)	ND (0.065)	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	ND (0.055)	ND (0.060)	ND (0.067)	ND (0.24)	ND (0.055)	ND (0.059)	ND (0.062)	ND (0.10)	ND (0.071)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.21)	ND (0.001)	ND (0.001)	ND (0.070)	ND (0.14)	ND (0.058)	ND (0.065)	ND (0.001)	ND (0.022)	ND (0.001)	ND (0.065)	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	ND (0.055)	ND (0.060)	ND (0.067)	ND (0.24)	ND (0.055)	ND (0.059)	ND (0.062)	ND (0.10)	ND (0.071)	ND (0.001)
ETHYLBENZENE	mg/kg	890^ 1000[B]	ND (0.001)	ND (0.001)	ND (0.001)	2.6	ND (0.001)	0.001 J	ND (0.070)	0.61 J	0.42	0.52	ND (0.001)	8.3	ND (0.001)	0.12 J	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	0.64	ND (0.060)	ND (0.067)	ND (0.24)	ND (0.055)	ND (0.059)	0.37	3.0	ND (0.071)	ND (0.001)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	ND (0.001)	ND (0.001)	ND (0.001)	0.89 J	ND (0.001)	0.005 J	2.1	2.1	0.55	0.18 J	ND (0.001)	2.1	ND (0.001)	ND (0.065)	0.10 J	0.14 J	ND (0.22)	0.31	0.12 J	0.079 J	ND (0.067)	ND (0.24)	0.14 J	0.085 J	0.30 J	1.7	0.13 J	ND (0.001)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	ND (0.0005)	ND (0.0006)	ND (0.0005)	ND (0.10)	0.001 J	0.002 J	ND (0.035)	ND (0.068)	ND (0.029)	ND (0.033)	ND (0.0006)	ND (0.11)	ND (0.0005)	0.039 J	ND (0.031)	ND (0.035)	ND (0.11)	ND (0.030)	ND (0.027)	ND (0.030)	ND (0.034)	ND (0.12)	ND (0.028)	ND (0.030)	ND (0.031)	0.10 J	ND (0.036)	ND (0.0005)
HEXANE	mg/kg	10000^[AB]	ND (0.001)	0.025	0.008	12	ND (0.001)	ND (0.001)	0.096 J	ND (0.14)	8.0	1.4	ND (0.001)	26	0.003 J	0.47	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	ND (0.055)	ND (0.060)	ND (0.067)	ND (0.24)	0.089 J	ND (0.059)	0.16 J	0.38 J	0.26 J	0.001 J
NAPHTHALENE	mg/kg	760^ 190000[B]	ND (0.001)	ND (0.001)	ND (0.001)	2.0	ND (0.001)	0.011	0.74	5.6	0.16 J	0.36	ND (0.001)	5.7	ND (0.001)	0.37	0.20 J	0.088 J	2.7	0.33	1.2	0.52	0.11 J	ND (0.24)	ND (0.055)	ND (0.059)	1.5	23	0.35 J	ND (0.001)
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	ND (0.001)	ND (0.001)	ND (0.001)	0.47 J	ND (0.001)	0.001 J	1.9	1.7	0.38	0.13 J	ND (0.001)	0.61 J	ND (0.001)	ND (0.065)	0.73	0.87	1.3	1.2	0.45	0.34	ND (0.067)	ND (0.24)	0.23 J	0.13 J	0.46	1.8	0.25 J	ND (0.001)
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	ND (0.001)	ND (0.001)	ND (0.001)	0.40 J	ND (0.001)	0.002 J	0.38	0.36 J	0.11 J	ND (0.065)	ND (0.001)	0.29 J	ND (0.001)	ND (0.065)	0.084 J	0.087 J	0.30 J	0.10 J	ND (0.055)	ND (0.060)	ND (0.067)	ND (0.24)	0.059 J	ND (0.059)	0.28 J	0.56	0.085 J	ND (0.001)
TOLUENE	mg/kg	10000^[AB]	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.21)	ND (0.001)	0.003 J	ND (0.070)	ND (0.14)	ND (0.058)	0.25 J	ND (0.001)	4.0	ND (0.001)	0.38	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	0.15 J	1.1	0.083 J	ND (0.24)	ND (0.055)	ND (0.059)	0.067 J	ND (0.10)	ND (0.071)	0.01
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	ND (0.001)	ND (0.001)	ND (0.001)	7.4	ND (0.001)	ND (0.001)	0.16 J	21	1.8	1.5	ND (0.001)	19	ND (0.001)	0.19 J	ND (0.062)	ND (0.070)	4.2	0.23 J	2.7	0.42	0.14 J	ND (0.24)	0.059 J	ND (0.059)	4.0	20	0.12 J	ND (0.001)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	ND (0.001)	ND (0.001)	ND (0.001)	3.7	ND (0.001)	ND (0.001)	ND (0.070)	2.9	0.92	0.77	ND (0.001)	8.1	ND (0.001)	0.080 J	ND (0.062)	ND (0.070)	1.4	0.071 J	0.63	0.12 J	ND (0.067)	ND (0.24)	ND (0.055)	ND (0.059)	2.4	2.3	ND (0.071)	ND (0.001)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	ND (0.001)	ND (0.001)	ND (0.001)	5.2	ND (0.001)	0.004 J	0.35 J	1.4	0.37	2.7	ND (0.001)	20	ND (0.001)	0.84	ND (0.062)	ND (0.070)	ND (0.22)	ND (0.060)	3.8	0.26 J	0.25 J	ND (0.24)	0.071 J	ND (0.059)	1.2	3.5	0.12 J	0.002 J
Volatile Organic Compounds (SW8011)																														
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																														
ACENAPHTHENE	mg/kg	190000^[AB]	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	ND (0.0040)	ND (0.0041)	ND (0.0041)	ND (0.0039)	ND (0.0041)	ND (0.0039)	ND (0.036)	0.20	ND (0.0038)	ND (0.0042)	ND (0.0037)	ND (0.0039)	ND (0.0038)	ND (0.0041)	0.089 J	ND (0.043)	0.61	0.12 J	1.2	6.3	0.24 J	0.33
ANTHRACENE	mg/kg	190000^[AB]	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	ND (0.0040)	0.18	0.021 J	0.018 J	ND (0.0041)	0.014 J	0.063 J	0.62	ND (0.0038)	ND (0.0042)	0.024	ND (0.0039)	0.0069 J	ND (0.0041)	0.26	0.17 J	1.0	0.27	1.8	4.6	0.62	0.53
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	0.0052 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.075	0.31	0.026	0.0090 J	ND (0.0041)	0.0071 J	0.10 J	0.59	ND (0.0038)	ND (0.0042)	0.35	ND (0.0039)	ND (0.0038)	ND (0.0041)	0.42	0.13 J	0.90	0.44	2.0	14	0.88	0.68
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	0.0058 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.041	0.22	0.022	0.0083 J	ND (0.0041)	ND (0.0039)	0.095 J	0.98	ND (0.0038)	ND (0.0042)	0.37	ND (0.0039)	0.0044 J	ND (0.0041)	0.51	0.12 J	0.67	0.49	2.1	26	0.92	0.62
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	0.0090 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.036	0.18	0.021	0.0098 J	ND (0.0041)	ND (0.0039)	0.11 J	0.79	0.0047 J	0.0045 J	0.73	ND (0.0039)	0.0073 J	ND (0.0041)	0.60	0.088 J	0.98	0.64	1.6	11	1.1	0.77
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	0.012 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.069	0.26	0.060	0.0069 J	ND (0.0041)	ND (0.0039)	0.16 J	1.1	0.0076 J	0.0063 J	0.29	ND (0.0039)	0.0076 J	ND (0.0041)	0.54	0.12 J	0.61	0.66	2.0	28	1.5	0.62
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.0090 J	0.064	0.0063 J	ND (0.0039)	ND (0.0041)	ND (0.0039)	0.057 J	0.22	ND (0.0038)	ND (0.0042)	0.33	ND (0.0039)	ND (0.0038)	ND (0.0041)	0.17 J	0.045 J	0.28 J	0.16 J	0.45 J	ND (0.47)	0.28 J	0.20 J
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	ND (0.020)	ND (0.019)	ND (0.019)	0.065	ND (0.019)	ND (0.020)	ND (0.020)	1.4	ND (0.020)	0.035 J	ND (0.020)	0.14	ND (0.018)	ND (0.096)	ND (0.019)	ND (0.021)	1.5	ND (0.019)	0.26	ND (0.021)	ND (0.020)	ND (0.022)	ND (0.39)	ND (0.20)	ND (0.96)	2.9 J	ND (0.42)	ND (0.21)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	0.084 J	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)
DI-N-BUTYL PHTHALATE	mg/kg	10000^[AB]	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	ND (0.082)	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)
CHRYSENE	mg/kg	760^ 190000[B]	0.011 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.31	0.60	0.072	0.036	ND (0.0041)	0.0085 J	0.12 J	0.90	ND (0.0038)	0.0045 J	0.37	ND (0.0039)	0.0064 J	ND (0.0041)	0.59	0.27	1.9	0.60	3.4	27	1.1	0.94
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.020 J	0.048	0.0086 J	ND (0.0039)	ND (0.0041)	ND (0.0039)	0.043 J	0.63	ND (0.0038)	ND (0.0042)	0.083	ND (0.0039)	ND (0.0038)	ND (0.0041)	0.14 J	ND (0.043)	0.15 J	0.13 J	0.31 J	4.2	0.21 J	0.097 J
DIETHYL PHTHALATE	mg/kg	10000^[AB]	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	ND (0.082)	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.021)	ND (0.020)	ND (0.022)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.34)	ND (0.35)	ND (0.36)	ND (0.36)	ND (0.37)	ND (0.37)	ND (0.35)	ND (0.37)	ND (0.35)	ND (3.3)	ND (1.7)	ND (0.34)	ND (0.38)	ND (0.33)	ND (0.35)	ND (0.34)	ND (0.37)	ND (3.7)	ND (3.9)	ND (7.0)	ND (3.6)	ND (17)	ND (42)	ND (7.5)	ND (3.7)
FLUORANTHENE	mg/kg	130000^ 190000[B]	0.0063 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.049	0.22	0.013 J	ND (0.0039)	ND (0.0041)	0.0049 J	0.13 J	0.81	0.011 J	0.011 J	0.47	ND (0.0039)	0.014 J	ND (0.0041)	0.63	0.23	2.1	0.78	2.2	5.7	1.2	0.86
FLUORENE	mg/kg	130000^ 190000[B]	ND (0.0039)	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.94	0.70	0.046	0.049	ND (0.0041)	0.023	ND (0.036)	0.38	ND (0.0038)	0.030	0.10	0.027	0.056	0.013 J	0.13 J	0.20 J	1.7	0.30	2.5	15	0.37 J	0.48
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	0.0048 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.017 J	0.11	0.017 J	0.012 J	ND (0.0041)	ND (0.0039)	0.064 J	0.67	0.0039 J	ND (0.0042)	0.26	ND (0.0039)	0.0041 J	ND (0.0041)	0.34	0.063 J	0.36 J	0.31	0.66 J	4.7	0.61	0.27
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	0.0077 J	ND (0.0039)	ND (0.0038)	0.97	ND (0.0038)	ND (0.0040)	4.5	17	0.043	0.25	ND (0.0041)	3.2	0.39	2.3	0.24	0.13	13	2.5	5.2	0.42	0.34	0.21 J	0.65	0.33	9.9	180	1.1	0.63
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^ 10000_{12}[B]	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.021)	ND (0.020)	ND (0.022)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.021)	ND (0.020)	ND (0.022)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^ 190000[B]	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)	ND (1.8)	ND (0.96)	ND (0.19)	ND (0.21)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.21)	ND (2.0)	ND (2.2)	ND (3.9)	ND (2.0)	ND (9.6)	ND (23)	ND (4.2)	ND (2.1)
PHENANTHRENE	mg/kg	190000^[AB]	0.010 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	2.1	1.7	0.13	0.14	ND (0.0041)	0.075	0.18 J	0.74	0.0080 J	0.020 J	0.12	0.0099 J	0.082	0.013 J	0.63	0.23	3.1	0.27	7.3	54	1.7	0.64
PHENOL	mg/kg	16000^ 18000[B]	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.020)	ND (0.019)	ND (0.020)	ND (0.020)	ND (0.18)	ND (0.096)	ND (0.019)	ND (0.021)	ND (0.018)	0.026 J	0.027 J	ND (0.021)	ND (0.020)	ND (0.022)	ND (0.39)	ND (0.20)	ND (0.96)	ND (2.3)	ND (0.42)	ND (0.21)
PYRENE	mg/kg	96000^ 190000[B]	0.011 J	ND (0.0039)	ND (0.0038)	ND (0.0038)	ND (0.0038)	ND (0.0040)	0.18	0.99	0.080	0.021	ND (0.0041)	0.025	0.19	2.1	0.017 J	0.013 J	0.39	ND (0.0039)	0.014 J	ND (0.0041)	0.94	0.55	3.5	1.2	4.9	29	2.0	1.6
PYRIDINE	mg/kg	3200^ 10000[B]	ND (0.079)	ND (0.077)	ND (0.077)	ND (0.076)	ND (0.077)	ND (0.079)	ND (0.081)	ND (0.083)	ND (0.082)	ND (0.077)	ND (0.081)	ND (0.079)	ND (0.72)	ND (0.38)	ND (0.076)	ND (0.084)	ND (0.073)	ND (0.078)	ND (0.076)	ND (0.083)	ND (0.81)	ND (0.86)	ND (1.5)	ND (0.80)	ND (3.9)	ND (9.4)	ND (1.7)	ND (0.83)
QUINOLINE	mg/kg	30^ 10000[B]	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.041)	ND (0.039)	ND (0.041)	ND (0.039)	ND (0.36)	ND (0.19)	ND (0.038)	ND (0.042)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.041)	ND (0.41)	0.74 J	ND (0.77)	ND (0.40)	ND (1.9)	ND (4.7)	ND (0.84)	ND (0.42)
Metals																														
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.55	1.20 J	18.1	4.82	2.96	2.29	7.54	23.4	10.1	8.00	12.4	5.54	13.4	12.5
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.2	39.4	111	50.6	61.5	55.5	238	72.3	110	152	111	96.4	173	111
CADMIUM	mg/kg	6.1^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0434)	ND (0.0423)	ND (0.0423)	ND (0.0491)	ND (0.0452)	ND (0.0405)	0.106 J	0.539	0.193 J	ND (0.0462)	0.560	1.12	0.352 J	0.616
CHROMIUM	mg/kg	220_{11}^ 20000_{11}[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.4	15.3	33.3	21.9	20.0	18.6	40.7	43.0	32.6	52.1	41.3	52.6	65.1	43.0
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	7.02	6.20	4.46	6.67	7.95	4.24	14.5	6.10	8.16	4.97	5.94	7.96	6.91	9.57	5.68	4.51	9.40	6.22	7.76	4.21	11.4	8.07	7.76	9.29	7.39	9.36	9.42	7.67
LEAD	mg/kg	2240^ 190000[B]	16.3	11.6	14.7	8.97	13.6	6.98	13.3	33.9	21.1	15.5	12.2	11.1	72.1	70.8	11.1	6.04	40.5	8.95	17.0	7.90	122	69.4	211	131	211	71.0	257	213
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0301 J	ND (0.0123)	0.165	0.0125 J	0.126	0.0331 J	0.982	0.0566 J	0.493	0.542	0.954	0.825	1.70	1.54
NICKEL	mg/kg	64000^ 190000[B]	12.6	12.9	12.7	13.2	18.4	10.1	36.3	12.2	23.9	14.1	11.6	16.3	20.6	23.4	14.0	12.4	18.0	10.6	12.8	13.7	30.2	15.3	15.0	20.5	18.5	17.8	39.4	21.6
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.920 J	1.09 J	2.14	2.29	1.47 J	0.940 J	1.72 J	1.42 J	1.13 J	1.54 J	1.73 J	1.51 J	1.98 J	1.44 J
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.223 J	ND (0.155)	1.65	1.37	0.597	0.170 J	2.54	0.451 J	1.54	2.77	0.805	0.586 J	3.14	1.75
VANADIUM	mg/kg	220^ 190000[B]	45.3	32.9	57.0	22.0	31.9	15.5	58.5	38.3	51.4	39.7	36.4	26.8	33.0	30.6	27.5	17.8	38.9	22.0	28.1	18.4	64.9	50.8	44.9	57.3	54.3	58.5	136	46.4
ZINC	mg/kg	190000^[AB]	37.6	40.3	32.8	34.5	41.9	27.4	92.7	53.8	88.6	70.9	34.9	39.3	207	113	47.2	28.6	97.3	32.6	44.3	39.5	187	49.7	82.5	119	112	91.5	343	265

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-16-073		AOI5-BH-16-074		AOI5-BH-16-075		AOI5-BH-16-076		AOI5-BH-16-077		AOI5-BH-16-078		AOI5-BH-16-079		AOI5-BH-16-080		AOI5-BH-16-081		AOI5-BH-16-082	AOI5-BH-16-083	AOI5-BH-16-084	AOI5-BH-16-085	AOI5-BH-16-086	AOI5-BH-17-01	AOI5-BH-17-02	AOI5-BH-17-03	AOI5-BH-17-04	AOI5-BH-17-010	AOI5-BH-17-011
Sample Date			10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	10-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	9-Jun-16	17-Jun-16	17-Jun-16	9-Dec-16	9-Dec-16	9-Dec-16	9-Dec-16	9-Dec-16	22-Mar-17	22-Mar-17	22-Mar-17	22-Mar-17	20-Apr-17	20-Apr-17
Sample ID			AOI5-BH-16-073-0-2	AOI5-BH-16-073-2-3	AOI5-BH-16-074-0-2	AOI5-BH-16-074-6-8	AOI5-BH-16-075-0-2	AOI5-BH-16-075-4-5	AOI5-BH-16-076-0-2	AOI5-BH-16-076-2-3	AOI5-BH-16-077-0-2	AOI5-BH-16-077-2-4	AOI5-BH-16-078-0-2	AOI5-BH-16-078-2-3	AOI5-BH-16-079-0-2	AOI5-BH-16-079-4-6	AOI5-BH-16-080-0-2	AOI5-BH-16-080-2-3	AOI5-BH-16-081-0-2	AOI5-BH-16-081-4-5	AOI5-BH-16-082-0-2	AOI5-BH-16-083-0-2	AOI5-BH-16-084-0-2	AOI5-BH-16-085-0-2	AOI5-BH-16-086-0-2	AOI5-BH-17-01	AOI5-BH-17-02	AOI5-BH-17-03	AOI5-BH-17-04	AOI5-BH-17-010-1.0-2.0	AOI5-BH-17-011-1.0-2.0
Sample Depth			0 - 2 ft	2 - 3 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	2 - 3 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	1 - 2 ft	1 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1670817	1670817	1670817	1670817	1670817	1670817	1670227	1670227	1670227	1670227	1670817	1670817	1670227	1670227	1670227	1670227	1673474	1673474	1743927	1743927	1743927	1743927	1743927	1780229	1780229	1780229	1780229	1791580	1791580
Laboratory Sample ID	Units	MSC-PA	8420670	8420671	8420668	8420669	8420672	8420673	8417784	8417785	8417782	8417783	8420662	8420663	8417778	8417779	8417780	8417781	8432628	8432629	8742416	8742417	8742418	8742419	8742420	8898244	8898245	8898246	8898247	8950313	8950314
Volatile Organic Compounds																															
BENZENE	mg/kg	290^{A} 330^{B}	0.19 J	0.21 J	0.55	0.39	0.44 J	4.0	ND (0.026)	0.040 J	0.093 J	0.045 J	ND (0.022)	0.43	1.3	0.90	0.002 J	1.6	ND (0.039)	0.36 J	-	-	-	-	-	-	-	-	-	ND (0.0006)	ND (0.0005)
CYCLOHEXANE	mg/kg	10000^{AB}	1.1	0.13 J	0.12 J	0.092 J	3.9	2.7	ND (0.052)	0.19 J	ND (0.060)	ND (0.052)	ND (0.044)	1.3	1.8	0.14 J	0.002 J	0.84	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.078)	ND (0.088)	ND (0.078)	ND (0.058)	ND (0.37)	ND (0.094)	ND (0.052)	ND (0.057)	ND (0.060)	ND (0.052)	ND (0.044)	ND (0.058)	ND (0.075)	ND (0.056)	ND (0.0009)	ND (0.10)	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.078)	ND (0.088)	ND (0.078)	ND (0.058)	ND (0.37)	ND (0.094)	ND (0.052)	ND (0.057)	ND (0.060)	ND (0.052)	ND (0.044)	ND (0.058)	ND (0.075)	ND (0.056)	ND (0.0009)	ND (0.10)	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	0.13 J	0.16 J	0.091 J	0.12 J	5.0	3.5	ND (0.052)	0.088 J	0.22 J	ND (0.052)	ND (0.044)	3.1	4.2	ND (0.056)	0.002 J	0.21 J	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	0.23 J	ND (0.088)	ND (0.078)	ND (0.058)	1.9	1.1	ND (0.052)	0.10 J	ND (0.060)	ND (0.052)	ND (0.044)	0.47	0.74	0.13 J	ND (0.0009)	0.19 J	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.039)	ND (0.044)	ND (0.039)	ND (0.029)	ND (0.19)	ND (0.047)	ND (0.026)	ND (0.028)	ND (0.030)	ND (0.026)	ND (0.022)	ND (0.029)	ND (0.037)	ND (0.028)	ND (0.0005)	ND (0.051)	ND (0.039)	ND (0.056)	-	-	-	-	-	-	-	-	-	-	-
HEXANE	mg/kg	10000^{AB}	0.68	0.11 J	0.12 J	0.12 J	1.3 J	3.8	ND (0.052)	0.22 J	0.12 J	0.14 J	ND (0.044)	1.1	2.0	0.11 J	0.002 J	1.3	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.11 J	1.4	0.58	0.62	35	8.9	0.15 J	0.33	0.52	0.18 J	ND (0.044)	0.86	9.7	0.52	0.005	2.0	0.087 J	1.3	-	-	-	-	-	-	-	-	-	0.003 J	ND (0.001)
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	0.22 J	ND (0.088)	ND (0.078)	ND (0.058)	1.8 J	1.1	ND (0.052)	0.12 J	0.13 J	ND (0.052)	ND (0.044)	0.27 J	0.56	0.10 J	0.002 J	ND (0.10)	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.078)	ND (0.088)	ND (0.078)	ND (0.058)	0.42 J	ND (0.094)	ND (0.052)	ND (0.057)	ND (0.060)	ND (0.052)	ND (0.044)	ND (0.058)	0.13 J	ND (0.056)	ND (0.0009)	ND (0.10)	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	10000^{AB}	ND (0.078)	ND (0.088)	0.16 J	0.17 J	ND (0.37)	0.24 J	ND (0.052)	ND (0.057)	ND (0.060)	ND (0.052)	ND (0.044)	0.18 J	4.3	ND (0.056)	0.002 J	0.40 J	ND (0.078)	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	0.30 J	0.20 J	0.30 J	0.47	2.5	16	0.17 J	0.91	0.19 J	0.28	ND (0.044)	6.0	9.1	0.17 J	0.033	2.2	ND (0.078)	0.21 J	-	-	-	-	-	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	ND (0.078)	ND (0.088)	0.15 J	0.16 J	1.4 J	6.5	0.076 J	0.30	ND (0.060)	0.082 J	ND (0.044)	1.6	3.5	0.12 J	0.018	0.39 J	ND (0.078)	0.17 J	-	-	-	-	-	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.34 J	0.39 J	0.37 J	0.57	1.3 J	7.0	0.15 J	0.34	0.20 J	0.17 J	ND (0.044)	18	18	0.13 J	0.006	2.1	ND (0.078)	0.16 J	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^{AB}	0.74 J	3.2	0.84 J	0.43 J	1.8	0.50	0.19 J	12	0.55 J	0.28 J	ND (0.18)	1.4	1.9	2.7	0.28 J	1.1 J	ND (0.19)	0.43 J	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^{AB}	0.84 J	6.7	1.3	0.68	2.6	0.53	0.31 J	11	0.62 J	0.30 J	ND (0.18)	1.6	3.1	2.2	0.47 J	1.7	1.3	0.42 J	-	-	-	-	-	-	-	-	-	0.010 J	0.049
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	1.4	7.7	1.4	0.38 J	2.8	0.29	0.35 J	4.6	0.92 J	0.42 J	ND (0.18)	0.91 J	4.5	0.61	2.9	0.69 J	0.53 J	0.79 J	-	-	-	-	-	-	-	-	-	0.019	0.095
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	0.94 J	6.3	1.3	0.37 J	3.0	0.28	0.24 J	2.5	0.71 J	0.32 J	ND (0.18)	0.73 J	4.0	0.37	1.7	0.48 J	0.41 J	0.74 J	-	-	-	-	-	-	-	-	-	0.019	0.10
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	1.4	7.8	1.2	0.57	2.1	0.16 J	0.29 J	1.2	0.68 J	0.31 J	0.37 J	0.89 J	4.2	0.16	0.85 J	0.32 J	0.45 J	0.72 J	-	-	-	-	-	-	-	-	-	0.023	0.12
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.93 J	4.7	1.5	0.47 J	3.1	0.41	0.32 J	1.4	0.75 J	0.62 J	0.40 J	0.67 J	2.8	0.20	1.3	0.62 J	0.35 J	0.63 J	-	-	-	-	-	-	-	-	-	0.022	0.11
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.44 J	2.6	0.30 J	0.13 J	0.59 J	0.057 J	ND (0.19)	0.33 J	0.21 J	ND (0.18)	ND (0.18)	0.35 J	2.0	0.025 J	0.27 J	ND (0.25)	ND (0.19)	ND (0.21)	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	11	1.2	ND (0.95)	2.6	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	3.1	1.2	ND (0.90)	ND (1.3)	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	2.1	7.6	2.8	0.98	4.0	0.61	0.57 J	7.2	1.7	0.73 J	0.76 J	1.9	7.2	1.1	3.9	1.2 J	1.2	1.8	-	-	-	-	-	-	-	-	-	0.039	0.16
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	0.33 J	1.2	0.47 J	0.21 J	0.59 J	ND (0.045)	ND (0.19)	0.54 J	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.19)	0.74 J	0.050 J	0.32 J	ND (0.25)	ND (0.19)	0.26 J	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	0.51	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (19)	ND (20)	ND (19)	ND (9.2)	ND (21)	ND (4.1)	ND (17)	ND (17)	ND (17)	ND (16)	ND (16)	ND (17)	ND (18)	ND (1.8)	ND (16)	ND (23)	ND (17)	ND (19)	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	2.1	15	1.8	0.81	2.5	0.36	0.37 J	4.2	1.2	0.48 J	0.53 J	1.5	3.8	0.66	0.68 J	0.98 J	0.90 J	0.61 J	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	2.3	3.7	2.4	1.9	4.1	1.6	0.47 J	18	1.1	0.53 J	0.33 J	2.3	6.2	4.8	0.43 J	2.6	0.81 J	0.58 J	-	-	-	-	-	-	-	-	-	0.007 J	0.047
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	0.36 J	3.5	0.43 J	0.21 J	1.2 J	0.066 J	0.23 J	0.57 J	0.37 J	ND (0.18)	0.20 J	0.47 J	1.9	0.047 J	0.57 J	ND (0.25)	ND (0.19)	0.40 J	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	7.3	3.0	5.1	4.9	160	18	ND (0.19)	84	1.7	0.69 J	ND (0.18)	10	35	74	0.37 J	2.5	0.69 J	0.83 J	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{13}^{B}	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	ND (0.23)	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	ND (0.23)	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (11)	ND (11)	ND (10)	ND (5.1)	ND (12)	ND (2.3)	ND (9.5)	ND (9.4)	ND (9.5)	ND (9.0)	ND (8.9)	ND (9.5)	ND (10)	ND (1.0)	ND (9.0)	ND (13)	ND (9.4)	ND (11)	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^{AB}	5.4	7.5	6.1	4.4	9.4	4.8	1.2	44	2.9	1.4	0.58 J	6.2	17	13	1.9	4.7	1.9	1.8	-	-	-	-	-	-	-	-	-	0.033	0.23
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (1.1)	ND (1.1)	ND (1.0)	ND (0.51)	ND (1.2)	ND (0.23)	ND (0.95)	ND (0.94)	ND (0.95)	ND (0.90)	ND (0.89)	ND (0.95)	ND (1.0)	ND (0.10)	ND (0.90)	ND (1.3)	ND (0.94)	ND (1.1)	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	3.7	13	5.0	2.3	6.3	1.2	0.94 J	17	3.4	1.5	1.3	3.1	10	2.3	3.4	2.2	2.3	2.5	-	-	-	-	-	-	-	-	-	0.070	0.30
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (4.3)	ND (4.4)	ND (4.2)	ND (2.1)	ND (4.6)	ND (0.91)	ND (3.8)	ND (3.8)	ND (3.8)	ND (3.6)	ND (3.6)	ND (3.8)	ND (4.1)	ND (0.41)	ND (3.6)	ND (5.0)	ND (3.7)	ND (4.3)	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (2.1)	ND (2.2)	ND (2.1)	ND (1.0)	ND (2.3)	ND (0.45)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (0.20)	ND (1.8)	ND (2.5)	ND (1.9)	ND (2.2)	-	-	-	-	-	-	-	-	-	-	-
Metals																															
ARSENIC	mg/kg	61^{A} 190000^{B}	12.5	12.9	9.21	9.42	35.5	13.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	117	222	120	123	491	213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	0.685	3.80	0.721	0.304 J	5.72	1.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	47.5	51.6	17.6	35.9	66.0	38.0	-	-	-	-	-	-	-	-	-	-	-	-	49.9	59.8	64.0	58.7	96.4	58.4	1390	30	121	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.9	59.8	64	58.1	95	57.2	1390	29.2	112	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.66)	ND (0.69)	ND (0.61)	0.61 J	1.4 J	1.2 J	ND (6.8)	0.81 J	8.6	-	-
COBALT	mg/kg	960^{A} 190000^{B}	8.61	11.6	5.31	8.89	21.2	14.9	10.4	5.84	16.8	8.52	4.14	7.51	10.4	3.48	9.04	17.1	7.01	11.8	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	130	388	79.2	105	2120	320	45.2	38.9	113	48.9	55.7	104	298	7.65	47.2	721	31.4	115	-	-	-	-	-	-	-	-	-	-	-
MERCURY	mg/kg	510^{A} 190000^{B}	3.40	3.41	1.63	0.684	2.97	0.614	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	42.6	41.9	9.42	17.3	24.2	13.8	33.9	12.0	29.2	27.0	89.0	25.1	20.5	8.99	28.4	1800	32.9	47.8	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	1.91 J	1.72 J	1.49 J	2.28	2.94	1.14 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	1.51	9.24	1.15	2.27	9.20	3.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	***307 A***	181	29.2	52.1	60.3	41.7	69.1	40.5	60.4	50.1	187	43.0	50.1	12.5	43.7	41.8	65.1	62.0	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^{AB}	146	1530	93.8	208	1250	214	156	38.8	177	169	423	172	199	24.1	274	360	83.0	632	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI5-BH-17-012	AOI5-BH-17-013	MH 455-1	MH 455-2	MH 455-3	MH 455-4	MH 455-5	MH 455-6	MH 455-7	MH 455-8	MH 455-9	MH 455-10	MH 455-1A		MH 455-2A		MH 455-3A		MH 455-4A		MH 523-1	MH 523-2	MH 523-3	MH 523-4	MH 523-5	MH 523-6	MH 523-7	MH 523-8	MH 523-9
Sample Date			20-Apr-17	20-Apr-17	18-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	19-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	19-Sep-13	19-Sep-13	20-Sep-13	20-Sep-13	20-Sep-13	20-Sep-13	20-Sep-13	20-Sep-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13	18-Mar-13
Sample ID			AOI5-BH-17-012-1.0-2.0	AOI5-BH-17-013-1.0	MH 455-1 (4.5-5.0)	MH 455-2 (2.5-3.0)	MH 455-3 (3.0-3.5)	MH 455-4 (3.0-3.5)	MH 455-5 (2.5-3.0)	MH 455-6 (3.0-3.5)	MH 455-7 (3.0-3.5)	MH 455-8 (5.0-5.5)	MH 455-9 (5.0-5.5)	MH 455-10 (0.25-0.50)	MH435-1A(2.5-3.0)	MH455-1A(0.0-2.0)	MH455-2A(0.0-2.0)	MH455-2A(2.75-3.25)	MH455-3A(0.0-2.0)	MH455-3A(5.5-6.0)	MH455-4A(0.0-2.0)	MH455-4A(3.5-4.0)	MH 523-1 (4.0-4.5)	MH 523-2 (2.5-3.0)	MH 523-3 (3.0-3.5)	MH 523-4 (2.0-2.5)	MH 523-5 (2.7-3.2)	MH 523-6 (3.0-3.5)	MH 523-7 (1.9-2.4)	MH 523-8 (3.0-3.5)	MH 523-9 (5.0-5.5)
Sample Depth			1 - 2 ft	1 ft	4 - 4.5 ft	2.5 - 3 ft	3 - 3.5 ft	3 - 3.5 ft	2.5 - 3 ft	3 - 3.5 ft	3 - 3.5 ft	5 - 5.5 ft	5 - 5.5 ft	0.25 - 0.5 ft	2.5 - 3 ft	0 - 2 ft	0 - 2 ft	2.75 - 3.25 ft	0 - 2 ft	5.5 - 6 ft	0 - 2 ft	3.5 - 4 ft	4 - 4.5 ft	2.5 - 3 ft	3 - 3.5 ft	2 - 2.5 ft	2.7 - 3.2 ft	3 - 3.5 ft	1.9 - 2.4 ft	3 - 3.5 ft	5 - 5.5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	1791580	1791580	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB48100	JB48100	JB48100	JB48100	JB48100	JB48100	JB48100	JB48100	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800	JB31800
Laboratory Sample ID	Units	MSC-PA	8950315	8950316	JB31800-11	JB31800-12	JB31800-13	JB31800-14	JB31800-15	JB31800-16	JB31800-17	JB31800-18	JB31800-19	JB31800-20	JB48100-2	JB48100-1	JB48100-3	JB48100-4	JB48100-5	JB48100-6	JB48100-7	JB48100-8	JB31800-1	JB31800-2	JB31800-3	JB31800-4	JB31800-5	JB31800-6	JB31800-7	JB31800-8	JB31800-9
Volatile Organic Compounds																															
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.0005)	ND (0.0006)	0.0354 J	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	0.408	0.634	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	0.0254 J	ND (0.001)	15.8	0.784	ND (0.11)	0.504	0.0044	0.0021	ND (0.0011)	ND (0.00092)
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.43 J	0.949	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	ND (0.1)	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	ND (0.11)	ND (0.098)	ND (0.0013)	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.69)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.00094)	ND (0.00099)	ND (0.0011)	ND (0.00092)
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	-	-	ND (0.1)	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	0.00081 J	ND (0.00088)	ND (0.11)	ND (0.098)	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	ND (0.12)	ND (0.001)	ND (0.69)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.00094)	ND (0.00099)	ND (0.0011)	ND (0.00092)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	-	-	7.39	ND (0.11)	ND (0.13)	0.0011	ND (0.0011)	ND (0.001)	ND (0.00088)	3.03	2.8	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)	ND (0.0010)	ND (0.00096)	ND (0.00098)	0.0905 J	0.0742 J	0.00036 J	16.3	0.32	0.0504 J	0.254	0.0011	0.0048	0.00028 J	ND (0.00092)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	-	-	4.83	0.104 J	0.35 J	0.0825	ND (0.0056)	ND (0.0052)	0.001 J	0.164 J	0.22 J	ND (0.0067)	ND (0.0049)	ND (0.0047)	ND (0.0059)	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.701	0.974	0.0076	4.32	2.17	0.145 J	0.275 J	0.0192	0.0109	0.0063	ND (0.0046)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	-	-	ND (0.1)	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.0024	ND (0.11)	ND (0.098)	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	ND (0.12)	ND (0.001)	ND (0.69)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.00094)	ND (0.00099)	ND (0.0011)	ND (0.00092)
HEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)	ND (0.0052)	ND (0.0048)	ND (0.0049)	1.06	2.29	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.001)	0.002 J	5.74	ND (0.57)	ND (0.66)	0.0232	0.0004 J	0.00063 J	0.00052 J	1.64	2.28	0.0011 J	-	-	-	-	-	-	-	-	0.0028 J	15.5	1.5	0.38 J	0.476 J	3.21	0.0091	ND (0.0054)	0.00049 J
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.383 J	0.321 J	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0049)	ND (0.0047)	ND (0.0059)	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.167 J	0.117 J	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	10000^{AB}	-	-	ND (0.1)	ND (0.11)	ND (0.13)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	1.09	1	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)	ND (0.0010)	ND (0.00096)	ND (0.00098)	ND (0.14)	ND (0.12)	ND (0.001)	5.31	0.156	0.0402 J	0.209	0.0008 J	0.0014	ND (0.0011)	ND (0.00092)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	-	-	30.5	ND (0.57)	0.0469 J	ND (0.0054)	ND (0.0056)	ND (0.0052)	ND (0.0044)	14.7	5.76	ND (0.0067)	ND (0.0049)	ND (0.0047)	ND (0.0059)	ND (0.0052)	ND (0.0048)	ND (0.0049)	0.0618 J	0.0256 J	0.00097 J	6.85	0.927	0.0819 J	0.554 J	0.0018 J	0.0219	0.001 J	ND (0.0046)
1,3,5-TRIMETHYLBENZENE	mg/kg	1000^{AB}	-	-	13.1	ND (0.57)	ND (0.66)	ND (0.0054)	ND (0.0056)	ND (0.0052)	ND (0.0044)	6.35	1.96	ND (0.0067)	ND (0.0049)	ND (0.0047)	ND (0.0059)	ND (0.0052)	ND (0.0048)	ND (0.0049)	ND (0.69)	ND (0.61)	0.00033 J	3.94	0.581	0.0243 J	0.0752 J	ND (0.0047)	0.00088 J	0.00044 J	ND (0.0046)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	-	-	6.08	ND (0.11)	ND (0.13)	0.0181	ND (0.0011)	ND (0.001)	ND (0.00088)	24.7	12.5	ND (0.0013)	ND (0.00097)	ND (0.00094)	ND (0.0012)	ND (0.0010)	ND (0.00096)	ND (0.00098)	0.0809 J	0.0895 J	0.00058 J	10.5	0.864	0.149	1.4	0.0019	0.0058	0.0026	ND (0.00092)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0032)	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^{AB}	0.011 J	0.023	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	ND (0.04)	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.0517	11	0.0941	0.1	0.39	1.01	0.605	0.778	ND (0.039)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.027	0.034	ND (0.037)	ND (0.039)	0.022 J	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.272	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.11	0.785	0.0688	0.106	0.0809	0.12	0.0657	0.334	0.0214 J
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	0.030	0.036	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.258	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.102	ND (0.2)	ND (0.039)	0.0667	0.0508	0.0684	ND (0.04)	ND (0.039)	ND (0.039)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.040	0.031	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.453	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.113	ND (0.2)	ND (0.039)	0.0481	0.0566	0.0506	ND (0.04)	ND (0.039)	ND (0.039)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.036	0.043	ND (0.037)	ND (0.039)	ND (0.043)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.156	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.14	ND (0.2)	ND (0.039)	0.141	0.0932	0.0814	ND (0.04)	ND (0.039)	ND (0.039)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.050	0.081	ND (0.037)	ND (0.039)	0.0374 J	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.578	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.253	1.18	0.103	0.146	0.137	0.143	0.0969	0.447	0.0283 J
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.21)	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.79)	ND (0.75)	ND (0.77)	ND (0.8)	ND (0.78)	ND (0.78)	ND (0.82)	ND (0.83)	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	0.0661	ND (0.041)	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.011 J	0.015 J	ND (0.037)	ND (0.039)	0.0537	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	ND (0.04)	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	0.0747	23.6	0.404	0.172	0.867	2.24	1.16	0.94	ND (0.039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.041)	ND (0.041)	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	1.38	0.862	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	0.371	0.631	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.4)	ND (0.37)	ND (0.39)	ND (0.4)	ND (0.39)	ND (0.39)	ND (0.41)	ND (0.41)	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^{AB}	0.054	0.056	ND (0.037)	ND (0.039)	0.109	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.533	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	0.0927	ND (0.041)	0.206	58.5	0.364	0.848	2.08	6.22	3.19	1.86	0.0362 J
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	0.080	0.13	ND (0.037)	ND (0.039)	0.0623	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.038)	ND (0.037)	ND (0.041)	0.851	ND (0.04)	ND (0.037)	ND (0.039)	ND (0.04)	ND (0.039)	ND (0.039)	0.0991	ND (0.041)	0.254	9.96	0.152	0.501	0.446	0.969	0.653	3.06	0.0346 J
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.079)	ND (0.075)	ND (0.077)	ND (0.08)	ND (0.078)	ND (0.078)	ND (0.082)	ND (0.083)	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.21)	-	-	-	-	-	-	-	-	-
Metals																															
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	4.5 J	6.4	9.0	5.7 J	7.3	6.4	10.9	10.6	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	-	-	12.9	13.5	14.2	9.7	13.1	9.5	10.2	11.3	13.6	54.1	6.1	205	235	7.7	13.9	12.9	8.1	8.7	42.6	143	39.2	45.6	37.4	20.9	34.5	14.6	15
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	11.0	13.5	64.2	11.9	16.2	15.8	21.9	21.1	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	14.4	31.0	23.7 J	18.9	29.5	30.8	31.7	31.7	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^{AB}			-	-	-	-	-	-	-	-	-	-	26.7	75.4	157	48.4	60.1	35.2	67.7	60.2	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH 523-10	MH 523-11	MH 523-12	MH 523-13	MH 523-1A		MH 523-2A		MH 523-3A		MH 523-4A		MH 613-1	MH 613-1C		MH 613-2	MH 613-2C		MH 613-3	MH 613-3C		MH 613-4	MH 613-4C		MH 613-5
Sample Date			18-Mar-13	5-Nov-15	5-Nov-15	5-Nov-15	17-Sep-13	17-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13	18-Sep-13	4-Dec-13	9-Dec-13	9-Dec-13	4-Dec-13	5-Dec-13	5-Dec-13	4-Dec-13	5-Dec-13	5-Dec-13	4-Dec-13	9-Dec-13	9-Dec-13	4-Dec-13
Sample ID			MH 523-10 (0.25-0.50)	MH523-11-5.0-20151105	MH523-12-5.0-20151105	MH523-13-5.0-20151105	MH523-1A(0.0-2.0)	MH523-1A(5.5-6.0)	MH523-2A(0.0-2.0)	MH523-2A(5.0-5.5)	MH523-3A(0.0-2.0)	MH523-3A(5.3-5.8)	MH523-4A(0.0-2.0)	MH523-4A(6.0-6.5)	MH613-1(3.0)	MH613-1C(1.0)	MH613-1C(3.5)	MH613-2(3.0)	MH613-2C(0.0-2.0)	MH613-2C(2.0-4.0)	MH613-3(3.0)	MH613-3C(0.0-2.0)	MH613-3C(2.0-4.0)	MH613-4(3.0)	MH613-4C(1.0)	MH613-4C(3.5)	MH613-5(3.0)
Sample Depth			0.25 - 0.5 ft	5 ft	5 ft	5 ft	0 - 2 ft	5.5 - 6 ft	0 - 2 ft	5 - 5.5 ft	0 - 2 ft	5.3 - 5.8 ft	0 - 2 ft	6 - 6.5 ft	3 ft	1 ft	3.5 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	1 ft	3.5 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB31800	JC7897	JC7897	JC7897	JB47773	JB47773	JB47773	JB47773	JB47773	JB47773	JB47773	JB47773	JB54736	JB54835	JB54835	JB54736	JB54835	JB54835	JB54736	JB54835	JB54835	JB54736	JB54835	JB54835	JB54736
Laboratory Sample ID	Units	MSC-PA	JB31800-10	JC7897-1	JC7897-2	JC7897-3	JB47773-1	JB47773-2	JB47773-3	JB47773-4	JB47773-5	JB47773-6	JB47773-7	JB47773-8	JB54736-1	JB55122-5	JB55122-6	JB54736-2	JB54991-3	JB54991-4	JB54736-3	JB54991-5	JB54991-6	JB54736-4	JB55122-1	JB55122-2	JB54736-5
Volatile Organic Compounds																											
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.001)	0.0035	ND (0.00046)	0.0241 J	ND (0.0010)	0.0010	ND (0.0011)	0.00054 J	0.0621 J	ND (0.11)	ND (0.0012)	0.0252 J	0.00031 J	ND (0.00098)	0.0331 J	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	3.21	9.13	0.763	ND (0.00087)	ND (0.00095)	0.0227
CYCLOHEXANE	mg/kg	10000^{AB}	-	0.0161	ND (0.0018)	ND (0.23)	ND (0.0052)	0.0560	ND (0.0053)	0.0097	4.68	0.969	ND (0.0062)	0.471 J	ND (0.0053)	ND (0.0049)	13.5	ND (0.57)	61.1	8	39.2	215	328	11.1	ND (0.0043)	0.00069 J	0.0067
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.001)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.001)	ND (0.00099)	ND (0.00092)	ND (0.12)	ND (0.0010)	ND (0.0010)	ND (0.0011)	ND (0.0011)	ND (0.11)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0011)	ND (0.00098)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.14)	ND (0.00087)	ND (0.00095)	ND (0.0010)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.001)	0.0012	ND (0.00092)	ND (0.12)	ND (0.0010)	0.0012	ND (0.0011)	ND (0.0011)	0.0460 J	ND (0.11)	ND (0.0012)	0.106 J	ND (0.0011)	0.00035 J	0.308	0.112	0.132	0.0408 J	0.0451 J	9.12	26.9	0.0762 J	ND (0.00087)	ND (0.00095)	0.0601
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	ND (0.0052)	0.0022	ND (0.0018)	0.0271 J	0.00033 J	0.00053 J	ND (0.0053)	0.00074 J	0.752	3.28	ND (0.0062)	2.21	0.0012 J	ND (0.0049)	0.701	ND (0.57)	0.0989 J	0.314 J	0.0354 J	2.52	5.1	0.459 J	ND (0.0043)	0.00046 J	0.0012 J
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.001)	ND (0.00099)	ND (0.00092)	ND (0.12)	ND (0.0010)	0.0316	ND (0.0011)	ND (0.0011)	ND (0.11)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0011)	ND (0.00098)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.1)	0.0430 J	ND (0.14)	ND (0.00087)	ND (0.00095)	ND (0.0010)
HEXANE	mg/kg	10000^{AB}	-	0.0425	ND (0.0046)	ND (0.58)	ND (0.0052)	0.0550	ND (0.0053)	0.00084 J	1.05	0.525 J	0.0011 J	0.0631 J	ND (0.0053)	ND (0.0049)	ND (0.5)	ND (0.57)	ND (0.54)	ND (0.59)	ND (0.62)	69.8	92.2	ND (0.71)	ND (0.0043)	ND (0.0048)	0.0021 J
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.00044 J	0.0108	ND (0.0046)	0.834	-	-	-	-	-	-	-	-	0.0022 J	ND (0.0049)	ND (0.5)	ND (0.57)	0.33 J	ND (0.59)	0.275 J	4.95	6.86	0.388 J	ND (0.0043)	0.00086 J	0.0020 J
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	-	0.0011 J	ND (0.0018)	ND (0.23)	0.00031 J	0.00022 J	ND (0.0053)	0.00064 J	0.426 J	3.49	ND (0.0062)	1.5	0.0020 J	ND (0.0049)	1.93	0.0448 J	0.156 J	0.123 J	0.153 J	2.31	3.24	0.19 J	ND (0.0043)	0.00071 J	ND (0.0050)
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	-	0.00095 J	ND (0.0018)	ND (0.23)	ND (0.0052)	0.00047 J	ND (0.0053)	0.0039 J	0.939	2.63	ND (0.0062)	1.75	0.00086 J	ND (0.0049)	0.332 J	ND (0.57)	0.0305 J	0.0409 J	0.0640 J	ND (0.52)	ND (0.5)	0.0389 J	ND (0.0043)	0.00095 J	ND (0.0050)
TOLUENE	mg/kg	10000^{AB}	ND (0.001)	0.00089 J	ND (0.00092)	ND (0.12)	ND (0.0010)	0.00075 J	ND (0.0011)	ND (0.0011)	0.0797 J	0.0233 J	ND (0.0012)	0.0412 J	0.00065 J	ND (0.00098)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	0.101	0.0975 J	ND (0.14)	ND (0.00087)	ND (0.00095)	0.00024 J
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	ND (0.0052)	0.00026 J	ND (0.0018)	0.106 J	ND (0.0052)	ND (0.0052)	ND (0.0053)	ND (0.0054)	0.115 J	0.151 J	ND (0.0062)	0.104 J	0.00054 J	ND (0.0049)	ND (0.5)	0.0420 J	4.79	0.113 J	0.0422 J	37.4	51	0.818	ND (0.0043)	ND (0.0048)	0.010
1,3,5-TRIMETHYLBENZENE	mg/kg	1000^{AB}	ND (0.0052)	ND (0.0020)	ND (0.0018)	0.273	ND (0.0052)	ND (0.0052)	ND (0.0053)	ND (0.0054)	ND (0.56)	0.0497 J	ND (0.0062)	ND (0.59)	ND (0.0053)	ND (0.0049)	ND (0.5)	ND (0.57)	1.71	0.0455 J	ND (0.62)	16.8	19.6	ND (0.71)	ND (0.0043)	ND (0.0048)	0.0037 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.001)	0.0014	ND (0.00092)	0.0661 J	ND (0.0010)	0.0029	ND (0.0011)	0.00036 J	0.26	0.128	ND (0.0012)	0.224	0.0019	0.0011	1.42	2.59	1.26	ND (0.12)	0.0832 J	67	86.4	0.0350 J	ND (0.00087)	ND (0.00095)	0.502
Volatile Organic Compounds (SW8011)																											
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0032)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0031)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0029)	ND (0.0029)	ND (0.0033)	ND (0.0029)	ND (0.0031)	ND (0.0030)
Semi-Volatile Organic Compounds																											
ACENAPHTHENE	mg/kg	190000^{AB}	-	0.146	0.0738	0.321	0.0267 J	ND (0.064)	ND (0.057)	0.478	0.58	ND (0.061)	ND (0.057)	0.769	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
ANTHRACENE	mg/kg	190000^{AB}	0.0487	0.119	0.118	0.155	0.104	ND (0.064)	0.0503 J	0.0272 J	0.955	1.88	0.0648	1.26	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.0572	0.0856	0.127	0.0723 J	0.0431 J	ND (0.064)	0.0945	0.0270 J	1.26	1.14	0.114	0.174	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.039)	0.0623 J	0.121	ND (0.079)	0.0414 J	ND (0.064)	0.111	ND (0.061)	0.932	0.701	0.0845	0.0547 J	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.039)	0.0677 J	0.108	0.0397 J	0.0264 J	ND (0.064)	0.0968	ND (0.061)	0.935	ND (0.061)	0.0823	0.0471 J	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.039)	0.0455 J	0.0664	0.0558 J	0.159	ND (0.064)	0.209	0.0265 J	0.685	0.542	0.151	0.0385 J	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	ND (0.082)	0.0367 J	ND (0.079)	ND (0.059)	ND (0.064)	0.0333 J	ND (0.061)	0.247	ND (0.061)	ND (0.057)	ND (0.059)	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	ND (0.16)	ND (0.074)	0.0892 J	ND (0.12)	ND (0.13)	0.0469 J	ND (0.12)	ND (0.12)	ND (0.12)	0.0741 J	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	0.196	0.316	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	0.0549 J	ND (0.079)	0.0514 J	0.0608 J	ND (0.089)	ND (0.076)	0.0480 J	ND (0.08)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	0.0823 J	ND (0.076)	ND (0.077)	ND (0.08)
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.0937	0.122	0.135	0.126	0.0562 J	ND (0.064)	0.121	ND (0.061)	2.08	3.05	0.17	0.246	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	ND (0.082)	0.0425	ND (0.079)	ND (0.059)	ND (0.064)	0.0459 J	ND (0.061)	0.24	0.179	ND (0.057)	ND (0.059)	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	ND (0.41)	ND (0.18)	ND (0.40)	ND (0.29)	ND (0.32)	ND (0.29)	ND (0.31)	ND (0.29)	ND (0.3)	ND (0.28)	ND (0.3)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.19)	ND (0.22)	ND (0.19)	ND (0.19)	ND (0.2)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	ND (0.41)	ND (0.18)	ND (0.40)	ND (1.2)	ND (1.3)	ND (1.1)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.1)	ND (1.2)	ND (0.76)	ND (0.74)	ND (0.73)	ND (0.75)	ND (0.8)	ND (0.78)	ND (0.79)	ND (0.72)	ND (0.76)	ND (0.89)	ND (0.76)	ND (0.77)	ND (0.8)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	0.112	0.263	0.0726 J	ND (0.059)	ND (0.064)	0.111	0.107	1.53	ND (0.061)	0.112	0.359	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	0.0281 J	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
FLUORENE	mg/kg	130000^{A} 190000^{B}	ND (0.039)	0.290	0.0724	0.393	0.0834	ND (0.064)	0.0274 J	0.113	ND (0.059)	ND (0.061)	ND (0.057)	2.37	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	0.0399	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	ND (0.082)	0.0271 J	ND (0.079)	0.0293 J	ND (0.064)	0.0948	ND (0.061)	0.425	0.266	0.0552 J	ND (0.059)	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	ND (0.038)	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	2.24	0.0487 J	1.60	0.137	ND (0.13)	0.31	0.0346 J	ND (0.12)	ND (0.12)	0.45	ND (0.12)	ND (0.076)	ND (0.074)	0.0423 J	ND (0.075)	ND (0.08)	0.0584 J	0.0473 J	3.18	5.93	0.0575 J	ND (0.076)	ND (0.077)	ND (0.08)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	0.188	0.0418	0.534	0.0816	ND (0.064)	0.124	ND (0.061)	ND (0.059)	ND (0.061)	0.143	ND (0.059)	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	0.0187 J	ND (0.036)	3.16	0.0239 J	ND (0.038)	ND (0.039)	ND (0.04)
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	ND (0.82)	ND (0.37)	ND (0.79)	ND (0.59)	ND (0.64)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.61)	ND (0.57)	ND (0.59)	ND (0.38)	ND (0.37)	ND (0.36)	ND (0.38)	ND (0.4)	ND (0.39)	ND (0.4)	ND (0.36)	ND (0.38)	ND (0.44)	ND (0.38)	ND (0.39)	ND (0.4)
PHENANTHRENE	mg/kg	190000^{AB}	0.275	0.504	0.444	0.447	0.0566 J	ND (0.064)	0.321	0.117	2.83	5.84	0.534	4.99	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.04)	ND (0.036)	0.0252 J	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
PHENOL	mg/kg	16000^{A} 18000^{B}	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)
PYRENE	mg/kg	96000^{A} 190000^{B}	0.226	0.181	0.288	0.783	0.305	ND (0.064)	0.323	0.0955	2.12	2.95	0.45	1.66	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.038)	ND (0.04)	0.0228 J	ND (0.04)	0.0183 J	0.0325 J	ND (0.044)	ND (0.038)	ND (0.039)	ND (0.04)
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	ND (0.16)	ND (0.074)	ND (0.16)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.076)	ND (0.074)	ND (0.073)	ND (0.075)	ND (0.08)	ND (0.078)	ND (0.079)	ND (0.072)	ND (0.076)	ND (0.089)	ND (0.076)	ND (0.077)	ND (0.08)
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	ND (0.41)	ND (0.18)	ND (0.40)	ND (0.29)	ND (0.32)	ND (0.29)	ND (0.31)	ND (0.29)	ND (0.3)	ND (0.28)	ND (0.3)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.19)	ND (0.22)	ND (0.19)	ND (0.19)	ND (0.2)
Metals																											
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	8.1	7.2	7.3	7.7	8.0	8.3	7.2	8.5	6.7	6.4	6.5	4.6 J	4.3 J	5.2 J	8.1	13.4	11.0	8.1	10.1	8.9	6.9	8.5	8.7	3.4 J
LEAD	mg/kg	2240^{A} 190000^{B}	176	23.1	10.9	14.2	20.8	21.4	56.0	23.2	83.1	13.5	68.1	38.6	7.9	11.6	8.7	7.4	8.9	7.1	7.9	20.7	31.8	11.3	28.5	73.4	7.1
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	13.9	15.1	16.4	14.5	13.3	41.5	13.9	20.3	12.6	17.8	13.5	13.4	14.5	10.1	11.6	17.9	12.6	14.8	18.2	17.1	11.1	17.8	22.0	8.9
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	27.5	44.2	40.7	36.8	23.9	52.0	34.6	34.9	29.8	35.5	29.6	27.1	28.9	32.0	23.3	24.6	28.0	29.7	30.4	29.7	30.3	34.2	26.8	25.4
ZINC	mg/kg	190000^{AB}	-	38.0	38.5	40.6	43.9	35.4	80.1	49.7	99.5	33.2	54.8	52.2	39.3	44.9	36.5	31.1	49.8	36.5	39.6	183	312	37.1	252	1130	30.4

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH 613-5C		MH 613-6	MH 613-7	MH 614-1	MH 614-1C		MH 614-2	MH 614-2C		MH 614-3	MH 614-3C		MH 614-4	MH 614-5	MH 614-6	MH 614-7	MH 615-1	MH 615-1C		MH 615-2	MH 615-2C		MH 615-3	MH 615-3C		MH 615-4
Sample Date			9-Dec-13	9-Dec-13	4-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	9-Dec-13	9-Dec-13	4-Dec-13	4-Dec-13	4-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	5-Dec-13	5-Dec-13	3-Dec-13	9-Dec-13	9-Dec-13	3-Dec-13
Sample ID			MH613-5C(1.5)	MH613-5C(3.0)	MH613-6(2.25)	MH613-7(5.0)	MH614-1(3.0)	MH614-1C(0.0-2.0)	MH614-1C(2.0-4.0)	MH614-2(3.0)	MH614-2C(0.0-2.0)	MH614-2C(2.0-4.0)	MH614-3(3.0)	MH614-3C(1.5)	MH614-3C(3.4)	MH614-4(3.0)	MH614-5(3.0)	MH614-6(2.0)	MH614-7(5.0)	MH615-1(3.0)	MH615-1C(0.0-2.0)	MH615-1C(2.0-4.0)	MH615-2(3.0)	MH615-2C(0.0-2.0)	MH615-2C(2.0-4.0)	MH615-3(3.0)	MH615-3C(1.0)	MH615-3C(3.5)	MH615-4(3.0)
Sample Depth			1.5 ft	3 ft	2.25 ft	5 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	1.5 ft	3.4 ft	3 ft	3 ft	2 ft	5 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	0 - 2 ft	2 - 4 ft	3 ft	1 ft	3.5 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB54835	JB54835	JB54736	JB54736	JB54617	JB54835	JB54835	JB54617	JB54835	JB54835	JB54617	JB54835	JB54835	JB54617	JB54617	JB54617	JB54617	JB54616	JB54835	JB54835	JB54616	JB54835	JB54835	JB54616	JB54835	JB54835	JB54616
Laboratory Sample ID	Units	MSC-PA	JB55122-3	JB55122-4	JB54736-6	JB54736-7	JB54617-1	JB54835-7	JB54835-8	JB54617-2	JB54991-1	JB54991-2	JB54617-3	JB55122-7	JB55122-8	JB54617-4	JB54617-5	JB54617-6	JB54617-7	JB54616-1	JB54835-1	JB54835-2	JB54616-2	JB54835-3	JB54835-4	JB54616-3	JB55122-9	JB55122-10	JB54616-4
Volatile Organic Compounds																													
BENZENE	mg/kg	290^ 330[B]	ND (0.097)	ND (0.11)	ND (0.11)	0.0024	ND (0.097)	0.833	0.17	ND (0.0013)	ND (0.0010)	0.00088 J	ND (0.0011)	ND (0.00096)	0.030 J	ND (0.0010)	ND (0.1)	ND (0.11)	0.00036 J	90.5	0.0117	0.00029 J	0.030	61.7	10.3	0.49	15.4	43.8	0.030
CYCLOHEXANE	mg/kg	10000^[AB]	ND (0.49)	ND (0.56)	ND (0.54)	0.0270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	ND (0.097)	ND (0.11)	ND (0.11)	ND (0.0011)	ND (0.097)	ND (0.12)	ND (0.11)	ND (0.0013)	ND (0.0010)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.0010)	ND (0.1)	ND (0.11)	ND (0.00099)	ND (0.11)	ND (0.00097)	ND (0.00087)	ND (0.00087)	ND (0.55)	ND (0.12)	ND (0.0010)	ND (0.00095)	ND (0.11)	ND (0.00095)
ETHYLBENZENE	mg/kg	890^ 1000[B]	15.5	8.08	5.86	0.0625	197	14.8	3.63	0.0260	ND (0.0010)	ND (0.0010)	0.00054 J	0.00038 J	817	ND (0.0010)	2.09	590	0.0021	332	0.0029	0.00037 J	2.11	8.54	0.208	22.4	0.0093	0.911	0.187
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	0.207 J	0.0735 J	0.254 J	0.0032 J	2.61	0.215 J	0.0829 J	0.0014 J	ND (0.0050)	ND (0.0050)	ND (0.0055)	0.00084 J	12.8	ND (0.0052)	0.108 J	19	ND (0.0049)	2.97	ND (0.0048)	ND (0.0043)	0.0038 J	0.817 J	0.0458 J	0.0899	0.00093 J	0.422 J	0.0222
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	ND (0.097)	ND (0.11)	ND (0.11)	0.00059 J	ND (0.097)	ND (0.12)	ND (0.11)	ND (0.0013)	ND (0.0010)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.0010)	ND (0.1)	ND (0.11)	ND (0.00099)	ND (0.11)	ND (0.00097)	ND (0.00087)	ND (0.00087)	ND (0.55)	ND (0.12)	ND (0.0010)	ND (0.00095)	ND (0.11)	ND (0.00095)
HEXANE	mg/kg	10000^[AB]	ND (0.49)	ND (0.56)	ND (0.54)	0.0011 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	ND (0.49)	ND (0.56)	0.3 J	0.0032 J	1.08	-	-	ND (0.0064)	-	-	ND (0.0055)	-	-	ND (0.0052)	ND (0.5)	2.03	ND (0.0049)	ND (0.55)	-	-	ND (0.0043)	-	-	ND (0.0052)	-	-	0.0053
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	ND (0.49)	ND (0.56)	ND (0.54)	0.0043 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	ND (0.49)	ND (0.56)	ND (0.54)	0.0015 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	10000^[AB]	4.21	7.66	0.975	1.17	12	247	35	0.0051	0.00024 J	0.00044 J	0.00049 J	ND (0.00096)	6.18	ND (0.0010)	1.76	9.68	0.0560	***11300 AP[B]***	0.0542	0.0068	8.65	75.1	3.8	72.9	0.15	0.48	1.11
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	0.328 J	0.123 J	1.85	0.00093 J	2.68	0.203 J	0.164 J	0.00063 J	ND (0.0050)	ND (0.0050)	ND (0.0055)	ND (0.0048)	12.2	ND (0.0052)	0.134 J	73.9	ND (0.0049)	2.66	0.00028 J	ND (0.0043)	0.0038 J	18.5	0.449 J	0.0244	0.0932	ND (0.53)	0.0023 J
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	0.152 J	0.0273 J	0.52 J	0.00074 J	1.93	0.126 J	0.0809 J	ND (0.0064)	ND (0.0050)	ND (0.0050)	ND (0.0055)	ND (0.0048)	8.23	ND (0.0052)	0.0990 J	32.3 J	ND (0.0049)	2.07	ND (0.0048)	ND (0.0043)	0.0031 J	5.92	0.162 J	0.0082	0.0516	ND (0.53)	0.0016 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	263	93.3	58.6	0.571	2050	126	30.7	0.314	0.00034 J	0.00027 J	0.0097	0.0024	***13400 AP[B]***	0.0012	19.3	***9450 AP[A]***	0.0179	2670	0.0251	0.0028	16.6	59.2	1.51	210	4.21	0.456	0.982
Volatile Organic Compounds (SW8011)																													
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0029)	ND (0.0029)	ND (0.0031)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0029)	ND (0.0029)	ND (0.0028)	ND (0.0030)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.0031)
Semi-Volatile Organic Compounds																													
ACENAPHTHENE	mg/kg	190000^[AB]	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^[AB]	ND (0.037)	0.0334 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)	ND (0.037)	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	0.0239 J	0.0349 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)	0.0234 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	0.0197 J	0.0219 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)	0.0228 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	0.0209 J	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	0.0289 J	0.0281 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)	0.0279 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	0.0237 J	0.0225 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)	0.0448	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	0.0266 J	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^[AB]	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^ 190000[B]	0.0273 J	0.030 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)	0.0229 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	0.0301 J	ND (0.038)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^[AB]	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	0.535	0.186 J	ND (0.2)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	ND (0.74)	ND (0.76)	ND (0.78)	ND (1.2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^ 190000[B]	0.0441	0.106	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^ 190000[B]	ND (0.037)	0.0261 J	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	0.0222 J	ND (0.037)	ND (0.039)	0.0222 J	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.036)	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	0.0163 J	ND (0.038)	ND (0.039)	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	ND (0.074)	ND (0.076)	0.0310 J	ND (0.12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^ 10000_{12}[B]	0.0732 J	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	0.0626 J	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	ND (0.037)	ND (0.038)	0.0188 J	ND (0.12)	0.0601	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	0.279	ND (0.037)	ND (0.039)	0.583	ND (0.035)	0.0209 J	ND (0.037)	ND (0.038)	ND (0.039)	0.132	ND (0.039)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.038)
4-NITROPHENOL	mg/kg	26000^ 190000[B]	ND (0.37)	ND (0.38)	ND (0.39)	ND (1.2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^[AB]	0.0322 J	0.121	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.039)	0.0393	ND (0.035)	ND (0.04)	ND (0.037)	ND (0.038)	ND (0.039)	0.0264 J	0.0192 J	ND (0.04)	ND (0.12)	0.0765 J	ND (0.038)
PHENOL	mg/kg	16000^ 18000[B]	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^ 190000[B]	0.0374	0.112	ND (0.039)	ND (0.12)	ND (0.035)	ND (0.038)	ND (0.04)	ND (0.039)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.12)	0.0159 J	ND (0.037)	ND (0.039)	0.0930	ND (0.035)	ND (0.04)	0.0166 J	0.0244 J	ND (0.039)	0.0304 J	ND (0.039)	ND (0.04)	ND (0.12)	0.0372 J	ND (0.038)
PYRIDINE	mg/kg	3200^ 10000[B]	ND (0.074)	ND (0.076)	ND (0.078)	ND (0.6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^ 10000[B]	ND (0.19)	ND (0.19)	ND (0.2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																													
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^ 20000_{11}[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	8.1	7.2	9.2	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^ 190000[B]	15.1	18.8	17.2	7.5	7.2	4.2	6.4	6.6	13.5	8.4	10.7	31.7	30.1	10.1	12.2	16.5	5.4	9.4	19.1	21.3	7.6	14.2	7.2	6.6	30.1	12.5	7.0
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^ 190000[B]	15.1	14.4	15.8	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^ 190000[B]	33.0	31.2	31.6	29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^[AB]	51.9	61.7	79.4	38.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH 615-4C		MH 615-5	MH 615-6	MH 615-7	MH 813-1	MH 813-2	MH 813-3	MH 813-4	MH10-1	MH10-2	MH10-3	MH10-4	MH10-5	MH10-6	MH10-7	MH10-8	MH10-9	MH10-10	MH10-1A		MH10-1B		MH10-1C	MH10-1D	MH10-2A		MH10-3A	MH1
Sample Date			5-Dec-13	5-Dec-13	3-Dec-13	3-Dec-13	5-Dec-13	25-Oct-13	25-Oct-13	25-Oct-13	25-Oct-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	8-Apr-13	18-Sep-13	19-Sep-13	9-Apr-15	9-Apr-15	5-Nov-15	5-Nov-15	18-Sep-13	19-Sep-13	19-Sep-13	19-Sep-13
Sample ID			MH615-4C(0.0-2.0)	MH615-4C(2.0-4.0)	MH615-5(3.0)	MH615-6(2.25)	MH615-7(5.0)	MH813-1 (3.0-3.5)	MH813-2 (1.5-2.0)	MH813-3 (1.75-2.25)	MH813-4 (3.0-3.5)	MH10-1 (5.0-5.5)	MH10-2 (0.5-1.0)	MH10-3 (3.0-3.5)	MH10-4 (1.0-1.5)	MH10-5 (0.5-1.0)	MH10-6 (1.5-1.8)	MH10-7 (1.5-2.0)	MH10-8 (1.0-1.5)	MH10-9 (0.5-1.0)	MH10-10 (0.0-0.5)	MH10-1A(0.0-2.0)	MH10-1A(3.5-4.0)	MH10-1B(1.0-1.5)	MH10-1B(2.0-2.5)	MH10-1C-1-20151105	MH10-1D-1-20151105	MH10-2A(0.0-2.0)	MH10-2A(4.75-5.25)	MH10-3A(0.0-2.0)	MH10-4A(0.0-2.0)
Sample Depth			0 - 2 ft	2 - 4 ft	3 ft	2.25 ft	5 ft	3 - 3.5 ft	1.5 - 2 ft	1.75 - 2.25 ft	3 - 3.5 ft	5 - 5.5 ft	0.5 - 1 ft	3 - 3.5 ft	1 - 1.5 ft	0.5 - 1 ft	1.5 - 1.8 ft	1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	0 - 0.5 ft	0 - 2 ft	3.5 - 4 ft	1 - 1.5 ft	2 - 2.5 ft	1 ft	1 ft	0 - 2 ft	4.75 - 5.25 ft	0 - 2 ft	0 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB54835	JB54835	JB54616	JB54616	JB54616	JB51293	JB51293	JB51293	JB51293	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB33904	JB47862	JB47862	JB92019	JB92019	JC7895	JC7895	JB47862	JB47862	JB47862	JB47862
Laboratory Sample ID	Units	MSC-PA	JB54835-5	JB54835-6	JB54616-5	JB54616-6	JB54616-7	JB51293-5	JB51293-6	JB51293-7	JB51293-8	JB33904-1	JB33904-2	JB33904-3	JB33904-4	JB33904-5	JB33904-6	JB33904-7	JB33904-8	JB33904-9	JB33904-10	JB47862-1	JB47862-2	JB92019-1	JB92019-2	JC7895-1	JC7895-2	JB47862-3	JB47862-4	JB47862-5	JB47862-6
Volatile Organic Compounds																																
BENZENE	mg/kg	290^{A} 330^{B}	0.0119	0.0422	0.114 J	ND (0.00092)	0.357	ND (0.00093)	ND (0.00098)	0.0028	ND (0.0009)	ND (0.120)	0.00026 J	ND (0.130)	ND (0.094)	0.00067 J	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	5.86	1.49	ND (0.050)	ND (0.053)	ND (0.057)	0.0014	0.00050 J	3.66	ND (0.120)	ND (0.00098)
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0790	18.9	-	-	ND (0.23)	0.0060	0.0021 J	43.1	0.310 J	0.00059 J
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	ND (0.120)	ND (0.00089)	ND (0.130)	ND (0.094)	ND (0.00081)	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.00085)	ND (0.00089)	ND (0.12)	ND (0.00092)	ND (0.1)	-	-	-	-	ND (0.120)	ND (0.00089)	ND (0.130)	ND (0.094)	ND (0.00081)	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	ND (0.0010)	ND (0.120)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0014)	ND (0.0011)	ND (0.130)	ND (0.120)	ND (0.00098)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	0.0020	0.0064	0.0369 J	ND (0.00092)	123	ND (0.00093)	ND (0.00098)	0.0030	ND (0.0009)	0.0353 J	0.00076 J	0.0357 J	0.370	0.00042 J	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	0.0112	366	0.0362 J	0.0304 J	ND (0.11)	0.0029	ND (0.0011)	17.5	0.0438 J	ND (0.00098)
ISOPROPYLBENZENE (CUMENE)	mg/kg	1000^{A} ^{B}	0.00021 J	0.00025 J	0.0900 J	ND (0.0046)	2.67	-	-	-	-	0.502 J	0.00070 J	1.95	2.54	0.0031 J	0.0031 J	0.0035 J	ND (0.0042)	ND (0.0045)	ND (0.0047)	0.00040 J	19.6	0.535	0.365	0.0439 J	0.00045 J	ND (0.0055)	14.5	2.02	ND (0.0049)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.00085)	ND (0.00089)	ND (0.12)	ND (0.00092)	ND (0.1)	-	-	-	-	ND (0.120)	ND (0.00089)	ND (0.130)	ND (0.094)	ND (0.00081)	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	ND (0.0010)	ND (0.120)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0014)	ND (0.0011)	ND (0.130)	ND (0.120)	ND (0.00098)
HEXANE	mg/kg	1000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0214	16.5	-	-	ND (0.57)	0.0020 J	ND (0.0055)	4.46	ND (0.590)	0.00090 J
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	ND (0.58)	ND (0.0046)	0.587	-	-	-	-	ND (0.600)	ND (0.0045)	0.776	1.01	0.0119	ND (0.0046)	ND (0.0046)	ND (0.0042)	ND (0.0045)	ND (0.0047)	-	-	-	-	0.927	0.0077	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	1000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0051)	4.20	-	-	0.142 J	0.00042 J	ND (0.0055)	11.4	1.92	ND (0.0049)
BUTYLBENZENE, TERT-	mg/kg	1000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0051)	0.482 J	-	-	ND (0.23)	ND (0.0028)	ND (0.0055)	2.38	0.381 J	ND (0.0049)
TOLUENE	mg/kg	1000^{AB}	0.0172	0.0984	0.324	0.0029	292	ND (0.00093)	ND (0.00098)	0.0011	ND (0.0009)	ND (0.120)	0.0013	ND (0.130)	ND (0.094)	0.00034 J	ND (0.00092)	ND (0.00092)	ND (0.00084)	ND (0.00089)	ND (0.00095)	0.0267	1.08	ND (0.10)	ND (0.11)	ND (0.11)	0.0012 J	0.00036 J	2.43	ND (0.120)	ND (0.00098)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	0.0032 J	0.0037 J	ND (0.58)	ND (0.0046)	1.68	-	-	-	-	0.125 J	0.0041 J	0.114 J	2.35	0.0689	0.0117	0.00058 J	ND (0.0042)	ND (0.0045)	ND (0.0047)	ND (0.0051)	77.2	0.316	0.190 J	0.0626 J	0.0168	0.0018 J	167	ND (0.590)	ND (0.0049)
1,3,5-TRIMETHYLBENZENE	mg/kg	1000^{AB}	0.0011 J	0.0013 J	ND (0.58)	ND (0.0046)	1.38	-	-	-	-	ND (0.600)	0.0022 J	ND (0.660)	2.91	0.0228	0.00072 J	ND (0.0046)	ND (0.0042)	ND (0.0045)	ND (0.0047)	ND (0.0051)	25.8 J	0.0701 J	0.0351 J	0.0285 J	0.0109	0.0015 J	80.8	ND (0.590)	ND (0.0049)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.0133	0.0508	0.148	0.0014	1210	0.00071 J	ND (0.00098)	0.0026	ND (0.0009)	0.110 J	0.0040	0.114 J	0.110	0.0030	0.0010	0.00061 J	ND (0.00084)	ND (0.00089)	ND (0.00095)	0.0232	1070	0.132	0.0999 J	ND (0.11)	0.0253	0.0013	60.6	ND (0.120)	ND (0.00098)
Volatile Organic Compounds (SW8011)																																
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0029)	ND (0.0029)	ND (0.0031)	ND (0.0029)	ND (0.0028)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0029)	ND (0.0032)	ND (0.0027)	ND (0.0028)	ND (0.0029)	ND (0.0027)	ND (0.0032)	ND (0.0030)	ND (0.0028)	ND (0.0028)
Semi-Volatile Organic Compounds																																
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	0.0199 J	ND (0.032)	0.0537	ND (0.037)	-	-	-	-	-	-	-	-	-	-	ND (0.190)	1.14	-	-	3.85	3.36	0.172	3.16	1.74	ND (0.034)
ANTHRACENE	mg/kg	190000^{AB}	ND (0.034)	ND (0.037)	ND (0.038)	ND (0.037)	0.0255 J	0.0238 J	ND (0.032)	0.0434	0.0154 J	2.78	0.0933	2.59	0.513	3.91	1.90	0.561	ND (0.038)	0.0541	ND (0.037)	ND (0.190)	0.662	5.10	7.59	2.41	2.45	0.0713	3.47	0.924	ND (0.034)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.034)	0.0185 J	ND (0.038)	0.0197 J	ND (0.037)	0.0383 J	ND (0.032)	0.0659	0.0441	1.03	0.246	0.112 J	0.698	5.38	2.71	0.257	0.0208 J	0.0577	ND (0.037)	1.89	0.414	3.33	5.90	1.62	2.14	0.0672	1.51	1.03	ND (0.034)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.034)	0.0183 J	ND (0.038)	0.0248 J	0.0525	0.0524	ND (0.032)	0.0599	0.0434	0.848	0.184	ND (0.160)	0.635	4.46	2.32	0.204	0.0538	0.0662	ND (0.037)	1.48	0.246	3.68	5.37	1.98	1.36	0.0525	0.652	1.13	0.0164 J
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.034)	0.0204 J	ND (0.038)	0.0232 J	0.0345 J	0.0348 J	ND (0.032)	0.0743	0.0489	0.315	0.139	ND (0.160)	ND (0.350)	1.42	0.785	0.0766	0.0281 J	0.0310 J	ND (0.037)	0.883	0.130 J	1.28	1.86	0.825	0.569	0.0264 J	0.727	0.345	0.0186 J
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.034)	0.0199 J	ND (0.038)	0.0349 J	0.0967	-	-	-	-	0.360	0.115	ND (0.160)	0.533	1.14	0.912	0.136	0.0837	0.0530	0.0333 J	2.34	0.219	2.55	2.94	1.52	0.652	0.0587	0.874	1.09	0.0748
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	ND (0.039)	ND (0.032)	0.0280 J	0.0180 J	-	-	-	-	-	-	-	-	-	-	0.205	ND (0.210)	-	-	0.115 J	0.121 J	ND (0.042)	ND (0.200)	0.319	ND (0.034)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	0.440	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)	ND (0.068)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	2.12	ND (0.084)	0.709	0.244	ND (0.068)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)	ND (0.068)
CHRYSENE	mg/kg	760^{A} 190000^{B}	ND (0.034)	0.0162 J	ND (0.038)	0.0181 J	ND (0.037)	0.0471	ND (0.032)	0.0779	0.0411	1.60	0.425	0.238	1.14	12.6	6.13	0.448	0.0633	0.144	ND (0.037)	0.634	0.847	7.32	11.6	3.40	4.19	0.163	3.99	2.62	0.0228 J
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.190)	ND (0.210)	-	-	0.393	ND (0.16)	ND (0.042)	0.142 J	0.324	ND (0.034)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)	ND (0.068)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.930)	ND (1.10)	-	-	ND (0.63)	ND (0.82)	ND (0.210)	ND (1.00)	ND (0.170)	ND (0.170)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (3.70)	ND (4.30)	-	-	ND (0.63)	ND (0.82)	ND (0.840)	ND (4.00)	ND (0.690)	ND (0.680)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	0.0590	ND (0.032)	0.161	0.0775	-	-	-	-	-	-	-	-	-	-	0.303	0.256	-	-	1.09	1.24	0.0659	2.00	ND (0.034)	0.0297 J
FLUORENE	mg/kg	130000^{A} 190000^{B}	ND (0.034)	ND (0.037)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.039)	ND (0.032)	0.0711	ND (0.037)	8.52	0.121	6.83	2.03	10.0	4.71	2.19	ND (0.038)	0.144	ND (0.037)	ND (0.190)	1.72	12.6	19.0	5.67	3.98	0.183	19.6	4.31	ND (0.034)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	0.0374 J	ND (0.032)	0.0362	0.0205 J	-	-	-	-	-	-	-	-	-	-	0.386	ND (0.210)	-	-	0.354	ND (0.16)	ND (0.042)	0.305	0.256	ND (0.034)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	32.8	-	-	24.2	3.61	0.407	216	20.7	ND (0.068)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)	ND (0.068)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)	ND (0.068)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.034)	ND (0.037)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.039)	ND (0.032)	0.0380	ND (0.037)	-	-	-	-	-	-	-	-	-	-	ND (0.190)	12.5	ND (0.11)	ND (0.21)	ND (0.13)	ND (0.16)	ND (0.042)	47.8	ND (0.034)	ND (0.034)
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.90)	ND (2.10)	-	-	ND (1.3)	ND (1.6)	ND (0.420)	ND (2.00)	ND (0.340)	ND (0.340)
PHENANTHRENE	mg/kg	190000^{AB}	ND (0.034)	0.0183 J	ND (0.038)	ND (0.037)	0.111	0.0420	ND (0.032)	0.19	0.0344 J	23.30	0.265	12.9	5.70	29.1	16.7	3.51	0.0251 J	0.368	0.0184 J	ND (0.190)	5.40	34.5	54.7	16.5	11.8	0.593	51.0	10.8	ND (0.034)
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)	ND (0.068)
PYRENE	mg/kg	96000^{A} 190000^{B}	0.0174 J	0.0688	ND (0.038)	0.0375	0.339	0.0828	ND (0.032)	0.114	0.0613	3.05	0.517	1.44	2.58	12.3	11.9	1.03	0.105	0.269	0.0192 J	2.66	1.33	16.1	17.2	6.64	5.98	0.314	9.75	5.55	0.0316 J
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.370)	ND (0.430)	-	-	ND (0.25)	ND (0.33)	ND (0.084)	ND (0.400)	ND (0.069)	ND (0.068)
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.930)	ND (1.10)	-	-	ND (0.63)	ND (0.82)	ND (0.210)	ND (1.00)	ND (0.170)	ND (0.170)
Metals																																
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	24.5	-	-	5.7	5.0 J	14.3	5.1 J	11.2	9.8
LEAD	mg/kg	2240^{A} 190000^{B}	27.7	25.8	10.3	24.4	12.4	-	-	-	-	4.3 J	28.0	1.3 J	13.5	266	30.3	18	21.1	6.7	20.4	46.7	24.5	25.4	5.7	70.4	55.7	17.8	38.9	53.6	54.9
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.4	41.5	-	-	24.0	21.0	47.6	15.0	106	106
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.7	65.4	-	-	27.7	15.5	64.1	41.9	184	173
ZINC	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78.3	153	-	-	60.9	365	74.5	46.7	591	279

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			0-4A	MH11 SS-01	MH11 SS-02	MH11 SS-03	MH11 SS-04	MH11 SS-05	MH11 SS-06	MH11 SS-07	MH11 SS-08	MH11 SS-09	MH11 SS-10	MH11 SS-11	MH11 SS-12	MH386-1	MH386-2	MH386-3	MH386-4	MH386-5	MH386-6	MH386-7	MH386-8		MH386-9		MH386-10		MH386-11	MH386-12	MH386-13
Sample Date			19-Sep-13	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	31-Mar-11	26-Oct-15	26-Oct-15	26-Oct-15	26-Oct-15	26-Oct-15	27-Oct-15	27-Oct-15	27-Oct-15	5-Feb-16	27-Oct-15	5-Feb-16	27-Oct-15	27-Oct-15	27-Oct-15	27-Oct-15	27-Oct-15
Sample ID			MH10-4A(5.5-6.0)	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	SS-07	SS-08	SS-09	SS-10	SS-11	SS-12	MH386-1-20151026(3')	MH386-2-20151026(3')	MH386-3-20151026(3')	MH386-4-20151026(3')	MH386-5-20151026(3')	MH386-6-20151027(3')	MH386-7-20151027(3')	MH386-8-20151027(5')	MH386-8-2'	MH386-9-20151027(5')	MH386-9-1'	MH386-10-20151027(2')	MH386-10-20151027(5')	MH386-11-20151027(2')	MH386-12-20151027(2')	MH386-13-20151027(2')
Sample Depth			5.5 - 6 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	5 ft	2 ft	5 ft	1 ft	2 ft	5 ft	2 ft	2 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	ACCUTEST	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB47862	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	1240217	JC7097	JC7097	JC7097	JC7097	JC7097	JC7291	JC7291	JC7291	1629807	JC7291	1629807	JC7291	JC7291	JC7291	JC7291	JC7291
Laboratory Sample ID	Units	MSC-PA	JB47862-7	6246993	6246994	6246995	6246996	6246997	6246998	6246999	6247000	6247001	6247002	6247003	6247004	JC7097-1	JC7097-2	JC7097-3	JC7097-4	JC7097-5	JC7291-1	JC7291-2	JC7291-3	8235350	JC7291-4	8235351	JC7291-5	JC7291-6	JC7291-7	JC7291-8	JC7291-9
Volatile Organic Compounds																															
BENZENE	mg/kg	290^{A} 330^{B}	0.0777 J	ND (0.0005)	0.001 J	ND (0.026)	0.002 J	ND (0.0004)	ND (0.0005)	ND (0.0005)	ND (0.023)	0.210 J	0.002 J	ND (0.001)	ND (0.0004)	0.0806	0.0015	0.0133	0.00061	0.0345 J	ND (0.059)	ND (0.060)	0.308	0.24	0.596	0.45	0.0928	0.0164	ND (0.055)	ND (0.00052)	ND (0.00049)
CYCLOHEXANE	mg/kg	10000^{AB}	0.697	-	-	-	-	-	-	-	-	-	-	-	-	0.116	0.0022	0.0064	ND (0.0019)	0.324	0.172 J	6.80	ND (0.23)	0.49	0.0074	1.5	0.0841	0.0021	0.234	ND (0.0021)	ND (0.0020)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	ND (0.0009)	ND (0.0009)	ND (0.052)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.046)	ND (0.046)	ND (0.002)	ND (0.003)	ND (0.0008)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.120)	ND (0.0009)	ND (0.0009)	ND (0.052)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.046)	ND (0.046)	ND (0.002)	ND (0.003)	ND (0.0008)	ND (0.0010)	ND (0.0010)	ND (0.00082)	ND (0.00095)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.044)	ND (0.00092)	ND (0.038)	ND (0.00094)	ND (0.00093)	ND (0.11)	ND (0.0010)	ND (0.00098)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	0.183	ND (0.0009)	ND (0.0009)	ND (0.052)	0.001 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.260	1.1	ND (0.002)	ND (0.003)	ND (0.0008)	0.0511	0.00029 J	0.0071	ND (0.00095)	ND (0.11)	0.0568 J	0.211	ND (0.11)	0.21 J	0.0107	ND (0.038)	0.0150	0.0020	ND (0.11)	ND (0.0010)	ND (0.00098)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	0.335 J	ND (0.0009)	ND (0.0009)	ND (0.052)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.046)	0.100 J	ND (0.002)	ND (0.003)	ND (0.0008)	0.0077	0.0010 J	0.0017	ND (0.0019)	ND (0.22)	1.99	0.271	ND (0.23)	0.10 J	0.00068 J	0.077 J	0.0096	0.00044 J	0.0509 J	ND (0.0021)	ND (0.0020)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.120)	ND (0.0005)	ND (0.0005)	ND (0.026)	ND (0.0005)	0.002 J	ND (0.0005)	0.0007 J	ND (0.023)	ND (0.023)	ND (0.0009)	ND (0.001)	ND (0.0004)	0.0092	0.0261	0.0010	0.0021	ND (0.11)	ND (0.12)	ND (0.12)	0.177	0.89	0.0999	0.12 J	0.158	0.320	ND (0.11)	0.0070	ND (0.00098)
HEXANE	mg/kg	10000^{AB}	0.453 J	-	-	-	-	-	-	-	-	-	-	-	-	0.139	ND (0.0052)	0.0035 J	ND (0.0047)	0.223 J	ND (0.59)	8.09	ND (0.57)	0.52	0.0062	0.098 J	0.0276	0.0018 J	ND (0.55)	ND (0.0052)	ND (0.0049)
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	0.008	ND (0.0009)	0.097 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.006	1.2	4.9	0.002 J	ND (0.003)	ND (0.0008)	0.0025 J	0.00052 J	0.0015 J	ND (0.0047)	1.47	0.214 J	0.697	0.459 J	19	0.0207	0.80	0.0041 J	0.0029 J	0.0393 J	ND (0.0052)	ND (0.0049)
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	0.270 J	-	-	-	-	-	-	-	-	-	-	-	-	0.0010 J	0.0010 J	0.00043 J	ND (0.0019)	ND (0.22)	2.33	0.186 J	0.0235 J	0.099 J	0.00038 J	0.050 J	0.0022	0.00019 J	0.0227 J	ND (0.0021)	ND (0.0020)
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.610)	-	-	-	-	-	-	-	-	-	-	-	-	0.00056 J	ND (0.0021)	ND (0.0016)	ND (0.0019)	ND (0.22)	0.212 J	0.0679 J	ND (0.23)	0.047 J	0.00019 J	ND (0.038)	0.0010 J	ND (0.0019)	ND (0.22)	ND (0.0021)	ND (0.0020)
TOLUENE	mg/kg	10000^{AB}	0.0325 J	ND (0.0009)	ND (0.0009)	ND (0.052)	0.003 J	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.320	1.6	0.005 J	ND (0.003)	ND (0.0008)	0.0200	0.00024 J	0.00040 J	ND (0.00095)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	0.13 J	0.0067	ND (0.038)	0.0072	0.00041 J	ND (0.11)	ND (0.0010)	ND (0.00098)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	2.05	0.003 J	ND (0.0009)	ND (0.052)	0.001 J	ND (0.0009)	ND (0.0009)	0.005	3.2	6.7	0.004 J	0.005 J	0.004 J	0.0143	ND (0.0021)	0.0025	ND (0.0019)	0.139 J	0.0468 J	0.987	0.481	1.7	0.0184	0.32	0.0090	0.0028	ND (0.22)	ND (0.0021)	ND (0.0020)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	0.547 J	0.009	ND (0.0009)	ND (0.052)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.002 J	1.0	1.8	ND (0.002)	0.006 J	0.003 J	0.0059	ND (0.0021)	0.0012 J	ND (0.0019)	0.0669 J	ND (0.24)	0.464	0.244	0.60	0.0082	0.10 J	0.0050	0.0011 J	ND (0.22)	ND (0.0021)	ND (0.0020)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.323	ND (0.0009)	ND (0.0009)	ND (0.052)	0.002 J	ND (0.0009)	ND (0.0009)	0.001 J	2.4	7.9	0.002 J	ND (0.003)	0.002 J	0.131	0.0011	0.0111	ND (0.00095)	ND (0.11)	0.0320 J	0.161	0.175	1.2	0.0321	0.19 J	0.0461	0.0028	ND (0.11)	ND (0.0010)	ND (0.00098)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0031)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0029)	ND (0.0030)	ND (0.0028)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.00024)	ND (0.0030)	ND (0.00022)	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0030)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^{AB}	2.92	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	0.204	0.0536	0.290	1.4	0.227	0.25	0.147	ND (0.038)	0.154	0.0573	ND (0.039)
ANTHRACENE	mg/kg	190000^{AB}	1.32	0.480	ND (0.0038)	1.3	0.0063 J	0.0078 J	0.010 J	0.028 J	2.0	2.2	ND (2.1)	0.140	0.013 J	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	0.424	ND (0.040)	ND (0.041)	ND (0.040)	1.4	ND (0.040)	0.19	0.183	ND (0.038)	0.180	ND (0.037)	ND (0.039)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.138	1.8	0.0054 J	ND (0.240)	0.023	0.013	0.056	0.053	5.6	6.3	4.7	0.560	0.049	0.0409 J	ND (0.082)	0.0418 J	ND (0.040)	0.0690 J	0.0574	ND (0.041)	0.0397 J	0.19 J	0.0384 J	0.085	0.0453	ND (0.038)	0.0866	0.0188 J	ND (0.039)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	0.0870	1.3	0.036	0.110	0.052	0.021	0.092	0.060	3.7	4.3	17 AX [A]	0.520	0.040	0.0444 J	ND (0.082)	ND (0.066)	ND (0.040)	0.0432 J	0.0383 J	ND (0.041)	0.0241 J	0.074 J	0.0234 J	0.047	0.0289 J	ND (0.038)	0.0216 J	ND (0.037)	ND (0.039)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.0338 J	1.5	0.0090	0.110	0.026	0.012	0.110	0.069	4.4	5.0	21	0.580	0.046	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	0.0503	ND (0.041)	0.0160 J	0.13 J	ND (0.040)	0.034	0.0313 J	ND (0.038)	0.0425	ND (0.037)	ND (0.039)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.0819	1.9	0.160	0.260	0.290	0.096	ND (0.180)	0.110 J	ND (4.6)	ND (5.7)	ND (24)	0.560	0.027 J	0.0628 J	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	0.0246 J	ND (0.041)	ND (0.040)	0.069 J	ND (0.040)	0.037	0.0274 J	ND (0.038)	0.0167 J	ND (0.037)	ND (0.039)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.0321 J	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	ND (0.040)	ND (0.041)	ND (0.040)	0.11 J	ND (0.040)	0.014 J	ND (0.037)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.039)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	0.703	0.0451 J	0.181	0.0464 J	5.3	0.0257 J	0.18	0.359	ND (0.075)	ND (0.081)	0.0150 J	ND (0.079)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.287	8.7	ND (0.017)	1.2	ND (0.120)	ND (0.044)	ND (0.420)	0.340	25	28	66	3.1	0.240	0.0693	ND (0.082)	0.0789	ND (0.040)	0.0874 J	0.199	0.0198 J	0.0712	0.32	0.0678	0.19	0.125	ND (0.038)	0.204	0.0525	ND (0.039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.041)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	ND (0.040)	ND (0.041)	ND (0.040)	ND (0.040)	ND (0.040)	0.013 J	ND (0.037)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.039)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.210)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.34)	ND (0.41)	ND (0.33)	ND (0.20)	ND (0.53)	0.417	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.019)	ND (0.19)	ND (0.19)	0.130 J	ND (0.18)	ND (0.20)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (0.820)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.34)	ND (0.41)	ND (0.33)	ND (0.20)	ND (0.53)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.6)	ND (0.20)	ND (0.35)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.20)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	0.355	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	0.128	0.0922	0.0253 J	0.0448	0.35	0.0427	0.090	0.0982	ND (0.038)	0.0860	0.0178 J	ND (0.039)
FLUORENE	mg/kg	130000^{A} 190000^{B}	5.11	0.084 J	ND (0.019)	4.1	ND (0.018)	ND (0.019)	ND (0.017)	ND (0.076)	1.3	1.2	ND (5.7)	0.077 J	ND (0.035)	ND (0.069)	0.138	0.112	ND (0.040)	0.616	0.892	0.157	0.509	2.6	0.404	0.46	0.235	ND (0.038)	0.435	0.208	ND (0.039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	0.0214 J	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.069)	ND (0.082)	ND (0.066)	ND (0.040)	ND (0.11)	ND (0.040)	ND (0.041)	ND (0.040)	0.051 J	ND (0.040)	0.017 J	ND (0.037)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.039)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	69.9	-	-	-	-	-	-	-	-	-	-	-	-	0.254	0.0878 J	0.206	ND (0.080)	2.60	1.00	2.59	1.67	50	1.26	0.29	0.0745 J	ND (0.075)	0.588	0.262	ND (0.079)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.20)	ND (0.080)	ND (0.019)	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.20)	ND (0.080)	ND (0.019)	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.041)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.410)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.69)	ND (0.82)	ND (0.66)	ND (0.40)	ND (1.1)	ND (0.40)	ND (0.41)	ND (0.40)	ND (2.0)	ND (0.40)	ND (0.19)	ND (0.37)	ND (0.38)	ND (0.40)	ND (0.37)	ND (0.39)
PHENANTHRENE	mg/kg	190000^{AB}	10.0	1.3	ND (0.011)	7.7	0.036	0.029 J	0.026 J	0.057 J	7.0	8.0	ND (3.4)	0.220	ND (0.021)	0.0794	0.147	0.203	ND (0.040)	2.11	1.72	0.358	0.676	6.1	0.695	0.68	0.452	ND (0.038)	1.03	0.205	ND (0.039)
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.20)	ND (0.080)	ND (0.019)	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)
PYRENE	mg/kg	96000^{A} 190000^{B}	2.08	ND (3.2)	ND (0.019)	ND (13)	ND (0.018)	0.040 J	ND (0.082)	0.130 J	14	15	16 J	0.430	0.070 J	0.405	0.0535 J	0.170	ND (0.040)	0.797	0.245	0.107	0.187	2.3	0.167	0.63	0.543	ND (0.038)	0.359	0.0751	ND (0.039)
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.082)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.14)	ND (0.16)	ND (0.13)	ND (0.080)	ND (0.21)	ND (0.081)	ND (0.081)	ND (0.079)	ND (0.79)	ND (0.080)	ND (0.077)	ND (0.075)	ND (0.075)	ND (0.081)	ND (0.074)	ND (0.079)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.210)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.34)	ND (0.41)	ND (0.33)	ND (0.20)	ND (0.53)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.039)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.20)
Metals																															
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	10.2	-	-	-	-	-	-	-	-	-	-	-	-	6.7	6.1 J	8.4	6.7	12.6	7.3	4.5 J	4.7 J	6.93	6.5	5.98	13.3	6.1	8.5	5.5 J	11.2
LEAD	mg/kg	2240^{A} 190000^{B}	17.0	3.27	44.6	56.3	21.6	14.7	9.10	12.0	19.8	43.3	94.0	0.680 J	1.89	27.2	12.4	18.9	9.0	9.6	22.4	11.0	10.5	15.2	15.1	15.3	34.4	9.4	53.7	8.5	9.8
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	16.0	-	-	-	-	-	-	-	-	-	-	-	-	13.6	15.5	17.7	13.4	14.0	14.3	12.7	14.1	11.9	18.3	13.1	14.2	15.4	17.3	14.8	17.2
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	57.1	-	-	-	-	-	-	-	-	-	-	-	-	34.6	48.7	33.1	38.4	42.4	35.9	40.5	30.8	43.7	35.4	17.5	36.4	34.0	42.4	39.4	38.1
ZINC	mg/kg	190000^{AB}	54.4	-	-	-	-	-	-	-	-	-	-	-	-	41.1	35.7	41.8	33.4	37.2	63.7	30.6	31.7	46.8	39.2	43.5	48.6	31.1	53.0	40.3	38.9

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH386-14	MH389-12	MH389-13	MH389-14	MH389-15	MH389-16	MH389-17	MH389-18	MH389-19	MH389-20	MH389-21	MH389-22	MH454-1	MH454-6	MH454-7	MH454-2	MH454-3	MH454-4	MH454-5	MH454-8	MH454-9	MH454-10	MH455-11	MH592-1	MH592-2	MH592-3	MH592-4	MH592-5	MH592-6
Sample Date			27-Oct-15	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	6-Sep-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15
Sample ID			MH386-14-20151027(2')	MH389-12	MH389-13	MH389-14	MH389-15	MH389-16	MH389-17	MH389-18	MH389-19	MH389-20	MH389-21	MH389-22	MH454-1(5)	MH454-6(3)	MH454-7(2)	MH454-2(3)	MH454-3(3)	MH454-4(3)	MH454-5(3)	MH454-8(2)	MH454-9(3)	MH454-10(3)	MH455-11(5)	MH592-1(3.0)	MH592-2(3.0)	MH592-3(3.0)	MH592-4(3.0)	MH592-5(3.0)	MH592-6(3.0)
Sample Depth			2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	1.5 ft	1.5 ft	1.5 ft	1.5 ft	5 ft	3 ft	2 ft	3 ft	3 ft	3 ft	3 ft	2 ft	3 ft	3 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JC7291	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1704970	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956	1671956	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023
Laboratory Sample ID	Units	MSC-PA	JC7291-10	8572703	8572704	8572705	8572706	8572707	8572708	8572709	8572710	8572711	8572712	8572713	8425765	8425764	8425759	8425760	8425761	8425762	8425763	8425758	8425757	8425756	8425755	JB93023-15	JB93023-16	JB93023-17	JB93023-18	JB93023-19	JB93023-20
Volatile Organic Compounds																															
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.057)	0.003 J	0.0006 J	0.001 J	0.002 J	ND (0.0007)	0.0005 J	0.0007 J	ND (0.029)	ND (0.0006)	ND (0.0006)	0.0006 J	ND (0.0005)	0.003 J	0.086 J	ND (0.0005)	ND (0.0004)	ND (0.0006)	ND (0.0005)	ND (0.0005)	0.021	0.001 J	0.0007 J	ND (0.00054)	ND (0.055)	ND (0.00051)	ND (0.00050)	ND (0.00047)	ND (0.00047)
CYCLOHEXANE	mg/kg	10000^{AB}	ND (0.23)	0.004 J	ND (0.001)	ND (0.001)	0.002 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	0.003 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0021)	ND (0.22)	ND (0.0020)	ND (0.0020)	ND (0.0019)	ND (0.0019)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.11)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.11)	0.002 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.002 J	0.073 J	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	ND (0.23)	0.002 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.45	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	0.001 J	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0021)	ND (0.22)	ND (0.0020)	ND (0.0020)	ND (0.0019)	ND (0.0019)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.11)	ND (0.0007)	ND (0.0005)	ND (0.0006)	ND (0.0007)	ND (0.0007)	ND (0.0005)	ND (0.0005)	ND (0.029)	ND (0.0006)	ND (0.0006)	ND (0.0005)	ND (0.0005)	0.0005 J	ND (0.028)	ND (0.0004)	ND (0.0004)	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.0006)	ND (0.0005)	0.003 J	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)
HEXANE	mg/kg	10000^{AB}	ND (0.57)	0.004 J	ND (0.001)	ND (0.001)	0.001 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J	0.41	0.21	0.002 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.001 J	ND (0.001)	ND (0.0009)	ND (0.0054)	ND (0.55)	ND (0.0051)	ND (0.0050)	ND (0.0047)	0.00043 J
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.0473 J	0.006 J	0.003 J	0.002 J	0.022	ND (0.001)	ND (0.0009)	ND (0.001)	0.078 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0054)	0.0683 J	ND (0.0051)	ND (0.0050)	ND (0.0047)	ND (0.0047)
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	ND (0.23)	0.006 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.15 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	0.001 J	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	0.00027 J	ND (0.22)	ND (0.0020)	0.0017 J	ND (0.0019)	ND (0.0019)
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.23)	0.003 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.063 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	ND (0.056)	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	0.00033 J	ND (0.22)	ND (0.0020)	0.0014 J	ND (0.0019)	ND (0.0019)
TOLUENE	mg/kg	10000^{AB}	ND (0.11)	0.003 J	ND (0.001)	0.001 J	0.002 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0008)	0.094 J	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0011)	ND (0.11)	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	ND (0.23)	0.002 J	ND (0.001)	ND (0.001)	0.003 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J	0.17 J	0.014	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0021)	ND (0.22)	ND (0.0020)	0.00044 J	ND (0.0019)	ND (0.0019)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	ND (0.23)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0009 J	ND (0.056)	0.006	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0021)	ND (0.22)	ND (0.0020)	0.00049 J	ND (0.0019)	ND (0.0019)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.11)	0.003 J	ND (0.001)	ND (0.001)	0.002 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.059)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 J	0.16 J	ND (0.0009)	ND (0.0008)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.0011)	0.0419 J	ND (0.0010)	ND (0.0010)	ND (0.00093)	ND (0.00094)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0030)	ND (0.0022)	ND (0.0010)	ND (0.0011)	ND (0.0021)	ND (0.00021)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00022)	ND (0.00022)	ND (0.00024)	ND (0.00021)	ND (0.00024)	ND (0.00024)	ND (0.00020)	ND (0.00022)	ND (0.00020)	ND (0.00026)	ND (0.00023)	ND (0.00026)	ND (0.00024)	ND (0.00023)	ND (0.0029)	ND (0.0029)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0030)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^{AB}	0.0406	ND (0.037)	0.090 J	0.095 J	2.7	0.016 J	ND (0.035)	0.0039 J	0.16 J	ND (0.0036)	0.019 J	ND (0.039)	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
ANTHRACENE	mg/kg	190000^{AB}	0.104	0.20	0.21	0.30	3.4	0.064	0.080 J	0.013 J	0.29	ND (0.0036)	0.062	0.053 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.0416	0.25	0.10 J	0.36	1.3	0.14	0.074 J	0.017 J	0.25	ND (0.0036)	0.14	0.10 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	0.0254 J	0.22	0.13 J	0.21	0.40	0.11	0.063 J	0.021	0.12 J	ND (0.0036)	0.11	0.098 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.0290 J	0.15 J	0.084 J	0.25	0.29	0.16	0.048 J	0.022	0.12 J	ND (0.0036)	0.14	0.12 J	0.0063 J	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.0275 J	0.73	0.091 J	0.20	0.27	0.12	0.077 J	0.030	0.17 J	0.0041 J	0.087	0.15 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	0.0334 J	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.038)	0.069 J	0.039 J	0.088 J	0.13 J	0.077	ND (0.035)	0.012 J	ND (0.038)	ND (0.0036)	0.075	0.064 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	0.40	0.053	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.020)	ND (0.018)	ND (0.020)	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	ND (0.020)	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.0891	0.42	0.19	0.44	1.6	0.18	0.075 J	0.030	0.35	ND (0.0036)	0.13	0.13 J	0.0055 J	ND (0.0040)	ND (0.0041)	ND (0.0035)	0.0039 J	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	0.0267 J	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.035)	0.18 J	0.026	ND (0.035)	ND (0.0035)	ND (0.038)	ND (0.0036)	0.023	ND (0.039)	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	0.047	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	0.050	ND (0.20)	ND (0.17)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (0.19)	ND (3.3)	ND (3.3)	ND (3.2)	ND (3.1)	ND (0.31)	ND (3.2)	ND (0.32)	ND (3.4)	ND (0.33)	ND (0.33)	ND (3.6)	ND (0.32)	ND (0.36)	ND (0.37)	ND (0.31)	ND (0.33)	ND (0.31)	ND (0.39)	ND (0.35)	ND (0.38)	ND (0.37)	ND (0.35)	ND (0.20)	ND (0.17)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	0.0741	0.17 J	0.14 J	0.40	1.7	0.22	0.051 J	0.027	0.23	0.0038 J	0.30	0.19 J	0.0059 J	ND (0.0040)	ND (0.0041)	0.0044 J	0.0039 J	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.154	0.33	0.25	0.37	5.5	0.039	0.071 J	0.0083 J	0.16 J	ND (0.0036)	0.023	ND (0.039)	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	ND (0.038)	0.14 J	ND (0.036)	0.088 J	0.13 J	0.074	ND (0.035)	0.015 J	0.077 J	ND (0.0036)	0.069	0.070 J	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	ND (0.035)	ND (0.041)	ND (0.037)	ND (0.041)	ND (0.041)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	0.0346 J	1.2	0.36	0.65	2.2	0.37	0.71	0.13	1.4	0.0071 J	0.028	0.30	ND (0.0035)	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	0.024	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	0.068	0.026 J	ND (0.017)	ND (0.019)	ND (0.017)	0.028 J	ND (0.020)	ND (0.021)	ND (0.021)	0.024 J	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	0.037 J	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	0.022 J	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.38)	ND (1.9)	ND (1.8)	ND (1.8)	ND (1.7)	ND (0.17)	ND (1.8)	ND (0.18)	ND (1.9)	ND (0.18)	ND (0.18)	ND (2.0)	ND (0.18)	ND (0.20)	ND (0.20)	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.22)	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.39)	ND (0.35)	ND (0.41)	ND (0.37)	ND (0.41)	ND (0.41)
PHENANTHRENE	mg/kg	190000^{AB}	0.0713	1.1	0.92	1.6	2.3	0.29	0.34	0.077	0.63	0.0036 J	0.29	0.24	0.0057 J	ND (0.0040)	ND (0.0041)	ND (0.0035)	ND (0.0037)	ND (0.0034)	ND (0.0044)	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	ND (0.039)	0.0238 J	ND (0.041)	0.0254 J	ND (0.041)	ND (0.041)
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.076)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.017)	ND (0.18)	ND (0.018)	ND (0.19)	ND (0.018)	ND (0.018)	ND (0.20)	ND (0.018)	ND (0.020)	ND (0.020)	ND (0.017)	ND (0.019)	ND (0.017)	ND (0.022)	ND (0.020)	ND (0.021)	ND (0.021)	ND (0.020)	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
PYRENE	mg/kg	96000^{A} 190000^{B}	0.276	0.82	0.67	1.2	5.0	0.33	0.22	0.074	1.1	0.0051 J	0.27	0.30	0.017 J	ND (0.0040)	ND (0.0041)	0.011 J	0.012 J	ND (0.0034)	0.0063 J	ND (0.0039)	ND (0.0043)	ND (0.0042)	ND (0.0039)	0.0702	ND (0.035)	ND (0.041)	0.0237 J	ND (0.041)	0.0164 J
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.076)	ND (0.74)	ND (0.73)	ND (0.70)	ND (0.69)	ND (0.069)	ND (0.71)	ND (0.071)	ND (0.76)	ND (0.073)	ND (0.073)	ND (0.79)	ND (0.070)	ND (0.080)	ND (0.082)	ND (0.069)	ND (0.074)	ND (0.068)	ND (0.087)	ND (0.078)	ND (0.086)	ND (0.083)	ND (0.078)	ND (0.079)	ND (0.070)	ND (0.081)	ND (0.075)	ND (0.082)	ND (0.081)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.19)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.035)	ND (0.35)	ND (0.036)	ND (0.38)	ND (0.036)	ND (0.037)	ND (0.39)	ND (0.035)	ND (0.040)	ND (0.041)	ND (0.035)	ND (0.037)	ND (0.034)	ND (0.044)	ND (0.039)	ND (0.043)	ND (0.042)	ND (0.039)	ND (0.20)	ND (0.17)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.20)
Metals																															
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	6.7	8.82	25.4	7.81	8.14	7.21	7.03	5.77	6.58	8.37	6.57	7.83	8.81	7.82	7.31	11.5	8.34	3.96	7.11	0.0905 J	0.232 J	0.316 J	4.23	8.0	14.4	ND (6.4)	ND (6.3)	ND (6.2)	7.7
LEAD	mg/kg	2240^{A} 190000^{B}	17.9	76.8	17.7	20.9	12.8	17.3	18.3	17.5	13.5	2.83	15.9	34.4	6.38	12.5	12.6	2.23	3.30	2.07	8.66	1.87	2.19	2.73	9.74	13.7	3.7	11.9	13.4	8.9	23.0
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	14.3	18.2	50.2	16.1	14.7	16.3	15.0	11.5	13.2	18.9	12.8	24.4	22.1	16.9	20.1	14.6	20.7	8.21	10.9	0.624 J	0.872 J	1.26	8.88	19.1	45.9	12.2	15.2	12.0	19.3
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	40.0	43.5	41.9	40.0	40.4	48.3	42.2	45.7	37.8	49.9	40.1	52.9	52.5	36.8	38.7	62.6	51.5	27.1	18.0	2.51	2.69	4.26	23.4	36.7	53.7	39.4	56.0	38.5	58.6
ZINC	mg/kg	190000^{AB}	42.5	175	44.9	57.4	55.1	63.9	78.4	73.6	47.6	54.6	51.0	88.8	73.6	44.0	52.3	96.7	70.5	51.3	39.8	2.90	4.60	5.76	21.9	54.5	139	33.1	39.9	52.2	73.2

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH592-7	MH592-8	MH592-9	MH592-10	MH592-11	MH592-12	MH592-13	MH593-1	MH593-2	MH593-3	MH593-4	MH593-5	MH593-6	MH593-7	MH593-8	MH593-9	MH593-10	MH593-11	MH593-12	MH593-13	MH593-14	MH593-15	MH593-16	MH593-17
Sample Date			22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	24-Jun-15	24-Jun-15	24-Jun-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	22-Apr-15	24-Jun-15	24-Jun-15	24-Jun-15
Sample ID			MH592-7(2.0)	MH592-8(3.0)	MH592-9(2.0)	MH592-10(2.0)	MH592-11(5.0)	MH592-12(5.0)	MH592-13(5.0)	MH593-1(2.0)	MH593-2(2.0)	MH593-3(3.0)	MH593-4(3.0)	MH593-5(3.0)	MH593-6(3.0)	MH593-7(3.0)	MH593-8(3.0)	MH593-9(3.0)	MH593-10(3.0)	MH593-11(3.0)	MH593-12(3.0)	MH593-13(2.0)	MH593-14(2.0)	MH593-15(5.0)	MH593-16(5.0)	MH593-17(5.0)
Sample Depth			2 ft	3 ft	2 ft	2 ft	5 ft	5 ft	5 ft	2 ft	2 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	5 ft	5 ft	5 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB93023	JB93023	JB93023	JB93023	JB97779	JB97779	JB97779	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB93023	JB97779	JB97779	JB97779
Laboratory Sample ID	Units	MSC-PA	JB93023-21	JB93023-22	JB93023-23	JB93023-24	JB97779-1	JB97779-2	JB97779-3	JB93023-1	JB93023-2	JB93023-3	JB93023-4	JB93023-5	JB93023-6	JB93023-7	JB93023-8	JB93023-9	JB93023-10	JB93023-11	JB93023-12	JB93023-13	JB93023-14	JB97779-4	JB97779-5	JB97779-6
Volatile Organic Compounds																										
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.066)	ND (0.00036)	ND (0.00051)	ND (0.00053)	ND (0.00050)	ND (0.00047)	ND (0.00058)	ND (0.069)	0.0077	0.0317 J	ND (0.00048)	0.0070	ND (0.058)	ND (0.00058)	ND (0.064)	ND (0.00052)	0.149	ND (0.00057)	0.0549 J	ND (0.050)	0.00068	ND (0.00047)	0.00033 J	ND (0.00062)
CYCLOHEXANE	mg/kg	10000^{AB}	ND (0.27)	ND (0.0014)	0.00044 J	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	0.010	0.251 J	ND (0.0019)	0.113	0.173 J	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	1.21	ND (0.20)	ND (0.0022)	ND (0.0019)	ND (0.0020)	ND (0.0025)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	ND (0.0012)	ND (0.13)	ND (0.00096)	ND (0.0041)	ND (0.12)	ND (0.0012)	ND (0.13)	ND (0.0010)	ND (0.15)	ND (0.0011)	ND (0.11)	ND (0.099)	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	0.00087 J	0.0426 J	ND (0.00096)	0.0026 J	0.0586 J	ND (0.0012)	ND (0.13)	ND (0.0010)	0.194	ND (0.0011)	0.147	ND (0.099)	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	0.0365 J	ND (0.0014)	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	0.00032 J	0.0482 J	ND (0.0019)	0.0041 J	0.0232 J	ND (0.0023)	ND (0.26)	ND (0.0021)	0.0453 J	ND (0.0023)	0.186 J	ND (0.20)	ND (0.0022)	ND (0.0019)	ND (0.0020)	ND (0.0025)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	ND (0.0012)	ND (0.13)	ND (0.00096)	ND (0.0041)	ND (0.12)	ND (0.0012)	ND (0.13)	ND (0.0010)	ND (0.15)	ND (0.0011)	ND (0.11)	ND (0.099)	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)
HEXANE	mg/kg	10000^{AB}	ND (0.66)	ND (0.0036)	ND (0.0051)	ND (0.0053)	ND (0.0050)	ND (0.0047)	ND (0.0058)	ND (0.69)	0.0075	0.109 J	ND (0.0048)	0.161	0.125 J	ND (0.0058)	ND (0.64)	ND (0.0052)	0.0924 J	ND (0.0057)	0.155 J	ND (0.50)	ND (0.0056)	ND (0.0047)	0.0073	ND (0.0062)
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.209 J	ND (0.0036)	ND (0.0051)	ND (0.0053)	0.00049 J	0.00023 J	ND (0.0058)	0.0700 J	ND (0.0060)	0.342 J	ND (0.0048)	0.0023 J	1.23	ND (0.0058)	0.0612 J	0.0014 J	0.0970 J	ND (0.0057)	5.51	0.103 J	ND (0.0056)	0.00034 J	0.0014 J	0.0144
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	0.0619 J	0.00041 J	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	ND (0.0024)	0.0306 J	ND (0.0019)	0.0017 J	0.0246 J	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	0.242	ND (0.20)	ND (0.0022)	ND (0.0019)	0.00095 J	ND (0.0025)
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.27)	0.00025 J	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	ND (0.0024)	ND (0.27)	ND (0.0019)	ND (0.0083)	ND (0.23)	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	0.0571 J	ND (0.20)	ND (0.0022)	ND (0.0019)	ND (0.0020)	ND (0.0025)
TOLUENE	mg/kg	10000^{AB}	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	ND (0.00094)	ND (0.0012)	ND (0.14)	0.00067 J	0.0518 J	ND (0.00096)	ND (0.0041)	0.0669 J	ND (0.0012)	ND (0.13)	ND (0.0010)	0.0414 J	ND (0.0011)	0.0730 J	ND (0.099)	ND (0.0011)	ND (0.00095)	ND (0.00098)	ND (0.0012)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	0.0694 J	ND (0.0014)	ND (0.0020)	ND (0.0021)	0.00023 J	ND (0.0019)	ND (0.0023)	0.0445 J	ND (0.0024)	0.126 J	ND (0.0019)	ND (0.0083)	0.773	ND (0.0023)	ND (0.26)	ND (0.0021)	0.0488 J	ND (0.0023)	2.76	ND (0.20)	ND (0.0022)	ND (0.0019)	0.0010 J	0.0010 J
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	0.0459 J	ND (0.0014)	ND (0.0020)	ND (0.0021)	ND (0.0020)	ND (0.0019)	ND (0.0023)	ND (0.28)	ND (0.0024)	0.0535 J	ND (0.0019)	ND (0.0083)	0.258	ND (0.0023)	ND (0.26)	ND (0.0021)	ND (0.29)	ND (0.0023)	0.748	ND (0.20)	ND (0.0022)	ND (0.0019)	0.00037 J	0.00057 J
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.13)	ND (0.00072)	ND (0.0010)	ND (0.0011)	ND (0.00099)	0.00029 J	ND (0.0012)	ND (0.14)	0.00050 J	0.228	ND (0.00096)	0.0031 J	0.500	ND (0.0012)	ND (0.13)	ND (0.0010)	0.222	ND (0.0011)	0.640	ND (0.099)	ND (0.0011)	0.00060 J	0.00086 J	ND (0.0012)
Volatile Organic Compounds (SW8011)																										
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0028)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.0030)	ND (0.0029)	ND (0.0030)	ND (0.0030)	ND (0.0029)
Semi-Volatile Organic Compounds																										
ACENAPHTHENE	mg/kg	190000^{AB}	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0425	ND (0.038)	0.932	ND (0.036)	ND (0.040)	6.48	ND (0.041)	ND (0.041)	0.0224 J	0.103	ND (0.042)	7.04	0.0788 J	ND (0.037)	ND (0.039)	ND (0.039)	ND (0.038)
ANTHRACENE	mg/kg	190000^{AB}	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0588	ND (0.038)	ND (0.39)	ND (0.036)	ND (0.040)	19.0	ND (0.041)	ND (0.041)	0.0408	0.243	ND (0.042)	ND (0.31)	0.241	0.0451	ND (0.039)	0.0382 J	ND (0.038)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.041)	0.0193 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.141	ND (0.038)	4.14	ND (0.036)	ND (0.040)	29.0	ND (0.041)	0.0266 J	0.0936	8.16	ND (0.042)	6.52	0.932	0.186	0.0166 J	0.0225 J	ND (0.038)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.041)	0.0244 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.150	ND (0.038)	6.47	ND (0.036)	ND (0.040)	63.5	ND (0.041)	ND (0.041)	0.135	13.9	ND (0.042)	5.84	0.909	0.455	ND (0.039)	ND (0.039)	ND (0.038)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.041)	0.0191 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0694	ND (0.038)	2.22	ND (0.036)	ND (0.040)	25.5	ND (0.041)	ND (0.041)	0.104	8.01	ND (0.042)	1.98	0.349	0.377	ND (0.039)	ND (0.039)	ND (0.038)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.041)	0.0297 J	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.128	ND (0.038)	4.66	0.115	ND (0.040)	32.1	0.0347 J	ND (0.041)	0.131	7.85	ND (0.042)	4.83	0.742	0.664	ND (0.039)	ND (0.039)	ND (0.038)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.038)	ND (0.038)	ND (0.39)	ND (0.036)	ND (0.040)	ND (0.39)	ND (0.041)	ND (0.041)	0.0260 J	2.34	ND (0.042)	0.320	0.0692 J	0.0760	ND (0.039)	ND (0.039)	ND (0.038)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	0.0196 J	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	0.567 J	ND (0.081)	ND (0.082)	0.0218 J	0.0313 J	ND (0.083)	ND (0.62)	ND (0.16)	0.0205 J	ND (0.079)	ND (0.078)	ND (0.075)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	0.187	ND (0.074)	0.0516 J	ND (0.62)	ND (0.16)	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.081)	ND (0.082)	ND (0.072)	0.0365 J	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)
CHRYSENE	mg/kg	760^{A} 190000^{B}	ND (0.041)	0.0673	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.448	ND (0.038)	11.9	ND (0.036)	0.0317 J	153	0.0325 J	0.0295 J	0.132	8.42	ND (0.042)	15.4	2.81	0.268	0.0207 J	0.0445	ND (0.038)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.038)	ND (0.038)	ND (0.39)	ND (0.036)	ND (0.040)	ND (0.39)	ND (0.041)	ND (0.041)	0.0930	3.25	ND (0.042)	ND (0.31)	0.193	0.382	ND (0.039)	ND (0.039)	ND (0.038)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (2.0)	ND (0.18)	ND (0.20)	ND (1.9)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.21)	ND (1.6)	ND (0.41)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.19)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (2.0)	ND (0.18)	ND (0.20)	ND (1.9)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.21)	ND (1.6)	ND (0.41)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.19)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0710	ND (0.038)	2.29	ND (0.036)	ND (0.040)	36.1	ND (0.041)	ND (0.041)	0.0596	0.859	ND (0.042)	3.32	0.309	0.0902	ND (0.039)	0.0251 J	ND (0.038)
FLUORENE	mg/kg	130000^{A} 190000^{B}	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.0857	ND (0.038)	1.02	ND (0.036)	0.0138 J	20.3	ND (0.041)	0.0378 J	0.0399 J	0.134	ND (0.042)	10.3	0.151	0.0160 J	ND (0.039)	0.0751	ND (0.038)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	ND (0.041)	ND (0.041)	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.038)	ND (0.038)	1.14	ND (0.036)	ND (0.040)	7.28	ND (0.041)	ND (0.041)	0.105	4.50	ND (0.042)	ND (0.31)	0.187	0.373	ND (0.039)	ND (0.039)	ND (0.038)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	0.138	ND (0.076)	0.785	ND (0.072)	ND (0.080)	25.0	ND (0.081)	ND (0.082)	0.238	0.291	ND (0.083)	51.6	0.150 J	0.135	ND (0.079)	ND (0.078)	0.0225 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 100000_{12}^{B}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.41)	ND (0.41)	ND (0.36)	ND (0.36)	ND (0.40)	ND (0.38)	ND (0.40)	ND (0.38)	ND (0.38)	ND (3.9)	ND (0.36)	ND (0.40)	ND (3.9)	ND (0.41)	ND (0.41)	ND (0.40)	ND (0.37)	ND (0.42)	ND (3.1)	ND (0.81)	ND (0.37)	ND (0.39)	ND (0.39)	ND (0.38)
PHENANTHRENE	mg/kg	190000^{AB}	ND (0.041)	0.0795	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.385	ND (0.038)	3.04	ND (0.036)	ND (0.040)	240	ND (0.041)	ND (0.041)	0.172	0.484	ND (0.042)	28.3	0.241	0.138	ND (0.039)	0.145	ND (0.038)
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)
PYRENE	mg/kg	96000^{A} 190000^{B}	ND (0.041)	0.190	ND (0.036)	ND (0.036)	ND (0.040)	ND (0.038)	ND (0.040)	0.435	ND (0.038)	26.5	ND (0.036)	0.0496	302	0.0392 J	0.0710	0.165	4.10	ND (0.042)	22.2	2.44	0.173	0.0307 J	0.0688	ND (0.038)
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.081)	ND (0.082)	ND (0.072)	ND (0.072)	ND (0.081)	ND (0.076)	ND (0.079)	ND (0.076)	ND (0.076)	ND (0.78)	ND (0.072)	ND (0.080)	ND (0.77)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.074)	ND (0.083)	ND (0.62)	ND (0.16)	ND (0.075)	ND (0.079)	ND (0.078)	ND (0.075)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (2.0)	ND (0.18)	ND (0.20)	ND (1.9)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.21)	ND (1.6)	ND (0.41)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.19)
Metals																										
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	ND (5.9)	ND (6.2)	ND (6.1)	ND (5.9)	9.0	8.7	6.6	14.3	7.8	7.5	9.6	7.8	8.5	8.7	ND (6.2)	11.5	7.3	12.0	8.2	10.8	6.7	6.7	10.7	6.7
LEAD	mg/kg	2240^{A} 190000^{B}	10.2	12.1	12.2	10.8	9.0	9.6	8.7	82.2	10.6	35.6	41.5	13.9	31.8	15.8	12.7	32.4	118	24.3	65.4	25.4	41.8	11.2	10.1	9.6
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	13.1	13.2	12.9	12.2	19.2	16.0	13.1	77.0	14.5	13.9	22.5	16.3	14.3	14.4	12.9	18.9	18.2	27.4	18.7	22.1	13.2	13.7	15.5	13.7
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	41.4	47.3	44.7	42.8	32.3	32.1	32.1	53.7	44.9	35.1	40.1	42.3	35.2	43.3	36.9	34.2	40.4	22.8	47.6	50.6	32.0	37.8	37.0	38.1
ZINC	mg/kg	190000^{AB}	45.3	38.1	43.5	39.6	36.0	41.4	39.6	212	35.3	67.4	159	46.9	57.0	96.6	35.7	55.7	132	49.6	84.2	60.1	49.0	42.3	39.2	36.2

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH593-1C		MH593-2C		MH595-1	MH595-2	MH595-3	MH595-4	MH595-5	MH595-6	MH595-7	MH595-8	MH595-9	MH595-10	MH595-11	MH597-1	MH597-2	MH597-3	MH597-4	MH597-5	MH597-6	MH597-7	MH597-8	MH597-9	MH597-10	MH597-11	MH597-12	MH597-13	MH-616-1
Sample Date			24-Jun-15	24-Jun-15	24-Jun-15	24-Jun-15	14-Mar-13	14-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	14-Mar-13	14-Mar-13	15-Mar-13	22-Jul-15	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	27-Oct-15	27-Oct-15	27-Oct-15	23-Jul-15
Sample ID			MH593-1C(1.5)	MH593-1C(12.0)	MH593-2C(1.5)	MH593-2C(3.0)	MH595-1 (5.0-5.5)	MH595-2 (5.0-5.5)	MH595-3 (3.0-3.5)	MH595-4 (3.0-3.5)	MH595-5 (3.0-3.5)	MH595-6 (3.0-3.5)	MH595-7 (3.0-3.5)	MH595-8 (3.0-3.5)	MH595-9 (5.0-5.5)	MH595-10 (0.25-0.50)	MH595-11(5-5.5)-07222015	MH597-1 (2.0-2.5)	MH597-2 (2.0-2.5)	MH597-3 (5.0-5.5)	MH597-4 (3.0-3.5)	MH597-5 (3.0-3.5)	MH597-6 (3.0-3.5)	MH597-7 (3.0-3.5)	MH597-8 (3.0-3.5)	MH597-9 (3.0-3.5)	MH597-10 (0.25-0.50)	MH597-11-20151027	MH597-12-20151027	MH597-13-20151027	MH-616-1-3
Sample Depth			1.5 ft	12 ft	1.5 ft	3 ft	5 - 5.5 ft	5 - 5.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	5 - 5.5 ft	0.25 - 0.5 ft	5 - 5.5 ft	2 - 2.5 ft	2 - 2.5 ft	5 - 5.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	3 - 3.5 ft	0.25 - 0.5 ft	5 ft	5 ft	5 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB97779	JB97779	JB97779	JB97779	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB99715	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JB31485	JC7290	JC7290	JC7290	JB99969
Laboratory Sample ID	Units	MSC-PA	JB97779-7	JB97779-8	JB97779-9	JB97779-10	JB31485-11	JB31485-12	JB31485-13	JB31485-14	JB31485-15	JB31485-16	JB31485-17	JB31485-18	JB31485-19	JB31485-20	JB99715-1	JB31485-21	JB31485-22	JB31485-23	JB31485-24	JB31485-25	JB31485-26	JB31485-27	JB31485-28	JB31485-29	JB31485-30	JC7290-1	JC7290-2	JC7290-3	JB99969-20
Volatile Organic Compounds																															
BENZENE	mg/kg	290^ 330[B]	ND (0.00047)	ND (0.00048)	ND (0.00047)	0.0044	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	0.0341 J	ND (0.0011)	ND (0.00052)	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)	ND (0.00097)	ND (0.00053)	ND (0.00050)	ND (0.00045)	0.0301
CYCLOHEXANE	mg/kg	10000^[AB]	ND (0.0019)	ND (0.0019)	ND (0.0019)	0.0023	-	-	-	-	-	-	-	-	-	-	0.0048	-	-	-	-	-	-	-	-	-	-	ND (0.0021)	ND (0.0020)	ND (0.0018)	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	-	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)	ND (0.00097)	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	ND (0.00093)	ND (0.00097)	ND (0.00094)	ND (0.0010)	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	ND (0.0010)	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	ND (0.0011)
ETHYLBENZENE	mg/kg	890^ 1000[B]	ND (0.00093)	ND (0.00097)	0.00029 J	0.0346	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	ND (0.0010)	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	0.00080 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	ND (0.0019)	ND (0.0019)	ND (0.0019)	0.0038	ND (0.63)	0.0002 J	0.0803 J	ND (0.005)	ND (0.0054)	ND (0.005)	1.82	0.048 J	0.231 J	ND (0.0056)	0.00025 J	ND (0.0062)	ND (0.0051)	0.00061 J	0.00021 J	0.113 J	0.0278 J	0.424 J	4.4	0.0013 J	ND (0.0048)	ND (0.0021)	ND (0.0020)	ND (0.0018)	ND (0.0022)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	ND (0.00093)	ND (0.00097)	ND (0.00094)	ND (0.0010)	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	ND (0.0010)	ND (0.0012)	ND (0.001)	0.00041 J	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	ND (0.0011)
HEXANE	mg/kg	10000^[AB]	ND (0.0047)	ND (0.0048)	ND (0.0047)	0.0031 J	-	-	-	-	-	-	-	-	-	-	0.0025 J	-	-	-	-	-	-	-	-	-	-	ND (0.0053)	ND (0.0050)	ND (0.0045)	-
NAPHTHALENE	mg/kg	760^ 190000[B]	0.00032 J	ND (0.0048)	0.0241	2.79	ND (0.63)	ND (0.0049)	ND (0.56)	ND (0.005)	ND (0.0054)	ND (0.005)	ND (0.57)	ND (0.59)	ND (0.57)	ND (0.0056)	0.0018 J	ND (0.0062)	ND (0.0051)	ND (0.0061)	ND (0.0045)	ND (0.51)	ND (0.51)	ND (0.52)	0.452 J	ND (0.005)	ND (0.0048)	0.0025 J	0.0015 J	0.0022 J	ND (0.0054)
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	ND (0.0019)	ND (0.0019)	0.00023 J	0.0058	-	-	-	-	-	-	-	-	-	-	ND (0.0021)	-	-	-	-	-	-	-	-	-	-	ND (0.0021)	ND (0.0020)	ND (0.0018)	-
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	ND (0.0019)	ND (0.0019)	ND (0.0019)	0.0011 J	-	-	-	-	-	-	-	-	-	-	ND (0.0021)	-	-	-	-	-	-	-	-	-	-	ND (0.0021)	ND (0.0020)	ND (0.0018)	-
TOLUENE	mg/kg	10000^[AB]	ND (0.00093)	ND (0.00097)	ND (0.00094)	0.00057 J	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	0.0773 J	ND (0.0011)	0.00034 J	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	0.156
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	ND (0.0019)	ND (0.0019)	0.0147	2.56	ND (0.63)	ND (0.0049)	0.036 J	ND (0.005)	ND (0.0054)	ND (0.005)	ND (0.57)	ND (0.59)	ND (0.57)	ND (0.0056)	0.0023	ND (0.0062)	ND (0.0051)	ND (0.0061)	ND (0.0045)	ND (0.51)	ND (0.51)	ND (0.52)	0.103 J	ND (0.005)	ND (0.0048)	ND (0.0021)	ND (0.0020)	ND (0.0018)	ND (0.0022)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	ND (0.0019)	ND (0.0019)	0.0029	0.131	ND (0.63)	ND (0.0049)	ND (0.56)	ND (0.005)	ND (0.0054)	ND (0.005)	ND (0.57)	ND (0.59)	ND (0.57)	ND (0.0056)	0.00078 J	ND (0.0062)	ND (0.0051)	ND (0.0061)	ND (0.0045)	ND (0.51)	ND (0.51)	ND (0.52)	0.0664 J	ND (0.005)	ND (0.0048)	ND (0.0021)	ND (0.0020)	ND (0.0018)	ND (0.0022)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	ND (0.00093)	ND (0.00097)	0.0020	0.110	ND (0.13)	ND (0.00097)	ND (0.11)	ND (0.00099)	ND (0.0011)	ND (0.00099)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.0011)	0.0022	ND (0.0012)	ND (0.001)	ND (0.0012)	ND (0.00091)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	ND (0.001)	ND (0.00097)	ND (0.0011)	ND (0.00099)	ND (0.00089)	0.0277
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0029)	-	-	-	-	-	-	-	-	-	-	ND (0.00026)	-	-	-	-	-	-	-	-	-	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.00025)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^[AB]	ND (0.038)	ND (0.040)	0.0557	1.56	-	-	-	-	-	-	-	-	-	-	0.0617	-	-	-	-	-	-	-	-	-	-	ND (0.038)	0.0573	ND (0.040)	-
ANTHRACENE	mg/kg	190000^[AB]	ND (0.038)	ND (0.040)	0.0460	3.64	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	0.0280 J	0.183	0.0822 J	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	ND (0.038)	ND (0.040)	0.0758	9.40	ND (0.13)	ND (0.13)	0.056 J	ND (0.12)	ND (0.12)	ND (0.12)	0.244 J	ND (0.12)	0.24	ND (0.61)	ND (0.041)	0.496	0.503	ND (0.12)	ND (0.11)	ND (0.12)	0.274	ND (0.12)	0.276	ND (0.12)	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	ND (0.038)	ND (0.040)	0.181	7.76	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	ND (0.041)	0.41	0.441	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	ND (0.038)	ND (0.040)	0.0639	2.41	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	ND (0.041)	0.274	0.273	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	0.0945	ND (0.040)	0.249	4.04	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.6)	ND (0.12)	ND (0.13)	ND (0.61)	ND (0.041)	0.364	1.04	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	ND (0.038)	ND (0.040)	ND (0.039)	0.373	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-	-	ND (0.038)	ND (0.038)	ND (0.040)	-
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	ND (0.075)	ND (0.080)	ND (0.078)	1.00	-	-	-	-	-	-	-	-	-	-	0.0178 J	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	ND (0.075)	ND (0.080)	0.0426 J	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
DI-N-BUTYL PHTHALATE	mg/kg	10000[AB]	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
CHRYSENE	mg/kg	760^ 190000[B]	ND (0.038)	ND (0.040)	0.227	19.4	ND (0.13)	ND (0.13)	0.14	ND (0.12)	ND (0.12)	ND (0.12)	0.601	ND (0.12)	0.241	ND (0.61)	ND (0.041)	0.65	0.491	ND (0.12)	ND (0.11)	ND (0.12)	0.121	ND (0.12)	0.164	ND (0.12)	ND (0.12)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	ND (0.038)	ND (0.040)	0.0310 J	0.873	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-	-	ND (0.038)	ND (0.038)	ND (0.040)	-
DIETHYL PHTHALATE	mg/kg	10000^[AB]	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	ND (0.20)	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.19)	ND (0.20)	-
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	ND (0.20)	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.19)	ND (0.20)	-
FLUORANTHENE	mg/kg	130000^ 190000[B]	ND (0.038)	ND (0.040)	0.0358 J	5.57	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-	-	ND (0.038)	ND (0.038)	ND (0.040)	-
FLUORENE	mg/kg	130000^ 190000[B]	ND (0.038)	ND (0.040)	0.124	6.58	0.127 J	ND (0.13)	0.375	ND (0.12)	ND (0.12)	ND (0.12)	1.6	ND (0.12)	0.176	ND (0.61)	0.0718	0.079 J	0.0801 J	ND (0.12)	ND (0.11)	0.227	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	0.0383	0.0977	0.0430	ND (0.039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	ND (0.038)	ND (0.040)	0.0600	1.10	-	-	-	-	-	-	-	-	-	-	ND (0.041)	-	-	-	-	-	-	-	-	-	-	ND (0.038)	ND (0.038)	ND (0.040)	-
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	ND (0.075)	ND (0.080)	0.480	18.9	-	-	-	-	-	-	-	-	-	-	0.421	-	-	-	-	-	-	-	-	-	-	0.159	0.322	0.146	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^ 10000_{12}[B]	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^ 190000[B]	ND (0.38)	ND (0.40)	ND (0.39)	ND (0.39)	-	-	-	-	-	-	-	-	-	-	ND (0.41)	-	-	-	-	-	-	-	-	-	-	ND (0.38)	ND (0.38)	ND (0.40)	-
PHENANTHRENE	mg/kg	190000^[AB]	ND (0.038)	ND (0.040)	0.289	52.8	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	3.94	ND (0.12)	0.849	ND (0.61)	0.234	0.634	0.371	ND (0.12)	0.0615 J	0.631	ND (0.12)	0.194	0.31	0.084 J	ND (0.12)	0.133	0.310	0.129	ND (0.039)
PHENOL	mg/kg	16000^ 18000[B]	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
PYRENE	mg/kg	96000^ 190000[B]	ND (0.038)	ND (0.040)	0.455	37.4	ND (0.13)	ND (0.13)	0.401	ND (0.12)	ND (0.12)	ND (0.12)	1.24	ND (0.12)	0.0967 J	ND (0.61)	0.0297 J	0.344	0.165	ND (0.12)	ND (0.11)	0.0884 J	0.0705 J	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	0.0174 J	0.0519	0.0202 J	ND (0.039)
PYRIDINE	mg/kg	3200^ 10000[B]	ND (0.075)	ND (0.080)	ND (0.078)	ND (0.077)	-	-	-	-	-	-	-	-	-	-	ND (0.081)	-	-	-	-	-	-	-	-	-	-	ND (0.076)	ND (0.076)	ND (0.079)	-
QUINOLINE	mg/kg	30^ 10000[B]	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	ND (0.20)	-	-	-	-	-	-	-	-	-	-	ND (0.19)	ND (0.19)	ND (0.20)	-
Metals																															
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^ 20000_{11}[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	8.9	18.2	8.3	7.4	-	-	-	-	-	-	-	-	-	-	ND (6.1)	-	-	-	-	-	-	-	-	-	-	4.0 J	9.0	8.9	-
LEAD	mg/kg	2240^ 190000[B]	9.2	11.9	10.9	35.4	9.7	10	42.9	8.5	7.9	7.6	9.8	8	8.7	42.2	9.0	34.5	103	11.9	7.9	8.5	8.7	9.1	11.1	15.4	13.8	6.8	7.9	9.0	8.3
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^ 190000[B]	12.9	20.0	13.9	14.1	-	-	-	-	-	-	-	-	-	-	12.6	-	-	-	-	-	-	-	-	-	-	9.1	14.0	16.5	-
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^ 190000[B]	31.7	31.4	38.3	43.6	-	-	-	-	-	-	-	-	-	-	37.7	-	-	-	-	-	-	-	-	-	-	28.7	38.6	27.8	-
ZINC	mg/kg	190000^[AB]	36.2	52.6	37.0	84.6	-	-	-	-	-	-	-	-	-	-	31.3	-	-	-	-	-	-	-	-	-	-	22.6	34.8	40.3	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH-616-2	MH-616-3	MH-616-4	MH-616-5	MH-616-6	MH-616-7	MH-617-1	MH-617-2	MH-617-3	MH-617-4	MH-617-5		MH-617-6	MH-617-7
Sample Date			23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	27-Jan-16	24-Jul-15	23-Jul-15
Sample ID			MH-616-2-3	MH-616-3-3	MH-616-4-3	MH-616-5-3	MH-616-6-5	MH-616-7-2	MH-617-1-3	MH-617-2-3	MH-617-3-3	MH-617-4-3	MH-617-5-3	MH-617-5-1	MH-617-6-5	MH-617-7-2
Sample Depth			3 ft	3 ft	3 ft	3 ft	5 ft	2 ft	3 ft	3 ft	3 ft	3 ft	3 ft	1 ft	5 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	JB99969	1626778	JB99970	JB99969
Laboratory Sample ID	Units	MSC-PA	JB99969-21	JB99969-22	JB99969-23	JB99969-25	JB99969-24	JB99969-19	JB99969-17	JB99969-16	JB99969-15	JB99969-13	JB99969-14	8221783	JB99970-1	JB99969-18
Volatile Organic Compounds																
BENZENE	mg/kg	290^{A} 330^{B}	0.0353	ND (0.052)	0.0290 J	0.0409 J	0.0347	2.61	4.33	0.0469	1.03	0.331 J	***3660*** ^{B}	ND (0.0005)	0.00050 J	0.0389
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	ND (0.0009)	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.0010)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0011)	ND (0.11)	ND (0.10)	ND (0.00089)	ND (0.00085)	ND (0.00088)	ND (0.11) J	ND (0.0009)	ND (0.0011)	ND (0.0011)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.0010)	ND (0.10)	0.389	ND (0.11)	ND (0.0011)	1.48	ND (0.10)	ND (0.00089)	ND (0.00085)	ND (0.00088)	34.0	ND (0.0009)	ND (0.0011)	0.00025 J
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	0.00029 J	ND (0.21)	0.0687 J	ND (0.23)	ND (0.0022)	ND (0.21)	ND (0.21)	ND (0.0018)	0.0013 J	ND (0.0018)	0.143 J-	ND (0.0009)	ND (0.0022)	0.00062 J
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.0010)	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.0011)	ND (0.11)	ND (0.10)	ND (0.00089)	ND (0.00085)	ND (0.00088)	ND (0.11) J	ND (0.0005)	ND (0.0011)	ND (0.0011)
HEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.0023 J	ND (0.52)	ND (0.55)	ND (0.57)	ND (0.0056)	ND (0.54)	ND (0.51)	ND (0.0045)	ND (0.0042)	0.00093 J	ND (0.53) J	ND (0.0009)	ND (0.0055)	ND (0.0055)
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	10000^{AB}	0.0393	ND (0.10)	1.00	ND (0.11)	0.0019	411	0.0251 J	0.0012	0.0069	0.0030	***16600*** ^{B}	ND (0.0009)	ND (0.0011)	0.0083
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	0.00080 J	ND (0.21)	0.532	ND (0.23)	ND (0.0022)	0.386	ND (0.21)	ND (0.0018)	ND (0.0017)	0.00031 J	1.44 J-	ND (0.0009)	ND (0.0022)	ND (0.0022)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	0.00033 J	ND (0.21)	0.167 J	ND (0.23)	ND (0.0022)	0.149 J	ND (0.21)	ND (0.0018)	ND (0.0017)	0.00032 J	0.463 J-	ND (0.0009)	ND (0.0022)	ND (0.0022)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	0.0075	ND (0.10)	4.66	ND (0.11)	ND (0.0011)	27.4	ND (0.10)	ND (0.00089)	ND (0.00085)	0.00032 J	108	ND (0.0009)	ND (0.0011)	0.0011
Volatile Organic Compounds (SW8011)																
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.00026)	ND (0.00026)	ND (0.00024)	ND (0.00026)	ND (0.00026)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00021)	ND (0.00022)	ND (0.00024)	ND (0.00023)	ND (0.00028)	ND (0.00025)
Semi-Volatile Organic Compounds																
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^{AB}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.0561	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	ND (0.004)	ND (0.044)	ND (0.040)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035) J	ND (0.038) J	0.009 J	ND (0.044)	ND (0.040)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	0.013 J	ND (0.044)	ND (0.040)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	0.012 J	ND (0.044)	ND (0.040)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	0.012 J	ND (0.044)	ND (0.040)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.035)	ND (0.035) J	ND (0.038) J	0.018 J	ND (0.044)	ND (0.040)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.111	ND (0.038)	ND (0.035)	ND (0.035)	ND (0.038)	ND (0.004)	ND (0.044)	0.0951
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	$10000_{,2}^{A}$ $10000_{,2}^{B}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^{AB}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.303	ND (0.038)	ND (0.035)	ND (0.035)	0.0513	ND (0.004)	ND (0.044)	0.0292 J
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	ND (0.040)	ND (0.040)	ND (0.038)	ND (0.040)	ND (0.039)	ND (0.038)	0.0499	ND (0.038)	ND (0.035)	ND (0.035) J	ND (0.038) J	ND (0.004)	ND (0.044)	ND (0.040)
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$220_{,1}^{A}$ $20000_{,1}^{B}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	8.3	10.7	70.4	6.3	6.0	670	38.3	27.5	28.7	113	21.3	53.3	4.9	170
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH-617-8			MH-617-9		MH-617-10		MH-617-618-1	MH-618-1	MH-618-2		MH-618-3	MH-618-4	MH-618-5	MH-618-6	MH-618-7	MH-618-8		MH-618-9		MH-618-10	MH-618-11	MH-619-1	MH-619-2	MH-619-3	MH-619-4	MH-619-5	MH-619-6	MH-619-7
Sample Date			23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	27-Jan-16	24-Jul-15	23-Jul-15	27-Jan-16	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Nov-15	23-Nov-15	23-Nov-15	23-Nov-15	27-Jan-16	27-Jan-16	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	23-Jul-15	24-Jul-15	23-Jul-15
Sample ID			MH617-8(0-2')	MH617-8(0-2')	MH617-8(7-8')	MH617-9(0-2')	MH617-9(5-6')	MH617-10(0-2')	MH617-10(5-6')	MH-617-618-1-1	MH-618-1-3	MH-618-2-3	MH-618-2-1	MH-618-3-3	MH-618-4-3	MH-618-5-3	MH-618-6-5	MH-618-7-2	MH618-8(0-2')	MH618-8(3-4')	MH618-9(0-2')	MH618-9(3-4')	MH-618-10-1	MH-618-11-1	MH-619-1-3	MH-619-2-3	MH-619-3-3	MH-619-4-3	MH-619-5-3	MH-619-6-5	MH-619-7-2
Sample Depth			0 - 2 ft	0 - 2 ft	7 - 8 ft	0 - 2 ft	5 - 6 ft	0 - 2 ft	5 - 6 ft	1 ft	3 ft	3 ft	1 ft	3 ft	3 ft	3 ft	5 ft	2 ft	0 - 2 ft	3 - 4 ft	0 - 2 ft	3 - 4 ft	1 ft	1 ft	3 ft	3 ft	3 ft	3 ft	3 ft	5 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACTD	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	ACCUTEST	ACCUTEST	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JC9204	JC9204	JC9204	JC9204	JC9204	JC9204	JC9204	1626778	JB99970	JB99969	1626778	JB99969	JB99969	JB99969	JB99969	JB99969	JC9204	JC9204	JC9204	JC9204	1626778	1626778	JB99969	JB99969	JB99969	JB99969	JB99969	JB99970	JB99969
Laboratory Sample ID	Units	MSC-PA	JC9204-5	JC9204-5R	JC9204-6	JC9204-7	JC9204-8	JC9204-9	JC9204-10	8221784	JB99970-3	JB99969-10	8221785	JB99969-12	JB99969-8	JB99969-7	JB99969-11	JB99969-9	JC9204-1	JC9204-2	JC9204-3	JC9204-4	8221786	8221787	JB99969-6	JB99969-5	JB99969-4	JB99969-2	JB99969-1	JB99970-2	JB99969-3
Volatile Organic Compounds																															
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.00063)	-	0.00096	ND (0.00046)	ND (0.00044)	ND (0.00052)	0.00032 J	22	14.1	***860*** ^{B}	***3200*** ^{A}	0.417	2.83 J	1.32	62.3	***4380*** ^{A}	0.0010	0.00084	ND (0.00047)	ND (0.00050)	0.0007 J	ND (0.0005)	0.134	0.436 J	0.0664	1.26	0.300	0.0015	0.145
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	ND (0.045)	-	-	ND (1.1)	-	-	-	-	-	-	-	-	-	ND (0.0009)	ND (0.0009)	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)	ND (3.0)	ND (1.1)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.0010)	ND (0.096)	ND (0.0010)	ND (0.0011)	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	ND (0.00093)	ND (0.0010)	ND (0.0011)	ND (0.00097)	ND (0.0012)	ND (0.00090)	ND (0.00095)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)	ND (3.0)	ND (1.1)	ND (0.0011)	ND (0.0011)	0.0033	ND (0.0010)	0.141	0.00065 J	0.0019	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	0.00051 J	ND (0.0010)	ND (0.0011)	ND (0.00097)	ND (0.0012)	ND (0.00090)	ND (0.00095)
ISOPROPYLBENZENE (CUMENE)	mg/kg	1000^{AB}	ND (0.0025)	-	ND (0.0024)	ND (0.0019)	ND (0.0018)	ND (0.0021)	ND (0.0021)	ND (0.045)	ND (0.24)	ND (5.9)	ND (1.1)	ND (0.0021)	ND (0.0022)	0.00039 J	ND (0.0020)	ND (0.19)	ND (0.0020)	0.0175	ND (0.0019)	ND (0.0020)	ND (0.0009)	ND (0.0009)	ND (0.0019)	ND (0.0020)	ND (0.0021)	ND (0.0019)	ND (0.0024)	ND (0.0018)	ND (0.0019)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.022)	ND (0.12)	ND (3.0)	ND (0.56)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.0010)	ND (0.096)	ND (0.0010)	ND (0.0011)	ND (0.00094)	ND (0.0010)	ND (0.0005)	ND (0.0005)	ND (0.00093)	ND (0.0010)	ND (0.0011)	ND (0.00097)	ND (0.0012)	ND (0.00090)	ND (0.00095)
HEXANE	mg/kg	1000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.0063)	-	ND (0.0061)	ND (0.0046)	ND (0.0044)	ND (0.0052)	ND (0.0052)	ND (0.045)	ND (0.59)	ND (15)	10	ND (0.0053)	ND (0.0055)	ND (0.0055)	ND (0.0051)	ND (0.48)	0.00062 J	0.0097	ND (0.0047)	ND (0.0050)	ND (0.0009)	ND (0.0009)	ND (0.0047)	ND (0.0050)	ND (0.0054)	0.00055 J	ND (0.0059)	ND (0.0045)	ND (0.0048)
BUTYLBENZENE, SEC-	mg/kg	1000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	1000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	1000^{AB}	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)	1.81 J	4.7 J	0.0448	0.0209	0.0185	0.0508	73.4	0.0134	0.00064 J	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	0.0062	0.0122	0.0055	0.0015	0.0010 J	0.0019	0.0010
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	ND (0.0025)	-	ND (0.0024)	ND (0.0019)	ND (0.0018)	ND (0.0021)	ND (0.0021)	ND (0.045)	ND (0.24)	ND (5.9)	20	ND (0.0021)	ND (0.0022)	0.0035	ND (0.0020)	0.124 J	0.0028	0.0154	ND (0.0019)	ND (0.0020)	ND (0.0009)	ND (0.0009)	0.00031 J	ND (0.0020)	ND (0.0021)	ND (0.0019)	ND (0.0024)	ND (0.0018)	ND (0.0019)
1,3,5-TRIMETHYLBENZENE	mg/kg	1000^{AB}	ND (0.0025)	-	ND (0.0024)	ND (0.0019)	ND (0.0018)	ND (0.0021)	ND (0.0021)	ND (0.045)	ND (0.24)	ND (5.9)	7.2	ND (0.0021)	ND (0.0022)	0.00045 J	ND (0.0020)	0.0409 J	0.0019 J	0.0011 J	ND (0.0019)	ND (0.0020)	ND (0.0009)	ND (0.0009)	0.00033 J	ND (0.0020)	ND (0.0021)	ND (0.0019)	ND (0.0024)	ND (0.0018)	ND (0.0019)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.0013)	-	ND (0.0012)	ND (0.00093)	ND (0.00088)	ND (0.0010)	ND (0.0010)	ND (0.045)	ND (0.12)	ND (3.0)	ND (1.1)	ND (0.0011)	ND (0.0011)	0.0243	0.00050 J	0.891	0.0111	0.0087	ND (0.00094)	ND (0.0010)	ND (0.0009)	ND (0.0009)	0.0030	ND (0.0010)	ND (0.0011)	ND (0.00097)	0.0017	ND (0.00090)	ND (0.00095)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0029)	-	ND (0.0029)	ND (0.0028)	ND (0.0029)	ND (0.0028)	ND (0.0031)	ND (0.00023)	ND (0.00024)	ND (0.00026)	ND (0.00024)	ND (0.00026)	ND (0.00026)	ND (0.00024)	ND (0.00025)	ND (0.00024)	ND (0.0027)	ND (0.0028)	ND (0.0027)	ND (0.0031)	ND (0.00024)	ND (0.00023)	ND (0.00024)	ND (0.00024)	ND (0.00024)	ND (0.00025)	ND (0.00026)	ND (0.00023)	ND (0.00025)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^{AB}	-	ND (0.039)	ND (0.039)	ND (0.038)	0.0238 J	ND (0.036)	ND (0.040)	ND (0.004)	ND (0.037)	ND (0.041)	ND (0.004)	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	ND (0.037)	0.0326 J	ND (0.036)	ND (0.036)	ND (0.039)	ND (0.004)	ND (0.004)	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.041)	0.0523	ND (0.039)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	-	ND (0.039)	ND (0.039)	0.0369 J	0.0832	ND (0.036)	ND (0.040)	0.008 J	ND (0.037)	ND (0.041)	0.012 J	ND (0.040)	ND (0.041)	0.0195 J	ND (0.040)	ND (0.037)	0.105	ND (0.036)	ND (0.036)	ND (0.039)	0.005 J	0.005 J	ND (0.037)	ND (0.038)	0.0240 J	ND (0.040)	ND (0.041)	0.0795	ND (0.039)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	-	ND (0.039)	ND (0.039)	0.0590	0.148	ND (0.036)	ND (0.040)	0.006 J	ND (0.037)	ND (0.041)	0.009 J	ND (0.040)	ND (0.041)	0.0161 J	ND (0.040)	ND (0.037)	0.103	ND (0.036)	ND (0.036)	ND (0.039)	0.007 J	0.009 J	ND (0.037)	ND (0.038)	0.0202 J	ND (0.040)	ND (0.041)	0.0564	ND (0.039)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	ND (0.039)	ND (0.039)	0.0512	0.106	ND (0.036)	ND (0.040)	0.01 J	ND (0.037)	ND (0.041)	0.040	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	ND (0.037)	0.194	ND (0.036)	ND (0.036)	ND (0.039)	0.01 J	0.011 J	ND (0.037)	ND (0.038)	0.0283 J	ND (0.040)	ND (0.041)	0.0758	ND (0.039)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	-	ND (0.039)	ND (0.039)	0.0695	0.147	0.0215 J	ND (0.040)	0.010 J	ND (0.037)	ND (0.041)	0.019 J	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	0.0179 J	0.199	ND (0.036)	ND (0.036)	ND (0.039)	0.013 J	0.015 J	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.041)	0.0278 J	ND (0.039)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	-	ND (0.039)	ND (0.039)	0.0420	0.115	ND (0.036)	ND (0.040)	0.009 J	ND (0.037)	ND (0.041)	0.020 J	ND (0.040)	ND (0.041)	0.0171 J	ND (0.040)	ND (0.037)	0.152	ND (0.036)	ND (0.036)	ND (0.039)	0.008 J	0.007 J	ND (0.037)	ND (0.038)	0.0267 J	ND (0.040)	ND (0.041)	0.0778	ND (0.039)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	-	ND (0.039)	ND (0.039)	ND (0.038)	ND (0.037)	ND (0.036)	ND (0.040)	ND (0.004)	ND (0.037)	ND (0.041)	0.052	ND (0.040)	ND (0.041)	ND (0.038)	ND (0.040)	ND (0.037)	ND (0.035)	0.0794	ND (0.036)	ND (0.039)	ND (0.004)	ND (0.004)	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.040)	ND (0.041)	0.104	ND (0.039)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	ND (0.039)	ND (0.039)	0.0178 J	0.0392	ND (0.036)	ND (0.040)	-	-	-	-	-	-	-	-	-	0.0843	0.123	ND (0.036)	ND (0.039)	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^{AB}	-	ND (0.039)	ND (0.039)	0.0341 J	0.0614	ND (0.036)	ND (0.040)	0.005 J	ND (0.037)	ND (0.041)	0.035	ND (0.040)	ND (0.041)	0.0953	ND (0.040)	0.0805	0.261	0.0348 J	ND (0.036)	ND (0.039)	ND (0.004)	0.005 J	ND (0.037)	ND (0.038)	ND (0.038)	0.0571	ND (0.041)	0.444	ND (0.039)
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	-	ND (0.039)	ND (0.039)	0.0437	0.139	0.0166 J	ND (0.040)	0.01 J	ND (0.037)	ND (0.041)	0.015 J	ND (0.040)	ND (0.041)	0.0516	ND (0.040)	0.100	0.302	0.0155 J	ND (0.036)	ND (0.039)	ND (0.004)	0.019 J	ND (0.037)	ND (0.038)	0.0184 J	0.0174 J	ND (0.041)	0.148	ND (0.039)
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																															
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	5.6	-	6.0	44.4	15.3	63.0	6.0	78.4	3.9	8.7	13.2	9.0	6.9	3.5	5.4	16.0	838	5.9	15.7	2.0	20.7	14.7	15.6	11.1	54.6	18.8	9.2	15.7	11.5
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH634-1	MH634-2	MH634-3	MH634-4	MH634-5	MH634-6	MH634-7	MH634-8	MH635-1	MH635-2	MH635-3	MH635-4	MH635-5	MH635-6	MH635-7	MH635-8	MH635-9	MH635-10		MH635-11	MH635-12	MH8-1	MH8-2	MH8-3	MH8-4	
Sample Date			13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	13-Jun-16	14-Jun-16	14-Jun-16	14-Jun-16	29-Jul-16	29-Jul-16	29-Jul-16	29-Jul-16	29-Mar-16	29-Mar-16	29-Mar-16	29-Mar-16	15-Jun-16
Sample ID			MH634-1(5)	MH634-2(3)	MH634-3(3)	MH634-4(3)	MH634-5(3)	MH634-6(3)	MH634-7(2)	MH634-8(2)	MH635-1(5)	MH635-2(3)	MH635-3(3)	MH635-4(3)	MH635-5(3)	MH635-6(3)	MH635-7(2)	MH635-8(2)	MH635-9(2)	MH635-10-2	MH635-10-3	MH635-11-2	MH635-12-2	MH8-1-20160329(3')	MH8-2-20160329(3')	MH8-3-20160329(3')	MH8-4-20160329(3')	MH08-4(2)
Sample Depth			5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	2 ft	2 ft	3 ft	2 ft	2 ft	3 ft	3 ft	3 ft	3 ft	2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1671955	1688932	1688932	1688932	1688932	1645616	1645616	1645616	1645616	1672903
Laboratory Sample ID	Units	MSC-PA	8425738	8425742	8425741	8425740	8425739	8425743	8425744	8425745	8425746	8425748	8425749	8425750	8425751	8425747	8425752	8425753	8425754	8501255	8501256	8501257	8501258	8310251	8310252	8310253	8310254	8429744
Volatile Organic Compounds																												
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.012	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.053 J	0.0009 J	ND (0.13)	0.070 J	ND (0.0005)	0.27 J	11	26	36	81	55
CYCLOHEXANE	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	0.009	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.0009)	ND (0.001)	0.011	ND (0.0009)	0.015	0.053	0.001 J	0.002 J	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	4.7	19	22	48	8.6 J
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.21)	ND (0.55)	ND (0.22)	ND (1.2)	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	ND (0.21)	ND (0.55)	ND (0.22)	ND (1.2)	ND (4.4)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.058	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.074 J	0.003 J	ND (0.25)	0.60	ND (0.001)	0.48 J	240	520	650	***1600[*]***	880
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.060	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	0.14 J	ND (0.001)	0.26 J	6.0	15	16	34	16 J
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.0006)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0004)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.021)	ND (0.0004)	ND (0.13)	ND (0.051)	ND (0.0005)	ND (0.10)	ND (0.11)	ND (0.28)	ND (0.11)	ND (0.59)	ND (2.2)
HEXANE	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.063	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	0.16 J	ND (0.001)	2.3	5.5	33	41	120	19 J
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.007	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.091 J	0.001 J	ND (0.25)	0.54	ND (0.001)	0.96 J	19	49	32	82	54
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.020	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	0.20 J	ND (0.001)	0.46 J	2.8	7.5	4.5	9.8	4.6 J
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	0.29 J	0.79 J	0.50 J	ND (1.2)	ND (4.4)
TOLUENE	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 J	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.042)	ND (0.0009)	ND (0.25)	ND (0.10)	ND (0.001)	ND (0.20)	9.2	10	76	58	33
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.014	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.55	0.009	ND (0.25)	7.7	ND (0.001)	8.4	55	140	110	240	120
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.16	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.22	0.003 J	ND (0.25)	3.3	ND (0.001)	3.7	21	49	34	86	43
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.01	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.43	0.005	ND (0.25)	1.2	ND (0.001)	0.49 J	1200	2400	3500	8500	4800
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.00021)	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00021)	ND (0.00023)	ND (0.00021)	ND (0.00023)	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00020)	ND (0.00021)	ND (0.00021)	ND (0.00022)	ND (0.00024)	ND (0.00023)	ND (0.00023)	ND (0.00023)	ND (0.00021)	ND (0.0023)	-	-	-	-	ND (0.00022)
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	mg/kg	190000^{AB}	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	1.7	ND (0.0039)	ND (0.040)	0.092 J	ND (0.0036)	ND (0.038)	2.3	4.2	2.8	7.1	4.5
ANTHRACENE	mg/kg	190000^{AB}	0.0052 J	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	5.1	ND (0.0039)	0.049 J	0.079 J	ND (0.0036)	0.11 J	0.89	1.7	1.1	3.0	2.2
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	0.0052 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0069 J	ND (0.0037)	15	ND (0.0039)	0.076 J	0.070 J	ND (0.0036)	0.14 J	0.18 J	0.26	0.40	1.4	0.91
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	0.0054 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	0.0042 J	ND (0.0035)	0.0048 J	ND (0.0035)	0.0036 J	0.0036 J	0.0073 J	ND (0.0037)	12	ND (0.0039)	0.10 J	0.12 J	ND (0.0036)	0.18 J	0.10 J	0.15 J	0.36 J	0.67 J	0.46
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	0.0058 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	0.0044 J	ND (0.0035)	0.0059 J	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0094 J	ND (0.0037)	4.9	ND (0.0039)	0.066 J	0.067 J	ND (0.0036)	0.075 J	0.076 J	0.099 J	0.19 J	0.51 J	0.21
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.0047 J	0.0045 J	0.0056 J	0.0035 J	ND (0.0037)	ND (0.0040)	ND (0.0035)	0.0058 J	ND (0.0035)	0.0086 J	ND (0.0035)	0.0072 J	0.0055 J	0.0084 J	0.0077 J	11	ND (0.0039)	0.34	0.33	0.0078 J	0.41	0.075 J	0.087 J	0.22 J	0.42 J	0.26
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0037 J	ND (0.0037)	1.2	ND (0.0039)	ND (0.040)	0.042 J	ND (0.0036)	ND (0.038)	0.040 J	0.046 J	0.11 J	ND (0.19)	0.088 J
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	0.72 J	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	2.1	3.4	2.5	5.9	3.2
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.0047 J	ND (0.0036)	0.0077 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	0.0045 J	ND (0.0035)	0.0048 J	0.0036 J	0.0087 J	ND (0.0037)	23	ND (0.0039)	0.20 J	0.17 J	ND (0.0036)	0.25	0.33	0.61	0.72	2.5	1.4
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	0.0038 J	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	2.9	ND (0.0039)	0.052 J	0.050 J	ND (0.0036)	0.063 J	ND (0.039)	ND (0.038)	0.080 J	ND (0.19)	0.086 J
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.50)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	ND (0.19)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (0.31)	ND (0.32)	ND (0.31)	ND (0.32)	ND (0.34)	ND (0.36)	ND (0.32)	ND (0.35)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.33)	ND (9.0)	ND (0.35)	ND (3.6)	ND (3.6)	ND (0.32)	ND (3.5)	ND (3.6)	ND (3.4)	ND (6.9)	ND (17)	ND (3.4)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	0.0078 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	0.0044 J	ND (0.0035)	0.0041 J	ND (0.0035)	0.011 J	ND (0.0037)	3.1	ND (0.0039)	0.053 J	0.077 J	ND (0.0036)	0.11 J	0.21	0.38	0.34 J	0.92 J	0.68
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.0035 J	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	3.4	0.0048 J	0.075 J	0.31	ND (0.0036)	0.29	4.1	7.3	4.6	11	7.8
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	0.0052 J	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	ND (0.10)	ND (0.0039)	0.073 J	0.081 J	ND (0.0036)	0.090 J	ND (0.039)	ND (0.038)	0.087 J	ND (0.19)	0.13 J
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	ND (0.0035)	ND (0.0036)	ND (0.0035)	0.0036 J	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	ND (0.0035)	ND (0.0035)	ND (0.0036)	ND (0.0035)	ND (0.0035)	ND (0.0037)	12	0.0060 J	ND (0.040)	2.2	ND (0.0036)	2.4	74	140	85	220	150
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.50)	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	ND (0.19)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	1.6	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	ND (0.19)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	ND (5.0)	ND (0.20)	ND (2.0)	ND (2.0)	ND (0.18)	ND (1.9)	ND (2.0)	ND (1.9)	ND (3.8)	ND (9.6)	ND (1.9)
PHENANTHRENE	mg/kg	190000^{AB}	0.027	ND (0.0036)	0.0053 J	ND (0.0035)	ND (0.0037)	ND (0.0040)	ND (0.0035)	ND (0.0039)	ND (0.0035)	0.0054 J	ND (0.0035)	0.0070 J	ND (0.0035)	0.0098 J	ND (0.0037)	32	0.012 J	0.10 J	0.74	ND (0.0036)	0.56	10	18	12	28	20
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.019)	ND (0.020)	ND (0.018)	ND (0.019)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.018)	0.59 J	ND (0.020)	ND (0.20)	ND (0.20)	ND (0.018)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.38)	ND (0.96)	0.35 J
PYRENE	mg/kg	96000^{A} 190000^{B}	0.0096 J	0.0041 J	0.013 J	0.0036 J	ND (0.0037)	0.0044 J	ND (0.0035)	ND (0.0039)	0.0053 J	0.0075 J	ND (0.0035)	0.0096 J	0.0049 J	0.014 J	0.0088 J	30	0.0046 J	0.31	0.45	0.0038 J	0.44	1.0	1.8	1.6	4.6	3.3
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.070)	ND (0.071)	ND (0.069)	ND (0.071)	ND (0.075)	ND (0.080)	ND (0.071)	ND (0.077)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.071)	ND (0.070)	ND (0.071)	ND (0.074)	ND (2.0)	ND (0.078)	ND (0.79)	ND (0.79)	ND (0.071)	ND (0.77)	ND (0.79)	ND (0.76)	ND (1.5)	ND (3.8)	ND (0.76)
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.035)	ND (0.036)	ND (0.035)	ND (0.035)	ND (0.037)	ND (0.040)	ND (0.035)	ND (0.039)	ND (0.035)	ND (0.035)	ND (0.035)	ND (0.036)	ND (0.035)	ND (0.035)	ND (0.037)	ND (1.0)	ND (0.039)	ND (0.40)	ND (0.40)	ND (0.036)	ND (0.38)	ND (0.39)	ND (0.38)	ND (0.77)	ND (1.9)	ND (0.38)
Metals																												
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	12.2	6.99	17.2	12.5	8.02	8.06	6.97	5.33	7.49	11.5	8.05	7.89	8.30	9.49	9.25	7.75	6.43	7.22	4.68	7.78	7.12	6.54	5.06	7.55	6.51	4.43
LEAD	mg/kg	2240^{A} 190000^{B}	3.77	11.6	ND (5.03)	3.96	3.21	13.7	2.22	12.1	3.63	ND (3.72)	3.66	4.56	3.18	4.37	5.97	39.4	13.9	43.6	35.1	ND (0.422)	61.6	10.1	11.5	15.2	26.2	7.70
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	27.1	17.9	59.9	32.5	21.7	18.5	17.4	15.4	20.0	27.8	22.9	20.1	22.1	28.4	27.4	16.2	16.4	16.4	9.58	19.7	16.2	15.5	9.78	12.5	12.4	8.90
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	57.1	41.8	74.0	62.6	58.6	38.1	41.6	31.4	45.3	58.3	49.6	44.3	48.7	56.1	57.8	38.3	39.5	37.0	22.7	47.1	41.1	29.3	15.4	23.8	20.7	12.9
ZINC	mg/kg	190000^{AB}	72.5	57.9	101	91.6	62.3	50.1	58.5	41.3	65.2	108	66.9	83.6	100	71.7	90.8	65.2	43.9	79.6	53.4	64.4	83.3	40.3	23.7	35.6	40.2	23.8

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MH8-5		MH8-6	MH8-7	MH8-8	MH8-9	MH8-10	MH8-11	MH8-12	MH8-13	MH8-14	MH8-15	MH8-16	MH8-17		MH8-18	MH8-19	MH8-20		MH8-21	MH8-22	MH8-23		MH8-24	MH8-25		MH8-26		MHI
Sample Date			29-Mar-16	1-Sep-16	29-Mar-16	29-Mar-16	29-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	30-Mar-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	14-Jun-16	14-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	1-Sep-16	1-Sep-16	1-Sep-16
Sample ID			MH8-5-20160329(3')	MH08-5(1.0-1.5)	MH8-6-20160329(3')	MH8-7-20160329(3')	MH8-8-20160329(2')	MH8-9-20160330(2')	MH8-10-20160330(2')	MH8-11-20160330(2')	MH8-12-20160330(2')	MH8-13-20160330(2')	MH8-14-20160330(2')	MH8-15-20160330(2')	MH8-16-20160330(2')	MH8-17-20160330(0-1')	MH8-17-20160330(2-3')	MH08-18(2)	MH08-19(2)	MH08-20(2)	MH08-20(5)	MH08-21(2)	MH08-22(2)	MH08-23(2)	MH08-23(5)	MH08-24(2)	MH08-25(2)	MH08-25(3)	MH08-26(1.5-2.0)	MH08-26(3)	MH08-27(0.5-1.0)
Sample Depth			3 ft	1 - 1.5 ft	3 ft	3 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	0 - 1 ft	2 - 3 ft	2 ft	2 ft	2 ft	5 ft	2 ft	2 ft	2 ft	5 ft	2 ft	2 ft	3 ft	1.5 - 2 ft	3 ft	0.5 - 1 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1645616	1702739	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1645616	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1672903	1702739	1702739	1702739
Laboratory Sample ID	Units	MSC-PA	8310255	8563647	8310256	8310257	8310258	8310259	8310260	8310261	8310262	8310263	8310264	8310265	8310266	8310267	8310268	8429750	8429749	8429746	8429747	8429748	8429741	8429739	8429740	8429745	8429742	8429743	8563648	8563649	8563650
Volatile Organic Compounds																															
BENZENE	mg/kg	290^ 330[B]	56	45	16	18	58	0.14 J	ND (0.11)	1.4	0.065 J	0.57 J	7.1	0.34 J	120	ND (1.2)	18	0.23 J	0.23 J	0.097 J	ND (0.026)	ND (0.0005)	1.5 J	ND (0.026)	ND (0.099)	17	98	27	16	30	0.28
CYCLOHEXANE	mg/kg	10000^[AB]	31	7.6	12	15	76	23	1.4	5.4	1.2	13	16	ND (0.66)	82	ND (2.5)	9.3	0.29 J	1.3	0.29	ND (0.051)	ND (0.001)	3.9 J	1.2	0.56 J	8.5 J	37	11	16	23	0.75
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	ND (1.1)	-	ND (0.21)	ND (1.3)	ND (1.2)	ND (0.10)	ND (0.22)	ND (0.098)	ND (0.10)	ND (0.21)	ND (0.22)	ND (0.66)	ND (0.68)	ND (2.5)	ND (0.20)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	ND (1.1)	ND (0.30)	ND (0.21)	ND (1.3)	ND (1.2)	ND (0.10)	ND (0.22)	ND (0.098)	ND (0.10)	ND (0.21)	ND (0.22)	ND (0.66)	ND (0.68)	ND (2.5)	ND (0.20)	ND (0.067)	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	ND (1.1)	ND (0.053)	ND (0.20)	ND (1.8)	ND (5.1)	ND (2.0)	ND (0.49)	ND (0.62)	ND (0.050)
ETHYLBENZENE	mg/kg	890^ 1000[B]	***1400[A]***	110	320	840	***3100[A]***	0.32 J	ND (0.22)	70	2.7	100	0.81 J	ND (0.66)	***3700[A]***	360	480	0.25 J	1.4	0.24 J	ND (0.051)	ND (0.001)	470	ND (0.053)	ND (0.20)	610	***1700[A]***	560	310	830	11
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	35	6.0	6.7	17	67	0.50 J	ND (0.22)	3.6	5.1	15	15	ND (0.66)	59	10 J	9.1	0.098 J	1.8	ND (0.047)	ND (0.051)	ND (0.001)	15	0.33	2.1	13	39	13	8.0	18	0.33
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	ND (0.57)	ND (0.15)	0.12 J	ND (0.63)	ND (0.62)	ND (0.052)	ND (0.11)	ND (0.049)	ND (0.051)	ND (0.10)	ND (0.11)	ND (0.33)	ND (0.34)	ND (1.2)	ND (0.099)	ND (0.034)	ND (0.12)	ND (0.024)	ND (0.026)	ND (0.0005)	ND (0.54)	ND (0.026)	ND (0.099)	ND (0.92)	ND (2.6)	ND (1.0)	ND (0.24)	ND (0.31)	ND (0.025)
HEXANE	mg/kg	10000^[AB]	40	11	27	38	140	1.9	0.46 J	3.0	ND (0.10)	8.4	0.83 J	ND (0.66)	170	ND (2.5)	13	0.34 J	0.58 J	0.17 J	ND (0.051)	ND (0.001)	5.2 J	0.47	0.26 J	29	140	39	17	30	1.2
NAPHTHALENE	mg/kg	760^ 190000[B]	84	19	14	32	100	ND (0.10)	0.64 J	1.9	4.5	12	ND (0.22)	ND (0.66)	99	51	17	0.15 J	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	27	0.12 J	0.63 J	31	120	35	26	52	1.4
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	11	2.2	1.9	5.9 J	15	ND (0.10)	ND (0.22)	1.0	4.1	9.3	12	0.82 J	15	3.7 J	2.0	0.081 J	1.1 J	ND (0.047)	0.088 J	ND (0.001)	5.7	0.070 J	0.77 J	3.8 J	15 J	4.8 J	2.3 J	4.9	0.14 J
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	1.2 J	0.42 J	0.21 J	ND (1.3)	1.8 J	ND (0.10)	ND (0.22)	0.17 J	0.55	1.1	1.5	ND (0.66)	2.0 J	ND (2.5)	ND (0.20)	ND (0.067)	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	ND (1.1)	ND (0.053)	ND (0.20)	ND (1.8)	ND (5.1)	ND (2.0)	ND (0.49)	ND (0.62)	ND (0.050)
TOLUENE	mg/kg	10000^[AB]	150	2.3	78	94	220	ND (0.10)	ND (0.22)	ND (0.098)	ND (0.10)	3.1	ND (0.22)	ND (0.66)	500	18	10	0.070 J	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	3.5 J	ND (0.053)	ND (0.20)	120	13 J	2.2 J	9.1	25	0.27
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	250	68	42	100	330	0.89	0.25 J	1.4	0.73	14	ND (0.22)	ND (0.66)	***580[A]***	180	66	1.2	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	80	0.23 J	2.0	89	340	110	81	160	5.5
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	89	22	16	43	120	0.18 J	ND (0.22)	ND (0.098)	0.61	4.2	ND (0.22)	ND (0.66)	130	73	11	0.57	ND (0.25)	ND (0.047)	ND (0.051)	ND (0.001)	28	0.13 J	0.77 J	33	120	39	28	58	2.2
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	7500	530	1600	4400	***14000[A]***	3.1	0.31 J	7.9	0.28 J	350	0.83 J	ND (0.66)	***20000[A]***	3000	1200	1.7	18	0.34	ND (0.051)	ND (0.001)	1500	0.55	1.1	3200	6900	2600	1400	3400	72
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	ND (0.0051)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.00022)	ND (0.00023)	ND (0.00024)	ND (0.00024)	ND (0.00025)	ND (0.00022)	ND (0.00023)	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.00022)	ND (0.0045)	ND (0.0012)	ND (0.0022)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^[AB]	9.6	ND (0.086)	1.8	1.7	7.4	2.0	3.8	13	0.76	1.0	0.33	13	5.5	2.3	3.5	2.4	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	1.1	0.016 J	0.69 J	2.5	4.9	2.5	1.7	2.3	ND (0.037)
ANTHRACENE	mg/kg	190000^[AB]	3.9	ND (0.086)	0.88	0.97	3.3	2.3	5.5	21	1.0	0.80	0.14 J	7.3	2.6	1.9	2.7	1.4	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	0.78	0.016 J	1.0	1.1	2.7	1.2	1.2	1.5	ND (0.037)
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	1.3	ND (0.086)	0.28 J	0.78	2.2	9.3	21	76	2.6	0.69	0.072 J	8.3	1.5	1.7	1.9	0.73	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	1.6	0.045	4.1	0.33	0.92	0.44	2.7	1.6	0.042 J
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	0.59 J	0.19 J	0.14 J	1.6	1.4	8.6	***16[A]***	***41[A]***	2.1	0.64	0.072 J	4.9	1.1	1.0	1.1	0.49	ND (0.039)	0.0054 J	0.0094 J	ND (0.0041)	1.9	0.19	4.6	0.25	0.52	0.29	***21[A]***	3.8	0.099 J
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	0.45 J	0.20 J	0.10 J	0.80	0.66	5.1	8.3	23	1.1	0.36	0.076 J	2.9	0.57	0.81	0.73	0.20	ND (0.039)	0.0054 J	ND (0.0041)	ND (0.0041)	0.76	0.073	1.8	0.11 J	0.29	0.12 J	3.9	1.3	0.062 J
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	0.39 J	0.70	0.10 J	0.91	0.66	7.0	6.7	17	1.8	0.76	0.068 J	3.2	0.76	1.5	1.2	0.32	0.18 J	0.0046 J	ND (0.0041)	0.0049 J	1.5	0.29	4.7	0.17 J	0.30	0.16 J	25	6.3	2.0
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	ND (0.19)	ND (0.086)	ND (0.078)	0.096 J	0.15 J	0.62 J	1.7 J	3.6	0.23 J	0.059 J	ND (0.041)	0.53 J	0.10 J	0.050 J	0.15 J	0.085 J	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	0.26	0.011 J	0.44 J	ND (0.036)	0.077 J	0.045 J	1.5	0.42	ND (0.037)
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	8.6	ND (0.43)	1.8	1.8	6.8	ND (1.8)	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	4.7	2.2	2.8	2.1	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	0.50	ND (0.020)	ND (0.94)	2.0	3.7	2.0	1.3	1.8	ND (0.19)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	1.8	5.7	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)
DI-N-BUTYL PHTHALATE	mg/kg	10000^[AB]	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	ND (0.70)	ND (0.73)	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)
CHRYSENE	mg/kg	760^ 190000[B]	2.4	ND (0.086)	0.48	2.5	3.5	19	33	110	4.8	1.3	0.18 J	15	3.1	2.9	3.6	1.3	0.051 J	0.0096 J	0.0045 J	0.0079 J	3.5	0.19	9.0	0.75	1.8	0.90	8.4	4.0	0.095 J
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	ND (0.19)	ND (0.086)	ND (0.078)	0.32	0.30 J	1.2 J	2.4	6.8	0.53	0.12 J	ND (0.041)	1.5	0.16 J	0.31	0.15 J	0.11 J	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	0.43	0.053	0.58 J	0.066 J	0.10 J	0.042 J	2.8	0.61	ND (0.037)
DIETHYL PHTHALATE	mg/kg	10000^[AB]	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	ND (0.70)	ND (0.73)	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	2.1	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	ND (17)	ND (7.8)	ND (7.1)	ND (3.5)	ND (8.6)	ND (32)	ND (36)	ND (34)	ND (8.8)	ND (3.4)	ND (3.7)	ND (18)	ND (3.6)	ND (3.2)	ND (3.3)	ND (3.4)	ND (3.5)	ND (0.36)	ND (0.37)	ND (0.37)	ND (3.3)	ND (0.36)	ND (17)	ND (3.3)	ND (3.3)	ND (3.4)	ND (3.4)	ND (3.6)	ND (3.4)
FLUORANTHENE	mg/kg	130000^ 190000[B]	1.2	ND (0.086)	0.25 J	0.35	1.3	2.5	4.4	26	1.0	0.39	0.068 J	3.2	0.91	0.89	1.1	0.51	ND (0.039)	0.0060 J	ND (0.0041)	ND (0.0041)	0.60	0.017 J	2.0	0.34	0.80	0.39	0.72	0.74	0.075 J
FLUORENE	mg/kg	130000^ 190000[B]	15	ND (0.086)	3.3	3.3	12	2.1	5.2	21	1.7	2.5	0.60	17	9.4	4.0	5.8	4.8	ND (0.039)	ND (0.0040)	ND (0.0041)	ND (0.0041)	1.8	0.023	1.3	4.8	9.5	4.7	2.9	4.1	ND (0.037)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	ND (0.19)	0.21 J	ND (0.078)	0.28	0.26 J	2.0	2.1	5.4	0.52	0.15 J	0.054 J	0.93 J	0.20 J	0.42	0.32	0.12 J	ND (0.039)	ND (0.0040)	0.0076 J	ND (0.0041)	0.40	0.050	1.1	0.053 J	0.11 J	0.073 J	4.9	1.1	0.15 J
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	320	0.24 J	64	63	260	6.6	20	110	16	49	18	1.3	220	98	100	96	ND (0.039)	0.014 J	0.011 J	0.0054 J	27	0.074	2.7	99	210	86	56	75	0.18 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^ 10000_{12}[B]	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	0.20 J	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.18)	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	0.32 J	ND (0.19)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.18)	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^ 190000[B]	ND (9.6)	ND (4.3)	ND (3.9)	ND (1.9)	ND (4.8)	ND (18)	ND (20)	ND (19)	ND (4.9)	ND (1.9)	ND (2.0)	ND (9.9)	ND (2.0)	ND (1.8)	ND (1.8)	ND (1.9)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.21)	ND (1.8)	ND (0.20)	ND (9.4)	ND (1.8)	ND (1.8)	ND (1.9)	ND (1.9)	ND (2.0)	ND (1.9)
PHENANTHRENE	mg/kg	190000^[AB]	37	ND (0.086)	7.9	8.4	33	7.9	20	110	8.6	6.9	1.1	47	24	13	18	11	0.059 J	0.011 J	0.0042 J	0.0067 J	5.7	0.026	6.0	11	23	11	8.9	12	0.074 J
PHENOL	mg/kg	16000^ 18000[B]	ND (0.96)	ND (0.43)	ND (0.39)	ND (0.19)	ND (0.48)	ND (1.8)	ND (2.0)	ND (1.9)	ND (0.49)	ND (0.19)	ND (0.20)	ND (0.99)	ND (0.20)	ND (0.18)	ND (0.18)	0.33 J	ND (0.20)	ND (0.020)	ND (0.020)	ND (0.021)	ND (0.18)	ND (0.020)	ND (0.94)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)
PYRENE	mg/kg	96000^ 190000[B]	4.8	ND (0.086)	0.98	3.3	6.1	19	33	130	5.9	1.9	0.24	18	4.6	5.1	5.4	2.1	0.061 J	0.0078 J	ND (0.0041)	0.0057 J	4.4	0.16	13	1.4	3.2	1.5	4.6	3.4	0.085 J
PYRIDINE	mg/kg	3200^ 10000[B]	ND (3.9)	ND (1.7)	ND (1.6)	ND (0.78)	ND (1.9)	ND (7.1)	ND (7.9)	ND (7.7)	ND (1.9)	ND (0.76)	ND (0.82)	ND (4.0)	ND (0.81)	ND (0.70)	ND (0.73)	ND (0.75)	ND (0.79)	ND (0.081)	ND (0.081)	ND (0.083)	ND (0.72)	ND (0.079)	ND (3.7)	ND (0.72)	ND (0.73)	ND (0.75)	ND (0.75)	ND (0.80)	ND (0.75)
QUINOLINE	mg/kg	30^ 10000[B]	ND (1.9)	ND (0.86)	ND (0.78)	ND (0.39)	ND (0.96)	ND (3.5)	ND (3.9)	ND (3.8)	ND (0.97)	ND (0.38)	ND (0.41)	ND (2.0)	ND (0.40)	ND (0.35)	ND (0.36)	ND (0.38)	ND (0.39)	ND (0.040)	ND (0.041)	ND (0.041)	ND (0.36)	ND (0.040)	ND (1.9)	ND (0.36)	ND (0.36)	ND (0.38)	ND (0.38)	ND (0.40)	ND (0.38)
Metals																															
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{51}^ 20000_{51}[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	6.12	4.28	5.78	4.95	7.16	6.76	4.44	7.86	7.09	6.95	6.20	4.73	9.05	3.58	6.54	8.84	10.4	7.68	8.08	8.06	6.62	6.21	6.10	6.45	4.89	5.42	5.46	6.77	6.96
LEAD	mg/kg	2240^ 190000[B]	12.2	38.9	14.2	7.14	8.66	92.1	312	54.1	18.7	7.61	7.24	52.7	6.03	35.2	13.6	10.1	34.6	16.2	2.55	14.7	24.1	27.7	25.5	11.0	7.52	8.28	55.2	64.8	36.0
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^ 190000[B]	14.5	13.1	11.1	10.9	12.8	19.2	21.1	25.2	12.3	11.5	12.2	11.2	17.3	9.35	13.7	16.6	19.4	16.8	14.6	16.4	12.8	12.2	14.2	11.4	7.81	10.1	12.8	13.2	17.4
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^ 190000[B]	23.2	42.2	18.2	24.0	25.1	65.4	112	40.7	29.3	22.2	21.2	27.8	33.1	20.5	36.4	28.8	41.8	41.4	30.0	38.4	27.7	36.6	38.9	20.8	14.3	19.5	37.9	39.3	36.3
ZINC	mg/kg	190000^[AB]	40.9	62.2	27.6	30.4	32.8	85.1	63.2	353	38.6	47.0	32.4	69.4	38.5	155	39.7	38.3	61.9	52.3	37.5	46.6	57.8	50.8	74.9	27.4	21.0	27.6	67.6	47.2	149

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			-27	MH8-28	MH8-29	MH8-30	MH8-31	MH-A-1	MH-A-2	MH-A-3	MH-A-4	MH-A-5	MH-A-6	MH-A-7	MH-A-8	MH-A-9	MH-A-10		MH-A-11	MH-A-12		MH-A-13	MH-A-14	MH-A-15	MH-A-16	MHIC_AST_631	MHIC_AST_631_A	MHIC_AST_631_B	MHIC_AST_631_C	MHIC_AST_631_D	MHIC_AST_631_E
Sample Date			1-Sep-16	1-Sep-16	1-Sep-16	14-Oct-16	14-Oct-16	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	18-Jan-17	1-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17
Sample ID			MH08-27(3)	MH08-28(1.5-2.0)	MH08-29(1.5-2.0)	MH8-30(1.5-2.0)	MH8-31(1.5-2.0)	MH-A-1(3.0)	MH-A-2(5.0)	MH-A-3(3.0)	MH-A-4(2.0)	MH-A-5(3.0)	MH-A-6(2.0)	MH-A-7(3.0)	MH-A-8(5.0)	MH-A-9(3.0)	MH-A-10(2.0)	MH-A-10(3.0)	MH-A-11(5.0)	MH-A-12(2.0)	MH-A-12(3.0)	MH-A-13(2.0)	MH-A-14(2.0)	MH-A-15(3.0)	MH-A-16(5.0)	MHIC_AST_631_5'	MHIC_AST_631_A-3'	MHIC_AST_631_B-3'	MHIC_AST_631_C-3'	MHIC_AST_631_D-3'	MHIC_AST_631_E-3'
Sample Depth			3 ft	1.5 - 2 ft	1.5 - 2 ft	1.5 - 2 ft	1.5 - 2 ft	3 ft	5 ft	3 ft	2 ft	3 ft	2 ft	3 ft	5 ft	3 ft	2 ft	3 ft	5 ft	2 ft	3 ft	2 ft	2 ft	3 ft	5 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order		A B	1702739	1702739	1702739	1720858	1720858	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	1756832	HS17020102	HS17020135	HS17020135	HS17020135	HS17020135	HS17020135
Laboratory Sample ID	Units	MSC-PA	8563651	8563652	8563653	8642787	8642788	8797796	8797797	8797798	8797799	8797800	8797801	8797802	8797803	8797804	8797805	8797806	8797807	8797808	8797809	8797810	8797811	8797812	8797813	HS17020102-01	HS17020135-01	HS17020135-02	HS17020135-03	HS17020135-04	HS17020135-05
Volatile Organic Compounds																															
BENZENE	mg/kg	290^ 330[B]	0.002 J	1.5	24	0.77 J	0.62 J	ND (0.029)	ND (0.0004)	ND (0.0004)	ND (0.031)	ND (0.029)	ND (0.041)	ND (0.0005)	0.001 J	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0008)	ND (0.028)	0.001 J	ND (0.0006)	ND (0.049)	ND (0.0006)	ND (0.0005)	0.0078	0.0072	0.0038 J	0.095	0.0067	ND (0.0048)
CYCLOHEXANE	mg/kg	10000^[AB]	0.001 J	0.74	30	45	ND (0.24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	ND (0.001)	ND (0.12)	ND (0.25)	ND (0.20)	ND (0.24)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)
ETHYLBENZENE	mg/kg	890^ 1000[B]	0.021	2.3	190	ND (0.20)	3.6	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	ND (0.083)	ND (0.001)	0.002 J	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.002)	ND (0.057)	ND (0.0009)	ND (0.001)	ND (0.097)	0.004 J	0.001 J	ND (0.0046)	ND (0.0040)	0.075	ND (0.0044)	0.00072 J	ND (0.0048)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	ND (0.001)	0.24 J	7.6	3.5	21	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	ND (0.083)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.002)	ND (0.057)	ND (0.0009)	ND (0.001)	ND (0.097)	ND (0.001)	ND (0.001)	ND (0.0046)	ND (0.0040)	0.0045 J	ND (0.0044)	ND (0.0046)	ND (0.0048)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	ND (0.0005)	ND (0.059)	ND (0.12)	ND (0.10)	ND (0.12)	ND (0.029)	ND (0.0004)	ND (0.0004)	ND (0.031)	ND (0.029)	ND (0.041)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0008)	ND (0.028)	ND (0.0005)	ND (0.0006)	ND (0.049)	ND (0.0006)	ND (0.0005)	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)
HEXANE	mg/kg	10000^[AB]	0.004 J	0.62	95	1.4	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	ND (0.001)	0.52 J	3.0	ND (0.20)	ND (0.24)	ND (0.058)	ND (0.0009)	0.0009 J	ND (0.063)	ND (0.058)	ND (0.083)	ND (0.001)	0.002 J	ND (0.001)	0.001 J	0.003 J	0.006 J	ND (0.057)	ND (0.0009)	0.001 J	ND (0.097)	0.003 J	ND (0.001)	ND (0.0046)	ND (0.0040)	ND (0.0047)	ND (0.0044)	ND (0.0046)	ND (0.0048)
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	ND (0.001)	0.20 J	5.5	1.5	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	ND (0.001)	ND (0.12)	0.94 J	0.36 J	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	10000^[AB]	0.001 J	ND (0.12)	3.2	0.22 J	1.3	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	0.330 J	ND (0.001)	0.002 J	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.002)	ND (0.057)	0.001 J	ND (0.001)	ND (0.097)	0.007	ND (0.001)	ND (0.0046)	ND (0.0040)	0.015	0.0012 J	0.0013 J	ND (0.0048)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	ND (0.001)	5.9	270	0.57 J	0.34 J	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	0.360 J	ND (0.001)	0.003 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.005 J	ND (0.057)	0.001 J	ND (0.001)	1.200	0.012	ND (0.001)	ND (0.0046)	ND (0.0040)	0.092	ND (0.0044)	0.0020 J	ND (0.0048)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	0.003 J	0.56 J	22	1.1	3.5	ND (0.058)	ND (0.0009)	ND (0.0009)	ND (0.063)	ND (0.058)	0.170 J	ND (0.001)	0.001 J	ND (0.001)	ND (0.001)	ND (0.0009)	0.002 J	ND (0.057)	ND (0.0009)	ND (0.001)	0.720	0.005 J	ND (0.001)	ND (0.0046)	ND (0.0040)	0.019	ND (0.0044)	ND (0.0046)	ND (0.0048)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	0.093	0.79	30	2.7	2.6	ND (0.058)	ND (0.0009)	0.001 J	ND (0.063)	ND (0.058)	0.280 J	0.001 J	0.012	ND (0.001)	0.001 J	0.003 J	0.009	ND (0.057)	0.003 J	ND (0.001)	0.590	0.024	0.006	ND (0.0046)	0.0010 J	0.51	0.0024 J	0.0048	ND (0.0048)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	ND (0.0021)	ND (0.0012)	ND (0.0047)	ND (0.00023)	ND (0.00022)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^[AB]	ND (0.036)	0.19	1.3	0.65	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^[AB]	ND (0.036)	0.30	0.78	0.57	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	ND (0.036)	0.37	1.1	0.59	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	0.085 J	0.22	0.84	0.39	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	0.084 J	0.13	0.48	0.21	0.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	1.8	0.21	2.4	0.70	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	0.063 J	0.061 J	0.20 J	0.036 J	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	ND (0.18)	ND (0.10)	1.5	ND (0.096)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	ND (0.72)	ND (0.41)	ND (1.6)	0.95 J	ND (0.74)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^[AB]	ND (0.72)	ND (0.41)	ND (1.6)	ND (0.38)	ND (0.74)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^ 190000[B]	0.076 J	0.67	2.1	1.2	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	ND (0.036)	ND (0.020)	ND (0.079)	ND (0.019)	ND (0.037)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^[AB]	ND (0.72)	ND (0.41)	ND (1.6)	ND (0.38)	ND (0.74)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	ND (3.3)	ND (1.8)	ND (7.1)	ND (1.7)	ND (3.3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^ 190000[B]	0.054 J	0.15	0.53	0.29	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^ 190000[B]	ND (0.036)	0.31	1.6	1.1	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	0.14 J	ND (0.020)	0.57	ND (0.019)	0.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	0.053 J	0.51	90	12	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	$10000_{,2}$^ $10000_{,2}$[B]	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^ 190000[B]	ND (1.8)	ND (1.0)	ND (3.9)	ND (0.96)	ND (1.9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^[AB]	0.046 J	0.79	3.3	3.1	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0030 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
PHENOL	mg/kg	16000^ 18000[B]	ND (0.18)	ND (0.10)	ND (0.39)	ND (0.096)	ND (0.19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^ 190000[B]	0.070 J	0.77	2.3	1.3	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0013 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)
PYRIDINE	mg/kg	3200^ 10000[B]	ND (0.72)	ND (0.41)	ND (1.6)	ND (0.38)	ND (0.74)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^ 10000[B]	ND (0.36)	ND (0.20)	ND (0.79)	ND (0.19)	ND (0.37)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																															
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$220_{,1}$^ $20000_{,1}$[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	5.64	8.14	5.91	6.63	7.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^ 190000[B]	39.7	12.8	48.3	11.2	14.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.99	8.63	3.22	1.33	2.74	3.49
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^ 190000[B]	15.8	14.3	13.9	14.1	12.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^ 190000[B]	32.8	49.3	42.5	30.8	22.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^[AB]	197	49.4	77.1	60.2	27.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MHIC_AST_631	MHIC_AST_631	MHIC_AST_632	MHIC_AST_632	MHIC_AST_632	MHIC_AST_632	MHIC_AST_632	MHIC_AST_632	MHIC_AST_632	MHIC_AST_632	MHIC-387-1	MHIC-387-2	MHIC-387-3	MHIC-387-4	MHIC-387-5	MHIC-387-6	MHIC-387-7	MHIC-387-8	MHIC-387-9	MHIC-387-10	MHIC-387-11	MHIC-387-12	MHIC-387-13	MHIC-388-1	MHIC-388-2		MHIC-388-3		MHIC-
Sample Date			3-Feb-17	2-Feb-17	1-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	2-Feb-17	3-Feb-17	2-Feb-17	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15
Sample ID			MHIC_AST_631_PA_2'	MHIC_AST_631_PB-2'	MHIC_AST_632_5'	MHIC_AST_632_A-3'	MHIC_AST_632_B-3'	MHIC_AST_632_C-3'	MHIC_AST_632_D-3'	MHIC_AST_632_E-3'	MHIC_AST_632_PA_2'	MHIC_AST_632_PB-2'	MHIC-387-1(5.0)	MHIC-387-2(5.0)	MHIC-387-3(5.0)	MHIC-387-4(5.0)	MHIC-387-5(3.0)	MHIC-387-6(3.0)	MHIC-387-7(3.0)	MHIC-387-8(3.0)	MHIC-387-9(3.0)	MHIC-387-10(3.0)	MHIC-387-11(3.0)	MHIC-387-12(2.0)	MHIC-387-13(2.0)	MHIC-388-1(3.0)	MHIC-388-2(0.0-2.0)	MHIC-388-2(3.0)	MHIC-388-3(3.0)	MHIC-388-3(3.0)DUP	MHIC-388-4(0.0-2.0)
Sample Depth			2 ft	2 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	5 ft	5 ft	5 ft	5 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	2 ft	2 ft	3 ft	0 - 2 ft	3 ft	3 ft	3 ft	0 - 2 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	HS17020197	HS17020135	HS17020102	HS17020135	HS17020135	HS17020135	HS17020135	HS17020135	HS17020197	HS17020135	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4005	JC4270	JC4271	JC4270	JC4270	JC4270	JC4271
Laboratory Sample ID	Units	MSC-PA	HS17020197-02	HS17020135-12	HS17020102-02	HS17020135-04	HS17020135-07	HS17020135-08	HS17020135-09	HS17020135-10	HS17020197-01	HS17020135-11	JC4005-3	JC4005-4	JC4005-5	JC4005-6	JC4005-7	JC4005-8	JC4005-9	JC4005-10	JC4005-11	JC4005-12	JC4005-13	JC4005-14	JC4005-15	JC4270-8	JC4271-2	JC4270-9	JC4270-1	JC4270-2	JC4271-1
Volatile Organic Compounds																															
BENZENE	mg/kg	290^ 330[B]	0.0030 J	0.020	0.0013 J	0.0053	0.0017 J	0.0086	0.032	0.0055	0.036	0.099	ND (0.00062)	0.0023	ND (0.00048)	ND (0.00055)	ND (0.00062)	ND (0.00051)	ND (0.00053)	ND (0.00048)	ND (0.00053)	ND (0.00060)	0.00018 J	ND (0.00056)	ND (0.00061)	0.0699 J	0.0034	ND (0.073)	ND (0.065)	ND (0.067)	ND (0.00086)
CYCLOHEXANE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	-	0.0030	0.0015 J	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0026	ND (0.0022)	ND (0.0024)	7.77	ND (0.0024)	15.8	ND (0.26)	ND (0.27)	ND (0.0034)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	ND (0.0040)	ND (0.0038)	ND (0.0034)	ND (0.0054)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	ND (0.0040)	ND (0.0038)	ND (0.0034)	ND (0.0054)	ND (0.0012)	ND (0.0014)	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.15)	ND (0.0012) J	ND (0.15)	ND (0.13)	ND (0.13)	ND (0.0017) J
ETHYLBENZENE	mg/kg	890^ 1000[B]	ND (0.0039)	0.00070 J	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	0.0037 J	0.0014 J	0.056	0.096	ND (0.0012)	0.0014	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	0.00069 J	ND (0.0011)	ND (0.0012)	1.63	0.0047	3.57	ND (0.13)	ND (0.13)	ND (0.0017)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	0.00089 J	ND (0.0038)	0.0058	0.0097	ND (0.0025)	0.00031 J	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0047	ND (0.0022)	ND (0.0024)	1.80	ND (0.0024)	3.50	ND (0.26)	ND (0.27)	ND (0.0034)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	ND (0.0040)	ND (0.0038)	ND (0.0034)	ND (0.0054)	ND (0.0012)	0.00064 J	0.00032 J	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	0.00036 J	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.15)	ND (0.0012)	ND (0.15)	ND (0.13)	ND (0.13)	ND (0.0017)
HEXANE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	-	0.0010 J	0.00067 J	ND (0.0048)	ND (0.0055)	ND (0.0062)	ND (0.0051)	ND (0.0053)	ND (0.0048)	ND (0.0053)	0.00069 J	0.00096 J	0.00060 J	ND (0.0061)	16.5	0.0011 J	17.4	ND (0.65)	ND (0.67)	0.00072 J
NAPHTHALENE	mg/kg	760^ 190000[B]	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	0.00090 J	ND (0.0038)	0.0037	ND (0.0054)	ND (0.0062)	ND (0.0071)	ND (0.0048)	ND (0.0055)	ND (0.0062)	ND (0.0051)	ND (0.0053)	ND (0.0048)	ND (0.0053)	ND (0.0060)	0.00090 J	ND (0.0056)	ND (0.0061)	11.6	0.0062	6.18	ND (0.65)	0.472 J	ND (0.0086)
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	-	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0073	ND (0.0022)	ND (0.0024)	0.859	ND (0.0024)	2.87	ND (0.26)	0.0296 J	ND (0.0034)
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	-	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0015 J	ND (0.0022)	ND (0.0024)	0.276 J	ND (0.0024)	1.31	ND (0.26)	ND (0.27)	ND (0.0034)
TOLUENE	mg/kg	10000^[AB]	ND (0.0039)	0.0029 J	ND (0.0047)	ND (0.0048)	ND (0.0046)	0.040	0.047	0.0034 J	0.056	0.093	ND (0.0012)	0.00059 J	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.0011)	ND (0.0012)	0.0509 J	0.0038	0.149 J	ND (0.13)	ND (0.13)	ND (0.0017)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	0.00081 J	0.0033 J	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	0.013	0.0027 J	0.32	0.27 E	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.0075	ND (0.0022)	ND (0.0024)	4.78	0.00044 J	47.9	ND (0.26)	ND (0.27)	ND (0.0034)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	ND (0.0039)	ND (0.0038)	ND (0.0047)	ND (0.0048)	ND (0.0046)	ND (0.0044)	0.0016 J	ND (0.0038)	0.049	0.049	ND (0.0025)	ND (0.0028)	ND (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0021)	ND (0.0019)	ND (0.0021)	ND (0.0024)	0.00079 J	ND (0.0022)	ND (0.0024)	3.08	ND (0.0024)	24.2	ND (0.26)	ND (0.27)	ND (0.0034)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	0.0013 J	0.0058	ND (0.0047)	ND (0.0048)	ND (0.0046)	0.0023 J	0.029	0.0068	4.7	0.48	ND (0.0012)	ND (0.0014)	ND (0.00095)	ND (0.0011)	ND (0.0012)	ND (0.0010)	ND (0.0011)	ND (0.00096)	ND (0.0011)	ND (0.0012)	0.0011 J	ND (0.0011)	ND (0.0012)	0.572	0.0539	22.7	ND (0.13)	0.0479 J	ND (0.0017)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	-	-	-	-	-	-	ND (0.0033)	ND (0.0035)	ND (0.0031)	ND (0.0033)	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0028)	ND (0.0029)	ND (0.0029)	ND (0.0030)	ND (0.0029)	ND (0.0028)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0029)	ND (0.0030)	ND (0.0028)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	0.0615	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	1.43	0.0720	1.62	0.0800	ND (0.040)	ND (0.037)
ANTHRACENE	mg/kg	190000^[AB]	ND (0.0033)	0.0028 J	0.0012 J	ND (0.0033)	0.0020 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.150	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	2.29	0.102	2.84	ND (0.038)	ND (0.040)	0.0249 J
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	ND (0.0033)	ND (0.0033)	0.0027 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.162	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	0.0158 J	ND (0.037)	0.310	0.0812	0.395	0.0176 J	ND (0.040)	0.0285 J
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	ND (0.0033)	0.0023 J	0.0026 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.109	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0979	0.0491	0.164	ND (0.038)	ND (0.040)	0.0445
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	ND (0.0033)	0.0020 J	0.0017 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0736	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0592	0.0315 J	0.132	ND (0.038)	ND (0.040)	0.0497
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.154	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0554	0.0316 J	0.101	ND (0.038)	ND (0.040)	0.0477
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	-	-	-	-	-	-	-	-	-	-	ND (0.045)	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.041)	ND (0.038)	ND (0.040)	0.0151 J
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	0.210	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0637 J	2.24	0.111	ND (0.081)	ND (0.074)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	-	-	-	-	-	-	-	-	-	-	0.218	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0555 J	ND (0.083)	ND (0.077)	ND (0.081)	0.0462 J
DI-N-BUTYL PHTHALATE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)	ND (0.074)
CHRYSENE	mg/kg	760^ 190000[B]	ND (0.0033)	ND (0.0033)	0.0033	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.0062	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.242	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	0.0188 J	ND (0.037)	0.461	0.150	0.703	0.0268 J	ND (0.040)	0.0745
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	-	-	-	-	-	-	-	-	-	-	0.0276 J	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	ND (0.038)	ND (0.039)	ND (0.041)	ND (0.038)	ND (0.040)	0.0170 J
DIETHYL PHTHALATE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)	ND (0.074)
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	-	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	0.128 J	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)	ND (0.19)
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	-	-	-	-	-	-	-	-	-	-	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)	R
FLUORANTHENE	mg/kg	130000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	0.158	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	0.0219 J	0.809	0.0672	1.19	ND (0.038)	ND (0.040)	0.0413
FLUORENE	mg/kg	130000^ 190000[B]	ND (0.0033)	0.012	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.210	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	0.0467	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	3.07	0.160	2.95	0.310	0.0272 J	ND (0.037)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	-	-	-	-	-	-	-	-	-	-	0.0562	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	ND (0.037)	ND (0.037)	0.0221 J	0.0206 J	0.0374 J	ND (0.038)	ND (0.040)	0.0348 J
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	2.49	0.0221 J	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	0.0739 J	0.128	ND (0.073)	76.4	0.546	35.5	0.114	ND (0.081)	0.0219 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	$10000_{\Delta 2}$^ $10000_{\Delta 2}$[B]	-	-	-	-	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0768 J	ND (0.083)	ND (0.077)	ND (0.081)	ND (0.074)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)	ND (0.074)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	-	1.02	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	ND (0.041)	0.0510	ND (0.037)	18.4	0.157	5.79	ND (0.038)	ND (0.040)	ND (0.037)
4-NITROPHENOL	mg/kg	26000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	ND (0.45)	ND (0.47)	ND (0.41)	ND (0.42)	ND (0.38)	ND (0.37)	ND (0.39)	ND (0.38)	ND (0.36)	ND (0.38)	ND (0.41)	ND (0.37)	ND (0.37)	ND (0.38)	ND (0.39) J	ND (0.41)	ND (0.38)	ND (0.40)	ND (0.37) J
PHENANTHRENE	mg/kg	190000^[AB]	ND (0.0033)	0.013	0.0054	ND (0.0033)	0.0024 J	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	1.40	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	ND (0.036)	ND (0.038)	0.0542	0.0817	0.0215 J	16.3	0.814	11.3	0.310	0.0293 J	0.0407
PHENOL	mg/kg	16000^ 18000[B]	-	-	-	-	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	0.0471 J	ND (0.083)	ND (0.077)	ND (0.081)	ND (0.074)
PYRENE	mg/kg	96000^ 190000[B]	ND (0.0033)	0.0069	0.0062	ND (0.0033)	0.0030 J	0.020	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	0.964	ND (0.047)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.037)	ND (0.039)	ND (0.038)	0.0157 J	ND (0.038)	0.0265 J	0.0641	0.0340 J	5.97	0.220	8.94	0.0354 J	ND (0.040)	0.0711
PYRIDINE	mg/kg	3200^ 10000[B]	-	-	-	-	-	-	-	-	-	-	ND (0.089)	ND (0.093)	ND (0.082)	ND (0.085)	ND (0.077)	ND (0.074)	ND (0.078)	ND (0.075)	ND (0.072)	ND (0.076)	ND (0.081)	ND (0.074)	ND (0.073)	ND (0.077)	ND (0.078)	ND (0.083)	ND (0.077)	ND (0.081)	ND (0.074)
QUINOLINE	mg/kg	30^ 10000[B]	-	-	-	-	-	-	-	-	-	-	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.20)	ND (0.19)
Metals																															
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-	-	5.4
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51.2	-	-	-	96.6
CADMIUM	mg/kg	6.1^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.61)	-	-	-	0.80 J
CHROMIUM	mg/kg	220_{i1}^ 20000_{i1}[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.3	-	-	-	**276^**
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	-	-	-	-	-	-	-	-	-	-	5.8 J	4.7 J	3.0 J	4.6 J	4.0 J	13.0	6.1	3.6 J	4.1 J	6.2	7.2	6.1	7.9	8.5	6.7	11.9	8.0	7.0	7.8
LEAD	mg/kg	2240^ 190000[B]	2.77	3.86	5.82	2.10	2.81	4.35	4.95	5.69	8.42	4.32	22.1	11.5	6.9	7.8	8.8	8.6	11.0	8.1	11.2	11.1	12.5	14.6	20.4	9.1	21.1	9.7	18.2	18.5	219
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.047	-	-	-	0.17
NICKEL	mg/kg	64000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	13.6	12.2	8.7	9.6	11.0	13.2	12.3	8.7	12.8	17.8	15.1	13.9	15.7	17.7	14.5	17.2	17.5	15.9	32.0
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2.4)	-	-	-	ND (4.4)
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35 J	-	-	-	ND (1.1)
VANADIUM	mg/kg	220^ 190000[B]	-	-	-	-	-	-	-	-	-	-	26.9	35.6	20.6	27.9	25.0	29.9	41.0	26.4	38.6	31.9	37.4	33.9	34.5	51.8	36.6	43.1	44.1	39.9	66.8
ZINC	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	44.9	25.7	21.7	23.5	29.8	28.1	37.5	20.1	26.0	32.7	39.3	39.9	50.5	43.8	60.0	40.6	72.8	64.7	363

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			388-4	MHIC-388-5	MHIC-388-6	MHIC-388-7	MHIC-388-8	MHIC-388-9	MHIC-388-10	MHIC-388-11	MHIC-388-12	MHIC-388-13	MHIC-388-14	MHIC-388-15	MHIC-388-16	MHIC-388-17	MHIC-388-18	MHIC-388-19	MHIC-388-20	MW-433		MW-434		MW-435		MW-436		MW-437		MW-438	
Sample Date			17-Sep-15	17-Sep-15	17-Sep-15	17-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	16-Sep-15	17-Sep-15	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	10-Feb-16	30-May-13	31-May-13	29-May-13	30-May-13	31-Jul-13	1-Aug-13	13-May-13	14-May-13	10-May-13	13-May-13	9-May-13	10-May-13
Sample ID			MHIC-388-4(3.0)	MHIC-388-5(3.0)	MHIC-388-6(3.0)	MHIC-388-7(3.0)	MHIC-388-8(5.0)	MHIC-388-9(5.0)	MHIC-388-10(5.0)	MHIC-388-11(5.0)	MHIC-388-12(2.0)	MH388-13	MH388-14	MH388-15	MH388-16	MH388-17	MH388-18	MH388-19	MH388-20	AOI-5_MW-433_0-2'_53013	AOI-5_MW-433_8-10'_53113	AOI-5_MW-434_0-2'_52913	AOI-5_MW-434_6-8'_53013	MW-435_0-2'_073113	MW-435_8-10'_080113	AOI-5_MW-436_0-2'_51313	AO15_MW-436_4-6_051413	AOI-5_MW-437_0-2'_51013	AOI-5_MW-437_6-8'_51313	AOI5_MW_438_0-2_50913	AOI-5_MW-438_4-6'_51013
Sample Depth			3 ft	3 ft	3 ft	3 ft	5 ft	5 ft	5 ft	5 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	6 - 8 ft	0 - 2 ft	4 - 6 ft
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	LANGAN	LANGAN	LANGAN	LANGAN	AQUATERRA	AQUATERRA	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JC4270	JC4270	JC4270	JC4270	JC4006	JC4006	JC4006	JC4006	JC4270	1630912	1630912	1630912	1630912	1630912	1630912	1630912	1630912	JB38374	JB38516	JB38251	JB38374	JB43737	JB43871	JB36948	JB37020	JB36832	JB36948	JB36591	JB36832
Laboratory Sample ID	Units	MSC-PA	JC4270-3	JC4270-4	JC4270-5	JC4270-6	JC4006-1	JC4006-2	JC4006-3	JC4006-4	JC4270-7	8239896	8239897	8239898	8239899	8239900	8239901	8239902	8239903	JB38374-2	JB38516-1	JB38251-2	JB38374-1	JB43737-2	JB43871-1	JB36948-2	JB37020-1	JB36832-1	JB36948-1	JB36591-2	JB36832-2
Volatile Organic Compounds																															
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.00050)	0.00085	ND (0.00050)	0.00062	ND (0.00054)	ND (0.00055)	ND (0.00061)	ND (0.00069)	0.00027 J	ND (0.0005)	0.005	ND (0.032)	ND (0.028)	0.075 J	0.0006 J	ND (0.028)	ND (0.027)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	0.729	ND (0.00088)	0.104 J	0.581	1.05	15.9	0.00021 J
CYCLOHEXANE	mg/kg	10000^{AB}	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	0.0072	ND (0.001)	ND (0.001)	0.43	0.12 J	0.61	0.032	0.11 J	0.075 J	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	ND (0.001)	ND (0.065)	ND (0.055)	ND (0.054)	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	ND (0.076)	ND (0.00088)	ND (0.11)	ND (0.095)	ND (0.13)	ND (2.4)	ND (0.00096)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	ND (0.001)	0.12 J	ND (0.055)	0.91	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	3.02	ND (0.00088)	ND (0.11)	9.93	0.393	591	0.0024
ISOPROPYLBENZENE (CUMENE)	mg/kg	1000^{AB}	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	ND (0.0026)	ND (0.001)	0.004 J	0.11 J	ND (0.055)	0.19 J	0.005 J	0.065 J	0.15 J	ND (0.0044)	0.00022 J	ND (0.0052)	0.0814 J	ND (0.53)	0.846	ND (0.0044)	0.823	5.91	0.563 J	11.8 J	ND (0.0048)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.0010)	0.00033 J	0.00032 J	0.00082 J	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	0.004 J	0.031	ND (0.032)	ND (0.028)	ND (0.027)	ND (0.0005)	ND (0.028)	ND (0.027)	ND (0.00088)	0.0003 J	ND (0.001)	ND (0.096)	ND (0.11)	ND (0.076)	ND (0.00088)	0.103 J	0.0348 J	ND (0.13)	ND (2.4)	ND (0.00096)
HEXANE	mg/kg	1000^{AB}	0.0014 J	0.00096 J	0.0013 J	0.0014 J	ND (0.0054)	ND (0.0055)	ND (0.0061)	ND (0.0069)	0.0032 J	ND (0.001)	ND (0.001)	0.24 J	ND (0.055)	0.53	0.003 J	ND (0.055)	ND (0.054)	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.00043 J	ND (0.0051)	ND (0.0050)	ND (0.0062)	ND (0.0054)	ND (0.0055)	ND (0.0061)	ND (0.0069)	0.00035 J	ND (0.001)	ND (0.001)	2.8	0.13 J	0.53	0.002 J	0.14 J	0.23 J	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	1000^{AB}	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	ND (0.0026)	ND (0.001)	0.002 J	0.14 J	ND (0.055)	0.24 J	0.002 J	ND (0.055)	0.10 J	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	1000^{AB}	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	ND (0.0026)	ND (0.001)	ND (0.001)	ND (0.065)	ND (0.055)	0.083 J	0.001 J	ND (0.055)	0.069 J	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	1000^{AB}	ND (0.0010)	0.00040 J	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	0.002 J	ND (0.065)	ND (0.055)	ND (0.054)	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	0.243	ND (0.00088)	0.0909 J	0.242	0.0523 J	13.4	ND (0.00096)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	0.0017 J	ND (0.001)	ND (0.001)	0.46	ND (0.055)	0.82	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.0044)	0.00095 J	ND (0.0052)	ND (0.48)	ND (0.53)	11.8	0.0003 J	ND (0.53)	1.5	4.1	96.6	0.00038 J
1,3,5-TRIMETHYLBENZENE	mg/kg	1000^{AB}	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0025)	ND (0.0022)	ND (0.0022)	ND (0.0024)	ND (0.0028)	0.00072 J	ND (0.001)	ND (0.001)	0.13 J	ND (0.055)	0.49	ND (0.001)	ND (0.055)	ND (0.054)	ND (0.0044)	0.00027 J	ND (0.0052)	ND (0.48)	ND (0.53)	4.46	ND (0.0044)	ND (0.53)	0.561	0.453 J	32.4	ND (0.0048)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0014)	ND (0.0013)	ND (0.001)	ND (0.001)	0.087 J	ND (0.055)	1.7	0.001 J	ND (0.055)	ND (0.054)	ND (0.00088)	ND (0.00095)	ND (0.001)	ND (0.096)	ND (0.11)	7.70	ND (0.00088)	ND (0.11)	41.4	0.228	2540	0.0088
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0026)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0030)	ND (0.0031)	ND (0.0030)	ND (0.0034)	ND (0.00023)	ND (0.00024)	ND (0.00025)	ND (0.00023)	ND (0.00022)	ND (0.00023)	ND (0.00023)	ND (0.00024)	ND (0.0027)	ND (0.0031)	ND (0.0027)	ND (0.0027)	ND (0.015)	ND (0.0030)	ND (0.0028)	ND (0.0029)	ND (0.0028)	ND (0.0029)	ND (0.0029)	ND (0.003)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^{AB}	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0382 J	ND (0.040)	ND (0.044)	ND (0.0039)	ND (0.0040)	1.4	0.46	0.30	0.35	0.48	0.54	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^{AB}	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0704	ND (0.040)	ND (0.044)	ND (0.0039)	0.050	3.7	0.86	0.60	0.67	0.85	0.92	ND (0.54)	ND (0.12)	ND (0.55)	0.611	7.93	1.29	ND (0.54)	ND (0.58)	ND (0.11)	0.766	0.378 J	0.075 J
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.031)	0.0268 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0731	ND (0.040)	ND (0.044)	ND (0.0039)	0.021	0.44	0.13	0.084	0.14	0.17	0.099	ND (0.54)	ND (0.12)	ND (0.55)	0.129	0.271	1.39	0.242 J	ND (0.58)	ND (0.11)	0.808	0.438 J	0.0644 J
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.031)	0.0315 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0459	ND (0.040)	ND (0.044)	ND (0.0039)	0.028	0.18	0.044	0.038	0.067	0.055	0.035	0.221 J	ND (0.12)	ND (0.55)	0.0474 J	0.494	0.668	ND (0.54)	ND (0.58)	ND (0.11)	0.302 J	0.377 J	ND (0.12)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.031)	0.0397 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0328 J	ND (0.040)	ND (0.044)	ND (0.0039)	0.021	0.11	0.039	0.041	0.079	0.075	0.034	ND (0.54)	ND (0.12)	ND (0.55)	ND (0.11)	0.388	ND (0.20)	ND (0.54)	ND (0.58)	ND (0.11)	ND (0.57)	ND (0.57)	ND (0.12)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.031)	0.0295 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0221 J	ND (0.040)	ND (0.044)	0.0049 J	0.067	0.12	0.045	0.044	0.079	0.067	0.037	0.384 J	ND (0.12)	0.545 J	0.0601 J	1.60	0.280	0.346 J	ND (0.58)	ND (0.11)	ND (0.57)	0.319 J	ND (0.12)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	ND (0.039)	ND (0.040)	ND (0.044)	ND (0.0039)	0.0066 J	0.033	0.016 J	0.010 J	0.026	0.021	0.010 J	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	0.0258 J	ND (0.080)	ND (0.088)	ND (0.020)	0.032 J	1.3	0.25	0.11	0.065	0.065	0.028 J	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	0.0495 J	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	1000^{AB}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	ND (0.031)	0.0268 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.141	ND (0.040)	ND (0.044)	0.0059 J	0.10	0.76	0.25	0.16	0.26	0.28	0.16	ND (0.54)	ND (0.12)	ND (0.55)	0.141	0.532	3.80	0.376 J	0.642	ND (0.11)	1.35	0.717	0.0985 J
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	ND (0.039)	ND (0.040)	ND (0.044)	ND (0.0039)	0.0070 J	0.012 J	0.0049 J	0.0082 J	0.020	0.013 J	0.011 J	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	1000^{AB}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	1000^{AB}	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.22)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.22)	ND (0.35)	ND (0.36)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.34)	ND (0.36)	ND (0.36)	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0596	ND (0.040)	ND (0.044)	ND (0.0039)	0.025	0.93	0.24	0.18	0.26	0.33	0.24	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	ND (0.031)	ND (0.040)	0.0786	ND (0.042)	ND (0.040)	ND (0.039)	0.0907	ND (0.040)	ND (0.044)	ND (0.0039)	0.029	3.0	1.3	0.81	0.82	1.2	1.4	ND (0.54)	ND (0.12)	ND (0.55)	3.07	19.3	2.29	ND (0.54)	1.16	ND (0.11)	2.3	1.28	0.261
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	ND (0.031)	0.0269 J	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	ND (0.039)	ND (0.040)	ND (0.044)	ND (0.0039)	0.024	0.049	0.015 J	0.023	0.043	0.045	0.016 J	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	0.228	ND (0.080)	ND (0.088)	ND (0.0039)	0.26	6.8	0.16	3.7	0.34	0.41	6.9	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.031)	ND (0.040)	ND (0.040)	ND (0.042)	ND (0.040)	ND (0.039)	0.0915	ND (0.040)	ND (0.044)	-	-	-	-	-	-	-	-	ND (0.54)	ND (0.12)	ND (0.55)	ND (0.11)	ND (0.16)	11.0	ND (0.54)	ND (0.58)	ND (0.11)	3.54	7.28	1.36
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (0.31)	ND (0.40)	ND (0.40)	ND (0.42)	ND (0.40)	ND (0.39)	ND (0.39)	ND (0.40)	ND (0.44)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^{AB}	ND (0.031)	ND (0.040)	0.0303 J	0.0357 J	ND (0.040)	ND (0.039)	0.528	ND (0.040)	ND (0.044)	0.0075 J	0.10	4.6	2.8	2.0	1.3	2.0	2.8	0.13 J	ND (0.12)	ND (0.55)	4.9	37.7	7.00	0.854	ND (0.58)	ND (0.11)	8	3.44	0.753
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.020)	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	ND (0.031)	0.0173 J	ND (0.040)	0.0179 J	ND (0.040)	ND (0.039)	0.178	ND (0.040)	ND (0.044)	0.013 J	0.093	3.8	1.5	0.93	1.2	1.4	1.3	0.21 J	ND (0.12)	ND (0.55)	0.722	4.54	4.69	0.597	0.342 J	ND (0.11)	1.84	0.944	0.175
PYRIDINE	mg/kg	3200^{A} 10000^{B}	ND (0.061)	ND (0.079)	ND (0.080)	ND (0.083)	ND (0.080)	ND (0.078)	ND (0.077)	ND (0.080)	ND (0.088)	ND (0.079)	ND (0.081)	ND (0.082)	ND (0.080)	ND (0.078)	ND (0.076)	ND (0.080)	ND (0.079)	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	ND (0.15)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.22)	ND (0.039)	ND (0.040)	ND (0.041)	ND (0.040)	ND (0.039)	ND (0.038)	ND (0.040)	ND (0.040)	-	-	-	-	-	-	-	-	-	-	-	-
Metals																															
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	0.98 J	8.8	8.1	7.1	3.3 J	6.6	6.1 J	6.5	6.5	5.21	6.19	7.93	5.25	6.14	6.09	7.58	6.69	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	0.85 J	9.3	8.4	10.7	3.2	8.1	13.6	9.5	18.8	8.71	15.5	9.20	10.6	15.0	22.3	25.1	22.1	31.6	6	98.8	5.3	3.4 J	59.2	62.2	2.6	2.2	7.2	12	7
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	2.6 J	18.3	13.9	13.6	13.9	13.1	13.0	14.1	14.8	14.9	14.1	14.2	12.5	14.2	13.6	14.5	13.0	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	3.7 J	45.1	35.3	38.5	14.6	34.6	30.7	36.9	42.5	41.0	44.5	37.7	32.9	35.8	34.9	35.4	36.8	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^{AB}	14.3	46.5	35.3	35.6	18.4	32.2	45.2	36.2	54.4	43.0	331	39.3	37.1	51.3	42.3	47.5	45.0	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location				MW-439		MW-440		MW-441		MW-442		MW-443		MW-444		MW-445			MW-446		MW-447		MW-448		MW-449		MW-450		MW-451		MW
Sample Date			29-May-13	8-May-13	8-May-13	8-May-13	8-May-13	15-May-13	15-May-13	29-May-13	29-May-13	9-May-13	10-May-13	30-Jul-13	31-Jul-13	14-May-13	15-May-13	16-May-13	28-May-13	28-May-13	20-May-13	20-May-13	20-May-13	20-May-13	15-May-13	16-May-13	16-May-13	24-May-13	24-May-13	24-May-13	24-May-13	
Sample ID			AOI-5_MW-438_8-10'_52913	AOI5_MW-439_0-1_50813	AOI5_MW-439_4-5_50813	AOI-5_MW-440_0-2_050813	AOI-5_MW-440_8-10_50813	AOI-5_MW-441_0-2'_51513	AOI-5_MW-441_8-10'_51513	AOI-5_MW-442_0-2'_052913	AOI-5_MW-442_6-8'_052913	AOI5_MW_443_0-1_50913	AOI-5_MW-443_4-'5_51013	MW-444_0-2'_073013	MW-444_4-6'_073113	AO15_MW-445_0-0.5_051413	AOI-5_MW-445_3-3.5'_51513	AOI-5_MW-445_5.0-6.0_051613	AOI-5_MW-446_0-2_52813	AOI-5_MW-446_8-10_52813	AOI-5_MW_447_0-2'_52013	AOI-5_MW_447_8-10'_52013	AOI-5_MW_448_0-1_052013	AOI-5_MW_448_3-4_052013	AOI-5_MW-449_2-2'_51513	AOI-5_MW-449_8-10'_51613	AOI-5_MW-450_0-2'_51613	AOI-5_MW-450_2-4'_52413	AOI5_MW-451_0-1_052413	AOI5_MW-451_3-4_052413	AOI5_MW-452_0-1_052413	
Sample Depth			8 - 10 ft	0 - 1 ft	4 - 5 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	6 - 8 ft	0 - 1 ft	4 - 5 ft	0 - 2 ft	4 - 6 ft	0 - 0.5 ft	3 - 3.5 ft	5 - 6 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 1 ft	3 - 4 ft	2 - 2 ft	8 - 10 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	3 - 4 ft	0 - 1 ft	
Sampling Company			LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	AQUATERRA	AQUATERRA	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	
Laboratory Work Order		A B	JB38251	JB36533	JB36533	JB36533	JB36533	JB37147	JB37147	JB38251	JB38251	JB36591	JB36832	JB43618	JB43737	JB37020	JB37147	JB37250	JB38152	JB38152	JB37539	JB37539	JB37539	JB37539	JB37147	JB37250	JB37250	JB37998	JB37998	JB37998	JB37998	
Laboratory Sample ID	Units	MSC-PA	JB38251-1	JB36533-1	JB36533-2	JB36533-3	JB36533-4	JB37147-2	JB37147-1	JB38251-3	JB38251-4	JB36591-1	JB36832-3	JB43618-1	JB43737-1	JB37020-2	JB37147-4	JB37250-3	JB38152-1	JB38152-2	JB37539-1	JB37539-2	JB37539-3	JB37539-4	JB37147-3	JB37250-1	JB37250-2	JB37998-1	JB37998-4	JB37998-5	JB37998-2	
Volatile Organic Compounds																																
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.12)	0.225 J	0.0204	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	8.62	ND (0.00088)	0.0284 J	ND (0.0012)	ND (0.12)	ND (0.0012)	0.0055	0.0029	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	0.397	ND (0.00088)
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.12)	ND (0.93)	ND (0.001)	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	ND (0.11)	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	ND (0.00097)	ND (0.0012)	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	ND (0.11)	ND (0.00088)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	4.36	1.84	0.058	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	11.3	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	0.0057	0.0088	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	2.32	ND (0.00088)
ISOPROPYLBENZENE (CUMENE)	mg/kg	1000AS	7.29	0.721 J	0.0235	ND (0.0046)	2.53	ND (0.0029)	ND (0.0053)	ND (0.0051)	1.55	ND (0.0044)	0.42 J	ND (0.0060)	0.0456 J	ND (0.0058)	0.0048 J	0.0189	ND (0.0046)	ND (0.0041)	ND (0.005)	ND (0.46)	ND (0.0056)	ND (0.0049)	ND (0.0046)	ND (0.0052)	ND (0.0046)	ND (0.0049)	ND (0.004)	0.843	ND (0.0044)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.12)	ND (0.93)	0.0046	ND (0.00092)	ND (0.13)	ND (0.00058)	0.0023	ND (0.001)	ND (0.11)	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	ND (0.00097)	0.0029	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	ND (0.11)	ND (0.00088)
HEXANE	mg/kg	1000AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{S}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	1000AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	1000AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	1000AS	0.0453 J	0.804 J	0.0168	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	8.08	0.00021 J	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	0.00094 J	0.0037	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	0.0326 J	ND (0.00088)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	1.74	7.46	0.166	ND (0.0046)	ND (0.64)	ND (0.0029)	ND (0.0053)	ND (0.0051)	19.2	ND (0.0044)	ND (0.55)	ND (0.0060)	ND (0.58)	ND (0.0058)	0.0204	0.0152	ND (0.0046)	ND (0.0041)	ND (0.005)	ND (0.46)	ND (0.0056)	ND (0.0049)	ND (0.0046)	ND (0.0052)	ND (0.0046)	ND (0.0049)	ND (0.004)	9.4	ND (0.0044)
1,3,5-TRIMETHYLBENZENE	mg/kg	1000AS	0.536 J	2.75 J	0.0592	ND (0.0046)	ND (0.64)	ND (0.0029)	ND (0.0053)	ND (0.0051)	6.82	ND (0.0044)	ND (0.55)	ND (0.0060)	ND (0.58)	ND (0.0058)	0.0123	0.0068	ND (0.0046)	ND (0.0041)	ND (0.005)	ND (0.46)	ND (0.0056)	ND (0.0049)	ND (0.0046)	ND (0.0052)	ND (0.0046)	ND (0.0049)	ND (0.004)	4.75	ND (0.0044)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	13	5.45	0.124	ND (0.00092)	ND (0.13)	ND (0.00058)	ND (0.0011)	ND (0.001)	55.1	ND (0.00088)	ND (0.11)	ND (0.0012)	ND (0.12)	ND (0.0012)	0.0144	0.0193	ND (0.00091)	ND (0.00081)	ND (0.001)	ND (0.093)	ND (0.0011)	ND (0.00099)	ND (0.00092)	ND (0.001)	ND (0.00092)	ND (0.00097)	ND (0.00079)	3.76	ND (0.00088)
Volatile Organic Compounds (SW8011)																																
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0031)	ND (0.0027)	ND (0.0031)	ND (0.0029)	ND (0.0034)	ND (0.0027)	ND (0.003)	ND (0.0028)	0.0044	ND (0.0027)	ND (0.0031)	ND (0.0031)	ND (0.0031)	ND (0.0027)	ND (0.003)	ND (0.003)	ND (0.0029)	ND (0.003)	ND (0.0029)	ND (0.0029)	ND (0.003)	ND (0.0031)	ND (0.0028)	ND (0.0032)	ND (0.0029)	ND (0.0031)	ND (0.0028)	ND (0.0031)	ND (0.0029)
Semi-Volatile Organic Compounds																																
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^{AB}	0.165	1.81	0.491	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.0736 J	ND (0.1)	0.576	ND (0.041)	0.453	ND (0.11)	0.0604 J	0.447	0.0485 J	ND (0.12)	ND (0.58)	0.0732 J	ND (0.59)	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	ND (0.56)	ND (0.12)	ND (0.58)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.186	0.276 J	0.0838 J	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.0185 J	ND (0.1)	0.143	ND (0.041)	0.0832	ND (0.11)	0.0609 J	0.0582 J	0.361	ND (0.12)	ND (0.58)	0.0508 J	0.253 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	0.02 J	0.178 J	ND (0.12)	ND (0.58)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	0.133	0.478 J	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	0.0345 J	ND (0.041)	ND (0.041)	ND (0.11)	0.0409 J	ND (0.12)	0.41	ND (0.12)	ND (0.58)	0.0286 J	0.218 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	0.0314 J	0.31 J	ND (0.12)	ND (0.58)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	0.0545 J	ND (0.54)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.041)	ND (0.041)	0.0357 J	0.0478 J	ND (0.12)	0.409	ND (0.12)	ND (0.58)	ND (0.11)	0.184 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	0.18 J	ND (0.12)	ND (0.58)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	0.128 J	ND (0.54)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.12)	0.0269 J	ND (0.041)	ND (0.11)	0.0638 J	ND (0.12)	0.388	ND (0.12)	ND (0.58)	ND (0.11)	0.273 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	0.0471 J	1.18	ND (0.12)	0.0886 J
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.341	0.946	0.194	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.0258 J	ND (0.1)	0.222	ND (0.041)	0.134	ND (0.11)	0.0775 J	0.0713 J	0.489	ND (0.12)	ND (0.58)	0.0923 J	0.261 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	0.0228 J	0.384 J	ND (0.12)	ND (0.58)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	0.568	11.2	2.57	ND (0.12)	0.183	ND (0.21)	ND (0.12)	ND (0.11)	0.255	ND (0.1)	1.15	ND (0.041)	1.09	ND (0.11)	0.0605 J	0.895	0.0196 J	ND (0.12)	ND (0.58)	0.16	ND (0.59)	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	ND (0.56)	0.0801 J	ND (0.58)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	$10000_{,2}^{A}$ $10000_{,2}^{B}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	0.357	31.4	6.62	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	1.33	ND (0.1)	ND (0.12)	ND (0.041)	ND (0.041)	ND (0.11)	0.115 J	0.665	ND (0.11)	ND (0.12)	ND (0.58)	ND (0.11)	ND (0.59)	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	ND (0.56)	0.371	ND (0.58)
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^{AB}	1.65	12.2	3.89	ND (0.12)	0.236	ND (0.21)	ND (0.12)	ND (0.11)	0.675	ND (0.1)	3.78	ND (0.041)	0.847	0.0401 J	0.191	2.3	0.218	ND (0.12)	ND (0.58)	0.346	0.491 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	0.0166 J	0.159 J	0.237	ND (0.58)
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	0.489	1.45	0.598	ND (0.12)	ND (0.13)	ND (0.21)	ND (0.12)	ND (0.11)	0.153	ND (0.1)	1.42	ND (0.041)	1.07	0.0491 J	0.236	0.802	0.695	ND (0.12)	ND (0.58)	0.173	0.648	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.57)	ND (0.12)	0.224 J	0.0375 J	0.0867 J
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																																
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$220_{,1}^{A}$ $20000_{,1}^{B}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	6.8	53.1	7.2	20.7	10.8	44.2	7	65.6	10.9	1.4	5.9	20.9	10.1	46	28.1	6.7	18.8	5.8	65.4	2.8	117	14.8	5.8	8.7	115	8.7	68.4	9.6	38.8
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			-452	MW-453		MW-454		MW-455		MW-456		MW-457		MW-458		MW-459		MW-460		MW-461		MW-462		MW-464	
Sample Date			24-May-13	20-May-13	20-May-13	17-May-13	17-May-13	23-May-13	23-May-13	21-May-13	22-May-13	17-May-13	17-May-13	22-May-13	23-May-13	21-May-13	21-May-13	7-Jun-13	7-Jun-13	11-Jun-13	11-Jun-13	11-Jun-13	11-Jun-13	12-Jun-13	12-Jun-13
Sample ID			AOI5_MW-452_7-8_052413	AOI-5_MW_453_0-2_052013	AOI-5_MW_453_3-6_052013	AOI5_MW-454_0-2_51713	AOI5_MW-454_8-10_051713	2 AOI-5_MW-455_1-2'_52313	3 AOI-5_MW-455_10-11_052313	AOI-5_MW-456_1-2_052113	AOI-5_MW-456_5-6'_52213	AOI5_MW-457_0-1_051713	AOI5_MW-457_2-3_051713	AOI-5_MW-458_0-2'_52213	1 AOI-5_MW-458_4-6'_52313	AOI-5_MW-459_0-2'_52113	AOI-5_MW-459_8-10'_52113	AOI-5_MW-460_1-2_060713	AOI-5_MW-460_3-4_060713	AOI5_MW-461_0-2'_061113	AOI5_MW-461_2-4'_061113	AOI5_MW-462_1-2_061113	AOI5_MW-462_7-8_061113	AOI-5_MW-464_0-2'_61213	AOI-5_MW-464_2-4'_61213
Sample Depth			7 - 8 ft	0 - 2 ft	3 - 6 ft	0 - 2 ft	8 - 10 ft	1 - 2 ft	10 - 11 ft	1 - 2 ft	5 - 6 ft	0 - 1 ft	2 - 3 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	8 - 10 ft	1 - 2 ft	3 - 4 ft	0 - 2 ft	2 - 4 ft	1 - 2 ft	7 - 8 ft	0 - 2 ft	2 - 4 ft
Sampling Company			LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB37998	JB37539	JB37539	JB37361	JB37361	JB37868	JB37868	JB37622	JB37699	JB37361	JB37361	JB37699	JB37868	JB37622	JB37622	JB39111	JB39111	JB39339	JB39339	JB39339	JB39339	JB39439	JB39439
Laboratory Sample ID	Units	MSC-PA	JB37998-3	JB37539-5	JB37539-6	JB37361-3	JB37361-4	JB37868-2	JB37868-3	JB37622-3	JB37699-2	JB37361-1	JB37361-2	JB37699-1	JB37868-1	JB37622-1	JB37622-2	JB39111-1	JB39111-2	JB39339-6	JB39339-7	JB39339-3	JB39339-4	JB39439-1	JB39439-2
Volatile Organic Compounds																									
BENZENE	mg/kg	290^{A} 330^{B}	ND (0.11)	ND (0.001)	0.0323 J	ND (0.0008)	3.82	ND (0.001)	0.0349	ND (0.001)	0.0398	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.00087 J	ND (0.00089)	17.3	0.585	0.00019 J	ND (0.096)	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	ND (0.11)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	ND (0.0012)	ND (0.00089)	ND (1)	ND (0.1)	ND (0.00089) J	ND (0.096)	ND (0.00089) J	ND (0.00082) J	ND (0.00096)	ND (0.00098)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	ND (0.11)	ND (0.001)	0.216	ND (0.0008)	6.43	ND (0.001)	0.0283	ND (0.001)	0.0054	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.0211	ND (0.00089)	45.1	5.93	ND (0.00089)	ND (0.096)	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	1.98	ND (0.005)	0.153 J	ND (0.004)	4.9	ND (0.005)	0.0122	ND (0.005)	0.0014 J	ND (0.0048)	0.219 J	ND (0.0047)	ND (0.0054)	0.0327	ND (0.0044)	2.06 J	0.254 J	ND (0.0044)	ND (0.48)	ND (0.0045)	ND (0.0041)	ND (0.0048)	ND (0.0049)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	ND (0.11)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	ND (0.0012)	ND (0.00089)	ND (1)	ND (0.1)	ND (0.00089)	ND (0.096)	ND (0.00089)	0.0023	ND (0.00096)	0.0006 J
HEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	10000^{AB}	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	ND (0.11)	ND (0.001)	0.0049	ND (0.001)	0.0243	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.0017	ND (0.00089)	67.6	0.299	ND (0.00089)	0.0239 J	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	ND (0.57)	ND (0.005)	0.104 J	ND (0.004)	19.1	ND (0.005)	0.11	ND (0.005)	0.0085	ND (0.0048)	ND (0.52)	ND (0.0047)	ND (0.0054)	5.97	ND (0.0044)	106	11.1	ND (0.0044)	0.261 J	ND (0.0045)	ND (0.0041)	ND (0.0048)	ND (0.0049)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	ND (0.57)	ND (0.005)	ND (0.59)	ND (0.004)	6.3	ND (0.005)	0.0434	ND (0.005)	0.007	ND (0.0048)	ND (0.52)	ND (0.0047)	ND (0.0054)	0.123	ND (0.0044)	34.3	4.39	ND (0.0044)	ND (0.48)	ND (0.0045)	ND (0.0041)	ND (0.0048)	ND (0.0049)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	ND (0.11)	ND (0.001)	ND (0.12)	ND (0.0008)	17.1	ND (0.001)	0.0605	ND (0.001)	0.015	ND (0.00096)	ND (0.1)	ND (0.00093)	ND (0.0011)	0.0862	ND (0.00089)	273	9.38	ND (0.00089)	0.397	ND (0.00089)	ND (0.00082)	ND (0.00096)	ND (0.00098)
Volatile Organic Compounds (SW8011)																									
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.0032)	ND (0.0031)	ND (0.0031)	ND (0.0027)	ND (0.003)	ND (0.0031)	ND (0.0029)	ND (0.0031)	ND (0.0032)	ND (0.0027)	ND (0.003)	ND (0.0027)	ND (0.0032)	ND (0.0031)	ND (0.0031)	ND (0.0032)	ND (0.0031)	ND (0.0027)	ND (0.0028)	ND (0.003)	ND (0.003)	ND (0.0027)	ND (0.0031)
Semi-Volatile Organic Compounds																									
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	mg/kg	190000^{AB}	0.164	ND (0.12)	0.18	0.169	1.31	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.11)	0.0578 J	ND (0.55)	ND (0.13)	0.0561 J	ND (0.13)	0.227	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	0.0259 J	ND (0.12)	0.0571 J	0.226	0.25	ND (0.13)	ND (0.12)	0.0569 J	ND (0.13)	0.0539 J	0.0698 J	ND (0.55)	ND (0.13)	0.0258 J	ND (0.13)	0.0295 J	ND (0.12)	0.0334 J	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.12)	ND (0.12)	ND (0.12)	0.183	0.103 J	ND (0.13)	ND (0.12)	0.0389 J	ND (0.13)	0.0527 J	0.0385 J	ND (0.55)	ND (0.13)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)	0.0337 J	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.12)	ND (0.12)	ND (0.12)	0.128	0.0613 J	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.55)	ND (0.13)	ND (0.12)	ND (0.13)	0.0295 J	ND (0.12)	0.0487 J	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.12)	ND (0.12)	ND (0.12)	0.309	0.0948 J	0.035 J	ND (0.12)	0.0586 J	ND (0.13)	0.16	ND (0.12)	ND (0.55)	ND (0.13)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.12)	0.0392 J	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	mg/kg	760^{A} 190000^{B}	0.0414 J	ND (0.12)	0.0781 J	0.274	0.276	ND (0.13)	ND (0.12)	0.0608 J	ND (0.13)	0.0813 J	0.124	ND (0.55)	ND (0.13)	0.0544 J	ND (0.13)	0.0238 J	ND (0.12)	0.0416 J	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	mg/kg	130000^{A} 190000^{B}	ND (0.12)	ND (0.12)	0.345	0.114	2.5	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.55)	ND (0.13)	0.244	0.15	0.0955 J	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^{A} 10000_{12}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	ND (0.12)	0.0864 J	0.902	0.934	1.73	ND (0.13)	ND (0.12)	0.0538 J	ND (0.13)	0.133	ND (0.12)	ND (0.55)	ND (0.13)	0.579	ND (0.13)	6.07	1.15	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	mg/kg	190000^{AB}	0.702	0.0608 J	0.901	1.14	5.1	0.0221 J	ND (0.12)	0.132	ND (0.13)	0.198	0.41	ND (0.55)	ND (0.13)	0.564	0.508	0.237	0.0428 J	0.0193 J	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	mg/kg	96000^{A} 190000^{B}	0.159	0.0402 J	0.37	1.03	2.76	0.0221 J	ND (0.12)	0.102 J	ND (0.13)	0.202	0.126	ND (0.55)	ND (0.13)	0.0677 J	0.068 J	0.058 J	ND (0.12)	0.0404 J	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																									
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^{A} 20000_{11}^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	mg/kg	2240^{A} 190000^{B}	5.1	66.7	33.2	88.2	9	32.4	7.3	36.4	7.8	103	8.3	32.7	6.9	15.3	4.6	10.7	7.2	257	2	13.8	8	18.5	13.2
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-465		MW-467		MW-468		MW-469		MW-471		MW-472		MW-475		MW-476		MW-478		MW-479		MW-480		MW-481		MW-482		
Sample Date			11-Jun-13	11-Jun-13	12-Jun-13	12-Jun-13	7-Jun-13	11-Jun-13	7-Jun-13	7-Jun-13	4-Jun-13	5-Jun-13	4-Jun-13	4-Jun-13	31-May-13	4-Jun-13	31-May-13	4-Jun-13	31-May-13	31-May-13	31-May-13	31-May-13	14-Jun-13	14-Jun-13	13-Jun-13	13-Jun-13	19-Sep-13	19-Sep-13	19-Sep-13
Sample ID			AOI5_MW-465_1-2_061113	AOI5_MW-465_3-4_061113	AOI5_MW-467_0-1_061213	AOI5_MW-467_9-10_061213	AOI-5_MW-468_0-2'_060713	AOI5_MW-468_8-10'_061113	AOI-5_MW-469_0-2'_060713	AOI-5_MW-469_4-6'_060713	AOI5_MW-471_0-2'_060413	AOI5_MW-471_7-8_060513	AOI5_MW-472_1-2_060413	AOI5_MW-472_7-8_060413	AOI-5_MW-475_0-2'_53113	AOI5_MW-475_2-4'_060413	AOI-5_MW-476_0-2'_053113	AOI5_MW-476_6-7	AOI-5_MW-478_0-2'_053113	AOI-5_MW-478_4-6'_053113	AOI-5_MW-479_0-2'_053113	AOI-5_MW-479_4-6'_053113	AOI-5_MW-480_0-2'_61413	AOI-5_MW-480_2-4'_61413	AOI5_MW-481_0-1_061313	AOI5_MW-481_5-6_061313	MW-482(0-2.0)	MW-482(2.0-4.0)	MW-482(4.0-5.5)
Sample Depth			1 - 2 ft	3 - 4 ft	0 - 1 ft	9 - 10 ft	0 - 2 ft	8 - 10 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	7 - 8 ft	1 - 2 ft	7 - 8 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	6 - 7 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	5 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 5.5 ft
Sampling Company			LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	LANGAN	STANTEC	STANTEC	STANTEC
Laboratory			ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST
Laboratory Work Order		A B	JB39339	JB39339	JB39439	JB39439	JB39111	JB39339	JB39111	JB39111	JB38711	JB38870	JB38711	JB38711	JB38516	JB38711	JB38516	JB38711	JB38516	JB38516	JB38516	JB38516	JB39747	JB39747	JB39590	JB39590	JB47863	JB47863	JB47863
Laboratory Sample ID	Units	MSC-PA	JB39339-1	JB39339-2	JB39439-3	JB39439-4	JB39111-3	JB39339-5	JB39111-4	JB39111-5	JB38711-4	JB38870-1	JB38711-1	JB38711-2	JB38516-2	JB38711-3	JB38516-7	JB38711-5	JB38516-3	JB38516-4	JB38516-5	JB38516-6	JB39747-1	JB39747-2	JB39590-1	JB39590-2	JB47863-1	JB47863-2	JB47863-3
Volatile Organic Compounds																													
BENZENE	mg/kg	290^{A} 330^{B}	0.0339 J	0.654	ND (0.00082)	ND (0.12)	ND (0.00087)	0.0035	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)	0.00064 J	0.00049 J	ND (0.0011)	ND (0.001)	ND (0.0012)	0.00014 J	ND (0.00089)	0.0009 J	ND (0.0011)	ND (0.001)	0.0124	120	0.00018 J	0.00048 J	ND (0.00081)	ND (0.0011)	ND (0.11)
CYCLOHEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0011 J	ND (0.0053)	ND (0.57)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.096)	ND (0.48)	ND (0.00082)	ND (0.12)	ND (0.00087)	ND (0.00092) J	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)	ND (0.00083)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	ND (1.2)	ND (0.00082)	ND (0.00085)	ND (0.00081)	ND (0.0011)	ND (0.11)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	1.06	10.7	ND (0.00082)	0.141	0.00037 J	0.0049	ND (0.0015)	0.00019 J	ND (0.00088)	ND (0.0009)	ND (0.00083)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.014	208	0.00027 J	ND (0.00085)	ND (0.00081)	ND (0.0011)	ND (0.11)
ISOPROPYLBENZENE (CUMENE)	mg/kg	1000^{AB}	0.5	3.81	ND (0.0041)	0.39 J	0.0002 J	0.0049	ND (0.0074)	0.00038 J	ND (0.0044)	ND (0.0045)	ND (0.0042)	ND (0.0052)	ND (0.0056)	ND (0.0052)	ND (0.0062)	ND (0.0047)	ND (0.0045)	ND (0.0054)	ND (0.0054)	ND (0.005)	0.0007 J	24.8	ND (0.0041)	ND (0.0043)	0.0010 J	0.0159	0.38 J
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.096)	ND (0.48)	ND (0.00082)	ND (0.12)	ND (0.00087)	0.00033 J	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)	ND (0.00083)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00088)	ND (1.2)	ND (0.00082)	0.0068	ND (0.00081)	ND (0.0011)	ND (0.11)
HEXANE	mg/kg	1000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0017 J	0.00045 J	ND (0.57)
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0011 J	0.0102	0.273 J
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00039 J	0.0052 J	0.112 J
TOLUENE	mg/kg	10000^{AB}	ND (0.096)	ND (0.48)	ND (0.00082)	ND (0.12)	ND (0.00087)	ND (0.00092)	ND (0.0015)	ND (0.00028)	ND (0.00088)	ND (0.0009)	0.00041 J	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.00043 J	2.33	ND (0.00082)	ND (0.00085)	ND (0.00081)	ND (0.0011)	ND (0.11)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	8.11	52.6	ND (0.0041)	0.227 J	0.0028 J	0.0402	ND (0.0074)	0.00052 J	ND (0.0044)	ND (0.0045)	ND (0.0042)	0.00037 J	ND (0.0056)	ND (0.0052)	ND (0.0062)	ND (0.0047)	ND (0.0045)	ND (0.0054)	ND (0.0054)	ND (0.005)	0.0118	345	0.00029 J	ND (0.0043)	ND (0.0041)	ND (0.0053)	ND (0.57)
1,3,5-TRIMETHYLBENZENE	mg/kg	1000^{AB}	2.42	15.9	ND (0.0041)	0.198 J	0.00098 J	0.0113	ND (0.0074)	0.0007 J	ND (0.0044)	ND (0.0045)	ND (0.0042)	ND (0.0052)	ND (0.0056)	ND (0.0052)	ND (0.0062)	ND (0.0047)	ND (0.0045)	ND (0.0054)	ND (0.0054)	ND (0.005)	0.0019 J	59.8	ND (0.0041)	ND (0.0043)	ND (0.0041)	ND (0.0053)	ND (0.57)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	1.87	37.8	ND (0.00082)	ND (0.12)	0.0012	0.0064	ND (0.0015)	0.00051	ND (0.00088)	ND (0.0009)	0.00032 J	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.00093)	ND (0.00089)	ND (0.0011)	ND (0.0011)	ND (0.001)	0.0227	318	0.0011	ND (0.00085)	ND (0.00081)	0.00032 J	ND (0.11)
Volatile Organic Compounds (SW8011)																													
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.003)	ND (0.0029)	ND (0.0028)	ND (0.0033)	ND (0.0028)	ND (0.003)	ND (0.0028)	ND (0.0032)	ND (0.0028)	ND (0.0031)	ND (0.0028)	ND (0.0032)	ND (0.0028)	ND (0.0029)	ND (0.0028)	ND (0.0032)	ND (0.0031)	ND (0.0032)	ND (0.0033)	ND (0.0032)	ND (0.0028)	ND (0.0041)	ND (0.0028)	ND (0.003)	ND (0.0026)	ND (0.0033)	ND (0.0032)
Semi-Volatile Organic Compounds																													
ACENAPHTHENE	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.035)	0.0288 J	0.235
ANTHRACENE	mg/kg	190000^{AB}	ND (0.12)	0.0291 J	0.129	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.0493 J	23.7	ND (0.56)	ND (0.12)	ND (0.035)	ND (0.043)	0.0753
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	ND (0.12)	ND (0.12)	0.335	ND (0.13)	0.0149 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)	0.0335 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.194	9.27	ND (0.56)	ND (0.12)	0.0297 J	ND (0.043)	ND (0.04)
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	ND (0.12)	ND (0.12)	0.316	ND (0.13)	0.014 J	ND (0.12)	ND (0.11)	ND (0.13)	0.0127 J	ND (0.13)	0.0417 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.19	5.9	0.157 J	ND (0.12)	0.0304 J	ND (0.043)	0.0607
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	ND (0.12)	ND (0.12)	0.292	ND (0.13)	0.0151 J	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)	0.0425 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.157	3.06 J	ND (0.56)	ND (0.12)	0.0284 J	ND (0.043)	0.0188 J
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	ND (0.12)	ND (0.12)	0.231	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.13)	0.0591 J	ND (0.13)	0.214	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.134	4.1	0.262 J	ND (0.12)	0.0420	ND (0.043)	0.0425
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0217 J	ND (0.043)	ND (0.04)
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
CHRYSENE	mg/kg	760^{A} 190000^{B}	ND (0.12)	ND (0.12)	0.34	ND (0.13)	0.0143 J	ND (0.12)	ND (0.11)	ND (0.13)	0.0208 J	ND (0.13)	0.0559 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.202	18.1	0.194 J	0.017 J	0.0357	ND (0.043)	ND (0.04)
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.035)	ND (0.043)	ND (0.04)
DIETHYL PHTHALATE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	0.169
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.17)	ND (0.21)	ND (0.2)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.7)	ND (0.86)	ND (0.8)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0493	ND (0.043)	0.0674
FLUORENE	mg/kg	130000^{A} 190000^{B}	ND (0.12)	0.246	0.0182 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.11)	71.6	ND (0.56)	ND (0.12)	0.0199 J	0.0513	0.425
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0212 J	ND (0.043)	ND (0.04)
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	$10000_{/2}^{A}$ $10000_{/2}^{B}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	1.03	18.2	ND (0.11)	2.41	ND (0.11)	0.0214 J	ND (0.11)	1.21	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.132	358	ND (0.56)	ND (0.12)	ND (0.035)	ND (0.043)	ND (0.04)
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.35)	ND (0.43)	ND (0.4)
PHENANTHRENE	mg/kg	190000^{AB}	0.0242 J	0.215	0.45	0.0213 J	ND (0.11)	ND (0.12)	ND (0.11)	0.0348 J	0.0177 J	ND (0.13)	0.0406 J	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.188	155	0.23 J	ND (0.12)	0.0397	0.0624	1.13
PHENOL	mg/kg	16000^{A} 18000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
PYRENE	mg/kg	96000^{A} 190000^{B}	ND (0.12)	0.0295 J	0.623	ND (0.13)	0.0168 J	ND (0.12)	ND (0.11)	0.0151 J	0.0272 J	ND (0.13)	0.0544 J	ND (0.13)	ND (0.11)	ND (0.12)	0.0157 J	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.13)	0.324	45.4	0.368 J	0.0356 J	0.0620	0.0281 J	0.483
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.07)	ND (0.086)	ND (0.08)
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.17)	ND (0.21)	ND (0.2)
Metals																													
ARSENIC	mg/kg	61^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	$220_{/1}^{A}$ $20000_{/1}^{B}$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	8.8	8.3
LEAD	mg/kg	2240^{A} 190000^{B}	11.7	8.6	33.9	6.3	80.4	9.4	26.8	6.8	326	5.6	170	4.2	23.7	8.5	6.6	5	11.2	14.5	26.5	9.8	58.6	138	90.1	8.3	22.4	9.5	6.1
MERCURY	mg/kg	510^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.7	24.4	14.4
SELENIUM	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45.4	28.1	30.7
ZINC	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-510		MW-554		MW-555		MW-573		MW-574		MW-575		MW-576		MW-577		MW-578		MW-579		MW-580		MW-581		MW-582		MW-583		SWC
Sample Date			19-Mar-15	19-Mar-15	31-Aug-15	31-Aug-15	31-Aug-15	31-Aug-15	24-Jun-16	24-Jun-16	15-Jun-16	15-Jun-16	17-Jun-16	17-Jun-16	16-Jun-16	16-Jun-16	16-Jun-16	16-Jun-16	17-Jun-16	17-Jun-16	17-Jun-16	17-Jun-16	16-Jun-16	16-Jun-16	17-Jun-16	17-Jun-16	16-Jun-16	16-Jun-16	15-Jun-16	15-Jun-16	18-Jul-02
Sample ID			AOI4_MW-510_0-2_03192015	AOI4_MW-510_4-6_03192015	MW-554(0-2)_20150831	MW-554(6-8)_20150831	MW-555(0.5-5)_20150831	MW-555(6-8)_20150831	AOI5-MW-573-1-2	AOI5-MW-573-3-4	AOI5-MW-574-1-2	AOI5-MW-574-5-5.5	AOI5-MW-575-0-2	AOI5-MW-575-6.5-7.5	AOI5-MW-576-0-2	AOI5-MW-576-4-5	AOI5-MW-577-1-2	AOI5-MW-577-5-6	AOI5-MW-578-0-2	AOI5-MW-578-4-5	AOI5-MW-579-0-2	AOI5-MW-579-5-6	AOI5-MW-580-1-2	AOI5-MW-580-7-8	AOI5-MW-581-0-2	AOI5-MW-581-5-6	AOI5-MW-582-1-2	AOI5-MW-582-4-5	AOI5-MW-583-1-2	AOI5-MW-583-2-3	SWC-S1A
Sample Depth			0 - 2 ft	4 - 6 ft	0 - 2 ft	6 - 8 ft	0.5 - 5 ft	6 - 8 ft	1 - 2 ft	3 - 4 ft	1 - 2 ft	5 - 5.5 ft	0 - 2 ft	6.5 - 7.5 ft	0 - 2 ft	4 - 5 ft	1 - 2 ft	5 - 6 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	5 - 6 ft	1 - 2 ft	7 - 8 ft	0 - 2 ft	5 - 6 ft	1 - 2 ft	4 - 5 ft	1 - 2 ft	2 - 3 ft	0 - 2 ft
Sampling Company			AQUATERRA	AQUATERRA	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	SUNOCO
Laboratory			PACE	PACE	ACCUTEST	ACCUTEST	ACCUTEST	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	WGEL
Laboratory Work Order		A B	30143544	30143544	JC2745	JC2745	JC2745	JC2745	1676548	1676548	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	1673474	75700702
Laboratory Sample ID	Units	MSC-PA	30143544001	30143544002	JC2745-1	JC2745-2	JC2745-3	JC2745-4	8448485	8448486	8432614	8432615	8432636	8432637	8432620	8432621	8432622	8432623	8432632	8432633	8432634	8432635	8432626	8432627	8432630	8432631	8432624	8432625	8432618	8432619	288812
Volatile Organic Compounds																															
BENZENE	mg/kg	290^ 330[B]	ND (0.33)	ND (0.25)	ND (0.00075)	3.87	0.0016	0.0354 J	0.002 J	0.008 J	0.77 J	0.12 J	2.9	67	0.003 J	0.39 J	0.14 J	0.076 J	0.001 J	0.009	ND (0.18)	0.046 J	ND (0.12)	ND (0.11)	ND (0.078)	1.2 J	0.28 J	0.19 J	ND (0.22)	ND (0.52)	-
CYCLOHEXANE	mg/kg	10000^[AB]	-	-	ND (0.0030)	0.0149	0.0024	0.670	0.004 J	0.012	3.5	1.4	0.80	15	ND (0.001)	0.36 J	0.70	0.15 J	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	ND (0.24)	ND (0.23)	ND (0.16)	15	0.92	1.3	0.64 J	1.5 J	-
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	ND (0.20)	ND (0.15)	ND (0.0015)	ND (0.0011)	ND (0.00052)	ND (0.14)	ND (0.001)	ND (0.002)	ND (0.21)	ND (0.10)	ND (0.11)	ND (0.25)	ND (0.001)	ND (0.27)	ND (0.070)	ND (0.066)	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	ND (0.24)	ND (0.23)	ND (0.16)	ND (0.60)	ND (0.089)	ND (0.14)	ND (0.44)	ND (1.0)	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	ND (0.33)	ND (0.25)	ND (0.0015)	ND (0.0011)	ND (0.00052)	ND (0.14)	ND (0.001)	ND (0.002)	ND (0.21)	ND (0.10)	ND (0.11)	ND (0.25)	ND (0.001)	ND (0.27)	ND (0.070)	ND (0.066)	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	ND (0.24)	ND (0.23)	ND (0.16)	ND (0.60)	ND (0.089)	ND (0.14)	ND (0.44)	ND (1.0)	-
ETHYLBENZENE	mg/kg	890^ 1000[B]	ND (0.33)	0.38	ND (0.0015)	0.0319	0.0016	0.0503 J	ND (0.001)	ND (0.002)	0.68 J	ND (0.10)	1.9	29	ND (0.001)	ND (0.27)	0.19 J	0.26 J	ND (0.001)	ND (0.0009)	2.8	6.3	ND (0.24)	ND (0.23)	ND (0.16)	21	0.49	0.30 J	ND (0.44)	ND (1.0)	-
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	ND (0.33)	0.37	ND (0.0030)	0.00082 J	0.0016	0.303	ND (0.001)	ND (0.002)	1.9	2.7	0.18 J	3.4	ND (0.001)	ND (0.27)	0.56	0.28 J	ND (0.001)	ND (0.0009)	1.5 J	1.4	0.59 J	0.85 J	0.37 J	11	0.15 J	0.23 J	ND (0.44)	3.3 J	-
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	ND (0.33)	ND (0.25)	ND (0.0015)	ND (0.0011)	ND (0.00052)	ND (0.14)	0.0006 J	0.004 J	ND (0.10)	ND (0.050)	ND (0.055)	ND (0.12)	ND (0.0005)	ND (0.13)	ND (0.035)	ND (0.033)	ND (0.0006)	ND (0.0005)	ND (0.18)	ND (0.037)	ND (0.12)	ND (0.11)	ND (0.078)	ND (0.30)	ND (0.044)	ND (0.069)	ND (0.22)	ND (0.52)	-
HEXANE	mg/kg	10000^[AB]	-	-	ND (0.71)	4.79	0.323 J	0.469 J	0.003 J	0.002 J	3.2	0.23 J	2.3	25	ND (0.001)	ND (0.27)	0.70	0.12 J	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	ND (0.24)	ND (0.23)	ND (0.16)	1.6 J	0.37 J	0.41 J	0.93 J	ND (1.0)	-
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	ND (0.001)	ND (0.002)	ND (0.21)	ND (0.10)	0.52 J	8.4	ND (0.001)	0.75 J	9.8	4.1	ND (0.001)	ND (0.0009)	50	57	5.2	5.9	0.42 J	12	2.8	0.89	1.5 J	ND (1.0)	-
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	-	-	ND (0.0030)	ND (0.0022)	0.0015	0.146 J	ND (0.001)	0.003 J	1.9	2.8	ND (0.11)	1.5	ND (0.001)	ND (0.27)	0.49	0.32 J	ND (0.001)	ND (0.0009)	0.57 J	0.21 J	2.3	4.8	0.79	4.8	0.14 J	0.26 J	0.48 J	7.1	-
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	-	-	ND (0.0030)	ND (0.0022)	0.00069 J	0.0781 J	ND (0.001)	0.007 J	0.49 J	0.46 J	ND (0.11)	ND (0.25)	ND (0.001)	ND (0.27)	0.12 J	ND (0.066)	ND (0.001)	ND (0.0009)	ND (0.37)	ND (0.074)	0.27 J	0.53 J	0.19 J	0.76 J	ND (0.089)	ND (0.14)	ND (0.44)	8.9	-
TOLUENE	mg/kg	10000^[AB]	ND (0.33)	0.14 J	0.00061 J	0.0120	0.00049 J	ND (0.14)	ND (0.001)	0.006 J	ND (0.21)	ND (0.10)	0.13 J	44	0.001 J	ND (0.27)	ND (0.070)	ND (0.066)	ND (0.001)	ND (0.0009)	ND (0.37)	0.16 J	ND (0.24)	ND (0.23)	ND (0.16)	8.7	0.16 J	0.33 J	ND (0.44)	ND (1.0)	-
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	ND (0.33)	0.62	ND (0.0030)	0.0077	0.0046	0.0304 J	0.001 J	0.004 J	26	0.29 J	3.0	41	ND (0.001)	ND (0.27)	7.6	4.3	ND (0.001)	ND (0.0009)	180	110	6.7	ND (0.23)	ND (0.16)	50	1.1	0.58 J	0.81 J	1.4 J	-
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	ND (0.33)	0.30	ND (0.0030)	0.0018 J	0.0038	0.0276 J	ND (0.001)	ND (0.002)	19	0.48 J	1.1	15	ND (0.001)	ND (0.27)	1.7	1.5	ND (0.001)	ND (0.0009)	41	12	0.80 J	ND (0.23)	ND (0.16)	21	0.70	0.14 J	ND (0.44)	ND (1.0)	-
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	ND (1.0)	1.2	ND (0.0015)	0.0211	0.0038	0.0437 J	0.003 J	0.011	0.44 J	0.26 J	13	180	ND (0.001)	ND (0.27)	3.7	2.3	ND (0.001)	0.003 J	20	110	ND (0.24)	ND (0.23)	0.44 J	140	0.59	0.75	0.47 J	1.3 J	-
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^[AB]	-	-	ND (0.033)	ND (0.037)	0.0435	0.265	0.14	ND (0.026)	0.63	0.68	ND (0.0040)	ND (0.0041)	0.069 J	0.99	3.7	0.16	ND (0.0036)	ND (0.0038)	0.23	ND (0.0039)	0.031	0.71	1.1	0.41	1.8 J	2.2	4.9	2.8	-
ANTHRACENE	mg/kg	190000^[AB]	0.0056 J	0.025	0.0637	ND (0.037)	0.0728	0.479	0.21	0.23	0.28	ND (0.037)	ND (0.0040)	0.063	0.54	5.3	2.9	0.13	ND (0.0036)	ND (0.0038)	0.34	0.96	0.0038 J	ND (0.043)	0.55	0.26	2.1 J	1.5	2.4	11	-
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	0.017	0.026	0.0490	ND (0.037)	0.0546	0.0573 J	0.25	0.25	0.16 J	0.075 J	ND (0.0040)	0.024	1.5	19	1.5	0.034 J	ND (0.0036)	ND (0.0038)	0.059	0.091	0.012 J	ND (0.043)	0.75	0.27	4.0	1.3	1.4 J	2.5	-
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	0.015 J	0.068	0.0671	0.0452	0.0617	ND (0.080)	0.67	0.29	0.10 J	ND (0.037)	0.0045 J	0.017 J	1.1	13	1.2	0.046 J	ND (0.0036)	ND (0.0038)	0.097	0.10	0.012 J	ND (0.043)	0.75	0.19	4.0	1.2	1.6 J	1.6 J	-
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	0.034	0.041	ND (0.033)	ND (0.037)	0.0711	ND (0.080)	0.27	0.32	0.13 J	0.083 J	0.0061 J	0.013 J	1.4	21	0.98 J	0.033 J	ND (0.0036)	ND (0.0038)	0.12	0.079	0.017 J	ND (0.043)	0.45	0.15	2.0 J	0.79 J	0.86 J	2.0 J	-
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	0.013 J	0.056	0.295	0.103	0.112	ND (0.080)	0.98	0.32	0.10 J	0.042 J	0.0045 J	0.0086 J	0.80	8.9	1.3	0.063 J	ND (0.0036)	ND (0.0038)	0.027	0.051	0.023	ND (0.043)	0.76	0.22	4.1	1.1	1.3 J	1.0 J	-
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	-	-	ND (0.033)	ND (0.037)	ND (0.035)	ND (0.080)	0.058 J	0.076 J	0.054 J	ND (0.037)	ND (0.0040)	0.0049 J	0.64	8.2	0.28 J	ND (0.018)	ND (0.0036)	ND (0.0038)	0.013 J	0.018 J	0.0072 J	ND (0.043)	0.095 J	0.058 J	ND (0.42)	0.30 J	ND (0.42)	0.99 J	-
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	-	-	ND (0.067)	ND (0.075)	0.0751	ND (0.16)	0.14 J	ND (0.13)	ND (0.18)	ND (0.19)	ND (0.020)	0.26	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	0.97	3.1	0.053	ND (0.22)	ND (0.23)	0.27	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	-	-	0.0915	ND (0.075)	0.0791	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-
DI-N-BUTYL PHTHALATE	mg/kg	10000^[AB]	-	-	0.104	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-
CHRYSENE	mg/kg	760^ 190000[B]	0.023	0.035	0.0877	0.115	0.159	0.0927	0.40	0.48	0.37	0.24	0.0068 J	0.037	1.4	18	2.9	0.10	ND (0.0036)	ND (0.0038)	0.17	0.13	0.014 J	ND (0.043)	1.9	0.54	6.2	3.2	4.0	5.6	-
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	-	-	0.0316 J	ND (0.037)	ND (0.035)	ND (0.080)	0.28	0.15	ND (0.037)	ND (0.037)	ND (0.0040)	ND (0.0041)	0.25	3.1	0.44 J	ND (0.018)	ND (0.0036)	ND (0.0038)	0.0082 J	0.012 J	ND (0.0037)	ND (0.043)	0.14 J	0.052 J	0.92 J	0.22 J	ND (0.42)	0.61 J	-
DIETHYL PHTHALATE	mg/kg	10000^[AB]	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	-	-	ND (0.17)	0.0834 J	ND (0.17)	ND (0.40)	ND (0.10)	ND (0.13)	5.7	ND (0.19)	ND (0.020)	0.37	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	0.53	ND (0.019)	ND (0.22)	ND (0.23)	ND (0.11)	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	-	-	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.40)	ND (1.8)	ND (2.3)	ND (3.3)	ND (3.3)	ND (0.36)	ND (0.37)	ND (3.5)	ND (3.4)	ND (19)	ND (1.7)	ND (0.33)	ND (0.34)	ND (0.34)	ND (0.35)	ND (0.33)	ND (3.9)	ND (4.1)	ND (1.9)	ND (38)	ND (18)	ND (38)	ND (36)	-
FLUORANTHENE	mg/kg	130000^ 190000[B]	-	-	0.0348	ND (0.037)	0.0667	0.105	0.22	0.26	0.23	0.14 J	0.0082 J	0.049	3.0	33	2.3	0.056 J	ND (0.0036)	ND (0.0038)	0.065	0.12	0.038	0.070 J	0.59	0.28	1.7 J	1.7	2.8	6.3	-
FLUORENE	mg/kg	130000^ 190000[B]	ND (0.016)	0.24	ND (0.033)	ND (0.037)	0.150	0.545	0.19	0.20	1.1	1.4	ND (0.0040)	0.20	0.17 J	2.1	6.3	0.11	ND (0.0036)	ND (0.0038)	2.4	2.1	0.019 J	0.39	2.2	0.86	2.6	4.6	8.8	7.9	-
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	-	-	0.0517	0.0398	ND (0.035)	ND (0.080)	0.41	0.19	0.053 J	ND (0.037)	ND (0.0040)	0.0057 J	0.69	8.9	0.42 J	0.028 J	ND (0.0036)	ND (0.0038)	0.015 J	0.027	0.016 J	ND (0.043)	0.18 J	0.061 J	1.2 J	0.46 J	0.47 J	0.81 J	-
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	-	-	0.0476 J	0.232	0.521	ND (0.16)	1.8	0.69	1.4	0.20	0.0093 J	9.0	ND (0.039)	0.57	19	0.18	ND (0.0036)	ND (0.0038)	40	120	1.1	51	1.9	18	11	23	8.8	8.3	-
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{12}^ 10000_{12}[B]	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.10)	ND (0.13)	ND (0.18)	0.25 J	ND (0.020)	ND (0.021)	ND (0.20)	0.28 J	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.22)	0.35 J	ND (0.11)	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.10)	ND (0.13)	ND (0.18)	ND (0.19)	ND (0.020)	ND (0.021)	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.22)	ND (0.23)	ND (0.11)	ND (2.1)	ND (0.97)	ND (2.1)	ND (2.0)	-
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	0.029	0.48	0.0198 J	0.123	0.172	ND (0.080)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^ 190000[B]	-	-	ND (0.33)	ND (0.37)	ND (0.35)	ND (0.80)	ND (1.0)	ND (1.3)	ND (1.8)	ND (1.9)	ND (0.20)	ND (0.21)	ND (2.0)	ND (1.9)	ND (11)	ND (0.92)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (2.2)	ND (2.3)	ND (1.1)	ND (21)	ND (9.7)	ND (21)	ND (20)	-
PHENANTHRENE	mg/kg	190000^[AB]	0.027	0.27	0.0570	0.154	0.345	1.83	0.81	0.57	1.6	2.0	0.0089 J	0.44	1.5	11	15	0.26	ND (0.0036)	ND (0.0038)	1.4	0.92	0.027	0.086 J	5.5	2.0	6.6	8.2	17	13	-
PHENOL	mg/kg	16000^ 18000[B]	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.10)	ND (0.13)	0.23 J	ND (0.19)	ND (0.020)	0.68	ND (0.20)	ND (0.19)	ND (1.1)	ND (0.092)	ND (0.018)	ND (0.019)	ND (0.019)	ND (0.020)	ND (0.019)	ND (0.22)	ND (0.23)	ND (0.11)	ND (2.1)	ND (0.97)	2.4 J	ND (2.0)	-
PYRENE	mg/kg	96000^ 190000[B]	0.074	0.15	0.0912	0.0825	0.173	0.571	0.57	0.57	0.42	0.28	0.012 J	0.17	2.4	26	8.0	0.20	ND (0.0036)	ND (0.0038)	0.11	0.18	0.050	0.093 J	2.8	0.83	8.7	5.6	5.2	8.5	-
PYRIDINE	mg/kg	3200^ 10000[B]	-	-	ND (0.067)	ND (0.075)	ND (0.070)	ND (0.16)	ND (0.41)	ND (0.52)	ND (0.73)	ND (0.74)	ND (0.079)	ND (0.083)	ND (0.78)	ND (0.76)	ND (4.3)	ND (0.37)	ND (0.073)	ND (0.076)	ND (0.076)	ND (0.078)	ND (0.074)	ND (0.87)	ND (0.92)	ND (0.43)	ND (8.4)	ND (3.9)	ND (8.4)	ND (8.1)	-
QUINOLINE	mg/kg	30^ 10000[B]	-	-	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.40)	ND (0.20)	ND (0.26)	ND (0.37)	ND (0.37)	ND (0.040)	ND (0.041)	ND (0.39)	ND (0.38)	ND (2.1)	ND (0.18)	ND (0.036)	ND (0.038)	ND (0.038)	ND (0.039)	ND (0.037)	ND (0.43)	ND (0.46)	ND (0.22)	ND (4.2)	ND (1.9)	ND (4.2)	ND (4.0)	-
Metals																															
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.78)
CHROMIUM	mg/kg	220_{11}^ 20000_{11}[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82.4
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	-	-	14.8	9.4	11.5	9.5	8.44	11.7	7.26	3.86	4.93	10.6	8.66	3.48	10.3	5.65	10.9	7.02	6.82	8.65	10.1	6.85	6.86	77.8	5.38	8.10	3.51	5.37	-
LEAD	mg/kg	2240^ 190000[B]	23.8	6.9	132	94.7	33.2	11.0	369	92.4	36.5	4.01	1.21 J	ND (0.617)	93.3	646	190	23.9	ND (2.26)	5.54 J	32.8	8.60	49.3	1.98	40.0	15400	115	243	204	788	79.3
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^ 190000[B]	-	-	57.0	23.4	36.6	11.2	18.2	24.1	13.4	5.88	13.6	27.1	17.1	5.13	30.2	10.7	27.2	12.8	16.6	19.4	15.0	14.9	15.5	22.5	18.9	16.0	9.42	14.4	-
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^ 190000[B]	-	-	56.3	55.6	42.4	25.0	38.9	54.1	36.0	16.0	48.3	64.1	42.2	15.2	61.0	25.8	54.9	31.1	36.7	45.5	38.9	25.4	39.2	15.4	39.7	39.3	19.4	26.7	-
ZINC	mg/kg	190000^[AB]	-	-	2250	183	93.4	32.0	119	112	49.9	14.2	36.7	59.4	144	257	208	39.2	49.5	29.3	74.0	53.7	55.1	40.5	98.2	4050	95.1	576	69.5	119	-

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			:-S1	SWC-S2		SWC-S3		SWC-S4		SWC-S5		TK-7-11-PP-1	TK-7-11-PP-2	TK-7-11-PP-3	TK-7-11-PP-4	TK-7-11-PP-5	TK-7-11-PP-6	TK-7-11-PP-7	TK-7-11-PP-8	TK-7-11-PP-9	TK-7-11-PP-10	TK-7-11-PP-11	TK-7-11-PP-12	TK-7-11-PP-13	TK-7-11-PP-14	TK-7-11-PP-15	TK-7-11-PP-16	TK-7-11-PP-17	TK-7-11-PP-18	TK-7-11-PP-19	TK-7-11-PP-20
Sample Date			18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	18-Jul-02	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	15-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16	22-Sep-16
Sample ID			SWC-S1B	SWC-S2A	SWC-S2B	SWC-S3A	SWC-S3B	SWC-S4A	SWC-S4B	SWC-S5A	SWC-S5B	TK-7-11-PP-1-2.0	TK-7-11-PP-2-2.0	TK-7-11-PP-3-2.0	TK-7-11-PP-4-2.0	TK-7-11-PP-5-2.0	TK-7-11-PP-6-2.0	TK-7-11-PP-7-2.0	TK-7-11-PP-8-2.0	TK-7-11-PP-9-2.0	TK-7-11-PP-10-2.0	TK-7-11-PP-11-2.0	TK-7-11-PP-12-2.0	TK-7-11-PP-13-2.0	TK-7-11-PP-14-2.0	TK-7-11-PP-15-2.0	TK-7-11-PP-16-2.0	TK-7-11-PP-17-1.0	TK-7-11-PP-18-0.5	TK-7-11-PP-19-0.5	TK-7-11-PP-20-0.5
Sample Depth			2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	2 ft	1 ft	0.5 ft	0.5 ft	0.5 ft
Sampling Company			SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	SUNOCO	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			WGEL	WGEL	WGEL	WGEL	WGEL	WGEL	WGEL	WGEL	WGEL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	75700702	75700702	75700702	75700702	75700702	75700702	75700702	75700702	75700702	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1710277	1711971	1711971	1711971	1711971	1711971	1711971	1711971	1711971
Laboratory Sample ID	Units	MSC-PA	288813	288814	288815	288816	288817	288818	288819	288820	288821	8596657	8596658	8596659	8596660	8596661	8596662	8596663	8596664	8596665	8596666	8596667	8596668	8604334	8604335	8604336	8604337	8604338	8604339	8604340	8604341
Volatile Organic Compounds																															
BENZENE	mg/kg	290^ 330[B]	-	-	-	-	-	-	-	-	-	0.001 J	ND (0.0006)	ND (0.0006)	0.52	0.001 J	1.3	0.049	0.039	0.11 J	0.001 J	ND (0.0006)	ND (0.032)	ND (0.038)	ND (0.028)	ND (0.029)	ND (0.050)	ND (0.054)	ND (0.041)	ND (0.023)	ND (0.0004)
CYCLOHEXANE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	0.007	0.18	0.037	1.8	0.25	0.032	2.2	0.13	0.82	0.005	0.007	ND (0.064)	0.91	0.67	ND (0.057)	0.21 J	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	mg/kg	86^ 98[B]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.056)	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)
ETHYLBENZENE	mg/kg	890^ 1000[B]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	0.36	ND (0.0009)	0.12	2.0	0.079	1.5	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	2.0	0.11 J	ND (0.0008)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.001)	0.043	0.002 J	0.19	0.006	0.021	1.1	0.019	0.86	0.003 J	ND (0.001)	0.16 J	0.18 J	0.25 J	ND (0.057)	0.39 J	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^ 9900[B]	-	-	-	-	-	-	-	-	-	ND (0.0007)	ND (0.0006)	ND (0.0006)	ND (0.0007)	ND (0.0004)	ND (0.0006)	0.0009 J	ND (0.0005)	ND (0.028)	ND (0.0004)	0.001 J	ND (0.032)	ND (0.038)	ND (0.028)	ND (0.029)	ND (0.050)	ND (0.054)	ND (0.041)	ND (0.023)	ND (0.0004)
HEXANE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.001)	0.004 J	0.002 J	0.80	0.11	0.18	0.19	0.080	1.8	0.002 J	0.001 J	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	0.002 J	16	ND (0.0009)	8.6	17	0.22	78	0.002 J	0.004 J	2.5	ND (0.076)	0.65	0.081 J	ND (0.099)	ND (0.11)	0.48	0.073 J	ND (0.0008)
BUTYLBENZENE, SEC-	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.001)	0.048	ND (0.001)	0.13	0.002 J	0.021	0.060	0.011	0.60	0.001 J	ND (0.001)	0.18 J	0.20 J	0.20 J	ND (0.057)	0.42 J	0.28 J	ND (0.082)	ND (0.046)	ND (0.0008)
BUTYLBENZENE, TERT-	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0009)	ND (0.001)	0.013	ND (0.001)	ND (0.056)	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	ND (0.082)	ND (0.046)	ND (0.0008)
TOLUENE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	ND (0.001)	0.11	0.006	0.25	0.019	0.004 J	0.065 J	ND (0.0009)	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	0.19 J	ND (0.046)	ND (0.0008)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^ 640[B]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	0.003 J	0.073	0.003 J	5.3	0.035	0.29	11	0.002 J	ND (0.001)	0.10 J	ND (0.076)	ND (0.056)	0.065 J	ND (0.099)	ND (0.11)	0.37 J	ND (0.046)	ND (0.0008)
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	0.001 J	0.074	ND (0.0009)	0.26	0.063	0.094	3.1	0.0009 J	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	0.12 J	ND (0.046)	ND (0.0008)
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^ 9100[B]	-	-	-	-	-	-	-	-	-	ND (0.001)	ND (0.001)	0.005 J	0.20	0.005	0.61	0.027	0.12	4.0	0.003 J	ND (0.001)	ND (0.064)	ND (0.076)	ND (0.056)	ND (0.057)	ND (0.099)	ND (0.11)	16	0.97	ND (0.0008)
Volatile Organic Compounds (SW8011)																															
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^ 4.3[B]	-	-	-	-	-	-	-	-	-	ND (0.00024)	ND (0.00025)	ND (0.00024)	ND (0.00025)	ND (0.00024)	ND (0.00024)	ND (0.00022)	ND (0.00023)	ND (0.00022)	ND (0.00020)	ND (0.00021)	ND (0.00022)	ND (0.00023)	ND (0.00023)	ND (0.00023)	ND (0.00023)	ND (0.00022)	ND (0.00024)	ND (0.00022)	ND (0.00021)
Semi-Volatile Organic Compounds																															
ACENAPHTHENE	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	0.79	2.5	0.19	10	5.3	3.7	4.6	7.7	0.80	0.0077 J	0.037 J	0.20	1.4	2.7	ND (0.039)	0.61	0.19	0.61	ND (0.036)	ND (0.035)
ANTHRACENE	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	0.72	1.6	0.11	7.3	6.8	3.8	3.8	3.2	1.4	0.025	0.024 J	0.43	1.0	1.6	0.086 J	0.90	0.52	2.2	0.15 J	0.043 J
BENZO(A)ANTHRACENE	mg/kg	130^ 190000[B]	-	-	-	-	-	-	-	-	-	1.3	0.61	0.081 J	9.9	13	11	1.4	0.78	0.093	0.11	0.025 J	0.13	0.26	0.33	0.071 J	0.26	1.2	8.3	0.37	0.79
BENZO(A)PYRENE	mg/kg	12^ 190000[B]	-	-	-	-	-	-	-	-	-	1.1	0.28	0.084 J	7.6	6.8	5.4	0.82	0.70	0.055	0.088	0.059 J	0.080 J	0.13 J	0.20	0.062 J	0.18 J	0.83	6.1	0.57	0.83
BENZO(B)FLUORANTHENE	mg/kg	76^ 190000[B]	-	-	-	-	-	-	-	-	-	1.5	0.18	0.083 J	3.8	3.4	2.6	0.44 J	0.40	0.032	0.052	0.047 J	0.053 J	0.094 J	0.12 J	0.059 J	0.14 J	0.43	3.1	0.32	0.54
BENZO(G,H,I)PERYLENE	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	0.75	0.31	0.22	5.5	2.7	2.5	1.1	0.87	0.055	0.064	0.13	0.094 J	0.087 J	0.18 J	0.28	0.20	0.55	3.2	0.49	0.64
BENZO(K)FLUORANTHENE	mg/kg	76^ 190000[B]	-	-	-	-	-	-	-	-	-	0.57	0.065 J	0.022 J	0.71 J	1.1	0.64	0.12 J	0.13 J	0.011 J	0.010 J	ND (0.018)	ND (0.019)	0.068 J	0.045 J	0.049 J	0.073 J	0.093 J	0.60	0.091 J	0.10 J
1,1'-BIPHENYL	mg/kg	11000^ 190000[B]	-	-	-	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.10)	2.3	1.1	1.5	4.3	3.5	1.6	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^ 10000[B]	-	-	-	-	-	-	-	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)
DI-N-BUTYL PHTHALATE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)
CHRYSENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	1.4	0.95	0.15	24	22	17	1.9	1.7	0.17	0.25	0.082 J	0.17	0.29	0.44	0.14 J	0.54	1.7	13	1.0	2.1
DIBENZ(A,H)ANTHRACENE	mg/kg	22^ 190000[B]	-	-	-	-	-	-	-	-	-	0.18	0.088 J	0.11	1.6	1.5	1.3	0.22 J	0.20	0.011 J	0.022	ND (0.018)	ND (0.019)	ND (0.039)	ND (0.039)	ND (0.039)	0.048 J	0.22	1.4	0.15 J	0.29
DIETHYL PHTHALATE	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)
2,4-DIMETHYLPHENOL	mg/kg	10000^[AB]	-	-	-	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)
2,4-DINITROPHENOL	mg/kg	6400^ 190000[B]	-	-	-	-	-	-	-	-	-	ND (1.9)	ND (1.9)	ND (1.8)	ND (19)	ND (9.2)	ND (9.3)	ND (8.6)	ND (3.5)	ND (0.34)	ND (0.31)	ND (1.7)	ND (1.7)	ND (3.5)	ND (3.5)	ND (3.5)	ND (3.5)	ND (3.3)	ND (7.2)	ND (3.3)	ND (3.2)
FLUORANTHENE	mg/kg	130000^ 190000[B]	-	-	-	-	-	-	-	-	-	2.8	0.54	0.086 J	3.6	3.3	2.7	1.5	0.79	0.19	0.033	0.031 J	0.18	0.30	0.41	0.062 J	0.40	0.45	2.2	0.091 J	0.16 J
FLUORENE	mg/kg	130000^ 190000[B]	-	-	-	-	-	-	-	-	-	0.63	5.4	0.21	17	9.8	5.3	13	20	2.3	0.0089 J	0.064 J	0.63	2.4	3.6	0.080 J	1.2	0.30	0.92	ND (0.036)	0.042 J
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^ 190000[B]	-	-	-	-	-	-	-	-	-	0.61	0.15	0.13	1.9	1.3	1.0	0.37 J	0.20	0.022	0.027	0.024 J	0.040 J	0.045 J	0.055 J	0.056 J	0.055 J	0.23	1.1	0.21	0.18 J
2-METHYLNAPHTHALENE	mg/kg	13000^ 190000[B]	-	-	-	-	-	-	-	-	-	0.57	0.79	0.44	86	43	38	140	120	35	0.0091 J	ND (0.018)	ND (0.019)	11	44	0.044 J	0.10 J	0.42	3.6	0.11 J	0.036 J
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	$10000_{\Delta2}$^ $10000_{\Delta2}$[B]	-	-	-	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^ 190000[B]	-	-	-	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-NITROPHENOL	mg/kg	26000^ 190000[B]	-	-	-	-	-	-	-	-	-	ND (1.0)	ND (1.1)	ND (1.0)	ND (10)	ND (5.1)	ND (5.1)	ND (4.8)	ND (1.9)	ND (0.19)	ND (0.17)	ND (0.92)	ND (0.94)	2.8 J	ND (1.9)	ND (2.0)	ND (1.9)	ND (1.9)	ND (4.0)	ND (1.8)	ND (1.8)
PHENANTHRENE	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	2.5	8.9	0.28	46	38	20	16	26	5.6	0.035	0.21	1.1	4.9	4.0	ND (0.039)	1.9	1.4	9.2	0.32	0.22
PHENOL	mg/kg	16000^ 18000[B]	-	-	-	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.10)	ND (1.0)	ND (0.51)	ND (0.51)	ND (0.48)	ND (0.19)	ND (0.019)	ND (0.017)	ND (0.092)	ND (0.094)	ND (0.20)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.40)	ND (0.18)	ND (0.18)
PYRENE	mg/kg	96000^ 190000[B]	-	-	-	-	-	-	-	-	-	2.4	3.2	0.62	25	21	16	7.2	4.3	1.3	0.26	0.14	1.3	1.9	2.7	0.32	2.5	2.8	16	0.79	1.6
PYRIDINE	mg/kg	3200^ 10000[B]	-	-	-	-	-	-	-	-	-	ND (0.41)	ND (0.42)	ND (0.40)	ND (4.2)	ND (2.0)	ND (2.1)	ND (1.9)	ND (0.77)	ND (0.076)	ND (0.070)	ND (0.37)	ND (0.38)	ND (0.79)	ND (0.78)	ND (0.78)	ND (0.77)	ND (0.74)	ND (1.6)	ND (0.73)	ND (0.71)
QUINOLINE	mg/kg	30^ 10000[B]	-	-	-	-	-	-	-	-	-	ND (0.21)	ND (0.21)	ND (0.20)	ND (2.1)	ND (1.0)	ND (1.0)	ND (0.96)	ND (0.39)	ND (0.038)	ND (0.035)	ND (0.18)	ND (0.19)	ND (0.39)	ND (0.39)	ND (0.39)	ND (0.39)	ND (0.37)	ND (0.81)	ND (0.36)	ND (0.35)
Metals																															
ARSENIC	mg/kg	61^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	mg/kg	6.1^ 190000[B]	ND (0.71)	ND (3.7)	ND (3.7)	1.321	ND (0.76)	ND (0.65)	ND (3.5)	1.88	0.890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM	mg/kg	220_{11}^ 20000_{11}[B]	42.5	50.5	48.9	43.1	53.4	49.3	23.9	74.0	51.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, TRIVALENT	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	mg/kg	220^ 20000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	mg/kg	960^ 190000[B]	-	-	-	-	-	-	-	-	-	7.56	8.35	8.82	9.68	6.72	8.34	7.04	6.29	8.59	13.5	7.55	6.94	8.55	6.90	29.5	6.27	12.0	14.4	5.45	13.2
LEAD	mg/kg	2240^ 190000[B]	65.2	150.0	220.0	460.0	240.0	210.0	54.8	780.0	440.0	18.7	13.0	29.4	205	13.7	31.3	12.2	12.3	12.6	5.66	22.8	9.28	11.8	8.74	277	12.5	44.4	29.9	38.1	7.19
MERCURY	mg/kg	510^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	mg/kg	64000^ 190000[B]	-	-	-	-	-	-	-	-	-	13.6	13.7	14.4	45.4	14.2	33.2	13.6	14.2	15.4	31.7	13.3	13.3	15.6	15.7	192	12.8	20.0	81.9	22.4	32.3
SELENIUM	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	mg/kg	16000^ 190000[B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	mg/kg	220^ 190000[B]	-	-	-	-	-	-	-	-	-	44.4	44.9	45.1	57.8	40.9	43.3	47.8	45.5	49.4	58.4	39.9	42.0	48.2	51.8	40.0	43.5	54.5	83.2	99.6	63.2
ZINC	mg/kg	190000^[AB]	-	-	-	-	-	-	-	-	-	51.1	37.4	61.7	442	36.9	51.2	39.9	36.0	43.5	68.8	43.1	31.8	36.9	32.7	3760	40.4	77.6	230	39.1	177

See notes on last page.

Table 3-3
Soil Analytical Results Summary - Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			AOI7-BH-15-001	AOI7-BH-15-002	AOI7-BH-15-004	AOI7-BH-15-005	AOI7-BH-15-008	AOI7-BH-15-011	AOI7-BH-16-007		AOI7-BH-16-008		AOI7-BH-16-009		AOI7-BH-16-010		AOI7-BH-16-011		AOI7-BH-16-016		AOI7-BH-16-017		AOI7-BH-16-018		AOI7-BH-16-019	AOI7-BH-16-022
Sample Date			26-Aug-15	26-Aug-15	26-Aug-15	26-Aug-15	26-Aug-15	25-Aug-15	21-Mar-16	21-Mar-16	23-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	23-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	22-Jun-16	23-Jun-16	23-Jun-16	22-Jun-16	23-Jun-16
Sample ID			AOI7-BH-15-01-9.5-11.5	AOI7-BH-15-02-5-7	AOI7-BH-15-04-9.5-11.5	AOI7-BH-15-05-5-7	AOI7-BH-15-08-8-10	AOI7-BH-15-11-14.5-16.5	AOI7-BH-16-007(0-2')	AOI7-BH-16-007(3-4')	AOI7-BH-16-008-0-2-MM-S	AOI7-BH-16-008-9.5-11.5-MM-S	AOI7-BH-16-009-0-2-MM-S	AOI7-BH-16-009-5-7-MM-S	AOI7-BH-16-010-0-2-MM-S	AOI7-BH-16-010-5-7-MM-S	AOI7-BH-16-011-0-2-MM-S	AOI7-BH-16-011-11-12-MM-S	AOI7-BH-16-016-0-2-MM-S	AOI7-BH-16-016-9-11-MM-S	AOI7-BH-16-017-0-2-MM-S	AOI7-BH-16-017-3-4-MM-S	AOI7-BH-16-018-062316-0-2-MM	AOI7-BH-16-DUP2-062316-0-2-MM	AOI7-BH-16-019-062316-0-2-MM	AOI7-BH-16-022-062316-0-2-MM
Sample Depth			9.5 - 11.5 ft	5 - 7 ft	9.5 - 11.5 ft	5 - 7 ft	8 - 10 ft	14.5 - 16.5 ft	0 - 2 ft	3 - 4 ft	1 - 2 ft	9.5 - 11.5 ft	1 - 2 ft	5 - 7 ft	1 - 2 ft	5 - 7 ft	1 - 2 ft	11 - 12 ft	1 - 2 ft	9 - 11 ft	1 - 2 ft	3 - 4 ft	1 - 2 ft	1 - 2 ft	1 - 2 ft	1 - 2 ft
Sampling Company			GHD	GHD	GHD	GHD	GHD	GHD	STANTEC	STANTEC	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Laboratory			LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order		A B	1588485	1588485	1588485	1588485	1588485	1587655	1643428	1643428	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676185	1676188	1676188	1676188	1676188
Laboratory Sample ID	Units	MSC-PA	8025986	8025988	8025985	8025987	8025989	8021724	8299474	8299475	8445524	8445525	8445526	8445527	8445518	8445519	8445520	8445521	8445534	8445535	8445536	8445537	8445540	8445550	8445541	8445544
Volatile Organic Compounds																										
BENZENE	mg/kg	290^{A} 330^{B}	3.5	74	280 J	100 J	ND (0.004)	ND (0.49)	0.001 J	ND (0.0005)	0.260	0.290	0.540 J	4.500 J	0.002 J	0.280 J	0.083 J	-	0.072 J	-	0.049 J	-	0.081 J	0.034 J	ND (0.250)	0.028 J
CYCLOHEXANE	mg/kg	10000^{AB}	3.6	86	51 J	38 J	0.001 J	ND (0.49)	0.002 J	0.004 J	0.084 J	-	0.770 J	-	ND (0.004)	-	4.900	-	ND (0.280)	-	0.280 J	-	0.110 J	ND (0.320)	ND (0.250)	ND (0.250)
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	ND (0.97)	ND (1.2)	ND (2.6) J	ND (1.1)	ND (0.004)	ND (0.49)	ND (0.001)	ND (0.001)	ND (0.240)	-	ND (0.950)	-	ND (0.004)	-	ND (0.710)	-	ND (0.280)	-	ND (0.290)	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.001)
1,2-DICHLOROETHANE (EDC)	mg/kg	86^{A} 98^{B}	ND (0.97)	ND (6)	ND (13) J	ND (5.6)	ND (0.004)	ND (0.49)	ND (0.001)	ND (0.001)	ND (0.240)	-	ND (0.950)	-	ND (0.004)	-	ND (0.710)	-	ND (0.280)	-	ND (0.290)	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
ETHYLBENZENE	mg/kg	890^{A} 1000^{B}	19	230	160 J	220 J	ND (0.004)	ND (0.49)	0.015	0.006	0.110 J	-	0.280 J	-	ND (0.004)	-	1.100	-	ND (0.280)	-	0.071 J	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
ISOPROPYLBENZENE (CUMENE)	mg/kg	10000^{AB}	39	65	18 J	24 J	ND (0.004)	0.1 J	0.012	0.006	ND (0.240)	-	11.000	-	ND (0.004)	-	1.900	-	ND (0.280)	-	0.130 J	-	0.130 J	ND (0.320)	ND (0.250)	ND (0.250)
METHYL TERTIARY BUTYL ETHER	mg/kg	8600^{A} 9900^{B}	ND (0.97)	ND (6)	ND (13) J	ND (5.6)	ND (0.004)	ND (0.49)	ND (0.0005)	ND (0.0005)	ND (0.240)	-	ND (0.950)	-	ND (0.004)	-	ND (0.710)	-	ND (0.280)	-	ND (0.290)	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
HEXANE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	mg/kg	10000^{AB}	4	2.2 J	270 J	ND (5.6)	ND (0.004)	ND (0.49)	0.009	0.003 J	0.071 J	-	ND (0.950)	-	0.002 J	-	ND (0.710)	-	ND (0.280)	-	ND (0.290)	-	ND (0.350)	ND (0.320)	ND (0.250)	ND (0.250)
1,2,4-TRIMETHYLBENZENE	mg/kg	560^{A} 640^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	mg/kg	10000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	mg/kg	8000^{A} 9100^{B}	24	680	640 J	570	ND (0.004)	ND (0.49)	0.12	0.064	-	3.8	-	97 J	-	ND (0.710)	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (SW8011)																										
1,2-DIBROMOETHANE (EDB)	mg/kg	3.7^{A} 4.3^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																										
ACENAPHTHENE	mg/kg	190000^{AB}	6	2.7	52	ND (0.11)	ND (0.022)	0.15	0.067 J	0.056	0.630	-	0.350 J	-	ND (0.110)	-	0.300	-	0.028 J	-	0.390 J	-	ND (1.100)	ND (0.440)	ND (0.180)	ND (0.200)
ANTHRACENE	mg/kg	190000^{AB}	10	3	46	0.89	ND (0.022)	0.21	0.17	0.092	0.280	-	0.300 J	-	0.110	-	0.120	-	0.079 J	-	0.360 J	-	0.330 J	0.610	0.081 J	0.140 J
BENZO(A)ANTHRACENE	mg/kg	130^{A} 190000^{B}	5.9	1.2	21	0.37	ND (0.022)	0.2	0.36	0.045	0.370	-	0.270 J	-	0.094 J	-	0.065	-	0.095 J	-	0.270 J	-	0.590 J	0.600	0.100 J	0.530
BENZO(A)PYRENE	mg/kg	12^{A} 190000^{B}	2.9	0.5 J	14	0.14	ND (0.022)	0.13	0.56	0.034	0.350	-	0.320 J	-	0.120	-	0.031	0.009 J	0.110	-	0.550	-	0.890 J	0.860	0.110 J	0.990
BENZO(B)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	4	0.65	7.2	0.15	ND (0.022)	0.088	0.64	0.050	0.500	-	0.390 J	-	0.150	-	0.054	-	0.110	-	0.380 J	-	1.000 J	0.810	0.100 J	1.100
BENZO(G,H,I)PERYLENE	mg/kg	190000^{AB}	2.8	0.58 J	11	0.23	ND (0.022)	0.18	1.0	0.033	0.440	-	0.430 J	-	0.630	-	0.022 J	-	0.250	-	0.620	-	0.990 J	1.300	0.330	1.000
BENZO(K)FLUORANTHENE	mg/kg	76^{A} 190000^{B}	1.4	0.15 J	2.6	0.086 J	ND (0.022)	0.12	0.19	0.020 J	0.340	-	0.270 J	-	0.053 J	-	0.025	-	0.052 J	-	ND (0.490)	-	0.430 J	0.360 J	ND (0.180)	0.470
1,1'-BIPHENYL	mg/kg	11000^{A} 190000^{B}	6	5.4	74	0.55	ND (0.043)	ND (0.046)	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
BIS(2-ETHYLHEXYL) PHTHALATE	mg/kg	6500^{A} 10000^{B}	ND (5.3)	ND (6.2)	9.50 J	ND (1.1)	ND (0.22)	ND (0.23)	ND (0.39)	ND (0.083)	ND (0.900)	-	ND (4.600)	-	ND (1.100)	-	ND (0.220)	-	ND (1.000)	-	ND (4.900)	-	ND (11.000)	ND (4.400)	ND (1.800)	ND (2.000)
DI-N-BUTYL PHTHALATE	mg/kg	10000^{AB}	ND (5.2)	ND (6.1)	ND (10)	ND (1.1)	ND (0.21)	ND (0.23)	ND (0.39)	ND (0.083)	ND (0.880)	-	ND (4.500)	-	ND (1.100)	-	ND (0.220)	-	ND (0.980)	-	ND (4.800)	-	ND (11.000)	ND (4.300)	ND (1.800)	ND (1.900)
CHRYSENE	mg/kg	760^{A} 190000^{B}	10	3.4	40	0.92	ND (0.022)	0.47	0.53	0.076	0.460	-	0.420 J	-	0.300	-	0.100	-	0.120	-	0.750	-	0.920 J	0.820	0.200	1.100
DIBENZ(A,H)ANTHRACENE	mg/kg	22^{A} 190000^{B}	ND (0.53)	ND (0.62)	ND (1.1)	ND (0.11)	ND (0.022)	0.035	0.12	0.009 J	0.088 J	-	ND (0.460)	-	0.058 J	-	0.008 J	-	0.035 J	-	0.130 J	-	ND (1.100)	0.270 J	ND (0.180)	0.280
DIETHYL PHTHALATE	mg/kg	10000^{AB}	ND (5.2)	ND (6.1)	ND (10)	ND (1.1)	ND (0.21)	ND (0.23)	ND (0.39)	ND (0.083)	ND (0.880)	-	ND (4.500)	-	ND (1.100)	-	ND (0.220)	-	ND (0.980)	-	ND (4.800)	-	ND (11.000)	ND (4.300)	ND (1.800)	ND (1.900)
2,4-DIMETHYLPHENOL	mg/kg	10000^{AB}	ND (1)	ND (1.2)	99	1.4	ND (0.043)	ND (0.046)	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
2,4-DINITROPHENOL	mg/kg	6400^{A} 190000^{B}	ND (31)	ND (37)	ND (63)	ND (6.3)	ND (1.3)	ND (1.4)	ND (1.8)	ND (0.37)	ND (5.300)	-	ND (27.000)	-	ND (6.400)	-	ND (1.300)	-	ND (5.900)	-	ND (29.000)	-	ND (65.000)	ND (26.000)	ND (11.000)	ND (12.000)
FLUORANTHENE	mg/kg	130000^{A} 190000^{B}	12	2.1	31	0.55	ND (0.022)	0.47	0.61	0.090	1.200	-	0.550	-	0.120	-	0.280	-	0.090 J	-	0.320 J	-	1.300	1.200	0.100 J	0.300
FLUORENE	mg/kg	130000^{A} 190000^{B}	17	6.7	120	2.1	ND (0.022)	0.26	0.091 J	0.097	0.290	-	0.290 J	-	0.110 J	-	0.420	-	0.059 J	-	0.430 J	-	0.240 J	ND (0.440)	0.048 J	0.087 J
INDENO(1,2,3-C,D)PYRENE	mg/kg	76^{A} 190000^{B}	2.1	0.3 J	3	ND (0.11)	ND (0.022)	0.081	0.32	0.021 J	0.300	-	0.220 J	-	0.180	-	0.017 J	-	0.095 J	-	0.360 J	-	0.640 J	0.690	0.100 J	0.670
2-METHYLNAPHTHALENE	mg/kg	13000^{A} 190000^{B}	130	210	820	18	ND (0.022)	0.14	0.22	0.14	0.170	-	0.480	-	0.300	-	6.200	0.086	0.320	-	0.990	-	0.370 J	0.380 J	0.370	0.330
CRESOL, M,P- (3&4-METHYLPHENOL)	mg/kg	10000_{G2}^{A} 10000_{G2}^{B}	-	-	-	-	-	-	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
CRESOL, O- (2-METHYLPHENOL)	mg/kg	160000^{A} 190000^{B}	ND (1)	ND (1.2)	ND (2.1)	ND (0.21)	ND (0.043)	ND (0.046)	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
CRESOL, P- (4-METHYLPHENOL)	mg/kg	16000^{A} 190000^{B}	ND (1)	ND (1.2)	12	ND (0.21)	ND (0.043)	0.096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	mg/kg	760^{A} 190000^{B}	59	160	390	15	ND (0.022)	0.09	0.077 J	0.093	0.120	-	0.290 J	-	0.190	-	2.400	0.062	0.150	-	0.370 J	-	0.340 J	0.250 J	0.140 J	0.180 J
4-NITROPHENOL	mg/kg	26000^{A} 190000^{B}	ND (16)	ND (18)	ND (31)	ND (3.2)	ND (0.64)	ND (0.69)	ND (0.98)	ND (0.21)	ND (2.600)	-	ND (13.000)	-	ND (3.200)	-	ND (0.660)	-	ND (2.900)	-	ND (14.000)	-	ND (32.000)	ND (13.000)	ND (5.300)	ND (5.800)
PHENANTHRENE	mg/kg	190000^{AB}	52	16	280	4.4	ND (0.022)	0.21	0.28	0.12	1.200	-	0.630	-	0.220	-	0.730	-	0.220	-	1.200	-	1.200	1.200	0.260	0.370
PHENOL	mg/kg	16000^{A} 18000^{B}	ND (1)	ND (1.2)	ND (2.1)	ND (0.21)	ND (0.043)	0.047	ND (0.098)	ND (0.021)	ND (0.180)	-	ND (0.900)	-	ND (0.210)	-	ND (0.044)	-	ND (0.200)	-	ND (0.960)	-	ND (2.200)	ND (0.860)	ND (0.350)	ND (0.390)
PYRENE	mg/kg	96000^{A} 190000^{B}	28	9.1	84	1.9	0.018 J	0.94	0.74	0.14	1.000	-	0.800	-	0.240	-	0.250	-	0.220	-	1.500	-	1.600	1.500	0.260	1.000
PYRIDINE	mg/kg	3200^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	mg/kg	30^{A} 10000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																										
ARSENIC	mg/kg	61^{A} 190000^{B}	80.9	63.7	61.7	53.5	37.4 J	31.2	8.04	3.47	8.19 J	5.96 J	19.0 J	111 J	***161 J*** ^{A}	89.4 J	***103 J*** ^{A}	16.7 J	26.3 J	18.3 J	12.4 J	16.3 J	10.7	11.3	12.6	9.66
BARIUM	mg/kg	190000^{AB}	1,360	299	1,410	1,310	1,390	945	59.8	66.7	171 J	-	196 J	-	2,410 J	-	2,220 J	-	205 J	-	233 J	-	118	134	112	126
CADMIUM	mg/kg	6.1^{A} 190000^{B}	9.48	76.8	4.55	7.31 J	4.71 J	3.27	0.955	0.987	0.723 J	-	1.16 J	-	***7.28 J*** ^{A}	-	ND (0.0490) J	-	0.502 J	-	0.508 J	-	0.783	0.761	0.368 J	0.305 J
CHROMIUM	mg/kg	220_{i1}^{A} 20000_{i1}^{B}	9.74 J	15.4	349	7.24 J	9.16 J	27.0	27.4	28.0	49.9	-	60.0	-	17.0	-	ND (1.51)	-	45.2	-	62.3	-	41.9	51.7	96.8	40.6
CHROMIUM, TRIVALENT	mg/kg	190000^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
CHROMIUM, HEXAVALENT	mg/kg	220^{A} 20000^{B}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
COBALT	mg/kg	960^{A} 190000^{B}	48.6	25.9	33.0	86.3	83.9	16.5	8.75	7.45	8.25 J	7.72 J	10.2 J	-	36.8 J	-	72.5 J	-	9.79 J	10.4 J	7.96 J	-	9.73	8.72	7.58	7.06
LEAD	mg/kg	2240^{A} 190000^{B}	8890	2,140	1,780	18700	20100	2,220 J	72.8	85.3	177	256	325 (0.550)	-	***9.600*** ^{A}	9,000	***17.700*** ^{A}	496	381	516	73.7	360	84.2	87.5	99.6	93.9
MERCURY	mg/kg	510^{A} 190000^{B}	0.600	0.612	6.74	0.967	0.230	0.679	0.270	0.378	0.542	-	0.769 (0.0100)	-	1.18	-	2.51	-	54.0	-	2.25	-	2.58 J	14.0 J	2.31	1.31
NICKEL	mg/kg	64000^{A} 190000^{B}	9.69 J	12.3	98.1	17.8 J	23.9 J	15.2	17.8	20.1	26.4	-	24.6 (0.300)	-	5.73	-	ND (10.1)	-	21.6	-	27.7	-	28.8	27.2	17.4	19.6
SELENIUM	mg/kg	16000^{A} 190000^{B}	75.1	11.9	15.9	133	117	ND (13.5)	ND (0.980)	ND (0.958)	ND (9.31) J	-	D (10.2) J (0.90	-	ND (12.7)	-	ND (20.1) J	-	ND (17.3) J	-	ND (8.68) J	-	1.63 J	ND (2.49)	2.87	3.66
SILVER	mg/kg	16000^{A} 190000^{B}	77.1	15.5	19.8	122	106	11.1	10.6	2.31	0.581	-	1.64 (0.150)	-	39.7	-	ND (5.04)	-	1.03	-	ND (0.434)	-	0.626 J	0.908	0.736	1.08
VANADIUM	mg/kg	220^{A} 190000^{B}	18.5	16.4	204	22.8	24.4	33.9	29.1	32.7	48.5	-	62.2 (0.140)	-	41.6	-	23.6	-	56.2	-	42.8	-	119	110	40.8	46.8
ZINC	mg/kg	190000^{AB}	2,930	1,080	2,660	5,440	3,870	2,160	90.3	71.1	290	-	316 (0.680)	-	2,220	-	1,290	-	255	-	539	-	219	233	130	121

See notes on last page.

Table 3-3
Soil Analytical Results Summary- Non-Residential Direct Contact Medium-Specific Standards
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Notes:

MSC-PA	Pennsylvania Department of Environmental Protection Medium-Specific Concentrations (MSCs)
A	Medium-Specific Concentrations (MSCs) for Organic/Inorganic Regulated Substances in Soil - Direct Contact - Non-Residential Surface Soil (0-2 ft). Lead value is the site-specific standard.
B	Medium-Specific Concentrations (MSCs) for Organic/Inorganic Regulated Substances in Soil - Direct Contact - Non-Residential Subsurface Soil (2-15 ft)
6.5 [A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
ND (0.50)	Indicates the laboratory method detection limit (if available) was above the applicable standard. The reporting limit is shown if the laboratory method detection limit is not available.
ND (0.03)	Indicates concentration not detected above the laboratory reporting limit (in parentheses) except when the reporting limit is greater than the standard in which case the method detection limit is listed in parentheses.
-	Parameter not analyzed / not available.
s1	Standards for total chromium are not established in soil. These concentrations have been compared the values for hexavalent chromium, which is the strictest of the chromium standards. The exception to this is in the case that hexavalent chromium and trivalent chron
s2	Cresol, m&p (3-Methylphenol & 4-Methylphenol) co-elute and are reported as the summation of the co-eluting compounds. Standards shown are the stricter of the two.
AP	Attainment of remediation standard has been demonstrated via pathway elimination (i.e. engineering controls).
AX	Attainment of remediation standard has been demonstrated via a statistical method (i.e. 75/10x).
E	Indicates compounds whose concentrations exceed the calibration range of the instrument.
J	Indicates an estimated value.
J+	Indicates an estimated value that is biased high.
J-	Indicates an estimated value that is biased low.
R	The data are failed the usability assessment (data validation) and are unusable. The analyte may or may not be present in the sample.
mg/kg	milligrams per kilogram
ACCUTEST	Accutest Laboratories
LL	Eurofins Lancaster Laboratories Environmental
PACE	Pace Analytical Services, Inc.
ALS	ALS Global
HCV	Hampton Clark Veritech
WGEL	The Washington Group Environmental Laboratory

Table 3-4
Acid Sludge Determination Evaluation - Soil Screening Results
Area of Interest 5
Marcus Hook Idustrial Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Identification	Sample Depth (ft bgs)	Collection Date	Sample pH	% Acidity (as $CaCO_3$)	Sample Density (g/cm^3)	Sulfur Dioxide Odor (Y/N)	Naphthalene Odor (Y/N)	Petroleum Odor (Y/N)	Sample Description/Appearance	Acid Sludge (Y/N)
AOI5-BH-17-07	3	04/17/17	2.07	2.6	1.23	Y	N	N	Black, moist clay and brittle pitch	Y
AOI5-BH-17-07	4-5	04/17/17	1.92	0.9	1.13	Y	N	N	Black, soft brittle pitch	Y
AOI5-BH-17-07	8-10	04/19/17	1.85	7.9	1.09	Y	N	N	Black, sandy silt	Y
AOI5-BH-17-09	4-5	04/20/17	6.59	0.1	1.03	N	N	Y	Black/brown, soft brittle pitch	Y

ft bgs - feet below ground surface
$CaCO_3$ - calcium carbonate
g/cm^3 - grams per cubic centimeter

Table 4-1
Monitoring and Recovery Well Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergeen Resources Group, LLC

									Well Construction Details[1]					
Well ID	**Former Well ID**	**Well Status**	**Northing**	**Easting**	**Well Type**	**Soil Boring Log Available (Y/N)**	**Contruction Detail Available (Y/N)**	**Date of Well Completion**	**Well Completion Depth (ft/bgs)**	**Well Diameter (in)**	**Top of Inner Casing Elevation (ft msl) (NAVD88)**	**Ground Surface Elevation (ft msl) (NAVD88)**	**Depth to Screen (ft bgs)**	**Screen Length (ft)**
MC-1			NA	NA	MW	Y	Y	17-Jan-90	20	6	NA	NA	5	15
MC-2			NA	NA	MW	Y	Y	16-Jan-90	20	6	NA	NA	5	15
MC-4			NA	NA	MW	Y	Y	07-Jun-90	17	6	NA	NA	2	15
MW-15			184047.861	2623104.707	MW	N	N	NA	NA	NA	13.334	10.620	NA	NA
MW-44	MP-6		183594.574	2622485.151	MW	Y	Y	15-Feb-91	17.5	4	21.639	19.760	5	11.5
MW-45	MW-4, KWB91-5		183582.621	2622326.616	MW	Y	Y	03-Sep-91	9	4	15.372	14.110	4	5
MW-46		Destroyed	NA	NA	MW	N	N	NA	NA	NA	NA	NA	NA	NA
MW-51		Destroyed	NA	NA	MW	N	N	NA	NA	NA	NA	NA	5	25
MW-73		Destroyed	NA	NA	MW	N	N	NA	NA	NA	NA	NA	NA	NA
MW-78			183418.100	2621881.848	MW	Y	Y	17-Sep-93	20	4	15.217	15.630	5	15
MW-83			183674.531	2622425.957	MW	Y	Y	21-Sep-94	19	4	19.193	18.630	4	15
MW-84		Destroyed	NA	NA	MW	Y	Y	21-Sep-94	8	4	NA	NA	1	7
MW-85		Destroyed	183506.447	2622448.472	MW	Y	Y	21-Sep-94	8	4	10.205	10.780	1	7
MW-86			183420.929	2622091.308	MW	Y	Y	21-Sep-94	18	4	14.149	12.210	2	16
MW-109	SB-1	Destroyed	182338.609	2621165.293	MW	Y	Y	10-Jun-95	15	4	10.329	7.590	11	4
MW-113	SB-3		181552.119	2623168.259	MW	Y	Y	10-May-95	20	4	9.487	7.270	5	15
MW-114	SB-2	Destroyed	181319.624	2623147.708	MW	Y	Y	10-May-95	20	4	9.482	9.860	5	15
MW-115	SB-9	Destroyed	NA	NA	MW	Y	Y	25-Jun-95	30	4	NA	NA	5	25
MW-116	PI-116; SB-8		180869.279	2622674.063	MW	Y	Y	25-Jun-95	30	4	20.478	NA	5	25
MW-116A	MW-999		180871.438	2622668.965	MW	N	N	25-Jun-95	30	4	19.919	NA	5	25
MW-117	SB-4	Destroyed	NA	NA	MW	Y	Y	12-May-95	30	4	22.19	NA	5	25
MW-118		Destroyed	181118.75	2622103.13	MW	N	N	NA	NA	NA	NA	NA	NA	NA
MW-121		Destroyed	NA	NA	MW	Y	Y	11-Sep-95	30	4	NA	NA	10	20
MW-128			182865.428	2619524.026	MW	N	N	NA	NA	NA	27.235	24.566	4	5
MW-129			182184.566	2621564.998	MW	Y	Y	11-Mar-96	20	4	10.8	11.250	3	17
MW-130			181796.081	2621173.050	MW	Y	Y	22-Mar-96	18	4	10.15	10.460	3	18
MW-131			182099.560	2621646.012	MW	Y	Y	22-Mar-96	20	4	10.434	10.860	5	15
MW-132			181980.923	2621447.473	MW	Y	Y	25-Mar-96	18.3	4	10.187	10.520	3.3	15
MW-133		Destroyed	NA	NA	MW	Y	Y	25-Mar-96	18	4	NA	NA	3	15
MW-137	MWA-137, MW-3	Damaged	181641.23	2621741.87	MW	Y	Y	16-Mar-00	20	2	NA	NA	15	5
MW-138	MWA-138, MW-4	Damaged	NA	NA	MW	Y	Y	16-Mar-00	25	2	NA	NA	20	5
MW-139	MWA-139, MW-6	Destroyed	NA	NA	MW	Y	Y	16-Mar-00	25	2	NA	NA	20	5
MW-141			181426.994	2623173.705	MW	Y	Y	16-Mar-00	25	2	8.616	6.136	20	5
MW-142	MW-11	Destroyed	NA	NA	MW	Y	Y	17-Mar-00	48	2	NA	NA	43	5
MW-143	MW-9		180876.709	2622676.652	MW	Y	Y	17-Mar-00	48	2	20.284	20.703	43	5
MW-144	MW-8	Destroyed	NA	NA	MW	Y	Y	17-Mar-00	50	2	NA	NA	45	5
MW-145	MW-5	Destroyed	NA	NA	MW	Y	Y	16-Mar-00	50	2	NA	NA	45	5
MW-188			181834.508	2621010.856	MW	Y	Y	25-Jul-02	20	4	14.308	11.800	5	15
MW-189			181821.208	2621030.991	MW	Y	Y	24-Jul-02	20	4	9.949	10.190	5	15

Table 4-1
Monitoring and Recovery Well Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergeen Resources Group, LLC

									Well Construction Details[1]					
Well ID	Former Well ID	Well Status	Northing	Easting	Well Type	Soil Boring Log Available (Y/N)	Contruction Detail Available (Y/N)	Date of Well Completion	Well Completion Depth (ft/bgs)	Well Diameter (in)	Top of Inner Casing Elevation (ft msl) (NAVD88)	Ground Surface Elevation (ft msl) (NAVD88)	Depth to Screen (ft bgs)	Screen Length (ft)
MW-190			NA	NA	MW	Y	Y	25-Jul-02	20	4	NA	NA	5	15
MW-191		Unable to locate	181822.2736	2621033.3106	MW	Y	Y	24-Jul-02	20	4	10.11	9.1255	5	14
MW-192			181903.499	2621142.907	MW	Y	Y	25-Jul-02	20	4	11.375	8.879	5	15
MW-210			181166.445	2622963.212	MW	Y	Y	18-Jun-02	20	4	13.008	9.568	5	15
MW-211			181257.316	2622905.665	MW	Y	Y	17-Jun-02	20	4	12.834	10.004	2	18
MW-212			181378.055	2622829.931	MW	Y	Y	18-Jun-02	20	4	12.41	9.379	4	16
MW-213			181251.284	2623114.223	MW	Y	Y	20-Jun-02	17	4	10.133	8.212	2	15
MW-214			181176.963	2623103.837	MW	Y	Y	19-Sep-02	17	4	11.206	7.816	2	15
MW-215			181132.840	2623029.808	MW	Y	Y	19-Jun-02	17	4	12.063	8.486	2	15
MW-216	PI-216		180906.455	2622714.580	MW	Y	Y	26-Jun-02	30	4	21.528	20.976	5	25
MW-217			180928.756	2622751.622	MW	Y	Y	27-Jun-02	30	4	22.639	20.939	5	25
MW-218	PI-218		180948.013	2622783.397	MW	Y	Y	26-Jun-02	30	4	20.758	20.521	5	25
MW-219	PI-219		180973.869	2622821.873	MW	Y	Y	26-Jun-02	30	4	20.787	20.602	5	25
MW-220		Unable to locate	181060.008	2622948.014	MW	Y	Y	27-Jun-02	30	4	21.594	20.522	5	25
MW-221	PI-221		181001.246	2622862.179	MW	Y	Y	23-Jul-02	30	4	20.975	20.428	5	25
MW-222	PI-222		181029.810	2622903.912	MW	Y	Y	23-Jul-02	30	4	23.36	21.251	5	25
MW-223	PI-223		181081.168	2622966.913	MW	Y	Y	24-Jul-02	26	4	18.012	17.349	6	20
MW-224	PI-224		181092.232	2622971.887	MW	Y	Y	23-Jul-02	24.5	4	13.57	12.557	4.5	20
MW-225		Destroyed	NA	NA	MW	Y	Y	24-Jul-02	30	0	NA	NA	5	14
MW-226		Destroyed	NA	NA	MW	Y	Y	25-Jul-02	30	0	NA	NA	5	10
MW-240		Lost	NA	NA	MW	Y	Y	28-Aug-02	15.2	0	NA	NA	1.2	14
MW-241		Lost	NA	NA	MW	Y	Y	28-Aug-02	15	0	NA	NA	1	14
MW-242		Lost	NA	NA	MW	Y	Y	28-Aug-02	15.4	0	NA	NA	1	14
MW-243		Destroyed	180874.620	2622678.158	MW	Y	Y	28-Aug-02	15.3	0	20.388	19.489	1.3	14
MW-244		Lost	NA	NA	MW	Y	Y	28-Aug-02	15	0	NA	NA	1	25
MW-245			181313.313	2622828.126	RW	Y	Y	07-Oct-02	30	0	22.14	21.1	5	25
MW-246			181198.946	2622901.657	MW	Y	Y	08-Oct-02	30	0	22.59	21.2	5	25
MW-256	PI-256		180866.674	2622629.934	MW	Y	Y	20-Oct-03	30.6	0	24.515	21.615	5.6	25
MW-257			180865.855	2622646.376	MW	Y	Y	21-Oct-03	30	0	23.732	20.892	5	25
MW-258	PI-258		180895.526	2622697.258	MW	Y	Y	20-Oct-03	30.4	0	21.17	20.995	5.4	25
MW-259	PI-259		180910.504	2622734.796	MW	Y	Y	21-Oct-03	30.3	0	20.566	19.971	5.3	25
MW-260	PI-260		180959.491	2622808.500	MW	Y	Y	21-Oct-03	30.8	0	20.462	19.999	5.8	25
MW-261	PI-261		180982.714	2622847.672	MW	Y	Y	21-Oct-03	30	0	20.256	19.379	5	5
MW-273	MW-D		181872.964	2621133.328	MW	N	N	NA	NA	NA	8.878	NA	NA	NA
MW-274	MW-E		181908.523	2621160.829	MW	N	N	NA	NA	NA	8.137	8.364	NA	NA
MW-275	MW-C		181919.987	2621180.516	MW	N	N	NA	NA	NA	7.56	7.952	NA	NA
MW-276	MW-B		181931.006	2621197.078	MW	N	N	NA	NA	NA	7.484	8.128	NA	NA
MW-277	MW-A		181942.876	2621212.480	MW	N	N	NA	NA	NA	7.556	7.921	NA	NA
MW-368	OLD B-59	Destroyed	184823.090	2622292.568	MW	Y	Y	17-Jan-00	8	1.5	26.502	25.463	3	5

Table 4-1
Monitoring and Recovery Well Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergeen Resources Group, LLC

									Well Construction Details[1]					
Well ID	Former Well ID	Well Status	Northing	Easting	Well Type	Soil Boring Log Available (Y/N)	Contruction Detail Available (Y/N)	Date of Well Completion	Well Completion Depth (ft/bgs)	Well Diameter (in)	Top of Inner Casing Elevation (ft msl) (NAVD88)	Ground Surface Elevation (ft msl) (NAVD88)	Depth to Screen (ft bgs)	Screen Length (ft)
MW-369	OLD B-60		184792.602	2622247.800	MW	Y	Y	17-Jan-00	8	1.5	26.014	24.850	3	5
MW-370	B-61, MW-OldB61		184649.805	2622045.815	MW	Y	Y	17-Jan-00	8	1.5	23.497	22.812	3	5
MW-371	B-62. MW-OldB62		184636.942	2622028.795	MW	Y	Y	17-Jan-00	8	1.5	23.946	22.886	3	5
MW-372	B-63, MW-OldB63		184328.445	2621594.739	MW	Y	Y	17-Jan-00	8	1.5	28.328	27.165	3	5
MW-433		Destroyed	185012.374	2623004.949	MW	Y	Y	31-May-13	12.5	4	14.86	12.336	0.5	12
MW-434			184911.188	2622843.7	MW	Y	Y	29-May-13	4.5	4	18.915	14.904	1	3.5
MW-435		Unable to locate	184789.184	2622973.167	MW	Y	Y	01-Aug-13	10	4	16.733	14.019	1	4
MW-436			184860.578	2622560.895	MW	Y	Y	14-May-13	5	4	24.321	21.345	1	4
MW-437			184695.809	2622717.385	MW	Y	Y	27-Jun-13	8	4	24.163	21.575	1	7
MW-438			184482.917	2622819.926	MW	Y	Y	27-Jun-13	14.5	4	19.144	15.46	0.5	14
MW-439			184170.733	2623029.878	MW	Y	Y	08-May-13	10	4	14.912	10.827	0.2	9.8
MW-440			183889.215	2623141.019	MW	Y	Y	08-May-13	12	4	16.246	12.459	2	10
MW-441			184573.35	2622359.933	MW	Y	Y	15-May-13	13	4	25.656	22.465	3	10
MW-442		Destroyed	184370.579	2622482.346	MW	Y	Y	29-May-13	12	4	26.319	23.874	0	12
MW-443		Destroyed	184111.97	2622654.78	MW	Y	Y	10-May-13	14	4	24.31	24.0	4	10
MW-444			183844.542	2622891.554	MW	Y	Y	31-Jul-13	13	4	19.822	16.958	2.5	10.5
MW-445			184497.582	2622156.429	MW	Y	Y	14-May-13	15	4	24.526	20.941	5	10
MW-446		Destroyed	184287.212	2622310.130	MW	Y	Y	29-May-13	18	4	22.709	20.742	5	13
MW-447		Destroyed	184050.517	2622425.103	MW	Y	Y	16-May-13	14	4	22.517	18.462	4	10
MW-448		Destroyed	183747.069	2622599.302	MW	Y	Y	20-May-13	12.5	4	18.904	17.157	3.5	9
MW-449			184329.829	2622076.216	MW	Y	Y	16-May-13	13	4	20.637	17.554	3	10
MW-450			184153.573	2622157.641	MW	Y	Y	24-May-13	9.2	4	20.08	16.338	0	9.2
MW-451			184177.417	2621756.026	MW	Y	Y	28-May-13	15	4	28.25	25.651	3	12
MW-452			184016.783	2621960.731	MW	Y	Y	24-May-13	15.5	4	25.861	22.685	5.5	10
MW-453		Damaged	183876.83	2622195.31	MW	Y	Y	20-May-13	13.7	4	19.54	NA	3.7	10
MW-454		Unable to locate	183666.978	2622303.706	MW	Y	Y	20-May-13	15.5	4	19.027	16.895	3	12.5
MW-455		Destroyed	183899.969	2621793.183	MW	Y	Y	23-May-13	16	4	31.935	27.560	6	10
MW-456			183695.089	2621911.558	MW	Y	Y	21-May-13	14.5	4	25.361	23.291	4.5	10
MW-457			183563.685	2622109.510	MW	Y	Y	17-May-13	13	4	18.238	16.294	3	10
MW-458		Destroyed	183733.345	2621466.871	MW	Y	Y	22-May-13	15	4	26.752	23.542	1	14
MW-459		Destroyed	183569.931	2621669.499	MW	Y	Y	21-May-13	15	4	24.699	21.576	2.5	10
MW-460			183670.886	2621032.425	MW	Y	Y	28-Jun-13	15	4	23.637	20.576	1	14
MW-461			183542.494	2620830.276	MW	Y	Y	11-Jun-13	18.5	4	23.56	20.552	2.5	16
MW-462			183346.577	2620937.12	MW	Y	Y	11-Jun-13	15	4	23.631	20.611	5	10
MW-464			183178.090	2620927.329	MW	Y	Y	13-Jun-13	9.5	4	20.499	17.500	1.5	8
MW-465			183383.319	2620618.066	MW	Y	Y	27-Jun-13	15	4	23.038	20.853	1	14
MW-467			183328.342	2620494.188	MW	Y	Y	01-Jul-13	19	4	29.166	26.055	4.5	14.5

Table 4-1
Monitoring and Recovery Well Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergeen Resources Group, LLC

									Well Construction Details[1]					
Well ID	Former Well ID	Well Status	Northing	Easting	Well Type	Soil Boring Log Available (Y/N)	Contruction Detail Available (Y/N)	Date of Well Completion	Well Completion Depth (ft/bgs)	Well Diameter (in)	Top of Inner Casing Elevation (ft msl) (NAVD88)	Ground Surface Elevation (ft msl) (NAVD88)	Depth to Screen (ft bgs)	Screen Length (ft)
MW-468			183124.707	2620606.430	MW	Y	Y	11-Jun-13	12	4	24.108	21.702	2	9.5
MW-469			183032.223	2620668.838	MW	Y	Y	07-Jun-13	13	4	19.552	17.278	3	10
MW-471			183063.116	2620185.816	MW	Y	Y	01-Jul-13	18	4	24.234	21.539	3	15
MW-472		Destroyed	182894.100	2620288.000	MW	Y	Y	05-Jun-13	13	4	25.098	21.792	5	8
MW-475			182887.241	2619877.757	MW	Y	Y	04-Jun-13	17	4	20.878	20.559	2.5	14.5
MW-476		Damaged	182700.15	2619986.43	MW	Y	Y	02-Jul-13	15	4	21.77	20.8	1	14
MW-478			182711.714	2619648.226	MW	Y	Y	31-May-13	9.5	4	24.783	21.426	1.5	8
MW-479			182561.448	2619753.715	MW	Y	Y	31-May-13	14	4	24.496	20.998	4	8
MW-480			181622.227	2621760.509	MW	Y	Y	14-Jul-13	15.5	4	16.219	13.727	2.5	13
MW-481		Inaccessible	181972.053	2622115.510	MW	Y	Y	13-Jun-13	13	4	15.954	16.551	1	12
MW-482			183030.286	2620854.418	MW	Y	Y	19-Sep-13	16	4	12.3	NA	2	14
MW-486	OLD B-55		185316.441	2622971.291	MW	Y	Y	15-Jan-00	8	1.5	16.664	15.148	3	5
MW-510		Damaged	185124.402	2622767.1653	MW	Y	Y	24-Mar-15	6	4	19.051	16.6274	1	5
MW-554			181622.85	2622344.89	MW	Y	Y	01-Sep-15	18.5	4	19.9	17.8	8.5	10
MW-555			183480.23	2622318.09	MW	Y	Y	31-Aug-15	11.5	4	10.94	11.3	1.5	10
MW-556			181846.16	2621069.30	MW	N	N	NA	NA	2	9.2	9.7	NA	NA
MW-573			182743.6	2622205.36	MW	Y	Y	27-Jun-16	12	4	8.32	5.66	2	10
MW-574			184209.5	2622872.16	MW	Y	Y	20-Jun-16	14	4	15.03	12.46	4	10
MW-575			183002.16	2621657.34	MW	Y	Y	27-Jun-16	16	4	13.69	11.16	5	10
MW-576			182570.44	2621565.1	MW	Y	Y	27-Jun-16	14	4	9.62	6.99	3	10
MW-577			181932.78	2621553.37	MW	Y	Y	22-Jun-16	16	4	14.65	12.13	5	10
MW-578			182536.97	2620162.44	MW	Y	Y	23-Jun-16	13.5	4	15.74	13.15	3	10
MW-579			182706.72	2620430.73	MW	Y	Y	24-Jun-16	16	4	16.56	13.71	5	10
MW-580			183048.15	2620438.85	MW	Y	Y	24-Jun-16	18	4	20.7	18.21	6	10
MW-581			182004.86	2620861.33	MW	Y	Y	23-Jun-16	14	4	11.21	8.58	3	10
MW-582			181709.53	2621248.54	MW	Y	Y	23-Jun-16	14	4	13.88	11.05	4	10
MW-583			182972.58	2622778.53	MW	Y	Y	20-Jun-16	14	4	8.93	6.25	2.5	10
OW-13			181109.229	2622230.964	OW	Y	Y	10-Aug-05	25	4	13.538	14.420	5	20
OW-14			181088.337	2622192.457	OW	Y	Y	11-Aug-05	25	4	9.523	10.486	5	20
OW-15			181101.150	2622209.436	OW	Y	Y	02-Aug-05	24.5	4	11.934	12.654	4.5	20
PI-1			180887.637	2622620.929	RW	N	N	NA	NA	NA	19.107	22.178	NA	NA
PI-2			180882.865	2622612.033	RW	N	N	NA	NA	NA	18.81	22.186	NA	NA
PI-3			180873.060	2622615.938	RW	N	N	NA	NA	NA	18.808	21.762	NA	NA
PI-4			180883.488	2622592.051	RW	N	N	NA	NA	NA	19.468	22.651	NA	NA
PI-5			180895.402	2622568.466	RW	N	N	NA	NA	NA	19.532	22.918	NA	NA
PI-6			180917.614	2622537.345	RW	N	N	NA	NA	NA	18.956	22.675	NA	NA

Table 4-1
Monitoring and Recovery Well Summary
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergeen Resources Group, LLC

									Well Construction Details[1]					
Well ID	**Former Well ID**	**Well Status**	**Northing**	**Easting**	**Well Type**	**Soil Boring Log Available (Y/N)**	**Contruction Detail Available (Y/N)**	**Date of Well Completion**	**Well Completion Depth (ft/bgs)**	**Well Diameter (in)**	**Top of Inner Casing Elevation (ft msl) (NAVD88)**	**Ground Surface Elevation (ft msl) (NAVD88)**	**Depth to Screen (ft bgs)**	**Screen Length (ft)**
PI-7			180940.373	2622504.748	RW	N	N	NA	NA	NA	18.858	22.877	NA	NA
PI-8			180964.939	2622472.947	RW	N	N	NA	NA	NA	19.255	22.988	NA	NA
PI-9			180989.736	2622442.027	RW	N	N	NA	NA	NA	19.297	22.939	NA	NA
PI-10			181015.8996	2622407.7954	RW	N	N	NA	NA	NA	19.37	23	NA	NA
PI-11			181055.088	2622376.241	RW	N	N	NA	NA	NA	19.672	22.858	NA	NA
PI-12			181080.098	2622341.451	RW	N	N	NA	NA	NA	23.07	23.069	NA	NA
PI-13			181115.373	2622309.213	RW	N	N	NA	NA	NA	19.502	23.083	NA	NA
PI-14			181127.334	2622306.786	RW	N	N	NA	NA	NA	18.949	23.065	NA	NA
PI-15			181117.135	2622295.102	RW	N	N	NA	NA	NA	20.541	23.260	NA	NA
RW-10	MC-3; RW10		181867.028	2621115.120	RW	Y	Y	17-Jan-90	20	10	19.482	NA	5	15
RW-11	RW11	Not Accessible	182072.392	2621597.699	RW	N	N	NA	NA	NA	9.448	10.380	NA	NA
RW-A1			181878.604	2621127.519	RW	N	N	NA	NA	NA	9.793	NA	NA	NA
RW-B1			181918.021	2621137.686	RW	N	N	NA	NA	NA	8.776	NA	NA	NA
RW-B2			181948.058	2621116.962	RW	N	N	NA	NA	NA	8.467	NA	NA	NA
VP-1	SB-5		NA	NA	MW	Y	Y	02-Feb-93	12	2	NA	NA	3	9
VP-2	SB-3		NA	NA	MW	Y	Y	01-Feb-93	12	2	NA	NA	3	9
VP-3	SB-6		NA	NA	MW	Y	Y	02-Feb-93	12	2	NA	NA	3	9
VP-4	SB-1		NA	NA	MW	Y	Y	01-Feb-93	12	2	NA	NA	3	9
W-1			181098.835	2622948.372	RW	N	N	NA	NA	NA	23.704	21.454	NA	NA
W-2			181114.728	2622949.374	RW	N	N	NA	NA	NA	23.517	20.917	NA	NA

Notes:
1. Well construction details were obtained from well boring logs provided by Handex, SECOR, Stantec, Aquaterra or, where available, other historic reports.
2. Former Well IDs were derived from handwritten notes on boring logs or as referenced in historic reports.
3. Coordinate pairs are projected in the Pennsylvania State Plane Coordinate System (feet), referenced to the North American Datum of 1983 (NAD83).
4. MW = monitoring well; RW = recovery well; OW = observation well
5. ft bgs = feet below ground surface
6. in = inches
7. Elevations are in units of feet and are referenced to the North American Vertical Datum of 1988 (ft NAVD88).
8. ft = feet
9. NA = Not available or not applicable

Stantec presently maintains an electronic database (EQuIS) from which these well records were extracted. Many of the well records in that database were translated from historic paper records, or from electronic tables received from past consultants. maintenance of the electronic well database, including revisions to anamalous or missing information, is continual and as such this table could contain errors, omissions, or superceded information.

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-15														MW-44	MW-78	MW-85		
Sample Date			11-Nov-02	10-Nov-03	9-Nov-04	6-Dec-06	19-Nov-07	10-Dec-08	13-Oct-09	13-Oct-10	12-Jul-11	16-Nov-12	20-Aug-13	11-Oct-13	23-Oct-14	20-Dec-16	15-Nov-16	15-Nov-16	10-Nov-03	12-Jul-11	19-Aug-13
Sample ID			MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15_07122011	MW-15	MW-15-082013	MW-15	MW-15_20141023	MW-15_20161220	MW-44-20161115SL	MW-78-20161115SL	MW-85	MW-85_07122011	MW-85-081913
Laboratory			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	LL	UNKNOWN	PACE	UNKNOWN	LL	LL	LL	LL	UNKNOWN	LL	PACE
Laboratory Work Order			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	1256060	UNKNOWN	30101245	UNKNOWN	1513343	1746754	1733937	1733937	UNKNOWN	1256060	30101156
Laboratory Sample ID			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	6342833	UNKNOWN	30101245010	UNKNOWN	7648545	8755075	8699963	8699961	UNKNOWN	6342830	30101156001
		MSC-PA																			
Volatile Organic Compounds																					
BENZENE	µg/L	5	ND (1)	ND (1.0)	ND (1.0)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	***250 SL***	***370 F SL***	1.4	2	ND (1.0)
CYCLOHEXANE	µg/L	53000	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	85 SL	200 SL	-	-	-
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	ND (0.025)	ND (0.0099)	ND (0.0099)	ND (0.0098)	ND (0.0097)	-	ND (0.020)	-	ND (0.020)	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	-	-	-	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (1) SL	ND SL (0.5)	-	ND (0.5)	ND (1.0)
ETHYLBENZENE	µg/L	700	ND (1)	ND (1.0)	ND (1.0)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	82 SL	2 SL	ND (1.0)	0.8 J	ND (1.0)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	-	-	-	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2.0)	ND (1.0)	ND (2.0)	ND (0.5)	ND (1)	9 J SL	11 SL	-	ND (0.5)	ND (1.0)
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	***59***	***165***	***89.7***	***46***	-	12	12	14	12	6.1	5.5	6.2	7	4	1 J SL	ND SL (0.5)	ND (1.0)	ND (0.5)	ND (1.0)
HEXANE	µg/L	6200	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	20 SL	5 J SL	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (2) SL	2 J SL	-	-	-
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	3 J SL	5 J SL	-	-	-
TOLUENE	µg/L	1000	ND (1)	ND (1.0)	ND (1.0)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	30 SL	20 SL	0.54 J	ND (0.5)	ND (1.0)
1,2,4-TRIMETHYLBENZENE	µg/L	62	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2.0)	ND (1.0)	ND (2.0)	ND (0.5)	ND (1)	***81 SL***	2 J SL	-	ND (0.5)	ND (1.0)
1,3,5-TRIMETHYLBENZENE	µg/L	1200	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2.0)	ND (1.0)	ND (2.0)	ND (0.5)	ND (1)	21 SL	2 J SL	-	ND (0.5)	ND (1.0)
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	ND (2)	ND (1.0)	1.1	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	0.29 J	ND (3.0)	ND (1.0)	ND (0.5)	ND (0.5)	190 SL	38 SL	ND (1.0)	0.9 J	ND (3.0)
Volatile Organic Compounds (SW8011)																					
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	ND (0.0097)	-	ND (0.040)	-	ND (0.0096)	ND (0.0095)	ND (0.0095) SL	ND (0.018) SL	-	ND (0.0096)	ND (0.040)
Semi-Volatile Organic Compounds																					
ACENAPHTHENE	µg/L	3800	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3 J	7 SL	0.2 J SL	-	-	-
ANTHRACENE	µg/L	66	-	-	-	-	-	-	-	-	-	ND (0.10)	0.049 J	ND (0.11)	0.1 J	0.2 J	9 SL	ND SL (0.1)	-	-	ND (0.10)
BENZO(A)ANTHRACENE	µg/L	4.9	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.1)	0.1 J	2 SL	ND SL (0.1)	ND (2.0)	-	ND (0.10)
BENZO(A)PYRENE	µg/L	0.2	*ND (1)*	*ND (2.0)*	*ND (2.0)*	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	***1 SL***	ND SL (0.1)	*ND (2.0)*	-	ND (0.10)
BENZO(B)FLUORANTHENE	µg/L	1.2	ND (1)	*ND (2.0)*	*ND (2.0)*	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	0.6 SL	ND SL (0.1)	*ND (2.0)*	-	ND (0.10)
BENZO(G,H,I)PERYLENE	µg/L	0.26	-	-	-	-	-	-	-	-	-	ND (0.10)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	***1 SL***	ND SL (0.1)	-	-	ND (0.10)
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	0.2 J SL	ND SL (0.1)	-	-	-
1,1'-BIPHENYL	µg/L	430	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	2 SL	ND SL (0.5)	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	5 J	ND SL (2)	ND SL (2)	ND (2.0)	-	-
DI-N-BUTYL PHTHALATE	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	ND SL (2)	ND SL (2)	-	-	-
CHRYSENE	µg/L	1.9	*ND (2)*	*ND (2.0)*	*ND (2.0)*	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.9)	ND (1)	ND (1)	0.111	ND (0.11)	ND (0.11)	ND (0.1)	0.4 J	***3 SL***	ND SL (0.1)	*ND (2.0)*	ND (1)	ND (0.10)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	*ND (2)*	*ND (2.0)*	*ND (2.0)*	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND SL (0.1)	ND SL (0.1)	*ND (2.0)*	-	-
DIETHYL PHTHALATE	µg/L	93000	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	ND SL (2)	ND SL (2)	-	-	-
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	ND SL (0.5)	ND SL (0.5)	-	-	-
2,4-DINITROPHENOL	µg/L	230	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (11)	ND SL (10)	ND SL (10)	-	-	-
FLUORANTHENE	µg/L	260	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1 J	4 SL	ND SL (0.1)	-	-	-
FLUORENE	µg/L	1900	-	-	-	ND (0.5)	ND (1.0)	-	-	ND (1)	ND (1)	ND (0.10)	0.14	ND (0.11)	ND (0.1)	ND (0.1)	15 SL	0.3 J SL	-	ND (1)	ND (0.10)
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	*ND (10)*	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	ND (0.1)	0.4 J SL	ND SL (0.1)	ND (2.0)	-	-
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2 J	20 SL	ND SL (0.1)	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	1 SL	ND SL (0.5)	-	-	-
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	ND SL (0.5)	ND SL (0.5)	-	-	-
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1)	ND (1)	ND (5.0)	ND (0.11)	ND (0.11)	ND (0.1)	0.1 J	11 SL	ND SL (0.1)	-	ND (1)	ND (0.10)
4-NITROPHENOL	µg/L	60	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (11)	ND SL (10)	ND SL (10)	-	-	-
PHENANTHRENE	µg/L	1100	-	-	-	ND (0.5)	1.0 J	ND (1.0)	ND (0.9)	ND (1)	ND (1)	ND (0.10)	0.45	ND (0.11)	ND (0.1)	0.1 J	23 SL	ND SL (0.1)	-	ND (1)	ND (0.10)
PHENOL	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	1 SL	6 SL	-	-	-
PYRENE	µg/L	130	-	-	-	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.9)	ND (1)	ND (1)	0.252	0.12	0.126	ND (0.1)	0.5 J	21 SL	ND SL (0.1)	-	ND (1)	0.098 J
PYRIDINE	µg/L	120	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	ND SL (2)	ND SL (2)	-	-	-
QUINOLINE	µg/L	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	ND SL (1)	ND SL (1)	-	-	-
Metals																					
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARSENIC	µg/L	10	***25***	***11.4***	***16.1***	-	-	-	-	-	-	-	-	-	-	ND (9.7)	ND SL (9.7)	ND SL (9.7)	5.6	-	-
BARIUM	µg/L	2000	ND (100)	ND (200)	ND (200)	-	-	-	-	-	-	-	-	-	-	71.8	203 SL	36.7 SL	ND (200)	-	-
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.49)	ND SL (0.49)	ND SL (0.49)	-	-	-
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-	-
COBALT	µg/L	35	ND (10.0)	*ND (50.0)*	*ND (50.0)*	-	-	-	-	-	-	-	-	-	-	ND (1.9)	ND SL (1.9)	ND SL (1.9)	*ND (50.0)*	-	-
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	*ND (10.0)*	ND (3.0)	***5.5***	ND (5)	0.93 J	ND (0.050)	0.076 J	ND (0.052)	ND (0.080)	ND (1.0)	ND (5.0)	ND (2.4)	0.33 J	*ND (6.2)*	*ND SL (6.2)*	*ND SL (6.2)*	***5.6***	0.11 J	ND (5.0)
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.050)	ND SL (0.050)	ND SL (0.050)	-	-	-
NICKEL	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2.8)	ND SL (2.8)	ND SL (2.8)	-	-	-
SELENIUM	µg/L	50	ND (20.0)	ND (5.0)	ND (5.0)	-	-	-	-	-	-	-	-	-	-	ND (9.7)	ND SL (9.7)	ND SL (9.7)	5.4	-	-
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.9)	2.0 J SL	ND SL (1.9)	-	-	-
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.6)	ND SL (1.6)	ND SL (1.6)	-	-	-
ZINC	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (5.4)	ND SL (5.4)	ND SL (5.4)	-	-	-

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-86																													
Sample Date			15-Jun-05	30-Aug-05	22-Feb-06	19-Apr-06	20-Jul-06	27-Oct-06	25-Jan-07	24-Apr-07	29-Nov-07	20-Feb-08	18-Nov-08	1-Sep-09	12-Jul-11	5-Feb-13	22-May-13	30-Jul-13	19-Aug-13	8-Oct-13	8-Jan-14	9-Apr-14	14-Aug-14	9-Oct-14	8-Jan-15	15-Apr-15	15-Jul-15	10-Nov-15	4-Feb-16	1-Jun-16	20-Jul-16	6-Oct-16
Sample ID			MW86	MW86	MW86	MW86	MW86	MW86	MW86	MW86	MW86	MW86	MW86	MW86	MW-86_07122011	MW-86-20130205	MW-86-20130522	MW-86-20130730	MW-86-081913	MW-86-20131008	MW-86-20140108	MW-86	MW-86	MW-86	MW-86	MW-86_20150415	MW-86_20150715	MW-86-20151110	MW-86	MW-86-20160601	MW-86-20160720	MW-86-20161006
Laboratory			EMSL	Blue Marsh Labs	Blue Marsh Labs	Blue Marsh Labs	Blue Marsh Labs	Blue Marsh Labs	Blue Marsh Labs	Blue Marsh Labs	Blue Marsh Labs	LL	LL	LL	LL	LL	LL	LL	PACE	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order			10502246	45711	48011	48863	50446	51978	53119	54159	56959	1078675	1120982	1160317	1256059	1367082	1392212	1408230	30101156	1425095	1444939	1466285	1496519	1510241	1530244	1553901	1577505	1608666	1629450	1667446	1685617	1717835
Laboratory Sample ID		MSC-PA	10502246-20	45711-2	48011-2	48863-5	50446-1	51978-23	53119-10	54159-5	56959-5	5286676	5534730	57670103	6342825	6945600	7068425	7146088	30101156002	7230423	7331909	7426560	7567477	7633501	7734885	7850237	7969631	8130476	8233404	8406622	8486764	8630587
Volatile Organic Compounds																																
BENZENE	µg/L	5	***13***	***39***	***47***	***31***	***116***	***7***	ND (1.0)	3	1	***89***	ND (0.9)	***200***	ND (0.5)	ND (0.9)	ND (0.9)	2 J	ND (1.0)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	4 J	ND (0.9)	ND (0.9)	ND (0.9)	2 J	***7***	ND (0.5)	***37***	ND (0.5)
CYCLOHEXANE	µg/L	53000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	ND (1.0)	-	-	-	-	-	-	-	-	-	-	-	-	-
ETHYLBENZENE	µg/L	700	6.6	17	20	18	66	3	ND (1.0)	1	ND (1)	43.0	ND (0.8)	100	0.9 J	ND (0.8)	ND (0.8)	ND (0.8)	ND (1.0)	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	1 J	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	2 J	ND (0.5)	11	ND (0.5)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	ND (1.0)	-	-	-	-	-	-	-	-	-	-	-	-	-
M, P-XYLENES	µg/L	n/v	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	ND (1.0)	-	-	-	-	-	-	-	-	-	-	-	-	-
HEXANE	µg/L	6200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	µg/L	1000	13	31	31	30	100	5	ND (1.0)	2	1	77.0	ND (0.8)	170	ND (0.5)	ND (0.8)	ND (0.8)	ND (0.8)	ND (1.0)	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	1 J	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	2 J	ND (0.5)	9	ND (0.5)
1,2,4-TRIMETHYLBENZENE	µg/L	62	-	-	-	-	-	-	-	-	-	-	-	-	1 J	-	-	-	ND (1.0)	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	µg/L	1200	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	ND (1.0)	-	-	-	-	-	-	-	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	-	47	49	52	180	4	ND (1.0)	4	ND (1)	98.0	ND (0.9)	280	1	ND (0.9)	ND (0.9)	1 J	ND (3.0)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	2 J	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	3 J	ND (0.5)	19	ND (0.5)
Volatile Organic Compounds (SW8011)																																
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0098)	-	-	-	ND (0.040)	-	-	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																																
ACENAPHTHENE	µg/L	3800	ND (3)	ND (1.00)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (100.0)	ND (0.11)	ND (0.3)	ND (0.3)	ND (0.3)	-	ND (0.3)	ND (0.3)	ND (0.3)	-	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)
ANTHRACENE	µg/L	66	ND (2)	ND (1.00)	ND (0.10)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (50.0)	ND (0.06)	ND (0.2)	ND (0.2)	ND (0.2)	-	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.11)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
BENZO(A)ANTHRACENE	µg/L	4.9	ND (1)	ND (1.00)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	*ND (100.0)*	ND (0.11)	ND (0.2)	ND (0.2)	ND (0.2)	-	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.11)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	0.2 J	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
BENZO(A)PYRENE	µg/L	0.2	*ND (1)*	*ND (1.00)*	ND (0.10)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	*ND (50.0)*	ND (0.06)	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	-	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	ND (0.11)	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*	*ND (0.3)*
BENZO(B)FLUORANTHENE	µg/L	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-
BENZO(G,H,I)PERYLENE	µg/L	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	µg/L	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	ND (1)	ND (1.00)	ND (0.10)	ND (0.10)	0.35	0.24	0.24	***371***	0.16	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1)	ND (1)	ND (1)	-	ND (0.9)	1 J	ND (1)	ND (1)	ND (0.9)	ND (1)	ND (0.9)	ND (0.9)	ND (0.9)	ND (1)	ND (0.9)	ND (1)	ND (0.9)
DI-N-BUTYL PHTHALATE	µg/L	12000	ND (1)	ND (1.00)	ND (0.10)	0.20	0.22	0.11	0.10	180	ND (0.11)	ND (0.5)	ND (0.5)	ND (0.5)	-	ND (0.5)	ND (0.5)	ND (0.5)	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
CHRYSENE	µg/L	1.9	*ND (2)*	ND (1.00)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	*ND (100.0)*	ND (0.11)	ND (0.2)	ND (0.2)	ND (0.2)	ND (1)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.11)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIETHYL PHTHALATE	µg/L	93000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	µg/L	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	µg/L	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	µg/L	1900	ND (2)	ND (1.00)	ND (0.10)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (50.0)	ND (0.06)	ND (0.3)	ND (0.3)	ND (0.3)	ND (1)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.11)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	ND (3)	21.30	ND (0.10)	ND (0.05)	9.68	ND (0.05)	ND (0.05)	ND (50.0)	ND (0.06)	4.0 J	ND (0.2)	14	ND (1)	ND (0.2)	ND (0.2)	0.2 J	ND (0.11)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	0.3 J	0.7 J	ND (0.2)
4-NITROPHENOL	µg/L	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	µg/L	1100	ND (2)	ND (1.00)	ND (0.10)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (50.0)	ND (0.06)	ND (0.2)	ND (0.2)	ND (0.2)	ND (1)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.11)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
PHENOL	µg/L	2000	ND (2)	ND (1.00)	ND (0.05)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (100.0)	ND (0.11)	ND (0.4)	ND (0.4)	ND (0.4)	-	ND (0.4)	ND (0.4)	ND (0.4)	-	ND (0.4)	1 J	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)
PYRENE	µg/L	130	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	-	-	ND (0.11)	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRIDINE	µg/L	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	µg/L	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																																
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARSENIC	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	µg/L	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	0.11 J	-	-	-	ND (5.0)	-	-	-	-	-	-	-	-	-	-	-	-	-
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	µg/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-109															MW-118						
Sample Date			18-Apr-01	12-Nov-02	10-Nov-03	9-Nov-04	3-Nov-05	6-Dec-06	15-Nov-07	10-Dec-08	13-Oct-09	14-Oct-10	11-Jul-11	15-Nov-12	20-Aug-13	11-Oct-13	23-Oct-14	1-Jan-95	1-Jan-96	1-Jan-97	1-Jan-98	27-Oct-99	13-Nov-00	26-Apr-01
Sample ID			MW-109	MW-109	MW-109	MW-109	MW-109	MW-109	MW-109	MW-109	MW-109	MW-109	MW-109_07112011	MW-109_111512	MW-109-082013	MW-109	MW-109_20141023	MW-118	MW-118	MW-118	MW-118	MW-118	MW-118	MW-118
Laboratory			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	LL	ACCUTEST	PACE	UNKNOWN	LL	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Laboratory Work Order			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	1255842	JB21541	30101245	UNKNOWN	1513343	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Laboratory Sample ID			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	6341795	JB21541-3	30101245011	UNKNOWN	7648547	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
		MSC-PA																						
Volatile Organic Compounds																								
BENZENE	µg/L	5	1600	270	305	302	191	790	670	17	590	560	1700	0.94 J	28.8	71	230	63	140	100	42	ND (10)	31	49
CYCLOHEXANE	µg/L	53000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	ND (0.020)	ND (0.025)	ND (0.0096)	ND (0.0097)	ND (0.0097)	ND (0.0097)	-	-	-	ND (0.020)	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	-	-	-	-	6	ND (5.0)	ND (1.0)	ND (0.5)	ND (5.0)	ND (0.5)	ND (5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	-	-	-	-	-	-	-
ETHYLBENZENE	µg/L	700	4	1	0.75 J	0.61 J	ND (1)	ND (5.0)	ND (1.0)	ND (0.5)	ND (5.0)	ND (0.5)	ND (5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (5.0)	2	ND (1)	2	ND (10)	ND (1)	ND (1)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	-	-	-	-	ND (1)	ND (5.0)	ND (1.0)	ND (0.5)	ND (5.0)	ND (0.5)	ND (5)	ND (2)	ND (1.0)	ND (2.0)	ND (0.5)	-	-	-	-	-	-	-
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	37	19	9.7	12.0	11	11	-	9	10	9	7 J	7	6.2	5.4	5	-	-	-	-	-	-	ND (1)
HEXANE	µg/L	6200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	ND (5)	-	-	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	µg/L	1000	240	12	2.2	3.9	10	ND (5.0)	10	1	23	21	45	ND (1)	1.3	2.6	48	ND (5.0)	ND (1.0)	ND (1)	ND (1)	ND (10)	ND (1)	ND (1)
1,2,4-TRIMETHYLBENZENE	µg/L	62	-	-	-	-	-	-	-	ND (0.5)	ND (5.0)	ND (0.5)	ND (5)	ND (2)	ND (1.0)	ND (2.0)	ND (0.5)	-	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	µg/L	1200	-	-	-	-	-	-	-	ND (0.5)	ND (5.0)	ND (0.5)	ND (5)	ND (2)	ND (1.0)	ND (2.0)	ND (0.5)	-	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	11	4	3.8	3.7	3	ND (5.0)	ND (1.0)	ND (0.5)	ND (5.0)	0.6 J	ND (5)	ND (1)	ND (3.0)	ND (1.0)	ND (0.5)	ND (10.0)	ND (4.0)	ND (2)	ND (5)	ND (10)	ND (1)	ND (1)
Volatile Organic Compounds (SW8011)																								
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	ND (0.0096)	ND (0.02)	ND (0.040)	-	ND (0.0096)	-	-	-	-	-	-	-
Semi-Volatile Organic Compounds																								
ACENAPHTHENE	µg/L	3800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANTHRACENE	µg/L	66	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	0.033 J	ND (0.10)	ND (0.1)	-	-	-	-	-	-	-
BENZO(A)ANTHRACENE	µg/L	4.9	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (1)	ND (10)
BENZO(A)PYRENE	µg/L	0.2	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (1)	ND (10)
BENZO(B)FLUORANTHENE	µg/L	1.2	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (3)	ND (10)
BENZO(G,H,I)PERYLENE	µg/L	0.26	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	-	-	-	-	-	-	-
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1'-BIPHENYL	µg/L	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	ND (10)	4	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	-	ND (10.0)	ND (2.0)	ND (1)	10	2	ND (3)	ND (10)
DI-N-BUTYL PHTHALATE	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHRYSENE	µg/L	1.9	ND (10)	ND (2)	ND (2.0)	ND (2.0)	ND (0.014)	ND (0.1)	ND (1.0)	ND (1.0)	ND (0.9)	ND (1)	ND (0.9)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (1)	ND (10)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	ND (10)	ND (2)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	-	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (4)	ND (10)
DIETHYL PHTHALATE	µg/L	93000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-DINITROPHENOL	µg/L	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORANTHENE	µg/L	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLUORENE	µg/L	1900	-	-	-	-	ND (0.024)	ND (0.1)	ND (1.0)	-	-	ND (1)	ND (0.9)	ND (0.1)	0.058 J	ND (0.10)	ND (0.1)	-	-	-	-	-	-	-
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	-	ND (10)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	-	ND (10.0)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (10)	-
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	ND (1)	ND (5.0)	ND (2.0)	ND (1.0)	ND (10)	ND (1)	ND (0.9)	ND (0.1)	0.39	ND (0.10)	ND (0.1)	-	-	-	-	-	-	-
4-NITROPHENOL	µg/L	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHENANTHRENE	µg/L	1100	-	-	-	-	ND (0.030)	ND (0.1)	ND (1.0)	ND (1.0)	ND (0.9)	ND (1)	ND (0.9)	ND (0.1)	0.39	ND (0.10)	ND (0.1)	-	-	-	-	-	-	-
PHENOL	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PYRENE	µg/L	130	-	-	-	-	ND (0.021)	ND (0.1)	ND (1.0)	ND (1.0)	ND (0.9)	ND (1)	ND (0.9)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	-	-	-	-	-	-	-
PYRIDINE	µg/L	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	µg/L	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						-
ARSENIC	µg/L	10	17	31	30.8	40.1	-	-	-	-	-	-	-	-	-	-	-	200	14	8	ND (8.0)	120	41	257
BARIUM	µg/L	2000	269	1090	491	730	-	-	-	-	-	-	-	-	-	-	-	90	260	ND (200)	280	250	202	288
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	µg/L	35	143	10.0	ND (50.0)	ND (50.0)	-	-	-	-	-	-	-	-	-	-	-	ND (20)	ND (20)	ND (50.0)	ND (10.0)	11	ND (10.0)	12
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	20	ND (10.0)	10.8	10.4	ND (3)	ND (5)	0.24 J	0.26 J	0.19 J	0.11 J	ND (0.080)	ND (1)	ND (5.0)	3.4	ND (0.082)	ND (20)	8	ND (5.0)	ND (10.0)	180	24	260
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SELENIUM	µg/L	50	ND (20.0)	ND (20.0)	ND (5.0)	ND (5.0)	-	-	-	-	-	-	-	-	-	-	-	ND (10)	ND (5)	ND (5.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-128																							
Sample Date			1-Jan-95	1-Jan-96	1-Jan-97	1-Jan-98	28-Oct-99	14-Nov-00	26-Apr-01	12-Nov-02	11-Nov-03	9-Nov-04	2-Nov-05	8-Dec-06	20-Nov-07	11-Dec-08	12-Oct-09	13-Oct-10	11-Jul-11	15-Nov-12	14-Aug-13	11-Oct-13	23-Oct-14	11-Aug-16	18-Oct-16	19-Dec-16
Sample ID			MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128_07112011	MW-128_111512	MW-128-081413	MW-128	MW-128_20141023	MW-128_20160811	MW-128-20161018	MW-128_20161219
Laboratory			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	LL	ACCUTEST	PACE	UNKNOWN	LL	LL	LL	LL
Laboratory Work Order			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	1255842	J821541	30100942	UNKNOWN	1513343	1694281	1724041	1746298
Laboratory Sample ID			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	6341793	J821541-1	30100942003	UNKNOWN	7648543	8523435	8657454	8753072
		MSC-PA																								
Volatile Organic Compounds																										
BENZENE	µg/L	5	ND (10.0)	1.0	1	1	ND (100)	ND (1)	1	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	0.7 J	ND (0.5)	0.8 J	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	0.8 J
CYCLOHEXANE	µg/L	53000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	ND (0.020)	ND (0.025)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0096)	-	-	-	ND (0.020)	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
ETHYLBENZENE	µg/L	700	**890**	ND (1.0)	ND (1)	ND (1)	ND (100)	ND (1)	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	1	ND (0.5)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2)	ND (1.0)	ND (2.0)	ND (0.5)	ND (1)	ND (0.5)	ND (1)
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	-	-	-	-	-	-	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
HEXANE	µg/L	6200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (5)	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	ND (1)
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	ND (1)
TOLUENE	µg/L	1000	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (100)	ND (1)	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2,4-TRIMETHYLBENZENE	µg/L	62	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2)	ND (1.0)	0.30 J	ND (0.5)	ND (1)	0.8 J	ND (1)
1,3,5-TRIMETHYLBENZENE	µg/L	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2)	ND (1.0)	ND (2.0)	ND (0.5)	ND (1)	ND (0.5)	ND (1)
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	ND (20.0)	ND (4.0)	ND (2)	ND (2)	ND (100)	ND (1)	ND (1)	ND (2)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (3.0)	0.46 J	ND (0.5)	ND (0.5)	8	ND (0.5)
Volatile Organic Compounds (SW8011)																										
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0097)	ND (0.02)	ND (0.040)	-	ND (0.0097)	ND (0.010)	ND (0.0095)	ND (0.0096)
Semi-Volatile Organic Compounds																										
ACENAPHTHENE	µg/L	3800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	ND (0.1)
ANTHRACENE	µg/L	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)
BENZO(A)ANTHRACENE	µg/L	4.9	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (1)	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)
BENZO(A)PYRENE	µg/L	0.2	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (2)	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)
BENZO(B)FLUORANTHENE	µg/L	1.2	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (3)	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)
BENZO(G,H,I)PERYLENE	µg/L	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	ND (0.1)
1,1'-BIPHENYL	µg/L	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	ND (0.5)
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	ND (10.0)	**8**	ND (1)	4	ND (1)	ND (3)	ND (10)	1	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)
DI-N-BUTYL PHTHALATE	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)
CHRYSENE	µg/L	1.9	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (1)	ND (10)	ND (2)	ND (2.0)	ND (2.0)	ND (0.014)	ND (0.1)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1)	ND (1)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (1)	ND (4)	ND (10)	ND (2)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	ND (0.1)
DIETHYL PHTHALATE	µg/L	93000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	ND (0.5)
2,4-DINITROPHENOL	µg/L	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	ND (10)
FLUORANTHENE	µg/L	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2 J	-	ND (0.1)
FLUORENE	µg/L	1900	-	-	-	-	-	-	-	-	-	-	ND (0.024)	ND (0.1)	ND (1.0)	-	-	ND (1)	ND (1)	ND (0.1)	0.020 J	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	ND (10.0)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (10)	-	ND (10)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	ND (0.1)
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	ND (0.1)
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	ND (0.5)
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	ND (0.5)
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1)	ND (1)	ND (0.1)	0.038 J	ND (0.10)	ND (0.1)	0.4 J	ND (0.1)	ND (0.1)
4-NITROPHENOL	µg/L	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	ND (10)
PHENANTHRENE	µg/L	1100	-	-	-	-	-	-	-	-	-	-	ND (0.030)	ND (0.1)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1)	ND (1)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)
PHENOL	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	ND (0.5)
PYRENE	µg/L	130	-	-	-	-	-	-	-	-	-	-	ND (0.021)	ND (0.1)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1)	ND (1)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)
PYRIDINE	µg/L	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)
QUINOLINE	µg/L	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	ND (1)
Metals																										
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARSENIC	µg/L	10	ND (10)	7	5.2	ND (8.0)	**23**	ND (8)	ND (8)	**48**	**66.6**	ND (5.0)	-	-	-	-	-	-	-	-	-	-	-	ND (9.7)	-	ND (9.7)
BARIUM	µg/L	2000	280	45	ND (200)	ND (100)	450	ND (100)	107	ND (100)	297	ND (200)	-	-	-	-	-	-	-	-	-	-	-	57.1	-	39.3
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.49)	-	ND (0.49)
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (7.0)	-	ND (10)
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (7.0)	-	ND (10)
COBALT	µg/L	35	**140**	**57**	**50**	**53**	**160**	**70**	**101**	**76**	**104**	**72.7**	-	-	-	-	-	-	-	-	-	-	-	7.0	-	ND (1.9)
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	**240**	ND (5)	ND (5.0)	ND (10.0)	**76**	ND (10.0)	**18**	ND (10.0)	**42.6**	**11.2**	ND (3)	ND (5)	0.084 J	ND (0.050)	ND (0.050)	ND (0.052)	ND (0.080)	ND (1)	ND (5.0)	ND (2.4)	ND (0.082)	ND (6.2)	ND (0.090)	ND (6.2)
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.059 J	-	ND (0.050)
NICKEL	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	-	ND (2.8)
SELENIUM	µg/L	50	ND (10)	ND (5)	ND (5.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)	ND (5.0)	ND (5.0)	-	-	-	-	-	-	-	-	-	-	-	ND (9.7)	-	ND (9.7)
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.9)	-	ND (1.9)
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.6)	-	ND (1.6)
ZINC	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (5.4)	-	ND (5.4)

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-129																MW-131	MW-132		MW-137	MW-141	MW-192	MW-214	MW-274		MW-275		MW-276		MW-277		
Sample Date			18-Apr-01	14-Nov-02	10-Nov-03	9-Nov-04	2-Nov-05	6-Dec-06	15-Nov-07	10-Dec-08	12-Oct-09	14-Oct-10	13-Jul-11	15-Nov-12	15-Oct-13	23-Oct-14	11-Aug-16	18-Oct-16	13-Jul-11	29-Jun-16	15-Nov-16	18-Apr-01	12-Jul-11	21-Aug-13	13-Jul-11	13-Jul-11	21-Aug-13	13-Jul-11	21-Aug-13	13-Jul-11	21-Aug-13	13-Jul-11	21-Aug-13	29-Jun-16
Sample ID			MW-129	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129_07132011	MW-129_111512	MW-129	MW-129_20141023	MW-129_20160811	MW-129-20161018	MW-131_07132011	GW-11102641-MW132-062916-MM-021	MW-132-20161115SL	MW-137	MW-141_07122011	MW-192-082113	MW-214_07132011	MW-274_07132011	MW-274-082113	MW-275_07132011	MW-275-082113	MW-276_07132011	MW-276-082113	MW-277_07132011	MW-277-082113	GW-11102641-MW277-062916-RM-020
Laboratory			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	LL	ACCUTEST	UNKNOWN	LL	LL	LL	LL	LL	LL	UNKNOWN	LL	PACE	LL	LL	PACE	LL	PACE	LL	PACE	LL	PACE	LL
Laboratory Work Order			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	1256304	J821541	UNKNOWN	1513343	1694281	1724043	1256304	1678000	1733937	UNKNOWN	1256059	30101346	1256301	1256301	30101346	1256301	30101346	1256301	30101346	1256301	30101346	1678000
Laboratory Sample ID			UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	6344123	J821541-4	UNKNOWN	7648544	8523436	8657472	6344122	8455702	8699965	UNKNOWN	6342829	30101346006	6344093	6344096	30101346005	6344097	30101346004	6344098	30101346003	6344099	30101346002	8455701
		MSC-PA																																
Volatile Organic Compounds																																		
BENZENE	µg/L	5	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	1.5	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND SL (0.5)	ND (1)	ND (0.5)	1.6	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (1)
CYCLOHEXANE	µg/L	53000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5 J	-	-	-	ND SL (2)	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	ND (0.020)	ND (0.025)	ND (0.0097)	ND (0.0098)	ND (0.0098)	ND (0.0097)	-	-	ND (0.020)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	-	-	-	-	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND SL (0.5)	-	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (1)
ETHYLBENZENE	µg/L	700	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND SL (0.5)	ND (1)	1	ND (1.0)	0.9 J	1	ND (1.0)	1	ND (1.0)	0.9 J	ND (1.0)	0.6 J	ND (1.0)	110
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	-	-	-	-	1	ND (5.0)	0.7 J	1 J	1 J	ND (0.5)	0.6 J	ND (2)	ND (2.0)	0.8 J	ND (1)	0.9 J	ND (0.5)	-	ND SL (1)	-	0.6 J	2.8	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	-
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	20	17	20.3	20.3	17	9.0	-	17	14	2	4	1.5	1.2	7	7	7	ND (0.5)	-	0.8 J SL	74	ND (0.5)	ND (1.0)	ND (0.5)	2	ND (1.0)	5	6.1	6	1.4	2	ND (1.0)	-
HEXANE	µg/L	6200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	-	-	ND SL (2)	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	ND (5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	-	-	ND SL (1)	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	-	-	ND SL (1)	-	-	-	-	-	-	-	-	-	-	-	-	-
TOLUENE	µg/L	1000	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND SL (0.5)	ND (1)	ND (0.5)	0.51 J	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	3
1,2,4-TRIMETHYLBENZENE	µg/L	62	-	-	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	0.33 J	ND (2.0)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	-	ND SL (1)	-	1 J	0.71 J	1 J	2 J	ND (1.0)	2 J	ND (1.0)	1 J	ND (1.0)	0.8 J	ND (1.0)	-
1,3,5-TRIMETHYLBENZENE	µg/L	1200	-	-	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2)	ND (2.0)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	-	ND SL (1)	-	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (1.0)	-
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	1	2	0.62 J	1.4	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	0.6 J	ND (0.5)	ND (0.5)	0.26 J	0.24 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-	ND SL (0.5)	ND (1)	2	ND (3.0)	2	2	ND (3.0)	2	ND (3.0)	1	ND (3.0)	0.8 J	ND (3.0)	-
Volatile Organic Compounds (SW8011)																																		
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	ND (0.0097)	ND (0.02)	-	ND (0.0097)	ND (0.0096)	ND (0.0095)	ND (0.0097)	-	ND (0.0095) SL	-	ND (0.0096)	ND (0.040)	ND (0.0097)	ND (0.0098)	ND (0.040)	ND (0.0097)	ND (0.040)	ND (0.0098)	ND (0.040)	ND (0.0097)	ND (0.040)	-
Semi-Volatile Organic Compounds																																		
ACENAPHTHENE	µg/L	3800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	1	0.6 SL	-	-	-	-	-	-	-	-	-	-	-	-	3
ANTHRACENE	µg/L	66	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	0.3 J	0.6	0.3 J	-	1	0.4 J SL	-	-	ND (0.56)	-	-	0.034 J	-	0.046 J	-	0.043 J	-	ND (0.10)	0.5
BENZO(A)ANTHRACENE	µg/L	4.9	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.1)	0.3 J	ND (0.1)	-	1	0.5 J SL	ND (10)	-	2.8	-	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	ND (0.5)
BENZO(A)PYRENE	µg/L	0.2	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	-	2	0.4 J SL	ND (10)	-	2.1	-	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	ND (0.1)
BENZO(B)FLUORANTHENE	µg/L	1.2	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.1)	0.1 J	ND (0.1)	-	ND (0.5)	0.4 J SL	ND (10)	-	ND (0.56)	-	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	ND (0.5)
BENZO(G,H,I)PERYLENE	µg/L	0.26	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	ND (0.10)	0.2 J	0.1 J	0.1 J	-	0.5	0.3 J SL	-	-	ND (0.063)	-	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	ND (0.1)
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	-	1	0.1 J SL	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)
1,1'-BIPHENYL	µg/L	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	ND SL (0.5)	-	-	-	-	-	-	-	-	-	-	-	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	ND (10)	ND (1)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	ND (2)	-	-	7	ND SL (2)	ND (10)	-	-	-	-	-	-	-	-	-	-	-	ND (5)
DI-N-BUTYL PHTHALATE	µg/L	12000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	-	ND (5)	ND SL (2)	-	-	-	-	-	-	-	-	-	-	-	-	ND (5)
CHRYSENE	µg/L	1.9	ND (10)	ND (2)	ND (2.0)	ND (2.0)	ND (0.014)	ND (0.5)	ND (0.9)	ND (1.0)	ND (1.0)	ND (1)	ND (1)	ND (0.1)	ND (0.10)	0.2 J	0.7	ND (0.1)	1 J	4	0.6 SL	ND (10)	ND (1)	2.4	ND (1)	ND (1)	ND (0.11)	ND (1)	ND (0.10)	ND (1)	ND (0.10)	ND (1)	ND (0.10)	ND (0.5)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	ND (10)	ND (2)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	-	ND (0.5)	ND SL (0.1)	ND (10)	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)
DIETHYL PHTHALATE	µg/L	93000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	-	ND (5)	ND SL (2)	-	-	-	-	-	-	-	-	-	-	-	-	ND (5)
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	ND (1)	ND SL (0.5)	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)
2,4-DINITROPHENOL	µg/L	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	-	ND (30)	ND SL (10)	-	-	-	-	-	-	-	-	-	-	-	-	ND (30)
FLUORANTHENE	µg/L	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3 J	-	-	2	0.6 SL	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)
FLUORENE	µg/L	1900	-	-	-	-	ND (0.024)	1.2	ND (0.9)	-	-	3 J	ND (1)	0.147	ND (0.10)	2	1	2	ND (0.9)	2	0.8 SL	-	ND (1)	ND (0.56)	ND (1)	ND (1)	0.024 J	ND (1)	0.028 J	ND (1)	ND (0.10)	ND (1)	0.024 J	3
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	-	ND (10)	ND (2.0)	ND (2.0)	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	-	0.2 J	0.3 J SL	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.1)	-	-	-	0.1 J SL	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	ND SL (0.5)	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	-	ND SL (0.5)	-	-	-	-	-	-	-	-	-	-	-	-	-
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	ND (1)	ND (5.0)	ND (1.0)	ND (1.0)	1 J	ND (1)	ND (1)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	0.1 J	ND (0.9)	ND (0.5)	1 SL	-	1 J	ND (0.56)	ND (1)	ND (1)	0.098 J	ND (1)	0.24	ND (1)	0.17	ND (1)	0.19	24
4-NITROPHENOL	µg/L	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	-	ND (30)	ND SL (10)	-	-	-	-	-	-	-	-	-	-	-	-	ND (30)
PHENANTHRENE	µg/L	1100	-	-	-	-	ND (0.030)	ND (0.5)	ND (0.9)	ND (1.0)	ND (1.0)	ND (1)	ND (1)	ND (0.1)	ND (0.10)	ND (0.1)	0.2 J	ND (0.1)	ND (0.9)	ND (0.5)	0.2 J SL	-	ND (1)	ND (0.56)	ND (1)	ND (1)	0.38	ND (1)	0.38	ND (1)	0.42	ND (1)	ND (0.10)	2
PHENOL	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	-	-	ND (1)	ND SL (0.5)	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)
PYRENE	µg/L	130	-	-	-	-	ND (0.021)	0.97	ND (0.9)	1 J	1 J	2 J	ND (1)	0.332	ND (0.10)	0.9	1	0.9	1 J	7	2 SL	-	1 J	6.0	ND (1)	ND (1)	0.13	ND (1)	0.064 J	ND (1)	0.11	ND (1)	0.29	0.7
PYRIDINE	µg/L	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	-	-	ND SL (2)	-	-	-	-	-	-	-	-	-	-	-	-	-
QUINOLINE	µg/L	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	-	-	ND SL (1)	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																																		
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (7.7)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (7.7)
ARSENIC	µg/L	10	ND (8)	12	ND (5.0)	10.7	-	-	-	-	-	-	-	-	-	-	ND (9.7)	-	-	ND (9.7)	ND SL (9.7)	26	-	-	-	-	-	-	-	-	-	-	-	ND (9.7)
BARIUM	µg/L	2000	ND (100)	ND (100)	ND (200)	ND (200)	-	-	-	-	-	-	-	-	-	-	23.6	-	-	-	207 SL	178	-	-	-	-	-	-	-	-	-	-	-	-
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.67)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.67)
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.49)	-	-	ND (5.0)	ND SL (0.49)	-	-	-	-	-	-	-	-	-	-	-	-	ND (5.0)
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (7.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (7.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	µg/L	35	ND (10.0)	ND (10.0)	ND (50.0)	ND (50.0)	-	-	-	-	-	-	-	-	-	-	ND (1.9)	-	-	ND (5.0)	ND SL (1.9)	97	-	-	-	-	-	-	-	-	-	-	-	ND (5.0)
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (10.0)
LEAD	µg/L	5	27	ND (10.0)	8.8	46.3	ND (3)	ND (5)	ND (0.047)	ND (0.050)	ND (0.050)	0.12 J	ND (0.080)	28.4	ND (2.4)	ND (0.082)	ND (6.2)	ND (0.090)	0.24 J	ND (6.2)	ND SL (6.2)	78	0.13 J	ND (5.0)	ND (0.080)	ND (0.080)	ND (5.0)	0.11 J	3.8 J	ND (0.080)	ND (5.0)	ND (0.080)	ND (5.0)	ND (6.2)
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.050)	-	-	ND (0.20)	ND SL (0.050)	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.20)
NICKEL	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2.8)	-	-	ND (10.0)	ND SL (2.8)	-	-	-	-	-	-	-	-	-	-	-	-	ND (10.0)
SELENIUM	µg/L	50	ND (20.0)	ND (20.0)	ND (5.0)	ND (5.0)	-	-	-	-	-	-	-	-	-	-	ND (9.7)	-	-	ND (20.0)	ND SL (9.7)	ND (20.0)	-	-	-	-	-	-	-	-	-	-	-	ND (20.0)
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.9)	-	-	ND (5.0)	ND SL (1.9)	-	-	-	-	-	-	-	-	-	-	-	-	ND (5.0)
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (9.4)	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (9.4)
VANADIUM	µg/L	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.6)	-	-	-	ND SL (1.6)	-	-	-	-	-	-	-	-	-	-	-	-	-
ZINC	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (5.4)	-	-	6.6 J	ND SL (5.4)	-	-	-	-	-	-	-	-	-	-	-	-	ND (20.0)

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-368	MW-369	MW-370		MW-433		MW-434		MW-435		MW-436			MW-437		MW-438		MW-439		MW-440		MW-441		MW-442	MW-443			MW-444		MW-445	
Sample Date			21-Aug-13	21-Aug-13	21-Aug-13	21-Aug-13	20-Aug-13	22-Apr-15	20-Aug-13	22-Apr-15	13-Aug-13	14-Oct-13	20-Aug-13	22-Apr-15	21-Dec-16	20-Aug-13	9-Jul-15	20-Aug-13	8-Jul-15	20-Aug-13	15-Nov-16	20-Aug-13	6-Jul-15	19-Aug-13	22-Apr-15	20-Aug-13	16-Aug-13	16-Aug-13	8-Jul-15	19-Aug-13	6-Jul-15	19-Aug-13	22-Apr-15
Sample ID			MW-368-082113	MW-369-082113	MW-370 DUP-082113	MW-370-082113	MW-433-082013	AOI5_MW-433_042215	MW-434-082013	AOI5_MW-434_042215	MW-435-081313	MW435	MW-436-082013	AOI5_MW-436_042215	MW-436_20161221	MW-437-082013	MW-437_20150709	MW-438-082013	MW-438_20150708	MW-439-082013	MW-439-20161115SL	MW-440-082013	MW-440-20150706	MW-441-081913	AOI5_MW-441_042215	MW-442-082013	ADI-5_MW-443_081613	ADI-5_MW-443DUP_081613	MW-443_20150708	MW-444-081913	MW-444-20150706	MW-445-081913	AOI5_MW-445_042215
Laboratory			PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	ACCUTEST	PACE	PACE	LL	PACE	ACCUTEST	PACE	ACCUTEST	PACE	LL	PACE	ACCUTEST	PACE	PACE	PACE	PACE	PACE	ACCUTEST	PACE	ACCUTEST	PACE	PACE
Laboratory Work Order			30101346	30101346	30101346	30101346	30101245	30146399	30101245	30146399	30100925	JB50132	30101245	30146399	1747400	30101245	JB98822	30101245	JB98822	30101245	1733937	30101245	JB98590	30101156	30146399	30101245	30101039	30101039	JB98822	30101156	JB98590	30101156	30146399
Laboratory Sample ID		MSC-PA	30101346012	30101346011	30101346010	30101346009	30101245005	30146399006	30101245001	30146399007	30100925001	JB50132-2	30101245002	30146399008	8758300	30101245004	JB98822-6	30101245007	JB98822-1	30101245008	8699964	30101245009	JB98590-1	30101156010	30146399009	30101245003	30101039012	30101039013	JB98822-2	30101156011	JB98590-5	30101156009	30146399010
Volatile Organic Compounds																																	
BENZENE	µg/L	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	23.1	21.4	ND (1.0)	ND (1.0)	ND (0.5)	24.4	0.30 J	24	58.4	2.2	3 SL	ND (1.0)	ND (0.50)	ND (1.0)	ND (1.0)	278	8450	8320	714	ND (1.0)	ND (0.50)	ND (1.0)	ND (1.0)
CYCLOHEXANE	µg/L	53000	-	-	-	-	-	-	-	-	-	9.2	-	-	ND (2)	-	0.63 J	-	6.6	-	4 J SL	-	ND (5.0)	-	-	-	-	-	48.9	-	ND (5.0)	-	-
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.22 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND SL (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	1.3	1.9	2.0	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
ETHYLBENZENE	µg/L	700	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	3.8	7.5	ND (1.0)	ND (1.0)	ND (0.5)	4.8	ND (1.0)	318	37.8	5.4	3 SL	1.8	ND (1.0)	ND (1.0)	ND (1.0)	55.6	6670	6260	412	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	32.9	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	2.0	2.9	1.1	0.85 J	ND (1.0)	ND (1.0)	ND (1)	0.80 J	ND (1.0)	24.3	6.7	4.9	7 SL	ND (1.0)	0.52 J	ND (1.0)	ND (1.0)	2.8	84.5	82.5	5.8	ND (1.0)	0.97 J	ND (1.0)	ND (1.0)
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	5.3	ND (1.0)	31.2	98.1	10	12.1	2.6	ND (1.0)	ND (0.5)	ND (1.0)	ND (1.0)	788	157	1.1	2 SL	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	4.5	0.48 J	0.51 J	ND (5.0)	ND (1.0)	0.60 J	ND (1.0)	ND (1.0)
HEXANE	µg/L	6200	-	-	-	-	-	-	-	-	-	ND (5.0)	-	-	ND (2)	-	ND (5.0)	-	1.3 J	-	ND SL (2)	-	ND (5.0)	-	-	-	-	-	71.7	-	ND (5.0)	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	-	-	-	-	-	-	ND (5.0)	-	-	ND (1)	-	ND (2.0)	-	2.3	-	ND SL (1)	-	ND (2.0)	-	-	-	-	-	1.2 J	-	0.42 J	-	-
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	-	-	-	-	-	-	ND (5.0)	-	-	ND (1)	-	ND (2.0)	-	0.83 J	-	ND SL (1)	-	0.32 J	-	-	-	-	-	ND (10)	-	0.79 J	-	-
TOLUENE	µg/L	1000	0.67 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	1.2	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	50.7	ND (1.0)	2.8	2.8	1.6	2 SL	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	10.8	13800	13300	459	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2,4-TRIMETHYLBENZENE	µg/L	62	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	10.4	9.8	ND (1.0)	ND (1.0)	ND (1)	6.9	ND (2.0)	27.6	3.7	3.5	7 SL	ND (1.0)	ND (2.0)	ND (1.0)	ND (1.0)	27.5	941	857	84.2	ND (1.0)	ND (2.0)	ND (1.0)	ND (1.0)
1,3,5-TRIMETHYLBENZENE	µg/L	1200	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	4.8	4.3	ND (1.0)	ND (1.0)	ND (1)	3.5	ND (2.0)	6.9	0.67 J	0.83 J	2 J SL	ND (1.0)	ND (2.0)	ND (1.0)	ND (1.0)	10.8	303	286	24.6	ND (1.0)	ND (2.0)	ND (1.0)	ND (1.0)
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	14.1	2.7	ND (3.0)	ND (3.0)	ND (0.5)	16.1	ND (1.0)	343	13.9	9.8	9 SL	2.2 J	ND (1.0)	ND (3.0)	ND (3.0)	177	43700	41700	1930	ND (3.0)	ND (1.0)	ND (3.0)	ND (3.0)
Volatile Organic Compounds (SW8011)																																	
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.020)	ND (0.040)	ND (0.040)	ND (0.0095)	ND (0.040)	ND (0.019)	0.097	ND (0.019)	ND (0.040)	ND (0.0095) SL	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.040)	0.53	0.31	0.30	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.040)
Semi-Volatile Organic Compounds																																	
ACENAPHTHENE	µg/L	3800	-	-	-	-	-	-	-	-	-	1.05	-	-	ND (0.1)	-	ND (0.10)	-	0.656	-	15 SL	-	ND (0.10)	-	-	-	-	-	0.244	-	ND (0.10)	-	-
ANTHRACENE	µg/L	66	-	-	-	-	0.073 J	ND (0.10)	0.63	0.33	3.0	0.679	ND (0.10)	ND (0.10)	ND (0.1)	0.10 J	ND (0.10)	0.19	0.126	0.33	1 SL	0.043 J	ND (0.10)	0.036 J	ND (0.10)	ND (0.10)	0.086 J	0.13	0.148	ND (0.10)	ND (0.10)	0.038 J	ND (0.11)
BENZO(A)ANTHRACENE	µg/L	4.9	-	-	-	-	ND (0.10)	ND (0.10)	0.70	ND (0.13)	0.69 J	0.344	0.56	ND (0.10)	ND (0.1)	0.36	ND (0.0052)	0.37	0.248	ND (0.10)	0.3 J SL	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.10)	0.72	ND (0.10)	ND (0.10)	ND (0.0052)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.11)
BENZO(A)PYRENE	µg/L	0.2	-	-	-	-	ND (0.10)	ND (0.10)	0.45	ND (0.13)	ND (0.23)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.11)	ND (0.0052)	0.25	0.123	ND (0.10)	0.2 J SL	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.10)	0.33	ND (0.10)	ND (0.10)	ND (0.0052)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.11)
BENZO(B)FLUORANTHENE	µg/L	1.2	-	-	-	-	ND (0.10)	ND (0.10)	0.64	ND (0.13)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.2 J SL	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)
BENZO(G,H,I)PERYLENE	µg/L	0.26	-	-	-	-	ND (0.10)	ND (0.10)	0.4	ND (0.13)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.11)	ND (0.10)	0.25	0.116	ND (0.10)	0.2 J SL	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	-	-	-	-	-	-	ND (0.10)	-	-	ND (0.1)	-	ND (0.10)	-	ND (0.10)	-	0.1 J SL	-	ND (0.10)	-	-	-	-	-	ND (0.10)	-	ND (0.10)	-	-
1,1'-BIPHENYL	µg/L	430	-	-	-	-	-	-	-	-	-	ND (1.0)	-	-	ND (0.5)	-	ND (1.0)	-	ND (1.0)	-	4 SL	-	ND (1.0)	-	-	-	-	-	ND (1.0)	-	ND (1.0)	-	-
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	-	-	-	-	-	-	-	-	-	2.0	-	-	6	-	3.9	-	ND (2.0)	-	ND SL (2)	-	ND (2.0)	-	-	-	-	-	4.3	-	ND (2.0)	-	-
DI-N-BUTYL PHTHALATE	µg/L	12000	-	-	-	-	-	-	-	-	-	ND (2.0)	-	-	ND (2)	-	ND (2.1)	-	ND (2.0)	-	ND SL (2)	-	ND (2.0)	-	-	-	-	-	ND (2.1)	-	ND (2.0)	-	-
CHRYSENE	µg/L	1.9	-	-	-	-	ND (0.10)	ND (0.10)	0.48	ND (0.13)	1.2	0.414	ND (0.10)	ND (0.10)	0.3 J	0.051 J	ND (0.10)	0.073 J	0.148	ND (0.10)	0.3 J SL	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.73	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	-	-	-	-	-	-	-	-	-	ND (0.10)	-	-	ND (0.1)	-	ND (0.10)	-	ND (0.10)	-	0.2 J SL	-	ND (0.10)	-	-	-	-	-	ND (0.10)	-	ND (0.10)	-	-
DIETHYL PHTHALATE	µg/L	93000	-	-	-	-	-	-	-	-	-	ND (2.0)	-	-	ND (2)	-	ND (2.1)	-	ND (2.0)	-	ND SL (2)	-	ND (2.0)	-	-	-	-	-	ND (2.1)	-	ND (2.0)	-	-
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	-	-	-	-	-	-	2.3 J	-	-	ND (0.5)	-	ND (5.2)	-	ND (5.0)	-	ND SL (0.5)	-	ND (5.0)	-	-	-	-	-	4.0 J	-	ND (5.0)	-	-
2,4-DINITROPHENOL	µg/L	230	-	-	-	-	-	-	-	-	-	ND (20)	-	-	ND (11)	-	ND (10)	-	ND (10)	-	ND SL (10)	-	ND (10)	-	-	-	-	-	ND (10)	-	ND (10)	-	-
FLUORANTHENE	µg/L	260	-	-	-	-	-	-	-	-	-	0.283	-	-	ND (0.1)	-	ND (0.10)	-	ND (0.10)	-	0.4 J SL	-	ND (0.10)	-	-	-	-	-	ND (0.10)	-	ND (0.10)	-	-
FLUORENE	µg/L	1900	-	-	-	-	ND (0.10)	ND (0.10)	1.7	1.7	11.6	1.45	ND (0.10)	ND (0.10)	ND (0.1)	0.68	ND (0.10)	1.6	0.866	6.7	11 SL	0.33	ND (0.10)	0.074 J	ND (0.10)	0.96	1.2	1.1	0.508	ND (0.10)	ND (0.10)	0.087 J	ND (0.11)
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	-	-	-	-	-	-	-	-	-	ND (0.10)	-	-	ND (0.1)	-	ND (0.10)	-	ND (0.10)	-	0.2 J SL	-	ND (0.10)	-	-	-	-	-	ND (0.10)	-	ND (0.10)	-	-
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	-	-	-	-	-	-	1.2	-	-	ND (0.1)	-	ND (1.0)	-	ND (1.0)	-	47 SL	-	ND (1.0)	-	-	-	-	-	5.8	-	ND (1.0)	-	-
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	ND (2.0)	-	-	ND (0.5)	-	ND (2.1)	-	ND (2.0)	-	ND SL (0.5)	-	ND (2.0)	-	-	-	-	-	7.5	-	ND (2.0)	-	-
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	-	-	-	-	-	-	ND (2.0)	-	-	ND (0.5)	-	ND (2.1)	-	ND (2.0)	-	ND SL (0.5)	-	ND (2.0)	-	-	-	-	-	2.3	-	ND (2.0)	-	-
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	-	-	-	ND (0.10)	ND (0.10)	0.60	0.38	0.86 J	1.50	ND (0.10)	0.022 J	ND (0.1)	2.6	ND (0.10)	33.3	0.575	15.3	55 SL	0.73	ND (0.10)	0.19	0.059 J	0.88	308	353	12.9	ND (0.10)	ND (0.10)	0.24	0.030 J
4-NITROPHENOL	µg/L	60	-	-	-	-	-	-	-	-	-	ND (10)	-	-	ND (11)	-	ND (10)	-	ND (10)	-	ND SL (10)	-	ND (10)	-	-	-	-	-	ND (10)	-	ND (10)	-	-
PHENANTHRENE	µg/L	1100	-	-	-	-	ND (0.10)	ND (0.10)	0.61	0.48	13.3	0.846	ND (0.10)	ND (0.10)	ND (0.1)	1.5	ND (0.10)	2.2	0.499	1.4	8 SL	0.43	ND (0.10)	0.38	ND (0.10)	ND (0.10)	1.5	1.6	0.558	0.35	ND (0.10)	0.41	ND (0.11)
PHENOL	µg/L	2000	-	-	-	-	-	-	-	-	-	ND (2.0)	-	-	ND (0.5)	-	ND (2.1)	-	ND (2.0)	-	ND SL (0.5)	-	ND (2.0)	-	-	-	-	-	ND (2.1)	-	ND (2.0)	-	-
PYRENE	µg/L	130	-	-	-	-	0.25	ND (0.10)	2.5	0.19	3.8	1.58	ND (0.10)	ND (0.10)	0.3 J	0.13	ND (0.10)	ND (0.10)	0.405	0.14	1 SL	0.085 J	ND (0.10)	0.24	0.097 J	2.1	0.049 J	0.061 J	0.370	ND (0.10)	ND (0.10)	0.10 J	ND (0.11)
PYRIDINE	µg/L	120	-	-	-	-	-	-	-	-	-	ND (2.0)	-	-	ND (2)	-	ND (2.1)	-	ND (2.0)	-	ND SL (2)	-	ND (2.0)	-	-	-	-	-	ND (2.1)	-	ND (2.0)	-	-
QUINOLINE	µg/L	1.1	-	-	-	-	-	-	-	-	-	ND (0.53)	-	-	ND (1)	-	ND (0.36)	-	ND (0.35)	-	ND SL (1)	-	ND (0.35)	-	-	-	-	-	ND (0.36)	-	ND (0.35)	-	-
Metals																																	
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARSENIC	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-	ND (9.7)	-	-	-	-	-	ND SL (9.7)	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	23.4	-	-	-	-	-	32.1 SL	-	-	-	-	-	-	-	-	-	-	-	-
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.49)	-	-	-	-	-	ND SL (0.49)	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	µg/L	35	-	-	-	-	-	-	-	-	-	1.6 J	-	-	ND (1.9)	-	0.70 J	-	0.80 J	-	ND SL (1.9)	-	ND (0.54)	-	-	-	-	-	ND (0.54)	-	1.3 J	-	-
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	13	5.3	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (2.4)	ND (5.0)	ND (5.0)	ND (6.2)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND SL (6.2)	ND (5.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (5.0)
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.050)	-	-	-	-	-	ND SL (0.050)	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	µg/L	100	-	-	-	-	-	-	-	-	-	1.7 J	-	-	ND (2.8)	-	0.90 J	-	3.1 J	-	ND SL (2.8)	-	ND (10)	-	-	-	-	-	ND (10)	-	2.1 J	-	-
SELENIUM	µg/L	50	-	-	-	-	-	-	-	-	-	-	-	-	ND (9.7)	-	-	-	-	-	ND SL (9.7)	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	ND (1.9)	-	-	-	-	-	ND SL (1.9)	-	-	-	-	-	-	-	-	-	-	-	-
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	-	-	-	-	-	-	-	-	ND (0.72)	-	-	ND (1.6)	-	2.3 J	-	0.80 J	-	ND SL (1.6)	-	17.8 J	-	-	-	-	-	ND (0.70)	-	1.6 J	-	-
ZINC	µg/L	2000	-	-	-	-	-	-	-	-	-	ND (4.4)	-	-	ND (5.4)	-	ND (20)	-	ND (20)	-	ND SL (5.4)	-	ND (20)	-	-	-	-	-	ND (20)	-	ND (20)	-	-

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-446		MW-447		MW-448	MW-449		MW-450		MW-451		MW-452		MW-453		MW-454			MW-455				MW-456			MW-457		MW-458			MW-459	
Sample Date			19-Aug-13	6-Jul-15	19-Aug-13	6-Jul-15	7-Jul-15	16-Aug-13	22-Apr-15	19-Aug-13	6-Jul-15	16-Aug-13	22-Apr-15	16-Aug-13	8-Jul-15	19-Aug-13	6-Jul-15	13-Aug-13	14-Oct-13	22-Oct-14	15-Aug-13	24-Oct-14	18-Feb-15	22-Apr-15	19-Aug-13	24-Oct-14	18-Feb-15	19-Aug-13	7-Jul-15	15-Aug-13	18-Feb-15	22-Apr-15	15-Aug-13	18-Feb-15
Sample ID			MW-446-081913	MW-446-20150706	MW-447-081913	MW-447-20150706	MW-448-20150707	ADI-5_MW-449_081613	AOI5_MW-449_042215	MW-450-081913	MW-450-20150706	ADI-5_MW-451_081613	AOI5_MW-451_042215	ADI-5_MW-452_081613	MW-452_20150708	MW-453-081913	MW-453-20150706	MW-454-081313	MW454	MW-454_20141022	ADI-5_MW-455_081513	MW-455_20141024	MW-455_20150218	AOI5_MW-455_042215	MW-456-081913	MW-456_20141024	MW-456_20150218	MW-457-081913	MW-457-20150707	ADI-5_MW-458_081513	MW-458_20150218	AOI5_MW-458_042215	ADI-5_MW-459_081513	MW-459_20150218
Laboratory			PACE	ACCUTEST	PACE	ACCUTEST	ACCUTEST	PACE	PACE	PACE	ACCUTEST	PACE	PACE	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	LL	PACE	LL	LL	PACE	PACE	LL	LL	PACE	ACCUTEST	PACE	LL	PACE	PACE	LL
Laboratory Work Order			30101156	JB98590	30101156	JB98590	JB98590	30101039	30146399	30101156	JB98590	30101039	30146399	30101039	JB98822	30101156	JB98590	30100925	JB50132	1512973	30101039	1514157	1539780	30146399	30101156	1514157	1539780	30101156	JB98590	30101039	1539780	30146399	30101039	1539780
Laboratory Sample ID		MSC-PA	30101156008	JB98590-6	30101156006	JB98590-2	JB98590-17	30101039011	30146399005	30101156005	JB98590-7	30101039010	30146399004	30101039009	JB98822-3	30101156007	JB98590-3	30100925004	JB50132-4	7646913	30101039007	7653047	7778417	30146399003	30101156004	7653048	7778418	30101156003	JB98590-9	30101039006	7778419	30146399002	30101039005	7778420
Volatile Organic Compounds																																		
BENZENE	µg/L	5	ND (1.0)	ND (0.50)	ND (1.0)	ND (0.50)	0.27 J	1.0	0.40 J	ND (1.0)	ND (0.50)	443	333	26.3	25.6	ND (1.0)	ND (0.50)	3.5	ND (1.0)	1	838	210	620	575	1470	640	1100	ND (1.0)	ND (0.50)	ND (1.0)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)
CYCLOHEXANE	µg/L	53000	-	ND (5.0)	-	ND (5.0)	1.3 J	-	-	-	ND (5.0)	-	-	-	7.8	-	3.4 J	-	6.0	-	-	310	530	-	-	320	440	-	ND (5.0)	-	ND (2)	-	-	ND (2)
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.56 J	ND (1.0)	0.20 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	0.61 J	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)
ETHYLBENZENE	µg/L	700	0.46 J	ND (1.0)	0.89 J	ND (1.0)	ND (1.0)	9.8	ND (1.0)	1.2	ND (1.0)	497	370	19.7	0.63 J	0.75 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	447	140	360	363	320	200	310	ND (1.0)	ND (1.0)	1.0	ND (0.5)	ND (1.0)	2.0	ND (0.5)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.31 J	ND (1.0)	ND (1.0)	ND (1.0)	66.3	76.4	6.0	2.7	ND (1.0)	0.79 J	6.1	3.0	0.9 J	70.5	32	52	51.4	37.6	30	39	ND (1.0)	ND (1.0)	ND (1.0)	ND (1)	ND (1.0)	0.35 J	ND (1)
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	ND (1.0)	ND (1.0)	ND (1.0)	1.2	ND (1.0)	ND (1.0)	ND (1.0)	1.2	ND (1.0)	1.9	0.21 J	9.0	3.2	ND (1.0)	ND (1.0)	3.0	2.1	10	1.4	ND (0.5)	1 J	0.77 J	0.50 J	0.5 J	0.6 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)
HEXANE	µg/L	6200	-	ND (5.0)	-	ND (5.0)	ND (5.0) J	-	-	-	ND (5.0)	-	-	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	-	200	270	-	-	210	320	-	ND (5.0)	-	ND (2)	-	-	ND (2)
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	-	-	-	74	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	ND (2.0)	-	ND (2.0)	ND (2.0)	-	-	-	ND (2.0)	-	-	-	1.3 J	-	0.62 J	-	0.67 J	-	-	5	5	-	-	4 J	5 J	-	ND (2.0)	-	ND (1)	-	-	ND (1)
BUTYLBENZENE, TERT-	µg/L	12000	-	ND (2.0)	-	ND (2.0)	ND (2.0)	-	-	-	ND (2.0)	-	-	-	3.7	-	1.8 J	-	0.76 J	-	-	4 J	ND (1)	-	-	3 J	4 J	-	ND (2.0)	-	ND (1)	-	-	ND (1)
TOLUENE	µg/L	1000	ND (1.0)	ND (1.0)	1.1	ND (1.0)	ND (1.0)	6.9	ND (1.0)	1.8	ND (1.0)	249	2.6	14.8	0.78 J	0.57 J	ND (1.0)	1.5	ND (1.0)	ND (0.5)	673	230	680	715	927	310	630	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (1.0)	0.88 J	ND (0.5)
1,2,4-TRIMETHYLBENZENE	µg/L	62	ND (1.0)	ND (2.0)	1.6	ND (2.0)	ND (2.0)	3.7	ND (1.0)	1.8	ND (2.0)	91.9	11.5	7.9	ND (2.0)	1.4	ND (2.0)	ND (1.0)	2.2	ND (0.5)	527	270	400	384	267	190	270	ND (1.0)	ND (2.0)	2.3	ND (1)	ND (1.0)	4.4	ND (1)
1,3,5-TRIMETHYLBENZENE	µg/L	1200	ND (1.0)	ND (2.0)	0.74 J	ND (2.0)	ND (2.0)	1.3	ND (1.0)	ND (1.0)	ND (2.0)	61.7	16.3	2.6	ND (2.0)	0.51 J	ND (2.0)	ND (1.0)	ND (2.0)	ND (0.5)	237	110	170	170	106	88	120	ND (1.0)	ND (2.0)	ND (1.0)	ND (1)	ND (1.0)	1.5	ND (1)
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	1.9 J	ND (1.0)	3.5	ND (1.0)	ND (1.0)	71.9	ND (3.0)	5.5	ND (1.0)	1150	53.8	133	1.9	2.5 J	ND (1.0)	ND (3.0)	ND (1.0)	ND (0.5)	1740	570	1400	1480	1250	740	1200	ND (3.0)	ND (1.0)	3.1	ND (0.5)	ND (3.0)	7.7	ND (0.5)
Volatile Organic Compounds (SW8011)																																		
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.019)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.019)	0.21	0.046	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.020)	ND (0.0096)	0.25	ND (0.0095)	ND (0.010)	0.32	0.37	ND (0.0096)	ND (0.0098)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.0097)	ND (0.040)	ND (0.040)	ND (0.0098)
Semi-Volatile Organic Compounds																																		
ACENAPHTHENE	µg/L	3800	-	ND (0.10)	-	ND (0.10)	0.397	-	-	-	ND (0.11)	-	-	-	ND (0.10)	-	1.20	-	1.69	-	-	ND (0.1)	ND (0.1)	-	-	0.3 J	ND (0.1)	-	ND (0.10)	-	ND (0.1)	-	-	ND (0.1)
ANTHRACENE	µg/L	66	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	0.14	ND (0.11)	ND (0.10)	0.11 J	ND (0.10)	ND (0.10)	0.26	0.423	0.26	0.473	0.3 J	0.030 J	ND (0.1)	ND (0.1)	0.033 J	0.073 J	0.1 J	ND (0.1)	0.024 J	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	0.051 J	ND (0.1)
BENZO(A)ANTHRACENE	µg/L	4.9	ND (0.11)	ND (0.050)	ND (0.10)	ND (0.050)	0.236	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.053)	ND (0.10)	0.023 J	ND (0.10)	ND (0.050)	ND (0.10)	0.186	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	0.033 J	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.10)	ND (0.050) J	ND (0.10)	ND (0.1)	0.021 J	ND (0.10)	ND (0.1)
BENZO(A)PYRENE	µg/L	0.2	ND (0.11)	ND (0.050)	ND (0.10)	ND (0.050)	0.120	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.053)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	0.0078 J	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.1)
BENZO(B)FLUORANTHENE	µg/L	1.2	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	0.173	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	0.018 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	0.025 J	ND (0.10)	ND (0.1)
BENZO(G,H,I)PERYLENE	µg/L	0.26	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	0.022 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	0.021 J	ND (0.10)	ND (0.1)
BENZO(K)FLUORANTHENE	µg/L	0.55	-	ND (0.10)	-	ND (0.10)	ND (0.10)	-	-	-	ND (0.11)	-	-	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	-	ND (0.1)	ND (0.1)	-	-	ND (0.1)	ND (0.1)	-	ND (0.10)	-	ND (0.1)	-	-	ND (0.1)
1,1'-BIPHENYL	µg/L	430	-	ND (1.0)	-	ND (1.0)	ND (1.0)	-	-	-	ND (1.1)	-	-	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-	-	2	2	-	-	1	1	-	ND (1.0)	-	ND (0.5)	-	-	ND (0.5)
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	-	3.1	-	ND (2.0)	1.4 J	-	-	-	ND (2.1)	-	-	-	ND (2.0)	-	3.6	-	1.3 J	-	-	ND (2)	5	-	-	ND (2)	2 J	-	1.6 J	-	ND (2)	-	-	ND (2)
DI-N-BUTYL PHTHALATE	µg/L	12000	-	ND (2.0)	-	ND (2.0)	ND (2.1)	-	-	-	ND (2.1)	-	-	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	-	ND (2)	ND (2)	-	-	ND (2)	ND (2)	-	ND (2.0)	-	ND (2)	-	-	ND (2)
CHRYSENE	µg/L	1.9	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	0.169	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	0.014 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	0.030 J	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.10)	ND (0.10) J	ND (0.10)	ND (0.1)	0.014 J	ND (0.10)	ND (0.1)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	-	ND (0.10)	-	ND (0.10)	ND (0.10)	-	-	-	ND (0.11)	-	-	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	-	ND (0.1)	ND (0.1)	-	-	ND (0.1)	ND (0.1)	-	ND (0.10)	-	ND (0.1)	-	-	ND (0.1)
DIETHYL PHTHALATE	µg/L	93000	-	ND (2.0)	-	ND (2.0)	ND (2.1)	-	-	-	ND (2.1)	-	-	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	-	ND (2)	ND (2)	-	-	ND (2)	ND (2)	-	ND (2.0)	-	ND (2)	-	-	ND (2)
2,4-DIMETHYLPHENOL	µg/L	2300	-	ND (5.0)	-	ND (5.0)	ND (5.2)	-	-	-	ND (5.3)	-	-	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	-	ND (0.5)	2	-	-	ND (0.5)	0.6 J	-	ND (5.0)	-	ND (0.5)	-	-	ND (0.5)
2,4-DINITROPHENOL	µg/L	230	-	ND (10)	-	ND (10)	ND (10)	-	-	-	ND (11)	-	-	-	ND (10)	-	ND (10)	-	ND (20)	-	-	ND (10)	ND (10)	-	-	ND (10)	ND (10)	-	ND (10)	-	ND (10)	-	-	ND (10)
FLUORANTHENE	µg/L	260	-	ND (0.10)	-	ND (0.10)	0.216	-	-	-	ND (0.11)	-	-	-	ND (0.10)	-	0.140	-	0.154	-	-	ND (0.1)	ND (0.1)	-	-	ND (0.1)	ND (0.1)	-	ND (0.10)	-	ND (0.1)	-	-	ND (0.1)
FLUORENE	µg/L	1900	0.073 J	0.108	0.13	ND (0.10)	0.600	0.031 J	ND (0.10)	1.7	ND (0.11)	0.26	1.4	ND (0.10)	0.205	1.2	1.79	3.0	2.70	2	0.11	0.1 J	ND (0.1)	0.079 J	0.32	0.6	0.7	0.13	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	0.67	0.4 J
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	-	ND (0.10)	-	ND (0.10)	ND (0.10)	-	-	-	ND (0.11)	-	-	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	-	ND (0.1)	ND (0.1)	-	-	ND (0.1)	ND (0.1)	-	ND (0.10)	-	ND (0.1)	-	-	ND (0.1)
2-METHYLNAPHTHALENE	µg/L	470	-	ND (1.0)	-	ND (1.0)	ND (1.0)	-	-	-	ND (1.1)	-	-	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-	-	57	75	-	-	5	22	-	ND (1.0)	-	ND (0.1)	-	-	ND (0.1)
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	ND (2.0)	-	ND (2.0)	46.4	-	-	-	ND (2.1)	-	-	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	-	-	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	ND (2.0)	-	ND (2.0)	ND (2.1)	-	-	-	ND (2.1)	-	-	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	-	0.9 J	1	-	-	0.8 J	1	-	ND (2.0)	-	ND (0.5)	-	-	ND (0.5)
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	1.3	-	-	-	-	-	-	-	2.6	-	-	-	-	-	3	2	-	-	ND (0.5)	ND (0.5)	-	-	-	ND (0.5)	-	-	ND (0.5)
NAPHTHALENE	µg/L	100	0.30	ND (0.10)	0.18	ND (0.10)	0.891	1.3	0.35	1.0	ND (0.11)	65.1	93.4	2.1	ND (0.10)	2.6	ND (0.10)	1.7	ND (0.10)	ND (0.1)	232	89	200	127	106	35	110	0.12	ND (0.10)	0.68	ND (0.1)	0.12	2.2	ND (0.1)
4-NITROPHENOL	µg/L	60	-	ND (10)	-	ND (10)	ND (10)	-	-	-	ND (11)	-	-	-	ND (10)	-	ND (10)	-	ND (10)	-	-	ND (10)	ND (10)	-	-	ND (10)	ND (10)	-	ND (10)	-	ND (10)	-	-	ND (10)
PHENANTHRENE	µg/L	1100	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	0.236	0.41	0.020 J	1.4	ND (0.11)	ND (0.10)	1.4	ND (0.10)	ND (0.10)	0.49	1.61	0.91	1.38	0.9	0.62	0.1 J	ND (0.1)	0.11	0.87	0.7	0.6	0.40	ND (0.10)	ND (0.10)	ND (0.1)	ND (0.10)	0.52	0.2 J
PHENOL	µg/L	2000	-	ND (2.0)	-	ND (2.0)	2.3	-	-	-	ND (2.1)	-	-	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	-	1 J	ND (0.5)	-	-	1 J	ND (0.5)	-	ND (2.0)	-	ND (0.5)	-	-	ND (0.5)
PYRENE	µg/L	130	0.097 J	0.138	0.068 J	ND (0.10)	0.311	0.044 J	ND (0.10)	0.041 J	ND (0.11)	ND (0.10)	0.068 J	0.14	ND (0.10)	0.34	0.293	0.21	0.307	ND (0.1)	0.054 J	ND (0.1)	ND (0.1)	0.10 J	0.056 J	ND (0.1)	ND (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.1)	0.019 J	0.052 J	ND (0.1)
PYRIDINE	µg/L	120	-	ND (2.0)	-	ND (2.0)	ND (2.1)	-	-	-	ND (2.1)	-	-	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	-	ND (2)	ND (2)	-	-	ND (2)	ND (2)	-	ND (2.0)	-	ND (2)	-	-	ND (2)
QUINOLINE	µg/L	1.1	-	ND (0.35)	-	ND (0.35)	ND (0.36)	-	-	-	ND (0.37)	-	-	-	ND (0.35)	-	ND (0.35)	-	ND (0.53)	-	-	ND (1)	ND (1)	-	-	ND (1)	ND (1)	-	ND (0.35)	-	ND (1)	-	-	ND (1)
Metals																																		
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARSENIC	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	µg/L	35	-	ND (0.54)	-	ND (0.54)	0.60 J	-	-	-	0.60 J	-	-	-	5.7 J	-	ND (0.54)	-	1.2 J	-	-	ND (1.0)	-	-	-	5.5	-	-	1.2 J	-	-	-	-	-
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (2.4)	ND (0.082)	8.8	6.7	-	23.4	3.8 J	5.1	-	ND (5.0)	ND (3.0)	ND (5.0)	-	ND (5.0)	ND (5.0)	-
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	µg/L	100	-	ND (10)	-	ND (10)	ND (1.9)	-	-	-	6.0 J	-	-	-	2.0 J	-	ND (1.1)	-	2.4 J	-	-	ND (1.6)	-	-	-	ND (1.6)	-	-	ND (1.7)	-	-	-	-	-
SELENIUM	µg/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	40.6 J	-	2.8 J	3.5 J	-	-	-	0.90 J	-	-	-	4.9 J	-	0.80 J	-	ND (0.72)	-	-	ND (1.9)	-	-	-	ND (1.9)	-	-	0.90 J	-	-	-	-	-
ZINC	µg/L	2000	-	ND (20)	-	ND (20)	ND (20)	-	-	-	ND (20)	-	-	-	ND (20)	-	ND (20)	-	4.4 J	-	-	5.1 J	-	-	-	5.6 J	-	-	ND (20)	-	-	-	-	-

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-460		MW-461		MW-462		MW-464		MW-465		MW-467		MW-468				MW-469		MW-471		MW-475		MW-476		MW-478		MW-479		MW-480		MW-481	MW-482	
Sample Date			15-Aug-13	22-Apr-15	15-Aug-13	7-Jul-15	25-Jul-13	15-Aug-13	13-Aug-13	7-Jul-15	15-Aug-13	8-Jul-15	14-Aug-13	8-Jul-15	14-Aug-13	7-Jul-15	7-Jul-15	15-Nov-16	13-Aug-13	7-Jul-15	14-Aug-13	7-Jul-15	14-Aug-13	9-Jul-15	14-Aug-13	9-Jul-15	14-Aug-13	7-Jul-15	14-Aug-13	7-Jul-15	20-Aug-13	9-Jul-15	21-Aug-13	14-Oct-13	23-Oct-14
Sample ID			ADI-5_MW-460_081513	AOI5_MW-460_042215	ADI-5_MW-461_081513	MW-461-20150707	MW-462_072513	ADI-5_MW-462_081513	MW-464-081313	MW-464-20150707	ADI-5_MW-465_081513	MW-465_20150708	MW-467-081413	MW-467_20150708	MW-468-081413	MW-468-20150707	MW-468-DUP20150707	MW-468-20161115SL	MW-469-081313	MW-469-20150707	MW-471-081413	MW-471-20150707	MW-475-081413	MW-475_20150709	MW-476-081413	MW-476_20150709	MW-478-081413	MW-478-20150707	MW-479-081413	MW-479-20150707	MW-480-082013	MW-480_20150709	MW-481-082113	MW482	MW-482_20141023
Laboratory			PACE	PACE	PACE	ACCUTEST	PACE	PACE	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	ACCUTEST	LL	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	PACE	ACCUTEST	LL
Laboratory Work Order			30101039	30146399	30101039	JB98590	3099570	30101039	30100925	JB98590	30101039	JB98822	30100942	JB98822	30100942	JB98590	JB98590	1733937	30100925	JB98590	30100942	JB98590	30100942	JB98822	30100942	JB98822	30100942	JB98590	30100942	JB98590	30101245	JB98822	30101346	JB50132	1513343
Laboratory Sample ID		MSC-PA	30101039004	30146399001	30101039003	JB98590-16	3099570005	30101039002	30100925002	JB98590-15	30101039001	JB98822-4	30100942005	JB98822-5	30100942006	JB98590-13	JB98590-18	8699962	30100925003	JB98590-14	30100942002	JB98590-10	30100942007	JB98822-7	30100942004	JB98822-8	30100942001	JB98590-12	30100942008	JB98590-11	30101245013	JB98822-9	30101346001	JB50132-3	7648546
Volatile Organic Compounds																																			
BENZENE	µg/L	5	849	672	1.1	0.25 J	5200	ND (1.0)	1.8	0.34 J	87	6	47.5	223	10.8	210	180	270 SL	ND (1.0)	0.79	ND (1.0)	ND (0.50)	103	49.9	1.9	7.6	ND (1.0)	ND (0.50)	ND (1.0)	ND (0.50)	52.8	23.2	ND (1.0)	ND (1.0)	ND (0.5)
CYCLOHEXANE	µg/L	53000	-	-	-	ND (5.0)	-	-	-	ND (5.0)	-	1.5 J	-	94.0	-	116	111	110 SL	-	1.1 J	-	ND (5.0)	-	386	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	4.0 J	-	1.1 J	-
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	8.8	ND (1.0)	0.80 J	0.28 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (3) SL	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.20 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)
ETHYLBENZENE	µg/L	700	382	940	2.7	ND (1.0)	4600	ND (1.0)	4.0	0.45 J	119	3.6	20.3	20.2	59.3	154	140	120 SL	ND (1.0)	2.6	ND (1.0)	ND (1.0)	ND (1.0)	42.9	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	11.8	1.4	ND (1.0)	ND (1.0)	ND (0.5)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	11.5	15.9	0.54 J	0.88 J	85.1	ND (1.0)	1.8	0.46 J	22.5	1.0	24.3	3.0	69.3	103	96.9	87 SL	ND (1.0)	3.0	ND (1.0)	ND (1.0)	ND (1.0)	0.75 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.73 J	ND (1.0)	ND (1.0)	13.5	8
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	0.46 J	1.5	0.53 J	12.4	950	5.4	13.1	6.9	0.88 J	ND (1.0)	0.63 J	2.0	ND (1.0)	0.54 J	0.53 J	ND (3) SL	ND (1.0)	5.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	1.4	ND (1.0)	1.6	ND (1.0)	ND (0.5)
HEXANE	µg/L	6200	-	-	-	ND (5.0)	-	-	-	ND (5.0)	-	ND (5.0)	-	8.7	-	10.9	10.1 J	ND (10) SL	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	ND (2.0)	-	-	-	0.28 J	-	0.72 J	-	2.9	-	30.6	28.6	24 J SL	-	1.8 J	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	5.6	-
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	ND (2.0)	-	-	-	ND (2.0)	-	0.30 J	-	1.1 J	-	9.8	9.4	7 J SL	-	0.96 J	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	3.9 J	-
TOLUENE	µg/L	1000	298	334	0.91 J	0.21 J	54700	ND (1.0)	4.8	ND (1.0)	1.6	ND (1.0)	0.73 J	0.84 J	0.87 J	7.8	6.9	8 SL	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.75 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	2.5	ND (1.0)	0.44 J	ND (1.0)	ND (0.5)
1,2,4-TRIMETHYLBENZENE	µg/L	62	337	683	4.9	0.65 J	358	ND (1.0)	13.2	2.2	226	4.8	21.0	2.4	359	535	462	400 SL	ND (1.0)	11.7	ND (1.0)	ND (2.0)	ND (1.0)	2.3	ND (1.0)	ND (2.0)	ND (1.0)	ND (2.0)	ND (1.0)	ND (2.0)	12.3	1.2 J	ND (1.0)	ND (2.0)	ND (0.5)
1,3,5-TRIMETHYLBENZENE	µg/L	1200	182	252	1.7	ND (2.0)	95.6	ND (1.0)	12.9	0.63 J	70.8	ND (2.0)	18.6	ND (2.0)	113	113	110	100 SL	ND (1.0)	4.2	ND (1.0)	ND (2.0)	ND (1.0)	0.69 J	ND (1.0)	ND (2.0)	ND (1.0)	ND (2.0)	ND (1.0)	ND (2.0)	1.5	ND (2.0)	ND (1.0)	ND (2.0)	ND (0.5)
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	1380	2140	11.8	0.23 J	25600	ND (3.0)	75.5	0.35 J	195	1.6	12.0	21.6	113	134	126	95 SL	ND (3.0)	2.5	ND (3.0)	ND (1.0)	ND (3.0)	88.9	ND (3.0)	ND (1.0)	ND (3.0)	ND (1.0)	ND (3.0)	ND (1.0)	23.0	1.6	ND (3.0)	ND (1.0)	ND (0.5)
Volatile Organic Compounds (SW8011)																																			
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	ND (0.040)	1.7	0.023 J	ND (0.019)	0.26	ND (0.040)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.019)	ND (0.0094) SL	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.020)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.020)	ND (0.0097)
Semi-Volatile Organic Compounds																																			
ACENAPHTHENE	µg/L	3800	-	-	-	ND (0.10)	-	-	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	1.62	0.3 J SL	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	1.87	-
ANTHRACENE	µg/L	66	0.039 J	0.039 J	ND (0.10)	ND (0.10)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	0.012 J	ND (0.10)	ND (0.50)	ND SL (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	0.027 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.074 J	ND (0.10)	-	0.242	0.3 J
BENZO(A)ANTHRACENE	µg/L	4.9	ND (0.10)	0.021 J	ND (0.10)	0.151	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.056)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.052) J	0.309	ND SL (0.1)	ND (0.10)	ND (0.052) J	ND (0.10)	0.163	ND (0.10)	ND (0.052)	ND (0.10)	ND (0.051)	ND (0.10)	ND (0.050) J	ND (0.10)	ND (0.050) J	ND (0.11)	ND (0.050)	-	ND (0.10)	ND (0.1)
BENZO(A)PYRENE	µg/L	0.2	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.050)	ND (0.24)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.056)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.052)	ND (0.15)	ND SL (0.1)	ND (0.10)	ND (0.052)	ND (0.10)	ND (0.054)	ND (0.10)	ND (0.052)	ND (0.10)	ND (0.051)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.050)	ND (0.11)	ND (0.050)	-	ND (0.10)	ND (0.1)
BENZO(B)FLUORANTHENE	µg/L	1.2	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND SL (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	-	ND (0.10)	ND (0.1)
BENZO(G,H,I)PERYLENE	µg/L	0.26	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.12)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.13)	ND SL (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	-	ND (0.10)	ND (0.1)
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	ND (0.10)	-	-	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	ND (0.50)	ND SL (0.1)	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-
1,1'-BIPHENYL	µg/L	430	-	-	-	ND (1.0)	-	-	-	ND (1.0)	-	ND (1.1)	-	ND (1.0)	-	1.1 J	6.5 J	0.6 J SL	-	ND (1.0)	-	ND (1.1)	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	-	-	-	85.3	-	-	-	ND (2.0)	-	ND (2.2)	-	1.1 J	-	14.7 J	37.0 J	2 J SL	-	2.1	-	ND (2.2)	-	ND (2.1)	-	ND (2.0)	-	ND (2.0)	-	1.3 J	-	24	-	4.6	-
DI-N-BUTYL PHTHALATE	µg/L	12000	-	-	-	ND (2.0)	-	-	-	ND (2.0)	-	ND (2.2)	-	ND (2.0)	-	ND (2.1)	ND (2.0)	ND SL (2)	-	ND (2.1)	-	ND (2.2)	-	ND (2.1)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-
CHRYSENE	µg/L	1.9	ND (0.10)	0.0095 J	ND (0.10)	ND (0.10)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10) J	ND (0.50)	ND SL (0.1)	ND (0.10)	ND (0.10) J	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10) J	ND (0.10)	ND (0.10) J	ND (0.11)	ND (0.10)	-	ND (0.10)	ND (0.1)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	-	-	-	ND (0.10)	-	-	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	ND (0.50)	ND SL (0.1)	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-
DIETHYL PHTHALATE	µg/L	93000	-	-	-	ND (2.0)	-	-	-	ND (2.0)	-	ND (2.2)	-	ND (2.0)	-	ND (2.1)	ND (2.0)	ND SL (2)	-	ND (2.1)	-	ND (2.2)	-	ND (2.1)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	ND (5.0)	-	-	-	ND (5.0)	-	ND (5.6)	-	ND (5.0)	-	35.0 J	74.7 J	ND SL (0.5)	-	ND (5.2)	-	ND (5.4)	-	ND (5.2)	-	ND (5.1)	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	-
2,4-DINITROPHENOL	µg/L	230	-	-	-	ND (10)	-	-	-	ND (10)	-	ND (11)	-	ND (10)	-	ND (10)	ND (10)	ND SL (10)	-	ND (10)	-	ND (11)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (20)	-
FLUORANTHENE	µg/L	260	-	-	-	0.140	-	-	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	ND (0.50)	ND SL (0.1)	-	ND (0.10)	-	0.135	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-
FLUORENE	µg/L	1900	0.84	0.46	ND (0.10)	ND (0.10)	0.75 J	ND (0.10)	0.035 J	ND (0.10)	0.095 J	ND (0.11)	0.11	ND (0.10)	0.083 J	0.450 J	2.96 J	0.3 J SL	ND (0.10)	ND (0.10)	0.014 J	ND (0.11)	0.014 J	0.395	0.26	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.33	ND (0.10)	-	2.52	4
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	-	-	-	ND (0.10)	-	-	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	ND (0.50)	ND SL (0.1)	-	ND (0.10)	-	ND (0.11)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-	ND (0.10)	-
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	ND (1.0)	-	-	-	1.0	-	ND (1.1)	-	ND (1.0)	-	84.3 J	634 J	32 SL	-	2.3	-	ND (1.1)	-	0.50 J	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	-
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	ND (2.0)	-	-	-	ND (2.0)	-	ND (2.2)	-	43.8	-	207 J	57.9 J	ND SL (0.5)	-	ND (2.1)	-	ND (2.2)	-	2.7	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	ND (2.0)	-	-	-	ND (2.0)	-	ND (2.2)	-	ND (2.0)	-	155 J	38.3 J	ND SL (0.5)	-	ND (2.1)	-	ND (2.2)	-	ND (2.1)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	173	61.1	0.10	0.173	129	0.091 J	0.20	1.2	17.5	0.198	15.4	1.14	62.9	174 J	537 J	120 SL	ND (0.10)	3.6	0.031 J	ND (0.11)	0.047 J	0.532	0.40	ND (0.10)	0.022 J	ND (0.10)	ND (0.10)	ND (0.10)	21.1	ND (0.10)	-	ND (0.10)	ND (0.1)
4-NITROPHENOL	µg/L	60	-	-	-	ND (10)	-	-	-	ND (10)	-	ND (11)	-	ND (10)	-	ND (10)	ND (10)	ND SL (10)	-	ND (10)	-	ND (11)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
PHENANTHRENE	µg/L	1100	0.82	0.34	ND (0.10)	ND (0.10)	0.47 J	ND (0.10)	ND (0.10)	ND (0.10)	0.38	ND (0.11)	0.043 J	ND (0.10)	0.032 J	0.161 J	1.15 J	ND SL (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	0.689	0.11	ND (0.10)	ND (0.10)	0.113	ND (0.10)	ND (0.10)	0.45	ND (0.10)	-	1.01	4
PHENOL	µg/L	2000	-	-	-	ND (2.0)	-	-	-	ND (2.0)	-	ND (2.2)	-	3.9	-	110	ND (2.0)	6 SL	-	ND (2.1)	-	ND (2.2)	-	2.8	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-
PYRENE	µg/L	130	0.068 J	0.041 J	ND (0.10)	0.121	ND (1.0)	ND (0.10)	0.021 J	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND SL (0.1)	ND (0.10)	ND (0.10)	ND (0.10)	0.116	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.022 J	ND (0.10)	ND (0.10)	ND (0.10)	0.073 J	ND (0.10)	-	0.485	0.5 J
PYRIDINE	µg/L	120	-	-	-	ND (2.0)	-	-	-	ND (2.0)	-	ND (2.2)	-	ND (2.0)	-	ND (2.1)	ND (2.0)	ND SL (2)	-	ND (2.1)	-	ND (2.2)	-	ND (2.1)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	-
QUINOLINE	µg/L	1.1	-	-	-	ND (0.35)	-	-	-	ND (0.35)	-	ND (0.39)	-	ND (0.35)	-	ND (0.36)	ND (0.35)	ND SL (1)	-	ND (0.36)	-	ND (0.38)	-	ND (0.36)	-	ND (0.36)	-	ND (0.35)	-	ND (0.35)	-	ND (0.35)	-	ND (0.53)	-
Metals																																			
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARSENIC	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND SL (9.7)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BARIUM	µg/L	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.6 SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND SL (0.49)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM III	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	µg/L	35	-	-	-	1.1 J	-	-	-	ND (0.54)	-	ND (0.54)	-	ND (0.54)	-	ND (0.54)	ND (0.54)	ND SL (1.9)	-	0.70 J	-	ND (0.54)	-	ND (0.54)	-	2.6 J	-	ND (0.54)	-	7.3 J	-	ND (0.54)	-	1.5 J	-
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	ND (5.0)	ND (5.0)	ND (5.0)	ND (3.0)	21.6	ND (5.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (3.0)	ND SL (6.2)	5.4	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (5.0)	ND (2.4)	ND (0.082)
MERCURY	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND SL (0.050)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NICKEL	µg/L	100	-	-	-	ND (1.5)	-	-	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (1.9)	ND (1.8)	ND SL (2.8)	-	ND (10)	-	ND (10)	-	ND (10)	-	7.1 J	-	ND (10)	-	8.9 J	-	0.80 J	-	3.0 J	-
SELENIUM	µg/L	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND SL (9.7)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SILVER	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1 J SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	-	-	1.7 J	-	-	-	3.4 J	-	ND (0.70)	-	1.0 J	-	1.4 J	1.1 J	ND SL (1.6)	-	ND (0.70)	-	0.80 J	-	ND (0.70)	-	1.4 J	-	180	-	1.6 J	-	0.90 J	-	ND (0.72)	-
ZINC	µg/L	2000	-	-	-	ND (20)	-	-	-	ND (20)	-	ND (20)	-	ND (20)	-	ND (20)	ND (20)	ND SL (5.4)	-	8.3 J	-	ND (20)	-	ND (20)	-	ND (20)	-	ND (20)	-	12.6 J	-	ND (20)	-	13.0 J	-

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location			MW-486		MW-510		MW-554	MW-555	MW-573		MW-575			MW-576		MW-577		MW-578		MW-579		MW-580	MW-581			MW-582		MW-583
Sample Date			20-Aug-13	22-Apr-15	24-Apr-15	29-Jul-15	16-Jun-17	23-Nov-15	11-Aug-16	20-Dec-16	11-Aug-16	11-Aug-16	19-Dec-16	11-Aug-16	19-Dec-16	11-Aug-16	20-Dec-16	11-Aug-16	19-Dec-16	11-Aug-16	19-Dec-16	11-Aug-16	11-Aug-16	18-Oct-16	20-Dec-16	11-Aug-16	20-Dec-16	16-Jun-17
Sample ID			OLDB-55-082013	AOI5_MW-486_042215	AOI5_MW-510_042415	AOI5_MW-510_072915	MW-554-20170616	MW-555-20151123	MW-573_20160811	MW-573_20161220	MW-575_20160811	MW-575_20160811DUP	MW-575_20161219	MW-576_20160811	MW-576_20161219	MW-577_20160811	MW-577_20161220	MW-578_20160811	MW-578_20161219	MW-579_20160811	MW-579_20161219	MW-580_20160811	MW-581_20160811	MW-581-20161018	MW-581_20161220	MW-582_20160811	MW-582_20161220	MW-583-20170616
Laboratory			PACE	PACE	PACE	ACCUTEST	LL	ACCUTEST	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL
Laboratory Work Order			30101245	30146399	30146651	JC300	1815034	JC9206	1694281	1746754	1694281	1694281	1746298	1694281	1746298	1694281	1746754	1694281	1746298	1694281	1746298	1694281	1694281	1724043	1746754	1694281	1746754	1815034
Laboratory Sample ID		MSC-PA	30101245006	30146399011	30146651001	JC300-1	9056751	JC9206-1	8523442	8755076	8523438	8523440	8753071	8523441	8753070	8523455	8755077	8523433	8753073	8523434	8753074	8523432	8523443	8657473	8755079	8523444	8755078	9056752
Volatile Organic Compounds																												
BENZENE	µg/L	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.50)	ND (0.5)	***5.5***	ND (0.5)	ND (0.5)	***2000***	***2200***	***1900***	2	ND (0.5)	***8***	ND (0.5)	***11***	1	***53***	***19***	***14***	***310***	***520***	***270***	***18***	***7***	ND (0.5)
CYCLOHEXANE	µg/L	53000	-	-	-	-	ND (2)	11.2	ND (2)	ND (2)	69 J	41 J	53	8	ND (2)	5	ND (2)	ND (2)	ND (2)	ND (10)	3 J	5 J	37 J	-	81	5	9	ND (2)
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	***58 J***	ND (3) J	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (3)	ND (0.5)	ND (0.5)	ND (5)	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)	ND (0.5)
ETHYLBENZENE	µg/L	700	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	0.96 J	ND (0.5)	ND (0.5)	180	180	130	1	ND (0.5)	2	ND (0.5)	0.7 J	ND (0.5)	230	120	0.5 J	180	400	120	5	3	ND (0.5)
ISOPROPYLBENZENE (CUMENE)	µg/L	3500	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1)	8.4	ND (1)	ND (1)	30	28	23	ND (1)	ND (1)	1 J	ND (1)	ND (1)	ND (1)	23 J	15	12	20 J	53	43 J	ND (1)	ND (1)	ND (1)
M, P-XYLENES	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	20	1.3	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	0.64 J	2	10	ND (0.5)	ND (3)	ND (1)	2	4	1	ND (0.5)	ND (0.5)	ND (0.5)	***70***	***32***	17	ND (5)	2	ND (5)	ND (0.5)	ND (0.5)	1
HEXANE	µg/L	6200	-	-	-	-	ND (2)	0.66 J	ND (2)	ND (2)	37 J	28 J	ND (4)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (10)	ND (2)	ND (2)	ND (20)	-	ND (20)	ND (2)	ND (2)	ND (2)
NAPHTHALENE	µg/L	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	12000	-	-	-	-	ND (1)	1.5 J	ND (1)	ND (1)	5	5 J	4 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	3 J	18	ND (10)	-	ND (10)	ND (1)	ND (1)	ND (1)
BUTYLBENZENE, TERT-	µg/L	12000	-	-	-	-	ND (1)	1.4 J	ND (1)	ND (1)	ND (1)	ND (5)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (1)	3 J	ND (10)	-	ND (10)	ND (1)	ND (1)	ND (1)
TOLUENE	µg/L	1000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.5)	1.4	ND (0.5)	ND (0.5)	49	40	8	ND (0.5)	ND (0.5)	2	ND (0.5)	ND (0.5)	ND (0.5)	8	2	ND (0.5)	18	37	13	4	ND (0.5)	ND (0.5)
1,2,4-TRIMETHYLBENZENE	µg/L	62	ND (1.0)	ND (1.0)	ND (1.0)	ND (2.0)	ND (1)	0.23 J	ND (1)	ND (1)	***100***	***100***	***89***	1 J	ND (1)	2 J	ND (1)	ND (1)	ND (1)	***1200***	***640***	35	***82***	***200***	***210***	11	10	ND (1)
1,3,5-TRIMETHYLBENZENE	µg/L	1200	ND (1.0)	ND (1.0)	ND (1.0)	ND (2.0)	ND (1)	ND (2.0)	ND (1)	ND (1)	38	37	4 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	99	7	ND (1)	31 J	75	51	ND (1)	ND (1)	ND (1)
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	10000	ND (3.0)	ND (3.0)	ND (3.0)	ND (1.0)	ND (0.5)	2.0	ND (0.5)	ND (0.5)	440	440	120	3	ND (0.5)	5	ND (0.5)	0.8 J	ND (0.5)	4400	470	2	1200	1800	840	40	2	ND (0.5)
Volatile Organic Compounds (SW8011)																												
1,2-DIBROMOETHANE (EDB)	µg/L	0.05	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.019)	ND (0.0094)	ND (0.020)	ND (0.0096) J	ND (0.0095)	ND (0.0097)	ND (0.0097) J	ND (0.0098)	ND (0.0096) J	ND (0.0095)	ND (0.0095) J	ND (0.0094)	ND (0.010)	ND (0.0094)	ND (0.0096)	ND (0.0099)	ND (0.0096)	ND (0.0097) J	ND (0.0095)	ND (0.0095)	ND (0.0096) J	ND (0.0095)	ND (0.0094)
Semi-Volatile Organic Compounds																												
ACENAPHTHENE	µg/L	3800	-	-	-	-	0.1 J	3.1	0.6	0.5 J	0.6	0.7	0.4 J	0.3 J	ND (0.1)	8	0.4 J	ND (0.1)	ND (0.1)	9	5	ND (0.1)	ND (0.1)	-	1	ND (1)	ND (0.1)	ND (0.1)
ANTHRACENE	µg/L	66	-	ND (2.0)	0.066 J	ND (0.10)	0.2 J	1.77	0.2 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	0.4 J	1	14	2	ND (0.1)	ND (0.1)	4	0.8	ND (0.1)	0.5 J	0.2 J	0.5	2 J	0.3 J	ND (0.1)
BENZO(A)ANTHRACENE	µg/L	4.9	-	0.32 J	0.023 J	ND (0.051)	ND (0.1)	0.346	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	2	***6***	***7***	1	ND (0.1)	ND (0.1)	0.5 J	ND (0.1)	ND (0.1)	0.3 J	ND (0.1)	0.3 J	2 J	0.2 J	ND (0.1)
BENZO(A)PYRENE	µg/L	0.2	-	***0.30 J***	ND (0.13)	ND (0.051)	ND (0.1)	0.153	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	***1***	***5***	***5 J***	***1***	0.1 J	ND (0.1)	***0.3 J***	ND (0.1)	ND (0.1)	0.2 J	ND (0.1)	***0.3 J***	ND (0.1)	0.2 J	0.1 J
BENZO(B)FLUORANTHENE	µg/L	1.2	-	0.40 J	ND (0.13)	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	***2***	***6***	***2 J***	0.6	0.2 J	ND (0.1)	0.3 J	ND (0.1)	ND (0.1)	0.2 J	ND (0.1)	0.2 J	ND (1)	0.2 J	ND (0.1)
BENZO(G,H,I)PERYLENE	µg/L	0.26	-	***0.58 J***	ND (0.13)	ND (0.10)	ND (0.1)	0.117	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	***0.8***	***4***	***5 J***	***1***	0.1 J	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	0.2 J	ND (0.1)	***0.3 J***	***1 J***	0.2 J	ND (0.1)
BENZO(K)FLUORANTHENE	µg/L	0.55	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	***0.8***	***2***	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	-	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
1,1'-BIPHENYL	µg/L	430	-	-	-	-	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.6)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)	ND (0.5)	3	2	ND (0.5)	ND (0.5)	-	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	6	-	-	-	-	ND (2)	5.6	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	2 J	ND (2)	ND (2)	4 J	ND (2)	***14***	ND (2)	ND (2)	3 J	-	2 J	ND (2)	ND (2)	ND (2)
DI-N-BUTYL PHTHALATE	µg/L	12000	-	-	-	-	ND (2)	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (20)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (20)	ND (2)	ND (2)
CHRYSENE	µg/L	1.9	-	ND (0.15)	0.032 J	ND (0.10)	ND (0.1)	0.312	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	***2***	***7***	***11***	***2***	ND (0.1)	ND (0.1)	0.8	ND (0.1)	ND (0.1)	0.5	ND (0.1)	0.7	***2 J***	0.5	ND (0.1)
DIBENZ(A,H)ANTHRACENE	µg/L	0.6	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.2 J	***1***	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	-	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
DIETHYL PHTHALATE	µg/L	93000	-	-	-	-	ND (2)	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (20)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (20)	ND (2)	ND (2)
2,4-DIMETHYLPHENOL	µg/L	2300	-	-	-	-	ND (0.5)	ND (5.0)	ND (0.5)	ND (0.6)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)	ND (0.5)	26	4	ND (0.5)	45	-	36	34 J-	2	ND (0.5)
2,4-DINITROPHENOL	µg/L	230	-	-	-	-	ND (11)	ND (10)	ND (10)	ND (11)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (100)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	-	ND (10)	R	ND (10)	ND (10)
FLUORANTHENE	µg/L	260	-	-	-	-	0.1 J	0.676	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3	10	7	1	0.1 J	ND (0.1)	1	ND (0.1)	ND (0.1)	0.5	-	0.5	3 J	0.5	ND (0.1)
FLUORENE	µg/L	1900	-	ND (2.0)	0.37	ND (0.10)	ND (0.1)	3.75	0.2 J	ND (0.1)	0.7	0.8	0.5	0.2 J	0.4 J	17	1	ND (0.1)	ND (0.1)	15	6	0.3 J	1	0.9	2	6	2	ND (0.1)
INDENO(1,2,3-C,D)PYRENE	µg/L	2.8	-	-	-	-	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.8	***3***	1 J	0.3 J	ND (0.1)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	-	ND (0.1)	ND (1)	0.1 J	0.1 J
2-METHYLNAPHTHALENE	µg/L	470	-	-	-	-	ND (0.1)	ND (1.0)	ND (0.1)	ND (0.1)	10 J	13 J	3	ND (0.1)	0.2 J	13	1	ND (0.1)	ND (0.1)	370	10	19	14	-	34	35	ND (0.1)	ND (0.1)
CRESOL, M,P- (3&4-METHYLPHENOL)	µg/L	580	-	-	-	-	ND (0.5)	ND (2.0)	ND (0.5)	ND (0.6)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)	ND (0.5)	5	ND (0.5)	ND (0.5)	5	-	2	R	ND (0.5)	ND (0.5)
CRESOL, O- (2-METHYLPHENOL)	µg/L	5800	-	-	-	-	ND (0.5)	ND (2.0)	ND (0.5)	ND (0.6)	0.8 J	0.7 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	6	-	1	6 J-	1	ND (0.5)
CRESOL, P- (4-METHYLPHENOL)	µg/L	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	100	-	ND (2.0)	0.39	ND (0.10)	ND (0.1)	ND (0.10)	ND (0.1)	ND (0.1)	4 J	12 J	9	ND (0.1)	0.2 J	4 J	0.5	ND (0.1)	ND (0.1)	***250***	60	33	25	52	59	26	0.7	ND (0.1)
4-NITROPHENOL	µg/L	60	-	-	-	-	ND (11)	ND (10)	ND (10)	ND (11)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	-	ND (10)	R	ND (10)	ND (10)
PHENANTHRENE	µg/L	1100	-	ND (2.0)	0.15	ND (0.10)	ND (0.1)	3.89	0.2 J	ND (0.1)	0.4 J	0.3 J	0.6	0.7	1	38	3	0.1 J	ND (0.1)	15	4	ND (0.1)	2	1	3	13	2	ND (0.1)
PHENOL	µg/L	2000	-	-	-	-	ND (0.5)	ND (2.0)	ND (0.5)	ND (0.6)	22 J	14 J	5	ND (0.5)	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	34	-	3	R	ND (0.5)	ND (0.5)
PYRENE	µg/L	130	-	ND (2.0)	0.14	0.155	0.2 J	3.42	0.3 J	ND (0.1)	0.1 J	0.1 J	0.1 J	3	9	40	8	0.2 J	ND (0.1)	2	ND (0.1)	ND (0.1)	1	0.6	1	8	2	0.2 J
PYRIDINE	µg/L	120	-	-	-	-	ND (2)	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (20)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (20)	ND (2)	ND (2)
QUINOLINE	µg/L	1.1	-	-	-	-	ND (1)	ND (0.35)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	-	ND (1)	ND (1)	ND (1)	ND (1)
Metals																												
ANTIMONY	µg/L	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARSENIC	µg/L	10	-	-	-	-	-	-	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	***10.6 J***	ND (9.7)	ND (9.7)	ND (9.7)	***21.3***	***12.8 J***	ND (9.7)	ND (9.7)	-	ND (9.7)	***20.9***	ND (9.7)	-
BARIUM	µg/L	2000	-	-	-	-	-	-	159	150	74.8	74.4	112	199	163	55.2	39.3	93.5	83.3	191	179	135	238	-	373	171	96.0	-
BERYLLIUM	µg/L	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CADMIUM	µg/L	5	-	-	-	-	-	-	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)	ND (2.5)	-	ND (0.49)	ND (0.49)	ND (0.49)	-
CHROMIUM III	µg/L	100	-	-	-	-	-	-	ND (7.0)	ND (10)	ND (7.0)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (35)	-	ND (10)	ND (35)	ND (10)	-
CHROMIUM, HEXAVALENT	µg/L	100	-	-	-	-	-	-	ND (7.0)	ND (10)	ND (7.0)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (10)	ND (7.0)	ND (35)	-	ND (10)	ND (35)	ND (10)	-
COBALT	µg/L	35	-	-	-	-	ND (1.9)	2.2 J	ND (1.9)	ND (1.9)	3.8 J	3.3 J	3.0 J	2.5 J	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (9.5)	-	ND (1.9)	2.2 J	ND (1.9)	ND (1.9)
COPPER	µg/L	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEAD	µg/L	5	ND (5.0)	ND (5.0)	ND (5.0)	ND (3.0)	*ND (6.0)*	ND (3.0)	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	*ND (6.2)*	***295***	***82.5***	***9.6 J***	*ND (6.2)*	*ND (6.2)*	*ND (6.0)*
MERCURY	µg/L	2	-	-	-	-	-	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.25)	-	ND (0.050)	ND (0.050)	ND (0.050)	-
NICKEL	µg/L	100	-	-	-	-	ND (2.8)	2.0 J	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	3.0 J	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	5.7 J	3.9 J	ND (2.8)	ND (14.0)	-	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)
SELENIUM	µg/L	50	-	-	-	-	-	-	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	10.8 J	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (9.7)	ND (48.5)	-	ND (9.7)	11.4 J	ND (9.7)	-
SILVER	µg/L	100	-	-	-	-	-	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (9.5)	-	ND (1.9)	ND (1.9)	ND (1.9)	-
THALLIUM	µg/L	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VANADIUM	µg/L	8.2	-	-	-	-	ND (1.6)	0.90 J	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	***50.5***	-	3.9 J	ND (1.6)	ND (1.6)	ND (1.6)
ZINC	µg/L	2000	-	-	-	-	ND (5.4)	ND (20)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	8.9 J	6.4 J	7.8 J	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	112	-	6.3 J	ND (5.4)	ND (5.4)	ND (5.4)

See notes on last lage

Table 4-2
Historical Groundwater Sampling Analytical Results
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Notes:

MSC-PA	Pennsylvania Department of Environmental Protection
	Groundwater- Used Aquifer, Non Residential, TDS ≤ 2500
6.5	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
ND (0.50)	Indicates the laboratory method detection limit (if available) was above the applicable s
ND (0.03)	Indicates concentration not detected above the laboratory reporting limit (in parenthese
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
E	Indicates compounds whose concentrations exceed the calibration range of the instrume
J	Indicates an estimated value
SL	Sample was collected below LNAPL
J-	Indicates an estimated value that is biased low.
R	The data are failed the usability assessment (data validation) and are unusable. The anal

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Table 4-3
Groundwater Gauging Data Summary - 2014 through 2016
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD88)	Comments
AOI 5	BIG SUMP	13-Oct-14	0.00	0.00	<0.01	8.90	Water level is at top of casing.
AOI 5	BIG SUMP	12-Oct-15	NM	NM	NM	NM	Pumping - Well is dry at 2.00 ft btoc.
AOI 5	BIG SUMP	11-Oct-16	NM	NM	NM	NM	Flooded to top of casing
AOI 5	MW-15	14-Oct-14	---	2.43	---	10.90	
AOI 5	MW-15	13-Oct-15	---	2.82	---	10.51	
AOI 5	MW-15	13-Oct-16	NM	NM	NM	NM	Inaccessible; area flooded
AOI 5	MW-44	14-Oct-14	12.63	13.20	0.57	8.92	
AOI 5	MW-44	13-Oct-15	11.72	12.29	0.57	9.83	
AOI 5	MW-44	13-Oct-16	12.15	12.54	0.39	9.43	
AOI 5	MW-45	14-Oct-14	5.34	5.35	0.01	10.03	
AOI 5	MW-45	13-Oct-15	2.95	3.00	0.05	12.41	
AOI 5	MW-45	13-Oct-16	2.11	2.13	0.02	13.26	
AOI 5	MW-78	14-Oct-14	4.20	4.23	0.03	11.01	
AOI 5	MW-78	13-Oct-15	3.61	3.63	0.02	11.60	
AOI 5	MW-78	13-Oct-16	3.35	3.39	0.04	11.86	
AOI 5	MW-83	14-Oct-14	8.46	15.32	6.86	9.70	
AOI 5	MW-83	13-Oct-15	7.41	14.75	7.34	10.68	
AOI 5	MW-83	13-Oct-16	7.57	14.92	7.35	10.52	
AOI 5	MW-85	14-Oct-14	---	1.75	---	8.46	
AOI 5	MW-85	13-Oct-15	---	0.00	---	10.21	Water level is at top of casing.
AOI 5	MW-85	13-Oct-16	NM	NM	NM	NM	Destroyed
AOI 5	MW-86	14-Oct-14	---	3.14	---	11.01	
AOI 5	MW-86	13-Oct-15	---	3.14	---	11.01	
AOI 5	MW-86	13-Oct-16	---	3.29	---	10.86	
AOI 5	MW-109	16-Oct-14	---	6.10	---	4.23	
AOI 5	MW-109	13-Oct-15	NM	NM	NM	NM	Unable to locate.
AOI 5	MW-113	13-Oct-14	8.14	8.54	0.40	1.31	
AOI 5	MW-113	12-Oct-15	8.69	9.52	0.83	0.71	Pumping
AOI 5	MW-113	12-Oct-16	8.21	9.11	0.90	1.21	
AOI 5	MW-114	13-Oct-14	8.52	8.52	<0.01	0.97	
AOI 5	MW-114	12-Oct-15	13.46	13.47	0.01	-3.98	Pumping
AOI 5	MW-114	11-Oct-16	9.83	9.83	<0.01	-0.34	
AOI 5	MW-116	13-Oct-14	14.71	14.71	<0.01	5.78	
AOI 5	MW-116	12-Oct-15	15.52	15.52	<0.01	4.97	Pumping
AOI 5	MW-116	11-Oct-16	14.00	14.44	0.44	6.44	
AOI 5	MW-116A	13-Oct-14	10.83	16.78	5.95	8.55	
AOI 5	MW-116A	12-Oct-15	15.40	15.40	<0.01	4.53	Pumping
AOI 5	MW-116A	11-Oct-16	15.43	15.43	<0.01	4.50	
AOI 5	MW-128	14-Oct-14	---	6.13	---	21.11	
AOI 5	MW-128	13-Oct-15	---	6.15	---	21.09	
AOI 5	MW-128	12-Oct-16	---	4.40	---	22.84	
AOI 5	MW-129	14-Oct-14	---	6.18	---	4.62	
AOI 5	MW-129	13-Oct-15	---	5.30	---	5.50	
AOI 5	MW-129	13-Oct-16	---	7.31	---	3.49	
AOI 5	MW-130	14-Oct-14	7.35	7.61	0.26	2.78	
AOI 5	MW-130	13-Oct-15	7.20	7.22	0.02	2.95	
AOI 5	MW-130	12-Oct-16	---	4.72	---	5.43	
AOI 5	MW-131	14-Oct-14	---	4.22	---	6.21	
AOI 5	MW-131	13-Oct-15	4.73	4.74	0.01	5.70	
AOI 5	MW-131	12-Oct-16	5.44	5.45	0.01	4.99	
AOI 5	MW-132	14-Oct-14	5.63	6.64	1.01	4.47	
AOI 5	MW-132	30-Oct-15	5.90	6.72	0.82	4.21	
AOI 5	MW-132	12-Oct-16	6.23	6.28	0.05	3.95	
AOI 5	MW-141	13-Oct-14	---	6.78	---	1.84	
AOI 5	MW-141	12-Oct-15	---	6.50	---	2.12	
AOI 5	MW-141	11-Oct-16	---	6.77	---	1.85	
AOI 5	MW-143	13-Oct-14	---	17.67	---	2.61	
AOI 5	MW-143	12-Oct-15	---	17.65	---	2.63	
AOI 5	MW-143	11-Oct-16	---	17.79	---	2.49	

Table 4-3
Groundwater Gauging Data Summary - 2014 through 2016
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD88)	Comments
AOI 5	MW-188	14-Oct-14	11.74	12.61	0.87	2.50	
AOI 5	MW-188	13-Oct-15	11.23	12.18	0.95	3.00	
AOI 5	MW-188	13-Oct-16	11.51	12.45	0.94	2.74	
AOI 5	MW-189	14-Oct-14	7.70	7.71	0.01	2.25	
AOI 5	MW-189	13-Oct-15	7.85	7.86	0.01	2.10	
AOI 5	MW-191	16-Oct-15	NM	NM	NM	NM	Unable to locate.
AOI 5	MW-192	16-Oct-14	8.71	8.71	<0.01	2.67	
AOI 5	MW-192	13-Oct-15	9.12	9.12	<0.01	2.26	
AOI 5	MW-192	13-Oct-16	---	8.07	---	3.31	
AOI 5	MW-210	13-Oct-14	3.84	14.75	10.91	8.19	
AOI 5	MW-210	12-Oct-15	3.46	13.18	9.72	8.67	
AOI 5	MW-210	11-Oct-16	3.43	14.69	11.26	8.45	
AOI 5	MW-211	13-Oct-14	3.71	4.60	0.89	9.04	Well blocked at 4.60 feet btoc.
AOI 5	MW-211	12-Oct-15	3.47	4.23	0.76	9.30	
AOI 5	MW-211	11-Oct-16	3.58	4.39	0.81	9.17	
AOI 5	MW-212	13-Oct-14	3.82	11.23	7.41	7.92	
AOI 5	MW-212	12-Oct-15	2.90	11.59	8.69	8.73	
AOI 5	MW-212	11-Oct-16	3.00	12.45	9.45	8.69	
AOI 5	MW-213	13-Oct-14	7.78	18.55	10.77	1.28	
AOI 5	MW-213	12-Oct-15	8.37	18.98	10.61	0.70	
AOI 5	MW-213	11-Oct-16	7.90	18.61	10.71	1.16	
AOI 5	MW-214	13-Oct-14	---	5.65	---	5.56	
AOI 5	MW-214	12-Oct-15	---	6.18	---	5.03	
AOI 5	MW-214	11-Oct-16	---	6.21	---	5.00	
AOI 5	MW-215	13-Oct-14	---	13.91	---	-1.85	
AOI 5	MW-215	12-Oct-15	---	20.39	---	-8.33	Pumping
AOI 5	MW-215	11-Oct-16	---	20.52	---	-8.46	
AOI 5	MW-216	13-Oct-14	8.18	9.25	1.07	13.25	
AOI 5	MW-216	12-Oct-15	12.80	13.05	0.25	8.71	Pumping
AOI 5	MW-216	11-Oct-16	7.64	11.75	4.11	13.52	
AOI 5	MW-217	13-Oct-14	7.94	10.37	2.43	14.48	
AOI 5	MW-217	12-Oct-15	8.46	9.90	1.44	14.05	
AOI 5	MW-217	11-Oct-16	6.77	8.28	1.51	15.73	
AOI 5	MW-218	13-Oct-14	13.02	14.43	1.41	7.61	
AOI 5	MW-218	12-Oct-15	16.35	16.35	<0.01	4.42	Pumping
AOI 5	MW-218	11-Oct-16	16.75	16.75	<0.01	4.02	
AOI 5	MW-219	13-Oct-14	6.57	8.38	1.81	14.05	
AOI 5	MW-219	12-Oct-15	16.22	16.22	<0.01	4.58	Pumping
AOI 5	MW-219	11-Oct-16	16.30	16.30	<0.01	4.50	
AOI 5	MW-220	13-Oct-14	8.56	8.56	<0.01	13.04	
AOI 5	MW-220	12-Oct-15	3.55	3.56	0.01	18.04	
AOI 5	MW-220	11-Oct-16	3.66	3.67	0.01	17.93	
AOI 5	MW-221	13-Oct-14	8.31	8.83	0.52	12.62	
AOI 5	MW-221	12-Oct-15	16.33	16.33	<0.01	4.65	Pumping
AOI 5	MW-221	11-Oct-16	16.25	16.25	<0.01	4.73	
AOI 5	MW-222	13-Oct-14	6.45	8.07	1.62	16.76	
AOI 5	MW-222	12-Oct-15	6.18	8.00	1.82	17.02	
AOI 5	MW-222	11-Oct-16	7.38	8.89	1.51	15.84	
AOI 5	MW-223	13-Oct-14	12.88	13.04	0.16	5.12	
AOI 5	MW-223	12-Oct-15	14.25	14.25	<0.01	3.77	Pumping
AOI 5	MW-223	11-Oct-16	14.48	14.48	<0.01	3.54	
AOI 5	MW-224	13-Oct-14	6.65	6.65	<0.01	6.93	
AOI 5	MW-224	12-Oct-15	15.40	15.40	<0.01	-1.82	Pumping
AOI 5	MW-224	11-Oct-16	15.94	15.94	<0.01	-2.36	
AOI 5	MW-245	13-Oct-14	5.92	6.71	0.79	16.15	
AOI 5	MW-245	12-Oct-15	8.83	8.83	<0.01	13.32	Pumping
AOI 5	MW-245	11-Oct-16	8.85	8.85	<0.01	13.30	
AOI 5	MW-246	13-Oct-14	5.35	8.53	3.18	NC	
AOI 5	MW-246	30-Oct-15	4.79	8.55	3.76	17.46	
AOI 5	MW-246	11-Oct-16	5.16	9.17	4.01	17.03	

Table 4-3
Groundwater Gauging Data Summary - 2014 through 2016
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD88)	Comments
AOI 5	MW-256	13-Oct-14	13.83	14.91	1.08	10.59	
AOI 5	MW-256	12-Oct-15	15.64	15.64	<0.01	8.88	Pumping
AOI 5	MW-256	11-Oct-16	12.18	15.33	3.15	12.05	
AOI 5	MW-257	13-Oct-14	8.25	25.68	17.43	13.91	
AOI 5	MW-257	12-Oct-15	4.86	17.84	12.98	17.70	
AOI 5	MW-257	11-Oct-16	4.65	13.47	8.82	18.29	
AOI 5	MW-258	13-Oct-14	7.93	9.65	1.72	13.09	
AOI 5	MW-258	12-Oct-15	11.10	11.10	<0.01	10.08	Pumping
AOI 5	MW-258	11-Oct-16	8.73	9.15	0.42	12.40	
AOI 5	MW-259	13-Oct-14	5.46	8.57	3.11	14.83	
AOI 5	MW-259	12-Oct-15	15.65	15.65	<0.01	4.93	Pumping
AOI 5	MW-259	11-Oct-16	15.35	15.35	<0.01	5.23	
AOI 5	MW-260	13-Oct-14	3.66	3.67	0.01	16.80	
AOI 5	MW-260	12-Oct-15	15.60	15.60	<0.01	4.87	Pumping
AOI 5	MW-260	11-Oct-16	14.20	14.22	0.02	6.26	
AOI 5	MW-261	13-Oct-14	9.54	10.06	0.52	10.67	
AOI 5	MW-261	12-Oct-15	16.70	16.70	<0.01	3.57	Pumping
AOI 5	MW-261	11-Oct-16	16.50	16.50	<0.01	3.77	
AOI 5	MW-273	14-Oct-14	8.48	8.48	<0.01	0.41	
AOI 5	MW-273	13-Oct-15	8.86	8.87	0.01	0.02	
AOI 5	MW-273	13-Oct-16	---	7.95	---	0.93	
AOI 5	MW-274	14-Oct-14	---	5.46	---	2.68	
AOI 5	MW-274	13-Oct-15	---	6.11	---	2.03	
AOI 5	MW-274	13-Oct-16	---	5.29	---	2.85	
AOI 5	MW-275	14-Oct-14	---	5.50	---	2.06	
AOI 5	MW-275	13-Oct-15	---	5.20	---	2.36	
AOI 5	MW-275	13-Oct-16	---	5.12	---	2.44	
AOI 5	MW-276	14-Oct-14	---	5.17	---	2.31	
AOI 5	MW-276	13-Oct-15	---	4.97	---	2.51	
AOI 5	MW-276	13-Oct-16	---	5.21	---	2.27	
AOI 5	MW-277	14-Oct-14	---	5.13	---	2.43	
AOI 5	MW-277	13-Oct-15	---	4.94	---	2.62	
AOI 5	MW-277	13-Oct-16	---	5.18	---	2.38	
AOI 5	MW-368	14-Oct-14	---	6.54	---	19.96	
AOI 5	MW-368	13-Oct-15	---	6.44	---	20.06	
AOI 5	MW-368	12-Oct-16	NM	NM	NM	NM	Destroyed
AOI 5	MW-369	14-Oct-14	---	4.75	---	21.26	
AOI 5	MW-369	13-Oct-15	---	5.05	---	20.96	
AOI 5	MW-369	12-Oct-16	---	5.14	---	20.87	
AOI 5	MW-370	14-Oct-14	---	2.63	---	20.87	
AOI 5	MW-370	13-Oct-15	---	3.03	---	20.47	
AOI 5	MW-370	12-Oct-16	---	3.35	---	20.15	
AOI 5	MW-371	14-Oct-14	4.72	5.20	0.48	19.15	
AOI 5	MW-371	13-Oct-15	5.12	5.95	0.83	18.70	
AOI 5	MW-371	12-Oct-16	5.59	5.88	0.29	18.33	
AOI 5	MW-372	14-Oct-14	NM	NM	NM	NM	Well is dry at 5.7 ft btoc.
AOI 5	MW-372	14-Oct-15	NM	NM	NM	NM	Well is dry at 5.7 ft btoc.
AOI 5	MW-372	13-Oct-16	---	5.02	---	23.31	
AOI 5	MW-433	14-Oct-14	---	4.16	---	10.70	
AOI 5	MW-433	13-Oct-15	---	4.10	---	10.76	
AOI 5	MW-433	12-Oct-16	---	3.99	---	10.87	
AOI 5	MW-434	14-Oct-14	---	5.27	---	13.65	
AOI 5	MW-434	13-Oct-15	---	5.36	---	13.56	
AOI 5	MW-434	12-Oct-16	---	5.00	---	13.92	
AOI 5	MW-435	14-Oct-14	---	3.91	---	12.82	
AOI 5	MW-435	13-Oct-15	---	2.14	---	14.59	
AOI 5	MW-435	12-Oct-16	NM	NM	NM	NM	Inaccessbile; under soil pile
AOI 5	MW-436	14-Oct-14	---	4.12	---	20.20	
AOI 5	MW-436	13-Oct-15	---	3.44	---	20.88	
AOI 5	MW-436	13-Oct-16	---	4.86	---	19.46	

Table 4-3
Groundwater Gauging Data Summary - 2014 through 2016
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD88)	Comments
AOI 5	MW-437	14-Oct-14	---	7.55	---	16.61	
AOI 5	MW-437	13-Oct-15	---	7.23	---	16.93	
AOI 5	MW-437	13-Oct-16	---	7.95	---	16.21	
AOI 5	MW-438	14-Oct-14	---	4.06	---	15.08	
AOI 5	MW-438	13-Oct-15	---	4.21	---	14.93	
AOI 5	MW-438	13-Oct-16	---	4.35	---	14.79	
AOI 5	MW-439	14-Oct-14	5.33	5.46	0.13	9.56	
AOI 5	MW-439	13-Oct-15	5.12	5.36	0.24	9.76	
AOI 5	MW-439	13-Oct-16	5.19	5.60	0.41	9.69	
AOI 5	MW-440	14-Oct-14	---	6.74	---	9.51	
AOI 5	MW-440	13-Oct-15	---	5.85	---	10.40	
AOI 5	MW-440	13-Oct-16	---	7.28	---	8.97	
AOI 5	MW-441	14-Oct-14	---	6.56	---	19.10	
AOI 5	MW-441	13-Oct-15	---	6.28	---	19.38	
AOI 5	MW-441	12-Oct-16	---	5.16	---	20.50	
AOI 5	MW-442	16-Oct-14	---	10.28	---	16.04	
AOI 5	MW-442	16-Oct-15	---	10.38	---	15.94	
AOI 5	MW-442	13-Oct-16	NM	NM	NM	NM	Destroyed
AOI 5	MW-443	14-Oct-14	---	13.42	---	13.36	
AOI 5	MW-443	16-Oct-15	---	10.74	---	13.57	Well casing is broken off at ground surface.
AOI 5	MW-444	14-Oct-14	---	7.61	---	12.21	
AOI 5	MW-444	13-Oct-15	---	7.08	---	12.74	
AOI 5	MW-444	13-Oct-16	---	8.16	---	11.66	
AOI 5	MW-445	14-Oct-14	---	5.24	---	19.29	
AOI 5	MW-445	13-Oct-15	---	5.32	---	19.21	
AOI 5	MW-445	12-Oct-16	---	5.00	---	19.53	
AOI 5	MW-446	14-Oct-14	---	6.07	---	16.64	
AOI 5	MW-446	13-Oct-15	---	5.31	---	17.40	
AOI 5	MW-446	12-Oct-16	NM	NM	NM	NM	Destroyed
AOI 5	MW-447	14-Oct-14	---	9.08	---	13.44	
AOI 5	MW-447	13-Oct-15	---	8.32	---	14.20	
AOI 5	MW-448	14-Oct-14	---	9.70	---	9.20	
AOI 5	MW-448	13-Oct-15	---	8.29	---	10.61	
AOI 5	MW-449	14-Oct-14	---	4.51	---	16.13	
AOI 5	MW-449	13-Oct-15	---	4.20	---	16.44	
AOI 5	MW-449	12-Oct-16	---	4.97	---	15.67	
AOI 5	MW-450	14-Oct-14	---	5.02	---	15.06	
AOI 5	MW-450	13-Oct-15	---	4.55	---	15.53	
AOI 5	MW-450	12-Oct-16	---	4.54	---	15.54	
AOI 5	MW-451	16-Oct-14	---	10.93	---	17.32	
AOI 5	MW-451	13-Oct-15	---	11.00	---	17.25	
AOI 5	MW-451	13-Oct-16	---	10.91	---	17.34	
AOI 5	MW-452	14-Oct-14	---	11.10	---	14.76	
AOI 5	MW-452	13-Oct-15	---	10.67	---	15.19	
AOI 5	MW-452	12-Oct-16	---	10.93	---	14.93	
AOI 5	MW-453	16-Oct-14	---	5.74	---	13.80	
AOI 5	MW-453	13-Oct-15	---	5.85	---	13.69	
AOI 5	MW-453	13-Oct-16	---	5.61	---	13.93	Damaged; casing broken at grade
AOI 5	MW-454	14-Oct-14	---	8.44	---	10.59	
AOI 5	MW-454	13-Oct-15	---	7.53	---	11.50	
AOI 5	MW-454	13-Oct-16	NM	NM	NM	NM	Inaccessbile; under soil pile
AOI 5	MW-455	14-Oct-14	---	16.78	---	15.16	
AOI 5	MW-456	14-Oct-14	---	12.67	---	12.69	
AOI 5	MW-456	13-Oct-15	---	12.21	---	13.15	
AOI 5	MW-456	13-Oct-16	---	12.16	---	13.20	
AOI 5	MW-457	14-Oct-14	---	7.50	---	10.74	
AOI 5	MW-457	13-Oct-15	---	6.82	---	11.42	
AOI 5	MW-457	13-Oct-16	---	6.89	---	11.35	
AOI 5	MW-458	14-Oct-14	---	11.24	---	15.51	
AOI 5	MW-459	14-Oct-14	---	11.62	---	13.08	

Table 4-3
Groundwater Gauging Data Summary - 2014 through 2016
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD88)	Comments
AOI 5	MW-459	13-Oct-15	NM	NM	NM	NM	Destroyed
AOI 5	MW-460	14-Oct-14	---	5.08	---	18.56	Well damaged - Casing is separated at 2 feet bgs.
AOI 5	MW-460	13-Oct-15	---	4.70	---	18.94	
AOI 5	MW-460	12-Oct-16	---	4.69	---	18.95	
AOI 5	MW-461	14-Oct-14	---	5.06	---	18.50	
AOI 5	MW-461	13-Oct-15	---	4.67	---	18.89	
AOI 5	MW-461	12-Oct-16	---	5.29	---	18.27	
AOI 5	MW-462	14-Oct-14	---	8.84	---	14.79	
AOI 5	MW-462	13-Oct-15	---	7.92	---	15.71	
AOI 5	MW-462	12-Oct-16	---	7.66	---	15.97	
AOI 5	MW-464	14-Oct-14	---	6.41	---	14.09	
AOI 5	MW-464	13-Oct-15	---	5.83	---	14.67	
AOI 5	MW-464	12-Oct-16	---	5.21	---	15.29	
AOI 5	MW-465	14-Oct-14	---	6.60	---	16.44	
AOI 5	MW-465	13-Oct-15	---	5.28	---	17.76	
AOI 5	MW-465	12-Oct-16	---	5.54	---	17.50	
AOI 5	MW-467	14-Oct-14	---	13.14	---	16.03	
AOI 5	MW-467	13-Oct-15	---	12.21	---	16.96	
AOI 5	MW-467	12-Oct-16	---	12.43	---	16.74	
AOI 5	MW-468	14-Oct-14	---	10.29	---	13.82	
AOI 5	MW-468	13-Oct-15	9.58	9.71	0.13	14.50	
AOI 5	MW-468	12-Oct-16	9.65	9.83	0.18	14.43	
AOI 5	MW-469	14-Oct-14	---	6.30	---	13.25	
AOI 5	MW-469	13-Oct-15	---	5.96	---	13.59	
AOI 5	MW-469	12-Oct-16	---	6.00	---	13.55	
AOI 5	MW-471	14-Oct-14	---	9.98	---	14.25	
AOI 5	MW-471	13-Oct-15	---	10.03	---	14.20	
AOI 5	MW-471	12-Oct-16	---	9.70	---	14.53	
AOI 5	MW-472	14-Oct-14	NM	NM	NM	NM	Destroyed
AOI 5	MW-472	13-Oct-15	NM	NM	NM	NM	Destroyed
AOI 5	MW-475	14-Oct-14	---	6.74	---	14.14	
AOI 5	MW-475	13-Oct-15	---	6.19	---	14.69	
AOI 5	MW-475	12-Oct-16	---	5.17	---	15.71	
AOI 5	MW-476	14-Oct-14	---	6.55	---	15.16	Damaged; casing broken at grade
AOI 5	MW-476	13-Oct-15	---	6.34	---	15.43	
AOI 5	MW-476	12-Oct-16	---	6.34	---	15.43	Damaged; casing broken at grade
AOI 5	MW-478	14-Oct-14	---	6.97	---	17.81	
AOI 5	MW-478	13-Oct-15	---	6.87	---	17.91	
AOI 5	MW-478	12-Oct-16	---	6.97	---	17.81	
AOI 5	MW-479	14-Oct-14	---	8.61	---	15.89	
AOI 5	MW-479	13-Oct-15	---	8.52	---	15.98	
AOI 5	MW-479	12-Oct-16	---	8.78	---	15.72	
AOI 5	MW-480	14-Oct-14	---	12.18	---	4.04	
AOI 5	MW-480	13-Oct-15	---	11.04	---	5.18	
AOI 5	MW-480	12-Oct-16	---	15.72	---	0.50	
AOI 5	MW-481	14-Oct-14	NM	NM	NM	NM	Well and manhole are damaged.
AOI 5	MW-481	13-Oct-15	NM	NM	NM	NM	Inaccessible - under equipment
AOI 5	MW-481	12-Oct-16	NM	NM	NM	NM	Inaccessible - under equipment
AOI 5	MW-482	14-Oct-14	---	4.03	---	8.27	
AOI 5	MW-482	13-Oct-15	---	3.53	---	8.77	
AOI 5	MW-482	12-Oct-16	---	3.90	---	8.40	Well lid is damaged from machinery in area
AOI 5	MW-486	14-Oct-14	---	5.95	---	10.71	
AOI 5	MW-486	13-Oct-15	---	5.81	---	10.85	
AOI 5	MW-486	12-Oct-16	---	5.78	---	10.88	
AOI 5	MW-510	13-Oct-15	---	4.92	---	14.13	
AOI 5	MW-510	12-Oct-16	---	4.28	---	14.77	
AOI 5	MW-554	13-Oct-15	---	8.57	---	11.33	
AOI 5	MW-554	12-Oct-16	---	9.97	---	9.93	
AOI 5	MW-555	13-Oct-15	---	1.86	---	9.08	
AOI 5	MW-555	13-Oct-16	---	2.39	---	8.55	

Table 4-3
Groundwater Gauging Data Summary - 2014 through 2016
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD88)	Comments
AOI 5	MW-573	13-Oct-16	---	5.24	---	3.08	
AOI 5	MW-574	13-Oct-16	3.69	3.69	<0.01	11.35	
AOI 5	MW-575	13-Oct-16	---	7.22	---	6.47	
AOI 5	MW-576	13-Oct-16	---	5.75	---	3.87	
AOI 5	MW-577	13-Oct-16	---	10.27	---	4.38	
AOI 5	MW-578	12-Oct-16	---	7.55	---	8.19	
AOI 5	MW-579	12-Oct-16	---	7.18	---	9.38	
AOI 5	MW-580	12-Oct-16	---	7.38	---	13.32	
AOI 5	MW-581	13-Oct-16	---	9.20	---	2.01	
AOI 5	MW-582	12-Oct-16	---	6.44	---	7.44	
AOI 5	MW-583	13-Oct-16	5.29	5.30	0.01	3.64	
AOI 5	OW-13	13-Oct-14	12.05	12.07	0.02	1.49	
AOI 5	OW-13	12-Oct-15	14.85	14.85	<0.01	-1.30	Pumping
AOI 5	OW-13	12-Oct-16	15.93	17.02	1.09	-2.49	
AOI 5	OW-14	13-Oct-14	7.98	8.02	0.04	1.54	
AOI 5	OW-14	12-Oct-15	14.60	14.60	<0.01	-5.07	Pumping
AOI 5	OW-14	12-Oct-16	14.05	14.05	<0.01	-4.52	
AOI 5	OW-15	13-Oct-14	10.23	10.98	0.75	1.64	
AOI 5	OW-15	12-Oct-15	11.00	12.70	1.70	0.78	Pumping
AOI 5	OW-15	12-Oct-16	15.90	15.91	0.01	-3.97	
AOI 5	PI-1	13-Oct-14	0.00	0.01	0.01	19.11	
AOI 5	PI-1	12-Oct-15	10.90	11.22	0.32	8.18	
AOI 5	PI-1	11-Oct-16	11.50	16.90	5.40	7.12	
AOI 5	PI-2	13-Oct-14	0.00	0.01	0.01	18.81	
AOI 5	PI-2	12-Oct-15	12.10	12.18	0.08	6.70	Pumping
AOI 5	PI-2	11-Oct-16	6.30	8.90	2.60	12.28	
AOI 5	PI-3	13-Oct-14	0.00	0.01	0.01	18.81	
AOI 5	PI-3	12-Oct-15	11.15	11.15	<0.01	7.67	Pumping
AOI 5	PI-3	11-Oct-16	6.50	7.10	0.60	12.25	
AOI 5	PI-4	13-Oct-14	0.53	0.94	0.41	18.90	
AOI 5	PI-4	12-Oct-15	2.70	2.75	0.05	16.76	Pumping
AOI 5	PI-4	11-Oct-16	5.90	6.80	0.90	13.49	
AOI 5	PI-5	13-Oct-14	4.51	10.68	6.17	14.47	
AOI 5	PI-5	12-Oct-15	12.53	12.71	0.18	6.99	Pumping
AOI 5	PI-5	12-Oct-16	10.70	13.90	3.20	8.54	
AOI 5	PI-6	13-Oct-14	0.00	0.18	0.18	18.78	
AOI 5	PI-6	14-Oct-15	---	0.00	---	18.96	Pumping - Water level at top of casing.
AOI 5	PI-6	12-Oct-16	17.95	18.00	0.05	1.00	
AOI 5	PI-7	13-Oct-14	---	0.03	---	18.83	
AOI 5	PI-7	12-Oct-15	---	0.00	---	18.86	Pumping - Water level at top of casing.
AOI 5	PI-7	12-Oct-16	5.90	10.70	4.80	12.53	
AOI 5	PI-8	13-Oct-14	5.92	11.75	5.83	12.81	
AOI 5	PI-8	12-Oct-15	---	0.00	---	19.26	Pumping - Water level at top of casing.
AOI 5	PI-8	12-Oct-16	18.70	18.80	0.10	0.55	
AOI 5	PI-9	13-Oct-14	5.98	10.39	4.41	12.92	
AOI 5	PI-9	12-Oct-15	18.70	18.70	<0.01	0.61	Pumping
AOI 5	PI-9	12-Oct-16	16.00	17.30	1.30	3.18	
AOI 5	PI-10	13-Oct-14	10.93	13.08	2.15	8.25	
AOI 5	PI-10	12-Oct-15	---	18.50	---	0.87	Pumping
AOI 5	PI-10	12-Oct-16	12.50	18.50	6.00	6.33	
AOI 5	PI-11	13-Oct-14	---	0.00	---	19.67	Well vault flooded with water.
AOI 5	PI-11	12-Oct-15	2.95	3.15	0.20	16.70	Pumping
AOI 5	PI-11	12-Oct-16	NM	NM	NM	NM	product film, flooded to top of casing
AOI 5	PI-12	13-Oct-14	3.78	15.35	11.57	18.25	
AOI 5	PI-12	12-Oct-15	5.60	16.20	10.60	16.52	Pumping
AOI 5	PI-12	12-Oct-16	NM	NM	NM	NM	Flooded to top of casing
AOI 5	PI-13	13-Oct-14	15.38	17.45	2.07	3.94	
AOI 5	PI-13	12-Oct-15	17.50	17.50	<0.01	2.01	Pumping
AOI 5	PI-13	12-Oct-16	17.60	17.80	0.20	1.88	
AOI 5	PI-14	13-Oct-14	17.21	17.23	0.02	1.74	Bentonite on inner casing.

Table 4-3
Groundwater Gauging Data Summary - 2014 through 2016
Area of Interest 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD88)	Comments
AOI 5	PI-14	12-Oct-15	18.00	18.00	<0.01	0.96	Pumping
AOI 5	PI-14	12-Oct-16	NM	NM	NM	NM	Dry
AOI 5	PI-15	13-Oct-14	17.10	17.12	0.02	3.44	
AOI 5	PI-15	12-Oct-15	18.90	18.90	<0.01	1.65	Pumping
AOI 5	PI-15	12-Oct-16	19.10	19.10	<0.01	1.45	
AOI 5	RW-10	14-Oct-14	4.31	4.31	<0.01	15.18	
AOI 5	RW-10	13-Oct-15	---	4.50	---	14.98	
AOI 5	RW-10	13-Oct-16	---	5.57	---	13.91	
AOI 5	RW-11	14-Oct-14	3.79	3.80	0.01	5.66	
AOI 5	RW-11	13-Oct-15	---	3.80	---	5.65	
AOI 5	RW-11	12-Oct-16	---	5.36	---	4.09	
AOI 5	RW-A1	14-Oct-14	7.63	7.88	0.25	2.14	
AOI 5	RW-A1	16-Oct-15	8.25	8.26	0.01	1.54	Pumping
AOI 5	RW-A1	13-Oct-16	7.02	7.03	0.01	2.77	
AOI 5	RW-B1	14-Oct-14	4.92	4.92	<0.01	3.87	
AOI 5	RW-B1	16-Oct-15	---	7.92	---	0.86	Pumping
AOI 5	RW-B1	13-Oct-16	---	4.48	---	4.30	
AOI 5	RW-B2	14-Oct-14	4.95	4.95	<0.01	3.53	
AOI 5	RW-B2	16-Oct-15	7.90	7.91	0.01	0.57	Pumping
AOI 5	RW-B2	13-Oct-16	4.46	4.46	<0.01	4.02	Film
AOI 5	SUMP-1	13-Oct-14	3.81	3.81	<0.01	8.10	
AOI 5	SUMP-1	12-Oct-15	NM	NM	NM	NM	Top of pump = 5.80 ft btoc.
AOI 5	SUMP-1	11-Oct-16	1.70	2.89	1.19	10.10	
AOI 5	SUMP-2	13-Oct-14	3.70	3.71	0.01	8.05	
AOI 5	SUMP-2	12-Oct-15	4.75	4.76	0.01	7.00	
AOI 5	SUMP-2	11-Oct-16	2.74	2.74	<0.01	9.02	
AOI 5	SUMP-3	13-Oct-14	3.28	3.29	0.01	8.07	
AOI 5	SUMP-3	12-Oct-15	4.40	4.40	<0.01	6.96	Pumping
AOI 5	SUMP-3	11-Oct-16	2.31	2.31	<0.01	9.05	
AOI 5	SUMP-4	13-Oct-14	4.63	4.63	<0.01	8.20	
AOI 5	SUMP-4	12-Oct-15	4.96	4.96	<0.01	7.87	
AOI 5	SUMP-4	11-Oct-16	---	3.85	---	8.97	
AOI 5	SUMP-5	13-Oct-14	3.01	3.01	<0.01	9.02	
AOI 5	SUMP-5	12-Oct-15	3.31	3.31	<0.01	8.72	Pumping
AOI 5	SUMP-5	11-Oct-16	2.61	2.61	<0.01	9.42	
AOI 5	SUMP-6	13-Oct-14	1.84	1.86	0.02	9.00	
AOI 5	SUMP-6	12-Oct-15	2.17	2.18	0.01	8.67	
AOI 5	SUMP-6	12-Oct-16	1.45	1.46	0.01	9.39	
AOI 5	SUMP-7	13-Oct-14	1.49	1.76	0.27	8.86	
AOI 5	SUMP-7	12-Oct-15	1.85	1.89	0.04	8.52	
AOI 5	SUMP-7	11-Oct-16	1.18	1.19	0.01	9.19	
AOI 5	SUMP-8	13-Oct-14	2.05	2.06	0.01	8.87	
AOI 5	SUMP-8	12-Oct-15	2.36	2.37	0.01	8.56	Pumping
AOI 5	SUMP-8	11-Oct-16	1.70	1.71	0.01	9.22	
AOI 5	W-1	13-Oct-14	12.58	17.43	4.85	10.69	
AOI 5	W-1	12-Oct-15	19.20	19.20	<0.01	4.51	Pumping
AOI 5	W-1	12-Oct-16	19.32	19.33	0.01	4.38	
AOI 5	W-2	13-Oct-14	14.12	14.65	0.53	9.35	
AOI 5	W-2	12-Oct-15	18.07	18.07	<0.01	5.46	Pumping
AOI 5	W-2	11-Oct-16	18.02	18.03	0.01	5.50	

Notes:
ft btoc = feet below top of casing
ft = feet
ft NAVD 88= elevations are in units of feet and are referenced to the North American Vertical Datum of 1988 (ft NAVD88).

Table 6-1
Vapor Intrusion Screening Building Information
Area of Interest 5
Marcus Hook Refinery Operations, a Series of Evergreen Group, LLC

AOI	Building Name	Approximate Footprint Square Footage	Height of Building	Construction	Basement	Description of Interior	Building Use	Frequency of use	Vapor Intrusion Investigation Necessary	Rationale for Vapor Intrusion Investigation Decision	Occupied only by OSHA-Regulated Workers (as observed)	VI Investigation Activities Performed	Sample Locations or Details	Sample IDs
5	15-1 Control Room	7,800	1 story	Brick, elevated linoleum floor	No	Main control room, locker rooms, electrical equipment	Former control room	Not currently in use	No	Unoccupied	Not applicable	No	Not applicable	Not applicable
5	15-2 Control Room	2,100	1 story	Brick, elevated linoleum floor	No	Main control room surrounded by narrow rooms (locker room, storage, chemical hoods)	Former control room	Temporarily not used, undergoing renovations	Yes	Not currently occupied, but planned for future use	Yes	No	Not applicable	Not applicable
5	603 Building	700	1 story	Concrete block	No	Not entered	Storage	Infrequently	No	Unoccupied storage area	Not applicable	No	Not applicable	Not applicable
5	854 Building	9,000	2 story	Brick exterior, concrete block interior, poured concrete foundation	No	Offices	Offices, conference rooms	Daily	Yes	Occupied	Yes	Indoor air sampling: 1 round complete	1st floor, conference room and empty office	AOI5-AI-17-01; AOI5-AI-17-02
5	Loading Rack Blast Resistant Module	700	1 story	Enclosed temporary structures	No	Not entered	Control room for loading rack	Regularly occupied	No	No vapor intrusion pathway	Not applicable	No	Not applicable	Not applicable
5	Braskem	7,000	2 story	Metal sheeting exterior with concrete block 1st story and roll insulation on 2nd story and roof, slab on grade	No	Open area in center, 2 stories of offices on each end	Offices, break area	Daily	Yes	Occupied	Yes	Indoor air sampling: 1 round complete	Control room	AOI5-AI-17-06
5	Bromine Building	1,000	1 story	slab on grade, sheet metal exterior	No	Open, containment for storage tanks	Former cooling tower chemical storage	unoccupied	No	Unoccupied storage area	Not applicable	No	Not applicable	Not applicable
5	Co-Gen	4,100	Multiple	Various	No	Not entered	Power infrastructure	unoccupied	No	Unoccupied	Not applicable	No	Not applicable	Not applicable
5	Instrument and Electrical (I&E) Storage	1,800	1 story	Metal sheeting exterior, slab on grade	No	Not entered	Storage for I&E department	unknown	No	Unoccupied storage area	Not applicable	No	Not applicable	Not applicable
5	Mechanical Center	70,125	2 story	Brick exterior, concrete block interior	No	Electrial shop area- open shop to north, office and storage area to south, Machine shop in central portion surrounding cafeteria and offices, locker rooms to west, southwest corner- garage	Electrical shop, machine shop, emergency vehicle storage, offices, cafeteria, general parts storage, locker rooms, garage	Daily	Yes	Occupied	No	Indoor air sampling: 1 round complete	Electrical shop break room, enclosed office area common space, locker room	AOI5-AI-17-03; AOI5-AI-17-04; AOI5-AI-17-05
5	No 3. Scale House	700	1 story	Brick exterior, concrete block interior	No	Cubicles	Scale operator's work area	Constantly	Yes	Occupied	No	Indoor air sampling: 1 round complete	Cubicle area	AOI5-AI-17-08

Table 6-1
Vapor Intrusion Screening Building Information
Area of Interest 5
Marcus Hook Refinery Operations, a Series of Evergreen Group, LLC

AOI	Building Name	Approximate Footprint Square Footage	Height of Building	Construction	Basement	Description of Interior	Building Use	Frequency of use	Vapor Intrusion Investigation Necessary	Rationale for Vapor Intrusion Investigation Decision	Occupied only by OSHA-Regulated Workers (as observed)	VI Investigation Activities Performed	Sample Locations or Details	Sample IDs
5	Old Paint Shop (189 Building)	6,100	1 story	Brick	No	Not entered	Storage	unoccupied	No	Unoccupied	Not applicable	No	Not applicable	Not applicable
5	PECO Substation Warehouse	5,000	1 story	Corrogated metal, slab on grade	No	Warehouse	PECO equipment storage	Transient	No	Unoccupied	Not applicable	No	Not applicable	Not applicable
5	PECO Motorized Control Center	2,000	1.5 stories	Modular corrogated metal building, contrete footings	No	Electrical equipment	Remote control switch house	Transient for maintenance	No	Unoccupied	Not applicable	No	Not applicable	Not applicable
5	Solid Waste Facility	3,000	2 story	Brick	No	Not entered	Formerly processed solid waste	unoccupied	No	Unoccupied	Not applicable	No	Not applicable	Not applicable
5	Starwood Energy Admin Building	20,000	Multiple	Slab on grade	No	Not entered	Admin for Marcus Hook Energy Center power plant	Occupied	No	Approved Act 2 Final Report for Phillips Island area	Not applicable	No	Not applicable	Not applicable

Notes:
NA: Not available
Building information presented information was obtained from site reconnaissance visits, discussions with facility personnel, and facility maps.
Service buildings intended for equipment storage and protection (not human occupancy) are not listed on this table. These types of buildings include compressor buildings, electrical buildings, and process equipment enclosures and are identified on Figure 1.

Table 6-2
Air Analytical Results Summary
Marcus Hook Industrial Complex: AOI 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

Sample Location								AOI5-AI-01	AOI5-AI-02	AOI5-AI-03	AOI5-AI-04	AOI5-AI-05	AOI5-AI-06	AOI5-AI-08	AOI5-AA-09	AOI5-AA-10	AOI5-AA-11	AOI5-AA-12	AOI5-AA-13
Sample Date								15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17	15-Feb-17
Sample ID								AOI5-AI-01-021517	AOI5-AI-02-021517	AOI5-AI-03-021517	AOI5-AI-04-021517	AOI5-AI-05-021517	AOI5-AI-06-021517	AOI5-AI-08-20170215	AOI5-AA-09-021517	AOI5-AA-10-021517	AOI5-AA-11-20170215	AOI5-AA-12-20170215	AOI5-AA-13-20170215
Sampling Company								STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory								ESC	ESC	ESC	ESC	ESC	ESC	ESC	ESC	ESC	ESC	ESC	ESC
Laboratory Work Order		EPA-RSL TR=1E-5 THQ=0.1	SVIA-NR SHS	SVIA-NR SSS	OSHA PEL	NIOSH REL	ACGIH TLV	L890556	L890556	L890556	L890556	L890556	L890556	L890556	L890556	L890556	L890556	L890556	L890556
Laboratory Sample ID	Units							L890556-01	L890556-02	L890556-03	L890556-04	L890556-05	L890556-06	L890556-09	L890556-07	L890556-08	L890556-10	L890556-11	L890556-12
Volatile Organic Compounds																			
BENZENE	µg/m3	13	16	1.6	3190	319	1600	1.64	1.67	1.66	2.11	2.02	1.74	2.21	1.21	1.79	1.09	2.08	1.25
CYCLOHEXANE	µg/m3	2600	26000	2600	1050000	1050000	334000	2.14	1.97	1.82	2.01	1.94	1.04	7.96	1.11	1.57	0.376 J	0.382 J	1.11
1,2-DIBROMOETHANE (EDB)	µg/m3	0.2	0.2	0.02	153800	346	n/v	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)	ND (0.142)
1,2-DICHLOROETHANE (EDC)	µg/m3	3.1	4.7	0.47	202500	4000	40000	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)	ND (0.810)
ETHYLBENZENE	µg/m3	49	49	4.9	435000	435000	87000	0.695 J	0.616 J	3.08	0.867 J	0.865 J	0.634 J	0.598 J	0.361 J	0.584 J	0.275 J	0.289 J	0.508 J
ISOPROPYLBENZENE (CUMENE)	µg/m3	180	1800	180	245000	245000	246000	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)	ND (0.983)
M, P-XYLENES	µg/m3	44	440s1	44s1	435000	435000	434000	2.33	2.21	10.2	3.27	2.92	2.11	2.03	1.24 J	2.68	0.916 J	0.980 J	3.28
METHYL TERTIARY BUTYL ETHER	µg/m3	470	470	47	n/v	n/v	180000	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)	ND (0.721)
HEXANE	µg/m3	3100	3100	310	1800000	180000	176000	3.37	3.13	3.19	4.61	3.39	2.21	11.2	1.51	2.32	1.16	1.55	2.00
NAPHTHALENE	µg/m3	1.3	3.6	0.36	50000	50000	52000	0.858 J	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)	ND (0.806)
O-XYLENE (1,2-DIMETHYLBENZENE)	µg/m3	44	440	44	435000	435000	434000	0.893	0.861 J	3.34	1.80	1.03	0.806 J	0.770 J	0.481 J	1.02	0.372 J	0.391 J	0.897
BUTYLBENZENE, SEC-	µg/m3	n/v	n/v	n/v	n/v	n/v	n/v	0.514 J	ND (1.10)	ND (1.10)	0.489 J	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)
BUTYLBENZENE, TERT-	µg/m3	n/v	n/v	n/v	n/v	n/v	n/v	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)	ND (1.10)
TOLUENE	µg/m3	2200	22000	2200	754000	375000	75000	5.21	4.02	4.61	29.5	9.19	3.27	14.5	2.26	3.50	1.66	1.74	2.84
1,2,4-TRIMETHYLBENZENE	µg/m3	26	31	3.1	n/v	125000	123000	1.05	0.979 J	2.35	4.17	1.03	0.907 J	0.678 J	0.624 J	1.10	0.418 J	0.379 J	0.663 J
1,3,5-TRIMETHYLBENZENE	µg/m3	26	31	3.1	n/v	125000	123000	0.418 J	0.380 J	0.859 J	1.25	0.339 J	ND (0.982)	ND (0.982)	ND (0.982)	0.454 J	ND (0.982)	ND (0.982)	ND (0.982)

Notes:

EPA-RSL	Environmental Protection Agency Regional Screening Level (Region 3) Composite Worker Air, Target Risk (TR) =1E-5, Target Hazard Quotient (THQ)=0.1, lower of the Carcinogenic and Noncarcinogenic screening levels (updated June 2017)
SVIA-NR	PADEP Vapor Intrusion Screening Values for Indoor Air, shown for the Statewide Health Standard (SHS) and Site-Specific Standard (SSS) Non-Residential (Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2, January 2017)
OSHA PEL	Occupational Safety and Health Administration Permissible Exposure Limits
NIOSH REL	National Institute for Occupational Safety and Health Recommended Exposure Limits
ACGIH TLV	American Conference of Governmental Industrial Hygienists Threshold Limit Value
15.2	Measured concentration did not exceed the EPA-RSL, TR=1E-5, THQ=0.1
ND (0.03)	Indicates concentration not detected above the laboratory reporting limit (in parentheses) except when the reporting limit is greater than the standard in which case the method detection limit is listed in parentheses.
n/v	No standard/guideline value
-	Parameter not analyzed / not available
J	Indicates an estimated value
µg/m3	Micrograms per cubic meter
ESC	ESC Lab Sciences
	O-xylenes and m,p-xylenes concentrations are compared to criteria for total xylenes if criteria for the appropriate isomer is not available

Table 6-3
Pennsylvania-Delaware Boundary Groundwater to Indoor Air Screening
Marcus Hook Industrial Complex: AOI 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

			AOI 5																								
Sample Location			**MW-128**																								**MW-192**
Sample Date			**1-Jan-95**	**1-Jan-96**	**1-Jan-97**	**1-Jan-98**	**28-Oct-99**	**14-Nov-00**	**26-Apr-01**	**12-Nov-02**	**11-Nov-03**	**9-Nov-04**	**2-Nov-05**	**8-Dec-06**	**20-Nov-07**	**11-Dec-08**	**12-Oct-09**	**13-Oct-10**	**11-Jul-11**	**15-Nov-12**	**14-Aug-13**	**11-Oct-13**	**23-Oct-14**	**11-Aug-16**	**18-Oct-16**	**19-Dec-16**	**21-Aug-13**
Sample ID			**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128**	**MW-128_07112011**	**MW-128_111512**	**MW-128-081413**	**MW-128**	**MW-128_20141023**	**MW-128_20160811**	**MW-128-20161018**	**MW-128_20161219**	**MW-192-082113**
Sampling Company			**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**AQUATERRA**	**AQUATERRA**	**UNKNOWN**	**STANTEC**	**STANTEC**	**STANTEC**	**STANTEC**	**AQUATERRA**
Laboratory			**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**LL**	**ACCUTEST**	**PACE**	**UNKNOWN**	**LL**	**LL**	**LL**	**LL**	**PACE**
Laboratory Work Order			**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**1255842**	**JB21541**	**30100942**	**UNKNOWN**	**1513343**	**1694281**	**1724041**	**1746298**	**30101346**
Laboratory Sample ID	**Units**	**SVGW-NR**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**6341793**	**JB21541-1**	**30100942003**	**UNKNOWN**	**7648543**	**8523435**	**8657454**	**8753072**	**30101346006**
Volatile Organic Compounds																											
BENZENE	µg/L	350	ND (10.0)	1.0	1	1	ND (100)	ND (1)	1	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	0.7 J	ND (0.5)	0.8 J	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	0.8 J	1.6
CYCLOHEXANE	µg/L	53000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)	-
1,2-DIBROMOETHANE (EDB)	µg/L	44	-	-	-	-	-	-	-	-	-	-	ND (0.020)	ND (0.025)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0096)	-	-	-	ND (0.020)	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	510	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
ETHYLBENZENE	µg/L	860	***890***	ND (1.0)	ND (1)	ND (1)	ND (100)	ND (1)	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	1	ND (0.5)	ND (1.0)
ISOPROPYLBENZENE (CUMENE)	µg/L	24000	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2)	ND (1.0)	ND (2.0)	ND (0.5)	ND (1)	ND (0.5)	ND (1)	2.8
METHYL TERTIARY BUTYL ETHER	µg/L	96000	-	-	-	-	-	-	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
HEXANE	µg/L	6200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (2)	-	ND (2)	-
NAPHTHALENE	µg/L	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (5)	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	ND (1)	-
BUTYLBENZENE, TERT-	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	-	ND (1)	-
TOLUENE	µg/L	430000	ND (10.0)	ND (1.0)	ND (1)	ND (1)	ND (100)	ND (1)	ND (1)	ND (1)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	0.51 J
1,2,4-TRIMETHYLBENZENE	µg/L	750	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2)	ND (1.0)	0.30 J	ND (0.5)	ND (1)	0.8 J	ND (1)	0.71 J
1,3,5-TRIMETHYLBENZENE	µg/L	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (2)	ND (1.0)	ND (2.0)	ND (0.5)	ND (1)	ND (0.5)	ND (1)	ND (1.0)
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	12000	ND (20.0)	ND (4.0)	ND (2)	ND (2)	ND (100)	ND (1)	ND (1)	ND (2)	ND (1.0)	ND (1.0)	ND (1)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (3.0)	0.46 J	ND (0.5)	ND (0.5)	8	ND (0.5)	ND (3.0)
Volatile Organic Compounds (SW8011)																											
1,2-DIBROMOETHANE (EDB)	µg/L	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (0.0097)	ND (0.02)	ND (0.040)	-	ND (0.0097)	ND (0.010)	ND (0.0095)	ND (0.0096)	ND (0.040)

Notes:

SVGW-NR	PADEP Vapor Intrusion Screening Values, Groundwater Statewide Health Standard, Non-Residential
6.5	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
ND (0.03)	Indicates concentration not detected above the laboratory reporting limit (in parentheses) except when the reporting limit is greater than the standard in which case the method detection limit is listed in parentheses.
n/v	No standard/guideline value
-	Parameter not analyzed / not available
J	Indicates an estimated value
µg/L	Micrograms per liter
LL	Eurofins Lancaster Laboratories Environmental
ACCUTEST	SGS Accutest
PACE	Pace Analytical

Table 6-3
Pennsylvania-Delaware Boundary Groundwater to Indoor Air Screening
Marcus Hook Industrial Complex: AOI 5
Marcus Hook Refinery Operations, a series of Evergreen Resources Group, LLC

			AOI 5											AOI 7						
Sample Location			**MW-478**		**MW-479**		**MW-480**		**MW-581**			**MW-582**		**MW-118**						
Sample Date			**14-Aug-13**	**7-Jul-15**	**14-Aug-13**	**7-Jul-15**	**20-Aug-13**	**9-Jul-15**	**11-Aug-16**	**18-Oct-16**	**20-Dec-16**	**11-Aug-16**	**20-Dec-16**	**1-Jan-95**	**1-Jan-96**	**1-Jan-97**	**1-Jan-98**	**27-Oct-99**	**13-Nov-00**	**26-Apr-01**
Sample ID			**MW-478-081413**	**MW-478-20150707**	**MW-479-081413**	**MW-479-20150707**	**MW-480-082013**	**MW-480_20150709**	**MW-581_20160811**	**MW-581-20161018**	**MW-581_20161220**	**MW-582_20160811**	**MW-582_20161220**	**MW-118**	**MW-118**	**MW-118**	**MW-118**	**MW-118**	**MW-118**	**MW-118**
Sampling Company			**AQUATERRA**	**STANTEC**	**AQUATERRA**	**STANTEC**	**AQUATERRA**	**STANTEC**	**STANTEC**	**STANTEC**	**STANTEC**	**STANTEC**	**STANTEC**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
Laboratory			**PACE**	**ACCUTEST**	**PACE**	**ACCUTEST**	**PACE**	**ACCUTEST**	**LL**	**LL**	**LL**	**LL**	**LL**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
Laboratory Work Order			**30100942**	**JB98590**	**30100942**	**JB98590**	**30101245**	**JB98822**	**1694281**	**1724043**	**1746754**	**1694281**	**1746754**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
Laboratory Sample ID	**Units**	**SVGW-NR**	**30100942001**	**JB98590-12**	**30100942008**	**JB98590-11**	**30101245013**	**JB98822-9**	**8523443**	**8657473**	**8755079**	**8523444**	**8755078**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**	**UNKNOWN**
Volatile Organic Compounds																				
BENZENE	µg/L	350	ND (1.0)	ND (0.50)	ND (1.0)	ND (0.50)	52.8	23.2	310	***520***	270	18	7	63	140	100	42	ND (10)	31	49
CYCLOHEXANE	µg/L	53000	-	ND (5.0)	-	ND (5.0)	-	4.0 J	37 J	-	81	5	9	-	-	-	-	-	-	-
1,2-DIBROMOETHANE (EDB)	µg/L	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-DICHLOROETHANE (EDC)	µg/L	510	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (5)	ND (0.5)	ND (5)	ND (0.5)	ND (0.5)	-	-	-	-	-	-	-
ETHYLBENZENE	µg/L	860	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	11.8	1.4	180	400	120	5	3	ND (5.0)	2	ND (1)	2	ND (10)	ND (1)	ND (1)
ISOPROPYLBENZENE (CUMENE)	µg/L	24000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	0.73 J	ND (1.0)	20 J	53	43 J	ND (1)	ND (1)	-	-	-	-	-	-	-
METHYL TERTIARY BUTYL ETHER	µg/L	96000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	1.4	ND (1.0)	ND (5)	2	ND (5)	ND (0.5)	ND (0.5)	-	-	-	-	-	-	ND (1)
HEXANE	µg/L	6200	-	ND (5.0)	-	ND (5.0)	-	ND (5.0)	ND (20)	-	ND (20)	ND (2)	ND (2)	-	-	-	-	-	-	-
NAPHTHALENE	µg/L	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BUTYLBENZENE, SEC-	µg/L	n/v	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (10)	-	ND (10)	ND (1)	ND (1)	-	-	-	-	-	-	-
BUTYLBENZENE, TERT-	µg/L	n/v	-	ND (2.0)	-	ND (2.0)	-	ND (2.0)	ND (10)	-	ND (10)	ND (1)	ND (1)	-	-	-	-	-	-	-
TOLUENE	µg/L	430000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	2.5	ND (1.0)	18	37	13	4	ND (0.5)	ND (5.0)	ND (1.0)	ND (1)	ND (1)	ND (10)	ND (1)	ND (1)
1,2,4-TRIMETHYLBENZENE	µg/L	750	ND (1.0)	ND (2.0)	ND (1.0)	ND (2.0)	12.3	1.2 J	82	200	210	11	10	-	-	-	-	-	-	-
1,3,5-TRIMETHYLBENZENE	µg/L	1200	ND (1.0)	ND (2.0)	ND (1.0)	ND (2.0)	1.5	ND (2.0)	31 J	75	51	ND (1)	ND (1)	-	-	-	-	-	-	-
XYLENES, TOTAL (DIMETHYLBENZENE)	µg/L	12000	ND (3.0)	ND (1.0)	ND (3.0)	ND (1.0)	23.0	1.6	1200	1800	840	40	2	ND (10.0)	ND (4.0)	ND (2)	ND (5)	ND (10)	ND (1)	ND (1)
Volatile Organic Compounds (SW8011)																				
1,2-DIBROMOETHANE (EDB)	µg/L	44	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.040)	ND (0.019)	ND (0.0097) J	ND (0.0095)	ND (0.0095)	ND (0.0096) J	ND (0.0095)	-	-	-	-	-	-	-

Notes:

SVGW-NR	PADEP Vapor Intrusion Screening Values, Groundwater Statewide Health Standard, Non-Residential
6.5	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
ND (0.03)	Indicates concentration not detected above the laboratory reporting limit (in parentheses) except when the reporting limit is greater than the standard in which case the method detection limit is listed in parentheses.
n/v	No standard/guideline value
-	Parameter not analyzed / not available
J	Indicates an estimated value
µg/L	Micrograms per liter
LL	Eurofins Lancaster Laboratories Environmental
ACCUTEST	SGS Accutest
PACE	Pace Analytical