



Results you can rely on

FOCUSED FEASIBILITY STUDY REPORT

**FORMER CHEVRON ASPHALT COMPANY
TROY ASPHALT FACILITY
7 WATER STREET, TROY, NEW YORK 12180
NYSDEC Site No. 4-42-029B
Index No. A4-0808-13-06**

Prepared for:
**Chevron Environmental Management Company
Perth Amboy, New Jersey 08861**

Submitted to:
**New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233**

Prepared by:
TRC Engineers, Inc.
TRC Project No. 261155

September 2018

TABLES

Table 1A
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Volatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS1(1)/0-2" JC46059-10 6/27/2017	SS2(1)/0-2" JC46059-8 6/27/2017	SS3(3)/0-2" JC45966-2 6/26/2017	SS3(5)/0-2" JC45966-3 6/26/2017
Volatile Organic Compounds (mg/kg)	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
Acetone	0.05	1000	0.0064 U	0.0058 U	0.0053 U	0.0056 U
Benzene	0.06	89	0.00015 U	0.00014 U	0.00013 U	0.00013 U
Bromochloromethane	NC	NC	0.00041 U	0.00037 U	0.00034 U	0.00035 U
Bromodichloromethane	NC	NC	0.00019 U	0.00018 U	0.00016 U	0.00017 U
Bromoform	NC	NC	0.00034 U	0.00031 U	0.00028 U	0.0003 U
Bromomethane	NC	NC	0.00062 U	0.00056 U	0.00051 U	0.00054 U
2-Butanone (MEK)	0.12	1000	0.0023 U	0.0020 U	0.0019 U	0.0020 U
Carbon disulfide	NC	NC	0.00022 U	0.0002 U	0.00018 U	0.00019 U
Carbon tetrachloride	0.76	44	0.00021 U	0.00019 U	0.00018 U	0.00018 U
Chlorobenzene	1.1	1000	0.00021 U	0.00019 U	0.00017 U	0.00018 U
Chloroethane	NC	NC	0.00055 U	0.00049 U	0.00046 U	0.00048 U
Chloroform	0.37	700	0.00030 U	0.00027 U	0.00025 U	0.00026 U
Chloromethane	NC	NC	0.00027 U	0.00024 U	0.00022 U	0.00023 U
Cyclohexane	NC	NC	0.0007 U	0.00063 U	0.00058 U	0.00061 U
1,2-Dibromo-3-chloropropane	NC	NC	0.00062 U	0.00056 U	0.00051 U	0.00054 U
Dibromochloromethane	NC	NC	0.00019 U	0.00017 U	0.00016 U	0.00017 U
1,2-Dibromoethane	NC	NC	0.00031 U	0.00028 U	0.00026 U	0.00027 U
1,2-Dichlorobenzene	1.1	1000	0.00022 U	0.00020 U	0.00018 U	0.00019 U
1,3-Dichlorobenzene	2.4	560	0.00018 U	0.00016 U	0.00015 U	0.00015 U
1,4-Dichlorobenzene	1.8	250	0.0002 U	0.00018 U	0.00016 U	0.00017 U
Dichlorodifluoromethane	NC	NC	0.0007 U	0.00063 U	0.00058 U	0.00061 U
1,1-Dichloroethane	0.27	480	0.00024 U	0.00022 U	0.0002 U	0.00021 U
1,2-Dichloroethane	0.02	60	0.00022 U	0.00020 U	0.00018 U	0.00019 U
1,1-Dichloroethene	0.33	1000	0.00020 U	0.00018 U	0.00016 U	0.00017 U
cis-1,2-Dichloroethene	0.25	1000	0.00056 U	0.00050 U	0.00046 U	0.00049 U
trans-1,2-Dichloroethene	0.19	1000	0.00020 U	0.00018 U	0.00017 U	0.00018 U
1,2-Dichloropropane	NC	NC	0.00040 U	0.00036 U	0.00033 U	0.00034 U
cis-1,3-Dichloropropene	NC	NC	0.00025 U	0.00023 U	0.00021 U	0.00022 U
trans-1,3-Dichloropropene	NC	NC	0.00028 U	0.00025 U	0.00023 U	0.00025 U
Ethylbenzene	1	780	0.00019 U	0.00017 U	0.00035 J	0.00017 U
Freon 113	NC	NC	0.00062 U	0.00056 U	0.00051 U	0.00054 U
2-Hexanone	NC	NC	0.0018 U	0.0016 U	0.0015 U	0.0015 U
Isopropylbenzene	NC	NC	0.0002 U	0.00018 U	0.00016 U	0.00017 U
Methyl Acetate	NC	NC	0.0026 U	0.0023 U	0.0022 U	0.0023 U
Methylcyclohexane	NC	NC	0.00065 U	0.00058 U	0.00054 U	0.00056 U
Methyl Tert Butyl Ether	0.93	1000	0.00034 U	0.00031 U	0.00028 U	0.00029 U
4-Methyl-2-pentanone(MIBK)	NC	NC	0.0011 U	0.00098 U	0.00090 U	0.00094 U
Methylene chloride	0.05	1000	0.0013 U	0.0012 U	0.0021 J	0.0016 J
Styrene	NC	NC	0.00019 U	0.00017 U	0.00015 U	0.00016 U
1,1,2,2-Tetrachloroethane	NC	NC	0.00031 U	0.00028 U	0.00025 U	0.00027 U
Tetrachloroethene	1.3	300	0.00036 U	0.00032 U	0.00030 U	0.00031 U
Toluene	0.7	1000	0.00016 U	0.00014 U	0.00013 U	0.00014 U
1,2,3-Trichlorobenzene	NC	NC	0.00064 U	0.00058 U	0.00053 U	0.00056 U
1,2,4-Trichlorobenzene	NC	NC	0.00064 U	0.00058 U	0.00053 U	0.00056 U
1,1,1-Trichloroethane	0.68	1000	0.00021 U	0.00019 U	0.00018 U	0.00019 U
1,1,2-Trichloroethane	NC	NC	0.00041 U	0.00037 U	0.00034 U	0.00036 U
Trichloroethene	0.47	400	0.00024 U	0.00022 U	0.00020 U	0.00021 U
Trichlorofluoromethane	NC	NC	0.00080 U	0.00073 U	0.00067 U	0.00070 U
Vinyl chloride	0.02	27	0.00026 U	0.00023 U	0.00021 U	0.00022 U
m,p-Xylene	0.26 ⁽¹⁾	1000 ⁽¹⁾	0.00028 U	0.00025 U	0.00023 U	0.00025 J
o-Xylene	0.26 ⁽¹⁾	1000 ⁽¹⁾	0.00026 U	0.00023 U	0.00021 U	0.00022 U
Xylene (total)	0.26	1000	0.00026 U	0.00023 U	0.00021 U	0.00025 J
Total TIC, Volatile	NC	NC	0	0	0	0

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Restricted Use, Industrial Cleanup Objective and the Unrestricted Use Soil Cleanup Objective

Bold and orange highlight = Value is greater than the Unrestricted Use Soil Cleanup Objective

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6.8)

J - Estimated value

NC - No criteria

TICs - Tentatively Identified Compounds

U - Non-detect

(1) There is no SCO for m/p-xylenes or o-xylene. The applicable SCO for total xylenes is shown.

Table 1A
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Volatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS5(3)/0-2" JC45966-5 6/26/2017	SS6(1)/0-2" JC46059-2 6/27/2017	SS7(5)/0-2" JC46059-4 6/27/2017	SS8(1)/0-2" JC46059-6 6/27/2017
Volatile Organic Compounds (mg/kg)	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
Acetone	0.05	1000	0.0047 U	0.0054 U	0.0049 U	0.0052 U
Benzene	0.06	89	0.00011 U	0.00013 U	0.00012 U	0.00012 U
Bromochloromethane	NC	NC	0.0003 U	0.00034 U	0.00031 U	0.00033 U
Bromodichloromethane	NC	NC	0.00014 U	0.00016 U	0.00015 U	0.00016 U
Bromoform	NC	NC	0.00025 U	0.00029 U	0.00026 U	0.00028 U
Bromomethane	NC	NC	0.00045 U	0.00052 U	0.00048 U	0.0005 U
2-Butanone (MEK)	0.12	1000	0.0016 U	0.0019 U	0.0017 U	0.0018 U
Carbon disulfide	NC	NC	0.00016 U	0.00018 U	0.00017 U	0.00018 U
Carbon tetrachloride	0.76	44	0.00015 U	0.00018 U	0.00016 U	0.00017 U
Chlorobenzene	1.1	1000	0.00015 U	0.00017 U	0.00016 U	0.00017 U
Chloroethane	NC	NC	0.00040 U	0.00046 U	0.00042 U	0.00044 U
Chloroform	0.37	700	0.00022 U	0.00026 U	0.00023 U	0.00025 U
Chloromethane	NC	NC	0.0002 U	0.00023 U	0.00021 U	0.00022 U
Cyclohexane	NC	NC	0.00051 U	0.00059 U	0.00054 U	0.00056 U
1,2-Dibromo-3-chloropropane	NC	NC	0.00045 U	0.00052 U	0.00048 U	0.0005 U
Dibromochloromethane	NC	NC	0.00014 U	0.00016 U	0.00015 U	0.00016 U
1,2-Dibromoethane	NC	NC	0.00023 U	0.00026 U	0.00024 U	0.00025 U
1,2-Dichlorobenzene	1.1	1000	0.00016 U	0.00018 U	0.00017 U	0.00018 U
1,3-Dichlorobenzene	2.4	560	0.00013 U	0.00015 U	0.00013 U	0.00014 U
1,4-Dichlorobenzene	1.8	250	0.00014 U	0.00016 U	0.00015 U	0.00016 U
Dichlorodifluoromethane	NC	NC	0.00051 U	0.00059 U	0.00054 U	0.00056 U
1,1-Dichloroethane	0.27	480	0.00017 U	0.00020 U	0.00018 U	0.00019 U
1,2-Dichloroethane	0.02	60	0.00016 U	0.00018 U	0.00017 U	0.00018 U
1,1-Dichloroethene	0.33	1000	0.00014 U	0.00016 U	0.00015 U	0.00016 U
cis-1,2-Dichloroethene	0.25	1000	0.00041 U	0.00047 U	0.00043 U	0.00045 U
trans-1,2-Dichloroethene	0.19	1000	0.00015 U	0.00017 U	0.00016 U	0.00016 U
1,2-Dichloropropane	NC	NC	0.00029 U	0.00033 U	0.0003 U	0.00032 U
cis-1,3-Dichloropropene	NC	NC	0.00018 U	0.00021 U	0.00019 U	0.0002 U
trans-1,3-Dichloropropene	NC	NC	0.00021 U	0.00024 U	0.00022 U	0.00023 U
Ethylbenzene	1	780	0.00014 U	0.00016 U	0.00015 U	0.00015 U
Freon 113	NC	NC	0.00045 U	0.00052 U	0.00048 U	0.0005 U
2-Hexanone	NC	NC	0.0013 U	0.0015 U	0.0014 U	0.0014 U
Isopropylbenzene	NC	NC	0.00014 U	0.00017 U	0.00015 U	0.00016 U
Methyl Acetate	NC	NC	0.0019 U	0.0022 U	0.002 U	0.0021 U
Methylcyclohexane	NC	NC	0.00047 U	0.00054 U	0.0005 U	0.00052 U
Methyl Tert Butyl Ether	0.93	1000	0.00025 U	0.00028 U	0.00026 U	0.00027 U
4-Methyl-2-pentanone(MIBK)	NC	NC	0.00079 U	0.00091 U	0.00084 U	0.00088 U
Methylene chloride	0.05	1000	0.0010 J	0.0016 J	0.0016 J	0.0015 J
Styrene	NC	NC	0.00014 U	0.00016 U	0.00014 U	0.00015 U
1,1,2,2-Tetrachloroethane	NC	NC	0.00022 U	0.00026 U	0.00024 U	0.00025 U
Tetrachloroethene	1.3	300	0.00026 U	0.0003 U	0.00028 U	0.00029 U
Toluene	0.7	1000	0.00012 U	0.00013 U	0.00012 U	0.00013 U
1,2,3-Trichlorobenzene	NC	NC	0.00047 U	0.00054 U	0.00049 U	0.00052 U
1,2,4-Trichlorobenzene	NC	NC	0.00047 U	0.00054 U	0.00049 U	0.00052 U
1,1,1-Trichloroethane	0.68	1000	0.00016 U	0.00018 U	0.00016 U	0.00017 U
1,1,2-Trichloroethane	NC	NC	0.0003 U	0.00035 U	0.00032 U	0.00033 U
Trichloroethene	0.47	400	0.00018 U	0.0002 U	0.00019 U	0.0002 U
Trichlorofluoromethane	NC	NC	0.00059 U	0.00068 U	0.00062 U	0.00065 U
Vinyl chloride	0.02	27	0.00019 U	0.00022 U	0.0002 U	0.00021 U
m,p-Xylene	0.26 ⁽¹⁾	1000 ⁽¹⁾	0.0002 U	0.00024 U	0.00022 U	0.00023 U
o-Xylene	0.26 ⁽¹⁾	1000 ⁽¹⁾	0.00019 U	0.00022 U	0.0002 U	0.00021 U
Xylene (total)	0.26	1000	0.00019 U	0.00022 U	0.0002 U	0.00021 U
Total TIC, Volatile	NC	NC	0	0	0	0

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Restricted Use, Industrial Cleanup Objective and the Unrestricted Use Soil Cleanup Objective

Bold and orange highlight = Value is greater than the Unrestricted Use Soil Cleanup Objective

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6.8)

J - Estimated value

NC - No criteria

TICs - Tentatively Identified Compounds

U - Non-detect

(1) There is no SCO for m/p-xylenes or o-xylene. The applicable SCO for total xylenes is shown.

Table 1B
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Semivolatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS1 JC46059-9 6/27/2017	SS2 JC46059-7 6/27/2017	SS3 JC45966-1 6/26/2017	SS4 JC45966-4 6/26/2017
Semivolatile Organic Compounds (SVOCs) mg/kg	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
2-Chlorophenol	NC	NC	0.021 U	0.021 U	0.034 U	0.017 U
4-Chloro-3-methyl phenol	NC	NC	0.026 U	0.025 U	0.042 U	0.021 U
2,4-Dichlorophenol	NC	NC	0.036 U	0.035 U	0.059 U	0.030 U
2,4-Dimethylphenol	NC	NC	0.075 U	0.074 U	0.12 U	0.062 U
2,4-Dinitrophenol	NC	NC	0.16 U	0.16 U	0.26 U	0.13 U
4,6-Dinitro-o-cresol	NC	NC	0.045 U	0.044 U	0.074 U	0.037 U
2-Methylphenol	0.33	1,000	0.027 U	0.027 U	0.044 U	0.022 U
3&4-Methylphenol	0.33	1,000	0.035 U	0.104	0.057 U	0.029 U
2-Nitrophenol	NC	NC	0.028 U	0.027 U	0.046 U	0.023 U
4-Nitrophenol	NC	NC	0.11 U	0.11 U	0.18 U	0.093 U
Pentachlorophenol	0.8	55	0.04 U	0.039 U	0.065 U	0.033 U
Phenol	0.33	1,000	0.022 U	0.123	0.036 U	0.018 U
2,3,4,6-Tetrachlorophenol	NC	NC	0.028 U	0.028 U	0.046 U	0.023 U
2,4,5-Trichlorophenol	NC	NC	0.032 U	0.031 U	0.052 U	0.026 U
2,4,6-Trichlorophenol	NC	NC	0.025 U	0.025 U	0.041 U	0.021 U
Acenaphthene	20	1000	0.015 U	0.376	0.024 U	0.012 U
Acenaphthylene	100	1000	0.209	1.35	0.141	0.100
Acetophenone	NC	NC	0.0091 U	0.0089 U	0.015 U	0.0075 U
Anthracene	100	1000	0.303	2.28	0.194	0.116
Atrazine	NC	NC	0.018 U	0.018 U	0.030 U	0.015 U
Benzo(a)anthracene	1	11	0.937	4.65 ^a	0.384	0.375
Benzo(a)pyrene	1	1.1	0.839	3.64 ^a	0.335	0.391
Benzo(b)fluoranthene	1	11	1.63	6.13 ^a	0.416	0.529
Benzo(g,h,i)perylene	100	1000	0.641	1.88	0.256	0.296
Benzo(k)fluoranthene	0.8	110	0.425	1.59	0.184	0.197
4-Bromophenyl phenyl ether	NC	NC	0.016 U	0.016 U	0.027 U	0.013 U
Butyl benzyl phthalate	NC	NC	0.01 U	0.010 U	0.017 U	0.0085 U
1,1'-Biphenyl	NC	NC	0.105	0.440	0.0094 U	0.0165 J
Benzaldehyde	NC	NC	0.404	0.785	0.017 U	0.0897 J
2-Chloronaphthalene	NC	NC	0.010 U	0.0099 U	0.016 U	0.0083 U
4-Chloroaniline	NC	NC	0.015 U	0.015 U	0.025 U	0.012 U
Carbazole	NC	NC	0.0943	0.716	0.0467 J	0.0305 J
Caprolactam	NC	NC	0.017 U	0.016 U	0.027 U	0.014 U
Chrysene	1	110	1.5	5.26 ^a	0.359	0.386

Table 1B
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Semivolatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS1 JC46059-9 6/27/2017	SS2 JC46059-7 6/27/2017	SS3 JC45966-1 6/26/2017	SS4 JC45966-4 6/26/2017
Semivolatile Organic Compounds (SVOCs) mg/kg	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
bis(2-Chloroethoxy)methane	NC	NC	0.009 U	0.0089 U	0.015 U	0.0074 U
bis(2-Chloroethyl)ether	NC	NC	0.018 U	0.018 U	0.03 U	0.015 U
bis(2-Chloroisopropyl)ether	NC	NC	0.015 U	0.015 U	0.025 U	0.012 U
4-Chlorophenyl phenyl ether	NC	NC	0.014 U	0.013 U	0.022 U	0.011 U
2,4-Dinitrotoluene	NC	NC	0.013 U	0.013 U	0.021 U	0.011 U
2,6-Dinitrotoluene	NC	NC	0.021 U	0.021 U	0.035 U	0.017 U
3,3'-Dichlorobenzidine	NC	NC	0.035 U	0.035 U	0.057 U	0.029 U
1,4-Dioxane	NC	NC	0.028 U	0.027 U	0.046 U	0.023 U
Dibenzo(a,h)anthracene	0.33	1.1	0.243	0.966	0.0853	0.0989
Dibenzofuran	7	1,000	0.266	1.39	0.0533 J	0.0331 J
Di-n-butyl phthalate	NC	NC	0.0069 U	0.0068 U	0.011 U	0.0057 U
Di-n-octyl phthalate	NC	NC	0.010 U	0.01 U	0.017 U	0.0086 U
Diethyl phthalate	NC	NC	0.009 U	0.0089 U	0.015 U	0.0074 U
Dimethyl phthalate	NC	NC	0.0075 U	0.0074 U	0.012 U	0.0062 U
bis(2-Ethylhexyl)phthalate	NC	NC	0.0099 U	0.0097 U	0.016 U	0.0081 U
Fluoranthene	100	1000	1.31	8.03 ^a	0.717	0.510
Fluorene	30	1000	0.0882	0.441	0.0380 J	0.0262 J
Hexachlorobenzene	0.33	NC	0.011 U	0.011 U	0.017 U	0.0088 U
Hexachlorobutadiene	NC	NC	0.017 U	0.017 U	0.028 U	0.014 U
Hexachlorocyclopentadiene	NC	NC	0.017 U	0.017 U	0.027 U	0.014 U
Hexachloroethane	NC	NC	0.021 U	0.021 U	0.034 U	0.017 U
Indeno(1,2,3-cd)pyrene	0.5	11	0.759	2.71	0.28	0.34
Isophorone	NC	NC	0.009 U	0.0089 U	0.015 U	0.0074 U
2-Methylnaphthalene	NC	NC	0.607	2.25	0.113 J	0.0796
2-Nitroaniline	NC	NC	0.0099 U	0.0098 U	0.016 U	0.0082 U
3-Nitroaniline	NC	NC	0.011 U	0.01 U	0.017 U	0.0087 U
4-Nitroaniline	NC	NC	0.011 U	0.011 U	0.018 U	0.0090 U
Naphthalene	12	1000	0.690	2.74	0.140	0.0693
Nitrobenzene	NC	NC	0.016 U	0.016 U	0.027 U	0.013 U
N-Nitroso-di-n-propylamine	NC	NC	0.012 U	0.012 U	0.02 U	0.01 U
N-Nitrosodiphenylamine	NC	NC	0.015 U	0.015 U	0.025 U	0.013 U
Phenanthrene	100	1000	1.18	6.13 ^a	0.496	0.274
Pyrene	100	1000	1.25	6.77 ^a	0.582	0.438
1,2,4,5-Tetrachlorobenzene	NC	NC	0.011 U	0.011 U	0.018 U	0.0088 U
Total TIC, Semi-Volatile	NC	NC	17.13 J	38.8 J	0.3 J	3.16 J

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Restricted Use, Industrial Cleanup Objective and the Unrestricted Use Soil Cleanup Objective

Bold and orange highlight = Value is greater than the Unrestricted Use Soil Cleanup Objective

^a - Result is from Run #2.

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6.8)

NC - No criteria

J - Estimated Value

TICs - Tentatively Identified Compounds

U - Non-detect

UJ - The analyte was not detected a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

Table 1B
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Semivolatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED		SS5 JC45966-6 6/26/2017	SS6 JC46059-1 6/27/2017	SS7 JC46059-3 6/27/2017	SS8 JC46059-5 6/27/2017
Semivolatile Organic Compounds (SVOCs) mg/kg	Unrestricted Use SCO	Result	Result	Result	Result
2-Chlorophenol	NC	0.017 U	0.017 U	0.017 U	0.018 U
4-Chloro-3-methyl phenol	NC	0.021 U	0.021 U	0.021 U	0.022 U
2,4-Dichlorophenol	NC	0.029 U	0.029 U	0.030 U	0.030 U
2,4-Dimethylphenol	NC	0.061 U	0.061 U	0.062 U	0.064 U
2,4-Dinitrophenol	NC	0.13 U	0.13 U	0.13 U	0.13 U
4,6-Dinitro-o-cresol	NC	0.037 U	0.037 U	0.037 U	0.038 U
2-Methylphenol	0.33	0.022 U	0.022 U	0.022 U	0.023 U
3&4-Methylphenol	0.33	0.028 U	0.028 U	0.029 U	0.029 U
2-Nitrophenol	NC	0.023 U	0.023 U	0.023 U	0.024 U
4-Nitrophenol	NC	0.092 U	0.092 U	0.093 U	0.095 U
Pentachlorophenol	0.8	0.032 U	0.032 U	0.033 U	0.034 U
Phenol	0.33	0.018 U	0.018 U	0.018 U	0.019 U
2,3,4,6-Tetrachlorophenol	NC	0.023 U	0.023 U	0.023 U	0.024 U
2,4,5-Trichlorophenol	NC	0.026 U	0.026 U	0.026 U	0.027 U
2,4,6-Trichlorophenol	NC	0.020 U	0.020 U	0.021 U	0.021 U
Acenaphthene	20	0.012 U	0.012 U	0.012 U	0.0329 J
Acenaphthylene	100	0.0613	0.0528	0.0798	0.541
Acetophenone	NC	0.0074 U	0.0074 U	0.0075 U	0.0077 U
Anthracene	100	0.069	0.0467	0.119	0.657
Atrazine	NC	0.015 U	0.015 U	0.015 U	0.015 U
Benzo(a)anthracene	1	0.184	0.121	0.335	1.95
Benzo(a)pyrene	1	0.192	0.0973	0.318	1.76
Benzo(b)fluoranthene	1	0.260	0.142	0.480	2.42
Benzo(g,h,i)perylene	100	0.167	0.0910	0.248	1.13
Benzo(k)fluoranthene	0.8	0.100	0.0537	0.162	0.966
4-Bromophenyl phenyl ether	NC	0.013 U	0.013 U	0.013 U	0.014 U
Butyl benzyl phthalate	NC	0.0084 U	0.0084 U	0.0085 U	0.0087 U
1,1'-Biphenyl	NC	0.0189 J	0.0322 J	0.0222 J	0.0395 J
Benzaldehyde	NC	0.0085 U	0.0085 U	0.0086 U	0.0089 U
2-Chloronaphthalene	NC	0.0082 U	0.0082 U	0.0083 U	0.0085 U
4-Chloroaniline	NC	0.012 U	0.012 U	0.013 U	0.013 U
Carbazole	NC	0.0188 J	0.0158 J	0.0422 J	0.146
Caprolactam	NC	0.014 U	0.014 U	0.014 U	0.014 U
Chrysene	1	0.214	0.134	0.349	1.86

Table 1B
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Semivolatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED		SS5 JC45966-6 6/26/2017	SS6 JC46059-1 6/27/2017	SS7 JC46059-3 6/27/2017	SS8 JC46059-5 6/27/2017
Semivolatile Organic Compounds (SVOCs) mg/kg	Unrestricted Use SCO	Result	Result	Result	Result
bis(2-Chloroethoxy)methane	NC	0.0073 U	0.0073 U	0.0074 U	0.0077 U
bis(2-Chloroethyl)ether	NC	0.015 U	0.015 U	0.015 U	0.015 U
bis(2-Chloroisopropyl)ether	NC	0.012 U	0.012 U	0.012 U	0.013 U
4-Chlorophenyl phenyl ether	NC	0.011 U	0.011 U	0.011 U	0.012 U
2,4-Dinitrotoluene	NC	0.011 U	0.011 U	0.011 U	0.011 U
2,6-Dinitrotoluene	NC	0.017 U	0.017 U	0.017 U	0.018 U
3,3'-Dichlorobenzidine	NC	0.029 U	0.029 U	0.029 U	0.030 U
1,4-Dioxane	NC	0.023 U	0.023 U	0.023 U	0.024 U
Dibenzo(a,h)anthracene	0.33	0.0528	0.0343	0.0835	0.416
Dibenzofuran	7	0.0321 J	0.0463 J	0.0542 J	0.157
Di-n-butyl phthalate	NC	0.0056 U	0.0056 U	0.0057 U	0.0058 U
Di-n-octyl phthalate	NC	0.0085 U	0.0085 U	0.0087 U	0.0089 U
Diethyl phthalate	NC	0.0073 U	0.0073 U	0.0074 U	0.0076 U
Dimethyl phthalate	NC	0.0061 U	0.0061 U	0.0062 U	0.0064 U
bis(2-Ethylhexyl)phthalate	NC	0.008 U	0.008 U	0.0081 U	0.0084 U
Fluoranthene	100	0.272	0.127	0.474	2.64
Fluorene	30	0.016 U	0.016 U	0.016 U	0.112
Hexachlorobenzene	0.33	0.0087 U	0.0087 U	0.0088 U	0.009 U
Hexachlorobutadiene	NC	0.014 U	0.014 U	0.014 U	0.014 U
Hexachlorocyclopentadiene	NC	0.014 U	0.014 U	0.014 U	0.014 U
Hexachloroethane	NC	0.017 U	0.017 U	0.017 U	0.018 U
Indeno(1,2,3-cd)pyrene	0.5	0.172	0.0922	0.297	1.40
Isophorone	NC	0.0073 U	0.0073 U	0.0074 U	0.0077 U
2-Methylnaphthalene	NC	0.106	0.240	0.110	0.243
2-Nitroaniline	NC	0.0081 U	0.0081 U	0.0082 U	0.0084 U
3-Nitroaniline	NC	0.0086 U	0.0086 U	0.0087 U	0.0089 U
4-Nitroaniline	NC	0.0089 U	0.0089 U	0.009 U	0.0093 U
Naphthalene	12	0.112	0.737	0.142	0.319
Nitrobenzene	NC	0.013 U	0.013 U	0.013 U	0.014 U
N-Nitroso-di-n-propylamine	NC	0.0099 U	0.0099 U	0.010 U	0.010 U
N-Nitrosodiphenylamine	NC	0.013 U	0.013 U	0.013 U	0.013 U
Phenanthrene	100	0.171	0.170	0.279	1.27
Pyrene	100	0.246	0.151	0.407	2.55
1,2,4,5-Tetrachlorobenzene	NC	0.0087 U	0.0087 U	0.0088 U	0.0091 U
Total TIC, Semi-Volatile	NC	1.04 J	6.8 J	8.7 J	8.39 J

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Industrial Cleanup Objective and the Unrestricted Use Objective

Bold and orange highlight = Value is greater than the Soil Cleanup Objective

^a - Result is from Run #2.

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6)

NC - No criteria

J - Estimated Value

TICs - Tentatively Identified Compounds

U - Non-detect

UJ - The analyte was not detected at a level greater than the approximate and may be inaccurate or imprecise.

Table 1C
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Metals and Cyanide

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS1 JC46059-9 6/27/2017	SS2 JC46059-7 6/27/2017	SS3 JC45966-1 6/26/2017	SS4 JC45966-4 6/26/2017
Metals Analysis (mg/kg)	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
Aluminum	NC	NC	4,060 J	4,670 J	8,400 J	9,320 J
Antimony	NC	NC	2.5 UJ	2.6 UJ	2.2 UJ	2.1 UJ
Arsenic	13	16	20.8	12.3	12.1	9.7
Barium	350	10,000	49.1	57.8	71.5	70.5
Beryllium	7.2	2,700	0.47	0.40	0.49	0.50
Cadmium	2.5	60	1.9 U	0.64 U	0.55 U	0.53 U
Calcium	NC	NC	2,370	1,410	15,200 J	20,900 J
Chromium	30	6,800	21.2	17.8	23.1	58.0
Cobalt	NC	NC	12.2	6.4 U	7.7	8.3
Copper	50	10,000	105	37.4	29.1 J	32.7 J
Cyanide	27	10,000	0.47	0.80	0.25 U	0.58
Iron	NC	NC	64,100 J	23,600 J	23,200 J	24,000 J
Lead	63	3,900	104	85.1	33.8	40.6
Magnesium	NC	NC	1,170	1,560	5,670 J	5,410 J
Manganese	1,600	10,000	1,660	402	477	539
Mercury	0.18	5.7	0.12	0.069	0.086	0.45
Nickel	30	10,000	18.3	19.7	21.6	22.9
Potassium	NC	NC	1,200 U	1,300 U	1,600 J	1,470 J
Selenium	3.9	6,800	7.5 U	2.6 U	2.2 U	2.1 U
Silver	2	6,800	1.9 U	0.64 U	0.55 U	0.53 U
Sodium	NC	NC	1,200 UJ	1,300 UJ	1,100 U	1,100 U
Thallium	NC	NC	3.7 U	1.3 U	1.1 U	1.1 U
Vanadium	NC	NC	63.9	46.2	32.6	25.5
Zinc	109	10,000	134	100	77.6 J	78.3 J

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Restricted Use, Industrial Cleanup Objective and the Unrestricted Use Soil Cleanup Objective

Bold and orange highlight = Value is greater than the Unrestricted Use Soil Cleanup Objective

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6.8)

NC - No criteria

J - Estimated Value

U - Non-detect

UJ - The analyte was not detected a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is

Table 1C
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Metals and Cyanide

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS5 JC45966-6 6/26/2017	SS6 JC46059-1 6/27/2017	SS7 JC46059-3 6/27/2017	SS8 JC46059-5 6/27/2017
Metals Analysis (mg/kg)	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
Aluminum	NC	NC	11,500 J	9,180 J	10,100 J	9,100 J
Antimony	NC	NC	2.2 UJ	2.1 UJ	2.3 UJ	2.2 UJ
Arsenic	13	16	8.9	6.4	8.8	7.7
Barium	350	10,000	103	70.4	89.6	92.0
Beryllium	7.2	2,700	0.62	0.48	0.59	0.52
Cadmium	2.5	60	0.54 U	0.65	1.1 U	0.54 U
Calcium	NC	NC	13,600 J	9,270	24,500	16,300
Chromium	30	6,800	24.1	17.5	25.3	30.9
Cobalt	NC	NC	9.9	8.2	11.9	8.1
Copper	50	10,000	37.2 J	25.8	44.0	38.4
Cyanide	27	10,000	0.22 U	0.24 U	0.22 U	0.23 U
Iron	NC	NC	26,900 J	26,300 J	40,100 J	28,300 J
Lead	63	3,900	73.6	53.5	110	398
Magnesium	NC	NC	5,690 J	4,930	8,160	6,220
Manganese	1,600	10,000	663	525	688	531
Mercury	0.18	5.7	0.042	0.038	0.14	0.054
Nickel	30	10,000	27.8	22.7	48.9	36.6
Potassium	NC	NC	1,650 J	1,300	1550	1330
Selenium	3.9	6,800	2.2 U	2.1 U	4.5 U	2.2 U
Silver	2	6,800	0.54 U	0.52 U	1.1 U	0.54 U
Sodium	NC	NC	1,100 U	1,000 UJ	1,000 UJ	1,100 UJ
Thallium	NC	NC	1.1 U	1.0 U	2.3 U	1.1 U
Vanadium	NC	NC	38.2	36.7	91.6	58.1
Zinc	109	10,000	110 J	108	424	194

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Restricted Use, Industrial Cleanup Objective and the Unrestricted Use Soil Cleanup Objective

Bold and orange highlight = Value is greater than the Unrestricted Use Soil Cleanup Objective

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6.8)

NC - No criteria

J - Estimated Value

U - Non-detect

UJ - The analyte was not detected a level greater than or equal to approximate and may be inaccurate or imprecise

Table 1D
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Pesticides and PCBs

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS1 JC46059-9 6/27/2017	SS2 JC46059-7 6/27/2017	SS3 JC45966-1 6/26/2017	SS4 JC45966-4 6/26/2017
Pesticides (mg/kg)	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
Aldrin	0.005	1.4	0.00038 U	0.00037 U	0.00032 U	0.00032 U
alpha-BHC	0.02	6.8	0.00043 U	0.00041 U	0.00036 U	0.00036 U
beta-BHC	0.036	14	0.00050 U	0.00049 U	0.00042 U	0.00042 U
delta-BHC	0.04	1,000	0.00036 U	0.00035 U	0.00030 U	0.00030 U
gamma-BHC (Lindane)	0.1	23	0.0014 J ^b	0.00034 U	0.00030 U	0.00029 U
alpha-Chlordane	0.094	47	0.00038 U	0.00037 U	0.00032 U	0.00031 U
gamma-Chlordane	NC	NC	0.00035 U	0.00034 U	0.00030 U	0.00029 U
Chlordane (alpha and gamma)	NC	NC	0.00035 U	0.00034 U	0.00030 U	0.00029 U
Dieldrin	0.005	2.8	0.0004 J	0.00039 U	0.00034 U	0.00033 U
4,4'-DDD	0.0033	180	0.00051 U	0.0005 U	0.00043 U	0.00042 U
4,4'-DDE	0.0033	120	0.00042 U	0.0004 U	0.00035 U	0.00035 U
4,4'-DDT	0.0033	94	0.0064 J ^c	0.0135 c, b	0.00040 U	0.00039 U
Endrin	0.014	410	0.00037 U	0.00036 U	0.00032 U	0.00031 U
Endosulfan sulfate	2.4	920	0.00032 U	0.00031 U	0.00027 U	0.00027 U
Endrin aldehyde	NC	NC	0.0023 J ^b	0.00046 U	0.00040 U	0.00039 U
Endosulfan-I	2.4	920	0.00042 U	0.00040 U	0.00035 U	0.00035 U
Endosulfan-II	2.4	920	0.00042 U	0.00040 U	0.00035 U	0.00035 U
Heptachlor	0.042	29	0.00039 U	0.00038 U	0.00033 U	0.00032 U
Heptachlor epoxide	NC	NC	0.00043 U	0.00042 U	0.00036 U	0.00036 U
Methoxychlor	NC	NC	0.00040 U	0.00039 U	0.00034 U	0.00033 U
Endrin ketone	NC	NC	0.00062 U	0.0006 U	0.00052 U	0.00051 U
Toxaphene	NC	NC	0.0083 U	0.0080 U	0.0070 U	0.0069 U
PCBs						
Aroclor 1016	NC	NC	0.032 U	0.032 U	0.027 U	0.026 U
Aroclor 1221	NC	NC	0.018 U	0.018 U	0.015 U	0.014 U
Aroclor 1232	NC	NC	0.025 U	0.025 U	0.02 U	0.02 U
Aroclor 1242	NC	NC	0.020 U	0.020 U	0.017 U	0.017 U
Aroclor 1248	NC	NC	0.024 U	0.024 U	0.020 U	0.020 U
Aroclor 1254	NC	NC	0.019 U	0.019 U	0.015 U	0.015 U
Aroclor 1260	NC	NC	0.03 U	0.03 U	0.024 U	0.024 U
Aroclor 1268	NC	NC	0.018 U	0.018 U	0.015 U	0.015 U
Aroclor 1262	NC	NC	0.021 U	0.021 U	0.018 U	0.017 U
Total PCBs	0.1	25	0	0	0	0

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Restricted Use, Industrial Cleanup Objective and the Unrestricted Use Soil Cleanup Objective

Bold and orange highlight = Value is greater than the Unrestricted Use Soil Cleanup Objective

b - More than 40% RPD for detected concentrations between the two GC columns.

c - Reported from the first signal. The %D of the CCV on the second signal exceeds the method criteria of 20% so it is used for confirmation only.

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6.8)

NC - No criteria

J - Estimated value

U - Non-detect

Table 1D
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Soil Samples for Pesticides and PCBs

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED			SS5 JC45966-6 6/26/2017	SS6 JC46059-1 6/27/2017	SS7 JC46059-3 6/27/2017	SS8 JC46059-5 6/27/2017
	Unrestricted Use SCO	Restricted Use SCO (Industrial)	Result	Result	Result	Result
Pesticides (mg/kg)						
Aldrin	0.005	1.4	0.00031 U	0.00031 U	0.00033 U	0.00033 U
alpha-BHC	0.02	6.8	0.00071 ^b J	0.0018 ^b J	0.00071 ^b J	0.00060 ^b J
beta-BHC	0.036	14	0.00040 U	0.00041 U	0.00044 U	0.00043 U
delta-BHC	0.04	1,000	0.00029 U	0.00030 U	0.00031 U	0.00031 U
gamma-BHC (Lindane)	0.1	23	0.00028 U	0.00041 ^b J	0.00031 U	0.00046 ^b J
alpha-Chlordane	0.094	47	0.00030 U	0.00031 U	0.00033 U	0.00033 U
gamma-Chlordane	NC	NC	0.00028 U	0.00029 U	0.00031 U	0.0003 U
Chlordane (alpha and gamma)	NC	NC	0.00028 U	0.00029 U	0.00031 U	0.0003 U
Dieldrin	0.005	2.8	0.00032 U	0.00087 ^b J	0.00037 ^b J	0.00056 ^b J
4,4'-DDD	0.0033	180	0.00041 U	0.00042 U	0.00044 U	0.00044 U
4,4'-DDE	0.0033	120	0.00033 U	0.00079	0.00054 J	0.00036 U
4,4'-DDT	0.0033	94	0.00038 U	0.0030 ^c J	0.0032 ^c J	0.0094 ^c J
Endrin	0.014	410	0.00030 U	0.00031 U	0.00033 U	0.00032 U
Endosulfan sulfate	2.4	920	0.00026 U	0.00026 U	0.00028 U	0.0053 ^b J
Endrin aldehyde	NC	NC	0.00038 U	0.00039 U	0.00041 U	0.00041 U
Endosulfan-I	2.4	920	0.00034 U	0.00034 U	0.00036 U	0.00036 U
Endosulfan-II	2.4	920	0.00034 U	0.00034 U	0.00036 U	0.00036 U
Heptachlor	0.042	29	0.00031 U	0.00032 U	0.00034 U	0.00034 U
Heptachlor epoxide	NC	NC	0.00035 U	0.00035 U	0.00037 U	0.00037 U
Methoxychlor	NC	NC	0.00032 U	0.00033 U	0.00035 U	0.00034 U
Endrin ketone	NC	NC	0.00049 U	0.00051 U	0.00053 U	0.00053 ^b U
Toxaphene	NC	NC	0.0067 U	0.0068 U	0.0072 U	0.0072 U
PCBs						
Aroclor 1016	NC	NC	0.025 U	0.027 U	0.028 U	0.027 U
Aroclor 1221	NC	NC	0.014 U	0.015 U	0.015 U	0.015 U
Aroclor 1232	NC	NC	0.019 U	0.021 U	0.022 U	0.020 U
Aroclor 1242	NC	NC	0.016 U	0.017 U	0.018 U	0.017 U
Aroclor 1248	NC	NC	0.019 U	0.020 U	0.021 U	0.020 U
Aroclor 1254	NC	NC	0.015 U	0.016 U	0.016 U	0.015 U
Aroclor 1260	NC	NC	0.023 U	0.025 U	0.026 U	0.025 U
Aroclor 1268	NC	NC	0.014 U	0.015 U	0.016 U	0.015 U
Aroclor 1262	NC	NC	0.017 U	0.018 U	0.019 U	0.018 U
Total PCBs	0.1	25	0	0	0	0

Notes:

mg/kg - milligrams per kilogram

Bold and yellow highlight = Value is greater than the Restricted Use, Industrial Cleanup Objective and the Unrestricted Use Soil Cleanup Objective

Bold and orange highlight = Value is greater than the Unrestricted Use Soil Cleanup Objective

b - More than 40% RPD for detected concentrations between the two GC columns.

c - Reported from the first signal. The %D of the CCV on the second signal exceeds the method criteria of 20% so it is used for confirmation only.

SCO - Soil Cleanup Objective (6 NYCRR Part 375-6.8)

NC - No criteria

J - Estimated value

U - Non-detect

Table 2A
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Groundwater Samples for Volatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED		MW-3 JC48253-2 8/2/2017	MW-5 JC48253-1 8/2/2017
Volatile Organic Compounds (µg/L)	Class GA Value	Result	Result
Acetone	50	5.0 U	6.8 J
Benzene	1	0.17 U	0.17 U
Bromochloromethane	5	0.38 U	0.38 U
Bromodichloromethane	50	0.22 U	0.22 U
Bromoform	50	0.42 U	0.42 U
Bromomethane	5	1.4 U	1.4 U
2-Butanone (MEK)	50	4.8 U	4.8 U
Carbon disulfide	60	0.23 U	0.23 U
Carbon tetrachloride	5	0.34 U	0.34 U
Chlorobenzene	5	0.24 U	0.24 U
Chloroethane	5	0.59 U	0.59 U
Chloroform	7	0.29 U	0.29 U
Chloromethane	5	0.53 U	0.53 U
Cyclohexane	NC	0.63 U	0.63 U
1,2-Dibromo-3-chloropropane	0.04	0.69 U	0.69 U
Dibromochloromethane	50	0.16 U	0.16 U
1,2-Dibromoethane	0.0006	0.21 U	0.21 U
1,2-Dichlorobenzene	3	0.50 U	0.50 U
1,3-Dichlorobenzene	3	0.50 U	0.50 U
1,4-Dichlorobenzene	3	0.50 U	0.50 U
Dichlorodifluoromethane	5	1.9 U	1.9 U
1,1-Dichloroethane	5	0.21 U	0.21 U
1,2-Dichloroethane	0.6	0.20 U	0.20 U
1,1-Dichloroethene	5	0.47 U	0.47 U
cis-1,2-Dichloroethene	5	0.50 U	0.50 U
trans-1,2-Dichloroethene	5	0.40 U	0.40 U
1,2-Dichloropropane	1	0.24 U	0.24 U
cis-1,3-Dichloropropene	0.4 ⁽¹⁾	0.25 U	0.25 U
trans-1,3-Dichloropropene	0.4 ⁽¹⁾	0.22 U	0.22 U
Ethylbenzene	5	0.22 U	0.22 U
Freon 113	5	1.2 U	1.2 U
2-Hexanone	50	3.3 U	3.3 U
Isopropylbenzene	5	0.25 U	0.25 U
Methyl Acetate	NC	3.1 U	3.1 U
Methylcyclohexane	NC	3.0 J	1.8 U
Methyl Tert Butyl Ether	10	0.25 U	0.25 U
4-Methyl-2-pentanone(MIBK)	50	3.0 U	3.0 U
Methylene chloride	5	1.0 U	1.0 U
Styrene	5	0.24 U	0.24 U
1,1,2,2-Tetrachloroethane	5	0.17 U	0.17 U
Tetrachloroethene	5	0.50 U	0.50 U
Toluene	5	0.25 U	0.25 U
1,2,3-Trichlorobenzene	5	0.50 U	0.50 U
1,2,4-Trichlorobenzene	5	0.50 U	0.50 U
1,1,1-Trichloroethane	5	0.25 U	0.25 U
1,1,2-Trichloroethane	1	0.24 U	0.24 U
Trichloroethene	5	0.27 U	0.27 U
Trichlorofluoromethane	5	0.60 U	0.60 U
Vinyl chloride	2	0.62 U	0.62 U
m,p-Xylene	5 ⁽²⁾	0.43 U	0.43 U
o-Xylene	5 ⁽²⁾	0.22 U	0.22 U
Xylene (total)	5 ⁽²⁾	0.22 U	0.22 U
Total TIC, Volatile	NC	227.2 J	0

Notes:

⁽¹⁾ - 0.4 µg/L applies to the sum of cis- and trans-1,3-dichloropropene.

⁽²⁾ - There is no Class GA Value for total xylenes. The standards for o-xylene, m-xylene, and p-xylene is 5 µg/L.

µg/L - micrograms per liter

J - Estimated Value

NC - No criterion

Shaded and bolded results exceed Class GA Standards/Guidance Values.

TIC - Tentatively Identified Compounds

Table 2B
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029

Summary of Results of 2017 Groundwater Samples for Semivolatile Organic Compounds

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED		MW-3 JC48253-2 8/2/2017	MW-3 JC55780-1 11/17/2017	MW-5 JC48253-1 8/2/2017	MW-5 JC55780-2 11/17/2017
Semivolatile Organic Compounds (SVOCs) (µg/L)	Class GA Value	Result	Result	Result	Result
2-Chlorophenol	NC	0.82 U	NA	0.82 U	NA
4-Chloro-3-methyl phenol	NC	0.89 U	NA	0.89 U	NA
2,4-Dichlorophenol	5	1.3 U	NA	1.3 U	NA
2,4-Dimethylphenol	50	2.4 U	NA	2.4 U	NA
2,4-Dinitrophenol	10	1.6 U	NA	1.6 U	NA
2-Methylphenol	NC	0.89 U	NA	0.89 U	NA
3&4-Methylphenol	NC	0.88 U	NA	0.88 U	NA
2-Nitrophenol	NC	0.96 U	NA	0.96 U	NA
4-Nitrophenol	NC	1.2 U	NA	1.2 U	NA
Phenol	1	0.39 U	NA	0.39 U	NA
2,3,4,6-Tetrachlorophenol	NC	1.5 U	NA	1.5 U	NA
2,4,5-Trichlorophenol	NC	1.3 U	NA	1.3 U	NA
2,4,6-Trichlorophenol	NC	0.92 U	NA	0.92 U	NA
Acenaphthene	20	0.19 U	0.025 U	0.19 U	0.025 U
Acenaphthylene	NC	0.14 U	0.022 U	0.14 U	0.021 U
Acetophenone	NC	0.21 U	NA	0.21 U	NA
Anthracene	50	0.21 U	0.020 UJ ^a	0.21 U	0.020 UJ ^a
Atrazine	7.5	0.45 U	NA	0.45 U	NA
Benzaldehyde	NC	0.29 U	NA	0.29 U	NA
Benzo(g,h,i)perylene	NC	0.34 U	0.037 U	0.34 U	0.036 U
4-Bromophenyl phenyl ether	NC	0.4 U	NA	0.40 U	NA
Butyl benzyl phthalate	50	0.46 U	NA	0.46 U	NA
1,1'-Biphenyl	5	0.21 U	NA	0.21 U	NA
2-Chloronaphthalene	10	0.24 U	NA	0.24 U	NA
4-Chloroaniline	5	0.34 U	NA	0.34 U	NA
Carbazole	NC	0.23 U	NA	0.23 U	NA
Caprolactam	NC	0.65 U	NA	1.1 J	NA
Chrysene	0.002	0.18 U	0.027 U	0.53 J	0.026 U
bis(2-Chloroethoxy)methane	5	0.28 U	NA	0.28 U	NA
bis(2-Chloroethyl)ether	1	0.25 U	NA	0.25 U	NA
bis(2-Chloroisopropyl)ether	5	0.4 U	NA	0.40 U	NA
4-Chlorophenyl phenyl ether	NC	0.37 U	NA	0.37 U	NA
2,4-Dinitrotoluene	5	0.55 U	NA	0.55 U	NA
2,6-Dinitrotoluene	5	0.48 U	NA	0.48 U	NA
3,3'-Dichlorobenzidine	5	0.51 U	NA	0.51 U	NA
Dibenzofuran	NC	0.22 U	NA	0.22 U	NA
Di-n-butyl phthalate	50	0.5 U	NA	0.50 U	NA
Di-n-octyl phthalate	50	0.23 U	NA	0.23 U	NA
Diethyl phthalate	50	0.26 U	NA	0.26 U	NA
Dimethyl phthalate	50	0.22 U	NA	0.22 U	NA
bis(2-Ethylhexyl)phthalate	5	1.7 U	NA	1.7 U	NA
Fluoranthene	50	0.17 U	0.023 U	1.6	0.022 U
Fluorene	50	0.17 U	0.025 U	0.44 J	0.025 U
Hexachlorocyclopentadiene	5	2.8 U	NA	2.8 U	NA
Hexachloroethane	5	0.39 U	NA	0.39 U	NA
Isophorone	50	0.28 U	NA	0.28 U	NA
2-Methylnaphthalene	NC	0.21 U	NA	0.64 J	NA
2-Nitroaniline	5	0.28 U	NA	0.28 U	NA
3-Nitroaniline	5	0.39 U	NA	0.39 U	NA
4-Nitroaniline	5	0.44 U	NA	0.44 U	NA
Naphthalene	10	0.23 U	0.030 U	3.2	0.254
Nitrobenzene	0.4	0.64 U	NA	0.64 U	NA
N-Nitroso-di-n-propylamine	NC	0.48 U	NA	0.48 U	NA
N-Nitrosodiphenylamine	50	0.22 U	NA	0.22 U	NA
Phenanthrene	50	0.18 U	0.024 UJ ^a	1.9	0.023 UJ ^a
Pyrene	50	0.22 U	0.121	1.1	0.019 U
1,2,4,5-Tetrachlorobenzene	5	0.37 U	NA	0.37 U	NA
4,6-Dinitro-o-cresol	NC	0.15 U	NA	0.15 U	NA
Pentachlorophenol	1	0.13 U	NA	0.13 U	NA
Benzo(a)anthracene	0.002	0.023 U	0.023 U	0.845	0.023 U
Benzo(a)pyrene	ND*	0.033 U	0.034 U	0.278	0.033 U
Benzo(b)fluoranthene	0.002	0.043 U	0.045 U	0.464	0.043 U
Benzo(k)fluoranthene	0.002	0.033 U	0.034 U	0.131	0.033 U
Dibenzo(a,h)anthracene	NC	0.036 U	0.037 U	0.036 U	0.036 U
Hexachlorobenzene	0.04	0.011 U	NA	0.011 U	NA
Hexachlorobutadiene	0.5	0.018 U	NA	0.018 U	NA
Indeno(1,2,3-cd)pyrene	0.002	0.038 U	0.039 U	0.155	0.038 U
1,4-Dioxane	NC	0.049 U	NA	0.049 U	NA
Total TIC, Semi-Volatile	NC	291.2 J	NA	10 J	NA

Notes:

µg/L - micrograms per liter

NA - Not analyzed

NC - No criterion

U - Not detected

UJ - The analyte was not detected a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

Shaded and bold results exceed Class GA Standards/Guidance Values.

*Benzo(a)pyrene exceedance is any concentration above the detection limit

(^a) Associated CCV outside of control limits high, parameter was non-detect.

Table 2C
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Groundwater Samples for Metals and Cyanide

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED		MW-3 JC48253-2 8/2/2017	MW-3 JC55780-1 11/17/2017	MW-3 JC55780-1F 11/17/2017	MW-5 JC48253-1 8/2/2017	MW-5 JC55780-2 11/17/2017	MW-5 JC55780-2F 11/17/2017
Metals (µg/L)	Class GA Value	Result (Total)	Result (Total)	Result (Dissolved)	Result (Total)	Result (Total)	Result (Dissolved)
Aluminum	NC	1050	200 U	200 U	21,700	NA	200 U
Antimony	3	6.0 U	6.0 U	6.0 U	30 U	NA	6.0 U
Arsenic	25	3.0 U	3.0 U	3.0 U	30	NA	3.0 U
Barium	1,000	200 U	200 U	200 U	1000 U	NA	200 U
Beryllium	3	1.0 U	1.0 U	1.0 U	5.0 U	NA	1.0 U
Cadmium	5	3.0 U	3.0 U	3.0 U	15 U	NA	3.0 U
Calcium	NC	99,500	92,600	91,600	114,000	NA	94,900
Chromium	50	10 U	10 U	10 U	62.5	NA	10 U
Cobalt	NC	50 U	50 U	50 U	250 U	NA	50 U
Copper	200	15.1	10 U	10 U	112	NA	10 U
Cyanide	200	0.01 UJ	NA	NA	0.01 UJ	NA	NA
Iron	300	114,000	51,600	44,000	144,000	NA	15,100
Lead	25	3.0 U	3.0 U	3.0 U	126	NA	3.0 U
Magnesium	35,000	15,400	15,000	14,900	25,000 U	NA	15,700
Manganese	300	811	688	676	3,290	NA	1,310
Mercury	0.7	0.20 U	0.20 U	0.20 U	1.3	NA	0.20 U
Nickel	100	10 U	10 U	10 U	60	NA	18.1
Potassium	NC	10,000 U	10,000 U	10,000 U	50,000 U	NA	10,000 U
Selenium	10	10 U	10 U	10 U	50 U	NA	10 U
Silver	50	10 U	10 U	10 U	50 U	NA	10 U
Sodium	20,000	94,000	116,000	115,000	78,400	NA	121,000
Thallium	0.5	2.0 U	2.0 U	2.0 U	10 U	NA	2.0 U
Vanadium	NC	50 U	50 U	50 U	250 U	NA	50 U
Zinc	2,000	22.8	20 U	20 U	125	NA	20 U

Notes:

µg/L - micrograms per liter

NA - Not analyzed

NC - No criterion

U - Not detected

UJ - The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

Shaded and bolded results exceed Class GA Standards/Guidance Values.

All results for sample MW-5 (Lab Sample ID: JC48253-1) qualified with (a) to indicate elevated sample detection limit due to difficult sample matrix.

Table 2D
Chevron Environmental Management Company
Former Chevron Asphalt Company, Troy, New York
NYSDEC Site No. 442029
Summary of Results of 2017 Groundwater Samples for Pesticides and PCBs

SAMPLE NAME LAB SAMPLE ID DATE SAMPLED		MW-3 JC48253-2 8/2/2017	MW-5 JC48253-1 8/2/2017
Pesticides (µg/L)	Class GA Value	Result	Result
Aldrin	ND	0.0045 U	0.0045 U
alpha-BHC	0.01	0.0032 U	0.0032 U
beta-BHC	0.04	0.0047 U	0.0047 U
delta-BHC	0.04	0.0053 U	0.0053 U
gamma-BHC (Lindane)	0.05	0.0041 U	0.0041 U
alpha-Chlordane	NC	0.0059 U	0.0059 U
gamma-Chlordane	NC	0.0045 U	0.0045 U
Chlordane (alpha and gamma)	0.05	0.0045 U	0.0045 U
Dieldrin	0.004	0.0030 U	0.0030 U
4,4'-DDD	0.3	0.0033 U	0.0033 U
4,4'-DDE	0.2	0.0071 U	0.0071 U
4,4'-DDT	0.2	0.0038 U	0.0038 U
Endrin	ND	0.0031 U	0.0031 U
Endosulfan sulfate	NC	0.0033 U	0.0033 U
Endrin aldehyde	5	0.0074 U	0.0074 U
Endrin ketone	5	0.0050 U	0.0050 U
Endosulfan-I	NC	0.0032 U	0.0032 U
Endosulfan-II	NC	0.0035 U	0.0035 U
Heptachlor	0.04	0.0027 U	0.0027 U
Heptachlor epoxide	0.03	0.0033 U	0.0033 U
Methoxychlor	35	0.0054 U	0.0054 U
Toxaphene	0.06	0.085 U	0.085 U
PCBs (µg/L)			
Aroclor 1016	NC	0.31 U	0.31 U
Aroclor 1221	NC	0.49 U	0.49 U
Aroclor 1232	NC	0.24 U	0.24 U
Aroclor 1242	NC	0.37 U	0.37 U
Aroclor 1248	NC	0.23 U	0.23 U
Aroclor 1254	NC	0.25 U	0.25 U
Aroclor 1260	NC	0.21 U	0.21 U
Aroclor 1268	NC	0.23 U	0.23 U
Aroclor 1262	NC	0.23 U	0.23 U
Total PCBs	0.09	0	0

Notes:

µg/L - micrograms per liter

NC - No criterion

U - Not detected

Shaded and bolded results exceed Class GA Standards/Guidance Values.

T₂

Chevron Environmental Management Company
Former Chevron Asphalt Plant
Focused Feasibility Study Report
Summary of Soil Remedial Technology Screening

Retained
 Screened Out on Basis of Technical Implementability
 Limited Applicability

GENERAL RESPONSE ACTION	TECHNOLOGY	PROCESS OPTION	DESCRIPTION	COMMENTS
No Action	None	Not Applicable	No action.	Fulfills requirement for consideration of no action alternative.
Institutional Control	Site Use Restrictions	Environmental Easement	Legal restrictions limiting future development and establishing requirements for Site inspection and maintenance.	Ensures soil cap is maintained to eliminate exposure to impacted soil.
Engineering Control	Site Access Restrictions	Fencing	Fencing and posting of warning signs to limit access and exposure to surficial soil contaminants.	Feasible technology to prevent exposure to Site contaminants.
Containment	Capping	Clean Fill Cover/ Impermeable Cap	A clean fill layer, in conjunction with a demarcation layer, can prevent exposure to surficial contaminants. An impermeable cap would provide additional protection of groundwater from contaminant leaching.	Feasible technology to prevent exposure to Site contaminants and mitigate contaminant migration.
	Stabilization	Erosion Control	Stabilizing material, such as rip-rap, can prevent erosion of the shoreline.	Feasible technology for mitigating migration of impacted soil.

Chevron Environmental Management Company
Former Chevron Asphalt Plant
Focused Feasibility Study Report
Summary of Soil Remedial Technology Screening

GENERAL RESPONSE ACTION	TECHNOLOGY	PROCESS OPTION	DESCRIPTION	COMMENTS	
				Retained Screened Out on Basis of Technical Implementability Limited Applicability	
Removal and Ex-Situ Management	Consolidation and Capping	On-Site Landfilling	Consolidating contaminated soils in a permitted on-Site landfill and covering excavated areas with clean fill and/or an impermeable cap.		Due to significant siting and permitting requirements, the creation of an on-Site landfill is not considered feasible.
	Off-Site Disposal	Off-Site Landfilling	Excavation of contaminated soils and transportation and disposal at a permitted off-Site landfill. Excavated areas backfilled with clean fill and vegetation re-established.		Feasible technology for remediating impacted soil.
	Off-Site Thermal Treatment	Incineration	Excavation of contaminated soils and transportation and incineration at a permitted off-Site facility. Excavated areas backfilled with clean fill and vegetation re-established.		Site is not located proximal to permitted facilities.
		Pyrolysis	Excavation of contaminated soils and transportation and treatment via pyrolysis at a permitted off-Site facility. Excavated areas backfilled with clean fill and vegetation re-established.		Site is not located proximal to permitted facilities.
		Thermal Desorption	Excavation of contaminated soils and transportation and low temperature desorption at a permitted off-Site facility. Excavated areas backfilled with clean fill and vegetation re-established.		Feasible technology for remediating impacted soil.
	Off-Site Biological Treatment	Biopiles/Composting	Excavation of contaminated soils, formed into aerated piles, and irrigated with nutrients at an off-Site facility. Excavated areas backfilled with clean fill and vegetation re-established.		Site is not located proximal to permitted facilities.
		Landfarming	Similar to biopiles/composting but treated soil is spread over a large area and tilled to aerate.		Site is not located proximal to permitted facilities.

T₂

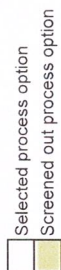
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Focused Feasibility Study Report
Summary of Soil Remedial Technology Screening

GENERAL RESPONSE ACTION	TECHNOLOGY	PROCESS OPTION	DESCRIPTION	COMMENTS	
				Retained Screened Out on Basis of Technical Implementability	Limited Applicability
	Off-Site Physical/Chemical Treatment	Chemical Oxidation	Excavation of contaminated soils and transportation to a permitted facility and treated with oxidants such as potassium permanganate. Excavated areas backfilled with clean fill and vegetation re-established.		Site is not located proximal to permitted facilities.
		Soil Washing/ Separation	Contaminants sorbed to soil particles are separated from the bulk soil by washing with a water-based solution. Wash water may be mixed with chemicals to improve contaminant separation. Wash water must be treated prior to discharge.		Site is not located proximal to permitted facilities.
		Solidification	Excavation of contaminated soils and transportation to a permitted facility, mixed with a cement-based mixture and landfilled. Excavated areas backfilled with clean fill and vegetation re-established.		Feasible technology for remediating impacted soil.
	On-Site Thermal Treatment	Heat Enhanced Extraction	Subsurface heating elements increase soil and groundwater temperatures and volatility of contaminants. Extracted soil vapor and groundwater is treated before discharge.		Feasible technology for remediating impacted upland soil. Not a feasible technology for remediating shoreline.
		Bioventing/ Bioremediation	Installation of vertical or horizontal wells to increase oxygen rich air flow to the subsurface in order to stimulate aerobic microbial populations.		Not effective at treating all Site contaminants, especially asphalt.
		Phytoremediation	Similar to biopiles/composting but treated soil is spread over a large area and tilled to aerate.		Not effective at treating all Site contaminants, especially asphalt.
	In-Situ Management				

Ta
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Focused Feasibility Study Report
Summary of Soil Remedial Technology Screening

GENERAL RESPONSE ACTION	TECHNOLOGY	PROCESS OPTION	DESCRIPTION	COMMENTS	
				Retained Screened Out on Basis of Technical Implementability Limited Applicability	
	On-Site Physical/Chemical Treatment	Chemical Oxidation	Mixing oxidant slurry such as activated persulfate or permanganate into the subsurface. After oxidation, stabilizing agents are typically injected.		Limited effectiveness for Site contaminants, especially asphalt. Not a feasible technology for remediating shoreline.
		Soil Flushing	Injection of surfactants to increase solubility of contaminants. Contaminated groundwater is then extracted and treated prior to discharge.		Not effective at treating Site contaminants. Not a technology for remediating shoreline.
		Solidification/ Stabilization	Mixing soil amendments, typically fly ash and/or cement, into the subsurface to absorb moisture and mitigate contaminant mobility.		Feasible technology for remediating impacted soil.

Ta
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Focused Feasibility Study Report
Soil Process Option Screening



GENERAL RESPONSE ACTION	TECHNOLOGY	PROCESS OPTION	EFFECTIVENESS	IMPLEMENTABILITY	COST
No Action	None	Not Applicable	Not effective in preventing exposure to surficial contamination.	No implementation required.	No significant cost.
Institutional Control	Site Use Restrictions	Environmental Easement	Ensures soil cover/cap and fencing are maintained. Restricts future site development and use.	Easily implemented.	Low capital; low OM&M.
Engineering Control	Site Access Restrictions	Fencing	Prevents exposure to soil contamination. Not effective at preventing contaminant leaching.	Easily implemented.	Low capital; low OM&M.
Containment	Capping	Soil Cover	Prevents exposure to soil contamination. Not effective at preventing contaminant leaching.	Implementable in upper area. Not implementable along shoreline or slope due to erosion potential.	Low capital; low OM&M.
		Impermeable Capping	Prevents exposure to soil contamination and leaching of contaminants.	Implementable in upper area, but may require alteration of Site drainage features. Not implementable along shoreline or slope.	Moderate capital; low OM&M.
		Stabilization	Prevents erosion of shoreline. Not effective at preventing contaminant leaching.	Implementable along shoreline and slope.	Moderate capital; low OM&M.
		Off-Site Disposal	Effective in removing Site contaminants.	Implementation along shoreline would be complicated by tidal fluctuations and steep slope.	Moderate capital; low OM&M.
Removal and Ex-Situ Management	Off-Site Thermal Treatment	Thermal Desorption	Effective in removing Site contaminants.	Implementation along shoreline would be complicated by tidal fluctuations and steep slope.	Moderate capital; low OM&M.
	Off-Site Physical/Chemical Treatment	Solidification	Effective in removing Site contaminants.	Implementation along shoreline would be complicated by tidal fluctuations and steep slope.	Moderate capital; low OM&M.

Ta
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Focused Feasibility Study Report
Soil Process Option Screening

GENERAL RESPONSE ACTION	TECHNOLOGY	PROCESS OPTION	EFFECTIVENESS	IMPLEMENTABILITY	Selected process option Screened out process option	
					COST	
In-Situ Management	On-Site Thermal Treatment	Heat Enhanced Extraction	Effective, but efficiency is limited with low contaminant concentrations and treatment intervals less than 10 feet thick.	Implementation along slope and shoreline would be not be practical.		High capital; high OM&M.
	On-Site Physical/Chemical Treatment	Solidification/Stabilization	Effective at mitigating contaminant migration	Implementation along slope and shoreline would be not be practical.		High capital; low OM&M.

Table 5
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 1 Cost Estimate
No Action

Item	Quantity	Units	Unit Cost	Extended Cost	# Yrs - Future Costs	Present Value
FUTURE ACTIONS						
Periodic Reviews	1	l.s.	\$1,000	\$1,000	30	\$12,409
TOTAL PRESENT VALUE OF FUTURE ACTIONS						\$12,409
CONTINGENCY (20%)						
TOTAL PRESENT VALUE COST FOR ALTERNATIVE 1						\$2,482
						\$14,891

Notes

1. 7% discount rate used to calculate present value cost.
2. Cost estimate intended only for the purpose of determining relative cost in comparison to other alternatives.
3. Legal and administrative costs are not included in cost estimate.

Table 6
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 2 Cost Estimate
Shoreline Stabilization and Engineering Controls and Institutional Controls

Item	Quantity	Units	Unit Cost	Extended Cost	# Yrs - Future Costs	Present Value
CAPITAL COST - DIRECT						
Mobilization and Site Preparation						
Mobilization	1	l.s.	\$ 15,000	\$ 15,000	NA	\$ 15,000
Erosion and Sediment Control	1	l.s.	\$ 15,000	\$ 15,000	NA	\$ 15,000
Clearing and Grubbing	1	l.s.	\$ 25,000	\$ 25,000	NA	\$ 25,000
Soil Excavation and Shoreline Stabilization						
Upland Excavation and Backfill	1	week	\$ 45,000	\$ 45,000	NA	\$ 45,000
Shoreline Excavation and Stabilization	10	week	\$ 45,000	\$ 450,000	NA	\$ 450,000
Turbidity Curtain	1,100	l.f.	\$ 15	\$ 16,500	NA	\$ 16,500
Transportation and Disposal (RCRA Non-Haz)	1,200	ton	\$ 60	\$ 72,000	NA	\$ 72,000
Upland Restoration (Gravel)	750	s.f.	\$ 1.80	\$ 1,350	NA	\$ 1,350
Shoreline Restoration	19,100	s.f.	\$ 16	\$ 305,600	NA	\$ 305,600
TOTAL DIRECT COSTS						\$945,450
CAPITAL COST - INDIRECT						
Engineering and Design (10%)						\$ 94,545
Construction Phase Engineering Services (10%)						\$ 94,545
Permits and Plans (5%)						\$ 47,273
TOTAL INDIRECT COSTS						\$ 236,363
TOTAL CAPITAL COSTS						\$ 1,181,813

Table 6
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 2 Cost Estimate
Shoreline Stabilization and Engineering Controls and Institutional Controls

Item	Quantity	Units	Unit Cost	Extended Cost	# Yrs - Future Costs	Present Value
FUTURE ACTIONS						
Fence Maintenance	1	l.s. (per year)	\$ 2,500	\$ 2,500	30	\$ 31,023
Periodic Reviews	1	l.s. (per year)	\$ 7,500	\$ 7,500	30	\$ 93,068
TOTAL PRESENT VALUE OF FUTURE ACTIONS						\$ 124,090
CONTINGENCY (20%)						
TOTAL PRESENT VALUE COST FOR ALTERNATIVE 2						\$ 261,181
						\$ 1,567,083

Notes

1. 7% discount rate used to calculate present value cost.
2. Cost estimate intended only for the purpose of determining relative cost in comparison to other alternatives.
3. Legal and administrative costs are not included in cost estimate.

Table 7

Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 3 Cost Estimate

Remediate to Achieve Industrial Use Conditions, Shoreline Stabilization and Engineering and Institutional Controls

Item	Quantity	Units	Unit Cost	Extended Cost	# Yrs - Future Costs	Present Value
CAPITAL COST - DIRECT						
Mobilization and Site Preparation						
Mobilization	1	l.s.	\$ 25,000	\$ 25,000	NA	\$ 25,000
Erosion and Sediment Control	1	l.s.	\$ 25,000	\$ 25,000	NA	\$ 25,000
Clearing and Grubbing	1	l.s.	\$ 50,000	\$ 50,000	NA	\$ 50,000
Pre-Design Investigation	1	l.s.	\$ 15,000	\$ 15,000	NA	\$ 15,000
Soil Excavation and Shoreline Stabilization						
Upland Excavation and Backfill	1	week	\$ 45,000	\$ 45,000	NA	\$ 45,000
Shoreline Excavation and Stabilization	10	week	\$ 45,000	\$ 450,000	NA	\$ 450,000
Turbidity Curtain	1,100	l.f.	\$ 15	\$ 16,500	NA	\$ 16,500
Transportation and Disposal (RCRA Non-Haz)	1,200	ton	\$ 60	\$ 72,000	NA	\$ 72,000
Upland Restoration (Gravel)	750	sq. ft.	\$ 1.80	\$ 1,350	NA	\$ 1,350
Shoreline Restoration	19,100	sq. ft.	\$ 16	\$ 305,600	NA	\$ 305,600
Gravel Cap and Soil Cover						
Gravel Cap	27,000	s.f.	\$1.80	\$48,600	NA	\$48,600
Soil Cover and Hydroseeding	31,000	s.f.	\$2.00	\$62,000	NA	\$62,000
TOTAL DIRECT COSTS						\$ 1,116,050
CAPITAL COST - INDIRECT						
Engineering and Design (10%)						\$ 111,605
Construction Phase Engineering Services (10%)						\$ 111,605
Permits and Plans (5%)						\$ 55,803
TOTAL INDIRECT COSTS						\$ 279,013
TOTAL CAPITAL COSTS						\$ 1,395,063

Table 7
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 3 Cost Estimate
Remediate to Achieve Industrial Use Conditions, Shoreline Stabilization and Engineering and Institutional Controls

FUTURE ACTIONS							
Fence Maintenance	1	l.s. (per year)	\$	2,500	\$	30	\$ 31,023
Periodic Reviews	1	l.s. (per year)	\$	7,500	\$	30	\$ 93,068
TOTAL PRESENT VALUE OF FUTURE ACTIONS						\$	124,090
CONTINGENCY (20%)						\$	303,831
TOTAL PRESENT VALUE COST FOR ALTERNATIVE 4						\$	1,822,983

Notes

1. 7% discount rate used to calculate present value cost.
2. Cost estimate intended only for the purpose of determining relative cost in comparison to other alternatives.
3. Legal and administrative costs are not included in cost estimate.

Table 8
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 4 Cost Estimate
Remediate to Achieve Commercial Use Conditions, Shoreline Stabilization
and Engineering and Institutional Controls

Item	Quantity	Units	Unit Cost	Extended Cost	# Yrs - Future Costs	Present Value
CAPITAL COST - DIRECT						
Mobilization and Site Preparation						
Mobilization	1	l.s.	\$ 25,000	\$ 25,000	NA	\$ 25,000
Erosion and Sediment Control	1	l.s.	\$ 25,000	\$ 25,000	NA	\$ 25,000
Clearing and Grubbing	1	l.s.	\$ 50,000	\$ 50,000	NA	\$ 50,000
Pre-Design Investigation	1	l.s.	\$ 30,000	\$ 30,000	NA	\$ 30,000
Soil Excavation and Shoreline Stabilization						
Upland Excavation and Backfill	5	week	\$ 45,000	\$ 225,000	NA	\$ 225,000
Sheeting (Install, Remove, Salvage)	30,000	s.f.	75	\$ 2,250,000	NA	\$ 2,250,000
Shoreline Excavation and Stabilization	10	week	\$ 45,000	\$ 450,000	NA	\$ 450,000
Turbidity Curtain	1,100	l.f.	\$ 15	\$ 16,500	NA	\$ 16,500
Transportation and Disposal (RCRA Non-Haz)	8,000	ton	\$ 60	\$ 480,000	NA	\$ 480,000
Backfill Samples (Analysis)	17	ea.	\$ 750	\$ 12,750	NA	\$ 12,750
Upland Subsurface Excavation Backfill Material	6,800	ton	\$ 30	\$ 204,000	NA	\$ 204,000
Upland Restoration (Gravel)	750	s.f.	\$ 1.80	\$ 1,350	NA	\$ 1,350
Shoreline Restoration	19,100	s.f.	\$ 16	\$ 305,600	NA	\$ 305,600
Gravel Cap						
Gravel Cap	27,000	s.f.	\$1.80	\$48,600	NA	\$48,600
Soil Cover and Hydroseeding	31,000	s.f.	\$2.00	\$62,000	NA	\$62,000
TOTAL DIRECT COSTS					\$	4,185,800
CAPITAL COST - INDIRECT						
Engineering and Design (10%)					\$	418,580
Construction Phase Engineering Services (10%)					\$	418,580
Permits and Plans (5%)					\$	209,290
TOTAL INDIRECT COSTS					\$	1,046,450
TOTAL CAPITAL COSTS					\$	5,232,250

Table 8
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 4 Cost Estimate
Remediate to Achieve Commercial Use Conditions, Shoreline Stabilization
and Engineering and Institutional Controls

FUTURE ACTIONS									
Fence Maintenance Periodic Reviews	1	l.s. (per year)	\$	2,500	\$	2,500	30	\$	31,023
	1		\$	7,500	\$	7,500	30	\$	93,068
TOTAL PRESENT VALUE OF FUTURE ACTIONS								\$	124,090
CONTINGENCY (20%)								\$	1,071,268
TOTAL PRESENT VALUE COST FOR ALTERNATIVE 3								\$	6,427,608

Notes:

1. 7% discount rate used to calculate present value cost.
2. Cost estimate intended only for the purpose of determining relative cost in comparison to other alternatives.
3. Legal and administrative costs are not included in cost estimate.

Table 9
Chevron Environmental Management Company
Former Chevron Asphalt Plant
Feasibility Study Report
Alternative 5 Cost Estimate
Soil Removal to Achieve Unrestricted Use and Shoreline Stabilization

Item	Quantity	Units	Unit Cost	Extended Cost	# Yrs - Future Costs	Present Value
CAPITAL COST - DIRECT						
Mobilization and Site Preparation						
Mobilization	1	l.s.	\$ 50,000	\$ 50,000	NA	\$ 50,000
Erosion and Sediment Control	1	l.s.	\$ 100,000	\$ 100,000	NA	\$ 100,000
Clearing and Grubbing	1	l.s.	\$ 50,000	\$ 50,000	NA	\$ 50,000
Pre-Design Investigation	1	l.s.	\$ 150,000	\$ 150,000	NA	\$ 150,000
Soil Excavation and Shoreline Stabilization						
Upland Excavation and Backfill	120	week	\$ 45,000	\$ 5,400,000	NA	\$ 5,400,000
Sheeting (Install, Remove, Salvage)	140,100	s.f.	75	\$ 10,507,500	NA	\$ 10,507,500
Dewatering	12	week	\$ 25,000	\$ 300,000	NA	\$ 300,000
Shoreline Excavation and Stabilization	10	week	\$ 45,000	\$ 450,000	NA	\$ 450,000
Turbidity Curtain	1,100	l.f.	15	\$ 16,500	NA	\$ 16,500
Transportation and Disposal (RCRA Non-Haz)	65,800	ton	\$ 60	\$ 3,948,000	NA	\$ 3,948,000
Backfill Samples (Analysis)	149	ea.	\$ 750	\$ 111,750	NA	\$ 111,750
Upland Subsurface Excavation Backfill Material	59,785	ton	\$ 30	\$ 1,793,556	NA	\$ 1,793,556
Upland Restoration (Gravel)	130,000	s.f.	\$ 1.80	\$ 234,000	NA	\$ 234,000
Shoreline Restoration	19,100	s.f.	\$ 16	\$ 305,600	NA	\$ 305,600
TOTAL DIRECT COSTS						\$ 23,416,906
CAPITAL COST - INDIRECT						
Engineering and Design (10%)						\$ 2,341,691
Construction Phase Engineering Services (10%)						\$ 2,341,691
Permits and Plans (5%)						\$ 1,170,845
TOTAL INDIRECT COSTS						\$ 5,854,226
TOTAL CAPITAL COSTS						\$ 29,271,132
CONTINGENCY (20%)						\$ 5,854,226
TOTAL PRESENT VALUE COST FOR ALTERNATIVE 5						\$ 35,125,358

Notes:

1. Cost estimate does not include costs to adequately brace foundational elements of, or construct a realigned, SR 378 bridge or relocate the natural gas main and rail line, which would be required to implement Alternative 5 could increase the cost by an order of magnitude.
2. Cost estimate intended only for the purpose of determining relative cost in comparison to other alternatives.
3. Legal and administrative costs are not included in cost estimate.